

**Observatorio Astronómico "Félix Aguilar"**

**Facultad de Ciencias Exactas, Físicas y Naturales**

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Claudio Carlos Mallamaci - José Alberto Pérez

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## Introducción

Este anuario astronómico, preparado y publicado por el Observatorio Astronómico "Félix Aguilar", tiene como objeto principal proporcionar, a docentes y aficionados en general, datos útiles sobre temas astronómicos.

La publicación fue originalmente pensada para proveer, fundamentalmente, las circunstancias locales (San Juan) de las salidas y puestas del Sol y la Luna, pues esta información es la que con mayor frecuencia se nos solicita. Sin embargo, hemos creído interesante incluir, además, datos generales sobre planetas, estrellas y eclipses, como así también algunos elementos del calendario y el cómputo eclesiástico.

Las secciones "Sol", "Luna", "Tiempo sidéreo y coordenadas del Sol", "Planetas" y "Posiciones aparentes de estrellas" fueron calculadas por nosotros en nuestro Observatorio en tanto que la sección "Fenómenos" se obtuvo de la siguiente publicación:

- Fenómenos Astronómicos 2012  
Real Instituto y Observatorio de la Armada  
San Fernando-Cádiz  
España

Importante

**Todos los tiempos indicados en este Anuario han sido calculados en Tiempo Universal por lo que habrá que hacer la conversión para el Huso Horario que esté en vigencia. Si por ejemplo la salida de un astro es a las 09<sup>h</sup> 28<sup>m</sup> 15<sup>s</sup> de Tiempo Universal, para el huso de -3h al Oeste de Greenwich habrá que restar 3h a dicho tiempo (09<sup>h</sup> 28<sup>m</sup> 15<sup>s</sup> -3h = 06<sup>h</sup> 28<sup>m</sup> 15<sup>s</sup>). Si el huso horario fuese -2h, entonces habrá que restarle 2h.**

Las circunstancias de salida y puesta del Sol y la Luna están calculadas para el lugar geográfico que ocupa nuestro Observatorio (**latitud = -31°30'38.5" y longitud = -4h 34m 28.8s**) y para un horizonte teórico sin montañas ni irregularidades. Por lo tanto las horas calculadas deben ser tomadas sólo a modo orientativo.

Todas las observaciones y sugerencias que se puedan hacer sobre el contenido y el aspecto de esta publicación serán bienvenidas y agradeceremos nos las hagan llegar a nuestra dirección.

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Agradecemos a la siguiente Institución el envío de la publicación que se indica, la que ha sido utilizada para la realización de esta publicación:

- **Real Instituto Y Observatorio de la Armada,**  
San Fernando, Cádiz, España,  
"Fenómenos Astronómicos".

Agradecemos también la colaboración del personal del **Círculo Meridiano** de nuestro Instituto, quienes colaboraron en la revisión del anuario.

Claudio Carlos Mallamaci - José Alberto Pérez



## Fenómenos

En esta sección se dan las fechas de las circunstancias más notables por las que pasan el Sol, la Luna y los planetas, durante el año, con la precisión suficiente para una primera localización del fenómeno.

Para el Sol se dan las fechas y los tiempos de los equinoccios y solsticios, es decir los comienzos de las cuatro estaciones, como también sus máximos acercamientos y alejamientos respecto a la Tierra (perigeo y apogeo).

Los cambios de fases de la Luna están dados en horas y minutos y las lunaciones allí indicadas se enumeran siguiendo la serie de Brown, en la que la número 1 comenzó el 16 de enero de 1923.

Se presentan, también, los fenómenos geocéntricos y heliocéntricos de los planetas, es decir aquellos que son medidos tomando a la Tierra y al Sol como cuerpo de referencia, respectivamente.

Por último se detallan algunos fenómenos que, por su importancia, merecen ser destacados para su eventual observación y/o estudio.



## Fenómenos Astronómicos para 2012

### Sol (UT)

		d	h		d	h	m		d	h	m	
Perigeo:	Ene	05	01	Equinoccios:	Mar	20	05	14	Sep	22	14	49
Apogeo :	Jul	05	04	Solsticios :	Jun	20	23	09	Dic	21	11	12

### Fases de la Luna (UT)

Lunación	Luna Nueva			Cuarto Creciente			Luna Llena			Cuarto Menguante						
	d	h	m	d	h	m	d	h	m	d	h	m				
1101				Ene	01	06	14	Ene	09	07	30	Ene	16	09	08	
1102	Ene	23	07	39	Ene	31	04	09	Feb	07	21	54	Feb	14	17	04
1103	Feb	21	22	34	Mar	01	01	21	Mar	08	09	39	Mar	15	01	25
1104	Mar	22	14	37	Mar	30	19	40	Abr	06	19	18	Abr	13	10	49
1105	Abr	21	07	18	Abr	29	09	57	May	06	03	35	May	12	21	47
1106	May	20	23	47	May	28	20	16	Jun	04	11	11	Jun	11	10	41
1107	Jun	19	15	02	Jun	27	03	30	Jul	03	18	52	Jul	11	01	48
1108	Jul	19	04	24	Jul	26	08	56	Ago	02	03	27	Ago	09	18	55
1109	Ago	17	15	54	Ago	24	13	53	Ago	31	13	58	Sep	08	13	15
1110	Sep	16	02	10	Sep	22	19	41	Sep	30	03	18	Oct	08	07	33
1111	Oct	15	12	02	Oct	22	03	32	Oct	29	19	49	Nov	07	00	35
1112	Nov	13	22	08	Nov	20	14	31	Nov	28	14	46	Dic	06	15	31
1113	Dic	13	08	41	Dic	20	05	19	Dic	28	10	21				

### Eclipses y Tránsitos

<b>Anular de Sol</b>	<b>May. 20/21</b>	Es visible en Norteamérica excepto el E. Groenlandia y el N. y NE. De Asia.
<b>Parcial de Luna</b>	<b>Jun. 04</b>	El principio de la fase parcial es visible en el extremo E de Asia, Australia, América excepto el NE. de Norteamérica y NE. de Sudamérica. El final de la fase parcial es visible en E. de Asia, Australia y W. Norteamérica y cono S, de Sudamérica.
<b>Tránsito de Venus</b>	<b>Jun. 05/06</b>	Es visible en Europa, Asia, África excepto el W., Norteamérica, Centroamérica y NW. de Sudamérica.
<b>Total de Sol</b>	<b>Nov. 13/14</b>	Es visible en el cono S. de Sudamérica, Antártida y SE. de Australia.
<b>Penumbral de Luna</b>	<b>Nov. 28</b>	El principio de la fase penumbral es visible en Norteamérica excepto el E., Groenlandia, Asia y Australia. El final de la fase penumbral es visible en Norteamérica, Europa, Asia, Australia y África excepto el W. y S.

## Artículos principales del calendario

### Eras cronológicas

Año de periodo juliano	6725
Año de la era de los judíos, que comienza el 17 de Septiembre	5773
Año de la era de la fundación de Roma, que comienza el 14 de Enero	2765
Año de la era de Nabonasar, que comienza en 24 de Abril	2761
Año de la era española, según "L'art de verifier les dates"	2050
Año de la Hégira, que comienza el 15 de abril	1434

Todas las fechas se refieren al calendario gregoriano.

### Cómputo eclesiástico

Áureo número	XVIII	Indicción romana	5
Epacta	6	Letra dominical	AG
Ciclo solar	5	Letra del martirologio romano	f

### Entrada del Sol en los signos del Zodíaco (UT)

Enero	20	16 <sup>h</sup> 10 <sup>m</sup>	en Acuario	Julio	22	10 <sup>h</sup> 01 <sup>m</sup>	en Leo
Febrero	19	06 18	en Piscis	Agosto	22	17 07	en Virgo
Marzo	20	05 14	en Aries	Septiembre	22	14 49	en Libra
Abril	19	16 12	en Tauro	Octubre	23	00 14	en Escorpio
Mayo	20	15 16	en Géminis	Noviembre	21	21 50	en Sagitario
Junio	20	23 09	en Cáncer	Diciembre	21	11 12	en Capricornio

### Reporte de las estaciones (UT)

Equinoccio de marzo:	20/03/2012 05 <sup>h</sup> 14 <sup>m</sup>	Longitud del otoño:	92.75 días
Solsticio de junio:	20/06/2012 23 09	Longitud del invierno:	93.65 días
Equinoccio de septiembre:	22/09/2012 14 49	Longitud de la primavera:	89.85 días
Solsticio de diciembre:	21/12/2012 11 12	Longitud del verano:	88.99 días

### Luna (UT)

Apogeo			Perigeo		
02 Ene 20h	30 Ene 18h	27 Feb 14h	17 Ene 21h	11 Feb 19h	10 Mar 10h
26 Mar 06	22 Abr 14	19 May 16	07 Abr 17	06 May 04	03 Jun 13
16 Jun 01	13 Jul 17	10 Ago 11	01 Jul 18	29 Jul 09	23 Ago 20
07 Sep 06	05 Oct 01	01 Nov 16	19 Sep 03	17 Oct 01	14 Nov 10
28 Nov 20	25 Dic 21	---	12 Dic 23	---	---

## Fenómenos Planetarios 2012

### Fenómenos Geocéntricos (UT)

#### Mercurio

Conjunción Superior	07 Feb. 09 <sup>h</sup>		27 May. 11 <sup>h</sup>		10 Sep. 13 <sup>h</sup>
Máxima elongación E	05 Mar. 10	(18°)	01 Jul. 02	(26°)	26 Oct. 22 (24°)
Estacionario	11 Mar. 21		14 Jul. 05		07 Nov. 04
Conjunción inferior	21 Mar. 19		28 Jul. 20		17 Nov. 16
Estacionario	03 Abr. 06		07 Ago. 18		26 Nov. 20
Máxima elongación W	18 Abr. 17	(27°)	16 Ago. 12	(19°)	04 Dic. 23 (21°)

#### Venus

Máxima elongación E	27 Mar. 08 <sup>h</sup>	(46°)	Estacionario	15 May. 17 <sup>h</sup>
Conjunción inferior	06 Jun. 01		Estacionario	27 Jun. 04
Máxima elongación W	15 Ago. 08	(46°)		

### Planetas Superiores y Plutón

	Oposición	Estacionario	Conjunción	Estacionario
Marte	03 Mar. 20 <sup>h</sup>	15 Abr. 12 <sup>h</sup>	---	25 Ene. 01 <sup>h</sup>
Júpiter	03 Dic. 02 <sup>h</sup>	---	13 May. 13 <sup>h</sup>	04 Oct. 14
Saturno	15 Abr. 18	26 Jun. 09	25 Oct. 09	---
Urano	29 Sep. 07	13 Dic. 20	24 Mar. 18	13 Jul. 17
Neptuno	24 Ago. 13	11 Nov. 11	19 Feb. 21	05 Jun. 06
Plutón	29 Jun. 15	17 Sep. 21	30 Dic. 14	10 Abr. 15

### Fenómenos Heliocéntricos

	Afelio	Perihelio	Máxima latitud S	Nodo Ascenden.	Máxima Latitud N	Nodo Descenden.
Mercurio	18 Ene. 15 Abr. 12 Jul. 08 Oct. ---	02 Mar. 29 May. 25 Ago. 21 Nov. ---	07 Feb. 05 May. 01 Ago. 28 Oct. ---	26 Feb. 24 May. 20 Ago. 16 Nov. ---	12 Mar. 08 Jun. 04 Sep. 01 Dic. ---	07 Ene. 04 Abr. 01 Jul. 27 Sep. 24 Dic.
Venus	11 Jul. ---	21 Mar. 31 Oct.	02 Ago. ---	16 Feb. 27 Sep.	11 Abr. 22 Nov.	06 Jun. ---
Tierra	05 Jul.	05 Ene.	---	---	---	---
Marte	15 Feb.	---	29 Dic.	---	09 Ene.	24 Jul.
Saturno	---	---	---	---	31 Ene.	---

Júpiter, Urano, Neptuno y Plutón: Sin fenómenos heliocéntricos en 2012.

### Datos de Planetas

Planeta	Periodo de Revolución	Inclinación	Diámetro ecuatorial	Planeta	Periodo de Revolución	Inclinación	Diámetro ecuatorial
Mercurio	88 días	7°	4880 km	Saturno	29.42 años	2.5°	120000 Km
Venus	224.7 días	3.4°	12100	Urano	84 años	0.8°	52290
Tierra	365.26 días	0°	12756	Neptuno	164 años	1.8°	50450
Marte	687 días	1.9°	6794	Plutón	248 años	17.2°	2200-2300
Júpiter	11.86 años	1.3°	143200				

## Fenómenos diarios 2012

### Configuración del Sol, Luna y Planetas (UT)

#### Enero

02 <sup>a</sup> 20 <sup>h</sup>	Luna en el apogeo	17 <sup>a</sup> 21 <sup>h</sup>	Luna en el perigeo
03 03	Júpiter 5.0° al S. de la Luna	18 06	Mercurio en el afelio
05 01	Tierra en el perihelio	19 11	Antares 4 °.2 al S. de la Luna
06 08	Aldebarán 5°.8 al S. de la Luna	21 12	Plutón 1°.8 al N. de la Luna
07 21	Mercurio en el nodo descendente	22 14	Mercurio 4 °.8 al S. de la Luna
09 00	Marte en máx. latitud norte	23 08	LUNA NUEVA
09 07	LUNA LLENA	24 17	Palas 7°.9 al N. de la Luna
09 20	Pollux 10 °.3 al N. de la Luna	25 01	Marte estacionario
11 15	Ceres 8°.9 al S. de Urano	25 12	Neptuno 5°.9 al S. de la Luna
12 13	Régulus 5°.9 al N. de la Luna	26 19	Venus 6 °.8 al S. de la Luna
13 07	Neptuno 1°.2 al N. de Venus	28 02	Urano 6 °.0 al S. de la Luna
13 09	Plutón 4° .6 al N. de Mercurio	30 15	Júpiter 4° .5 al S. de la Luna
14 07	Marte 9 °.1 al N. de la Luna	30 18	Luna en el apogeo
16 08	Spica 2° .0 al N. de la Luna	30 19	Vesta 4° .8 al S. de Venus
16 09	CUARTO MENGUANTE	31 04	CUARTO CRECIENTE
16 19	Saturno 6 °.4 al N. de la Luna	31 04	Saturno en máx. latitud norte

#### Febrero

02 <sup>a</sup> 17 <sup>h</sup>	Aldebarán 5° .7 al S. de la Luna	16 <sup>a</sup> 04 <sup>h</sup>	Venus en el nodo ascendente
06 05	Pollux 10 °.3 al N. de la Luna	17 21	Plutón 1° .5 al N. de la Luna
07 09	Mercurio en conjunción superior	19 21	Neptuno en conjunción
07 12	Mercurio en máx. latitud sur	20 05	Ceres 8° .1 al S. de Venus
07 22	LUNA LLENA	21 20	Palas 5° .7 al N. de la Luna
08 12	Saturno estacionario	21 23	LUNA NUEVA
08 21	Régulus 5° .8 al N. de la Luna	21 23	Neptuno 5° .9 al S. de la Luna
10 05	Urano 0 °.3 al S. de Venus	22 18	Palas en conjunción
10 12	Marte 9 °.7 al N. de la Luna	23 06	Mercurio 6 °.0 al S. de la Luna
11 19	Luna en el perigeo	24 13	Urano 5 °.7 al S. de la Luna
12 13	Spica 1° .7 al N. de la Luna	25 22	Venus 3 °.3 al S. de la Luna
13 01	Saturno 6 °.2 al N. de la Luna	26 14	Mercurio en el nodo ascendente
14 01	Neptuno 1° .3 al N. de Mercurio	27 06	Júpiter 3° .8 al S. de la Luna
14 17	CUARTO MENGUANTE	27 14	Luna en el apogeo
15 17	Antares 4 °.5 al S. de la Luna	28 05	Vesta 4° .9 al S. de Urano
15 21	Marte en el afelio		

#### Marzo

01 <sup>a</sup> 01 <sup>h</sup>	Aldebarán 5° .4 al S. de la Luna	16 <sup>a</sup> 03 <sup>h</sup>	Plutón 1° .3 al N. de la Luna
01 01	CUARTO CRECIENTE	20 05	Equinoccio de marzo
02 05	Mercurio en el perihelio	20 07	Neptuno 6° .0 al S. de la Luna
03 20	Marte en oposición	20 21	Palas 3° .9 al N. de la Luna
04 15	Pollux 10 °.5 al N. de la Luna	21 01	Venus en el perihelio
05 10	Mercurio máx. elongación (18°E)	21 19	Mercurio en conjunción inferior
06 22	Urano 3 °.1 al S. de Mercurio	22 13	Mercurio 1 °.6 al S. de la Luna
07 07	Régulus 5° .8 al N. de la Luna	22 15	LUNA NUEVA
08 06	Marte 9 °.8 al N. de la Luna	22 23	Urano 5 °.5 al S. de la Luna
08 10	LUNA LLENA	23 18	Vesta 9° .8 al S. de la Luna
10 10	Luna en el perigeo	24 18	Urano en conjunción
10 21	Spica 1° .5 al N. de la Luna	26 00	Júpiter 3° .1 al S. de la Luna
11 07	Saturno 6 °.2 al N. de la Luna	26 06	Luna en el apogeo
11 21	Mercurio estacionario	26 18	Venus 1 °.8 al N. de la Luna
12 11	Mercurio en máx. latitud norte	27 08	Venus máx. elongación (46°E)
13 22	Antares 4 °.7 al S. de la Luna	27 11	Juno estacionario
15 01	CUARTO MENGUANTE	28 08	Aldebarán 5° .2 al S. de la Luna
15 11	Júpiter 3° .3 al S. de Venus	30 20	CUARTO CRECIENTE
16 02	Urano 4 °.6 al S. de Mercurio		

## Fenómenos diarios 2012

### Configuración del Sol, Luna y Planetas (UT)

#### Abril

01 <sup>00</sup> <sup>h</sup>	Pollux 10 °.7 al N. de la Luna	15 <sup>18</sup> <sup>h</sup>	Saturno en oposición
03 06	Mercurio estacionario	16 15	Neptuno 6°.2 al S. de la Luna
03 17	Régulus 6°.0 al N. de la Luna	17 21	Palas 2°.3 al N. de la Luna
04 03	Marte 8 °.9 al N. de la Luna	18 17	Mercurio máx. elongación (27°W )
04 20	Mercurio en el nodo descendente	19 02	Mercurio 7 °.6 al S. de la Luna
06 19	LUNA LLENA	19 08	Urano 5 °.5 al S. de la Luna
07 07	Spica 1°.5 al N. de la Luna	21 02	Vesta 8°.7 al S. de la Luna
07 14	Saturno 6 °.3 al N. de la Luna	21 07	LUNA NUEVA
07 17	Luna en el perigeo	21 19	Ceres 8°.4 al S. de la Luna
10 00	Vesta en conjunción	22 02	Urano 2 °.1 al N. de Mercurio
10 06	Antares 4 °.9 al S. de la Luna	22 14	Luna en el apogeo
10 15	Plutón estacionario	22 19	Júpiter 2°.4 al S. de la Luna
11 16	Venus en máx. latitud norte	24 15	Aldebarán 5°.0 al S. de la Luna
12 09	Plutón 1°.0 al N. de la Luna. Ocul.	25 02	Venus 5 °.7 al N. de la Luna
13 11	CUARTO MENGUANTE	26 14	Ceres en conjunción
15 05	Mercurio en el afelio	28 07	Pollux 10 °.9 al N. de la Luna
15 12	Marte estacionario	29 10	CUARTO CRECIENTE

#### Mayo

01 <sup>03</sup> <sup>h</sup>	Régulus 6°.1 al N. de la Luna	19 <sup>08</sup> <sup>h</sup>	Vesta 7°.6 al S. de la Luna
01 14	Marte 7 °.9 al N. de la Luna	19 16	Luna en el apogeo
04 18	Spica 1°.5 al N. de la Luna	19 23	Ceres 6°.8 al S. de la Luna
04 22	Saturno 6 °.4 al N. de la Luna	20 00	Juno en oposición
05 11	Mercurio en máx. latitud sur	20 06	Mercurio 2 °.1 al S. de la Luna
06 04	Luna en el perigeo	20 13	Júpiter 1°.7 al S. de la Luna
06 04	LUNA LLENA	21 00	LUNA NUEVA. Ecl. anular de Sol
07 16	Antares 5 °.0 al S. de la Luna	21 21	Aldebarán 5°.0 al S. de la Luna
09 17	Plutón 0°.9 al N. de la Luna. Ocul.	22 07	Júpiter 0°.4 al S. de Mercurio
12 22	CUARTO MENGUANTE	22 21	Venus 4 °.7 al N. de la Luna
12 22	Vesta 3°.3 al S. de Mercurio	24 13	Mercurio en el nodo ascendente
13 13	Júpiter en conjunción	25 13	Pollux 10 °.9 al N. de la Luna
13 22	Neptuno 6°.3 al S. de la Luna	27 11	Mercurio en conjunción superior
15 17	Venus estacionario	28 10	Régulus 6°.2 al N. de la Luna
15 20	Palas 0°.8 al N. de la Luna. Ocul.	28 20	CUARTO CRECIENTE
16 17	Urano 5 °.5 al S. de la Luna	29 05	Mercurio en el perihelio
18 02	Ceres 4°.1 al S. de Mercurio	29 11	Marte 6 °.9 al N. de la Luna

#### Junio

01 <sup>04</sup> <sup>h</sup>	Spica 1°.5 al N. de la Luna	17 <sup>02</sup> <sup>h</sup>	Ceres 5°.2 al S. de la Luna
01 05	Saturno 6 °.5 al N. de la Luna	17 08	Júpiter 1°.1 al S. de la Luna. Ocul.
01 21	Venus 0 °.2 al S. de Mercurio	18 01	Venus 2 °.1 al S. de la Luna
03 13	Luna en el perigeo	18 03	Aldebarán 5°.0 al S. de la Luna
04 03	Antares 5 °.0 al S. de la Luna	19 15	LUNA NUEVA
04 11	LUNA LLENA. Ecl.parcial de Luna	20 23	Solsticio de junio
05 06	Neptuno estacionario	21 19	Mercurio 5 °.7 al N. de la Luna
06 01	Venus en conj. inferior. Tránsito	21 19	Pollux 10 °.9 al N. de la Luna
06 03	Plutón 1°.0 al N. de la Luna.Ocul.	24 16	Régulus 6°.1 al N. de la Luna
06 17	Venus en el nodo descendente	26 09	Saturno estacionario
08 10	Mercurio en máx. latitud norte	26 15	Marte 5 °.8 al N. de la Luna
10 05	Neptuno 6°.3 al S. de la Luna	27 03	CUARTO CRECIENTE
11 11	CUARTO MENGUANTE	27 04	Venus estacionario
12 17	Palas 0°.8 al S. de la Luna. Ocul.	28 11	Spica 1 °.4 al N. de la Luna
13 01	Urano 5°.5 al S. de la Luna	28 12	Saturno 6 °.3 al N. de la Luna
16 01	Luna en el apogeo	29 15	Plutón en oposición
16 14	Vesta 6°.4 al S. de la Luna		

## Fenómenos diarios 2012

### Configuración del Sol, Luna y Planetas (UT)

#### Julio

01 <sup>a</sup> 02 <sup>h</sup>	Mercurio máx. elongación (26°E)	15 <sup>a</sup> 03 <sup>h</sup>	Júpiter 0°5 al S. de la Luna. Ocul.
01 13	Antares 5 °.0 al S. de la Luna	15 06	Ceres 3°.7 al S. de la Luna
01 18	Luna en el perigeo	15 10	Aldebarán 4°.9 al S. de la Luna
01 20	Mercurio en el nodo descendente	15 16	Venus 3 °.8 al S. de la Luna
03 12	Plutón 1°.0 al N. de la Luna. Ocul.	19 01	Pollux 10 °.9 al N. de la Luna
03 19	LUNA LLENA	19 04	LUNA NUEVA
04 11	Palas 2°.9 al N. de Urano	19 14	Juno estacionario
05 04	Tierra en el afelio	20 08	Mercurio 0 °.6 al N. de la Luna.Ocul.
06 14	Ceres 3°.5 al S. de Júpiter	21 21	Régulus 5°.9 al N. de la Luna
07 14	Neptuno 6°.2 al S. de la Luna	24 22	Marte 4 °.2 al N. de la Luna
10 09	Urano 5 °.3 al S. de la Luna	24 22	Marte en el nodo descendente
10 11	Palas 2°.9 al S. de la Luna	25 17	Spica 1°.2 al N. de la Luna. Ocul.
11 02	CUARTO MENGUANTE	25 19	Saturno 6 °.0 al N. de la Luna
11 13	Venus en el afelio	26 09	CUARTO CRECIENTE
12 04	Mercurio en el afelio	28 20	Mercurio en conjunción inferior
13 17	Luna en el apogeo	28 21	Antares 5 °.2 al S. de la Luna
13 17	Urano estacionario	29 09	Luna en el perigeo
14 05	Mercurio estacionario	30 20	Plutón 0 °.9 al N. de la Luna. Ocul.
14 18	Vesta 5 °.4 al S. de la Luna		

#### Agosto

01 <sup>a</sup> 11 <sup>h</sup>	Mercurio en máx. latitud sur	16 <sup>a</sup> 05 <sup>h</sup>	Mercurio 3 °.5 al N. de la Luna
02 03	LUNA LLENA	16 12	Mercurio máx. elongación (19°W)
02 13	Venus en máx. latitud sur	17 09	Saturno 2 °.9 al N. de Marte
03 22	Neptuno 6 °.1 al S. de la Luna	17 16	LUNA NUEVA
06 17	Urano 5°.1 al S. de la Luna	18 04	Régulus 5°.9 al N. de la Luna
06 23	Palas 6°.0 al S. de la Luna.Ocul.	20 12	Mercurio en el nodo ascendente
07 18	Mercurio estacionario	21 22	Spica 1°.0 al N. de la Luna. Ocul.
08 19	Vesta 4°.6 al S. de Júpiter	22 03	Saturno 5 °.5 al N. de la Luna
09 19	CUARTO MENGUANTE	22 08	Marte 2 °.3 al N. de la Luna
09 20	Palas estacionario	23 20	Luna en el perigeo
10 11	Luna en el apogeo	24 13	Neptuno en oposición
11 18	Aldebarán 4 °.7 al S. de la Luna	24 14	CUARTO CRECIENTE
11 21	Júpiter 0 °.1 al N. de la Luna. Ocul.	25 02	Antares 5 °.4 al S. de la Luna
11 22	Vesta 4 °.4 al S. de la Luna	25 04	Mercurio en el perihelio
12 09	Ceres 2°.1 al S. de la Luna	27 02	Plutón 0°.7 al N. de la Luna. Ocul.
13 20	Venus 0 °.6 al S. de la Luna.Ocul.	31 05	Neptuno 6°.0 al S. de la Luna
15 09	Pollux 10 °.9 al N. de la Luna	31 14	LUNA LLENA
15 09	Venus máx. elongación (46 °W)		

#### Septiembre

03 <sup>a</sup> 00 <sup>h</sup>	Urano 5 °.0 al S. de la Luna	18 <sup>a</sup> 14 <sup>h</sup>	Saturno 5 °.0 al N. de la Luna
04 09	Mercurio en máx. latitud norte	19 03	Luna en el perigeo
07 06	Luna en el apogeo	19 21	Marte 0 °.2 al N. de la Luna.Ocul.
08 02	Aldebarán 4°.5 al S. de la Luna	21 08	Antares 5 °.6 al S. de la Luna
08 11	Júpiter 0°.6 al N. de la Luna.Ocul.	22 08	Palas 9°.1 al S. de Urano
08 13	CUARTO MENGUANTE	22 15	Equinoccio de septiembre
08 21	Vesta 3°.7 al S. de la Luna	22 20	CUARTO CRECIENTE
09 09	Ceres 0°.6 al S. de la Luna.Ocul.	23 07	Plutón 0°.4 al N. de la Luna.Ocul.
10 13	Mercurio en conjunción superior	25 03	Palas en oposición
11 18	Pollux 11 °.1 al N. de la Luna	27 11	Neptuno 6°.1 al S. de la Luna
12 17	Venus 3 °.7 al N. de la Luna	27 19	Mercurio en el nodo descendente
14 13	Régulus 5°.9 al N. de la Luna	27 21	Venus en el nodo ascendente
16 02	LUNA NUEVA	29 07	Urano en oposición
16 16	Mercurio 5 °.9 al N. de la Luna	30 03	LUNA LLENA
17 21	Plutón estacionario	30 05	Urano 5 °.0 al S. de la Luna
18 05	Spica 0°.8 al N. de la Luna. Ocul.		



## Fenómenos diarios 2012

### Configuración del Sol, Luna y Planetas (UT)

#### Octubre

04 <sup>d</sup> 14 <sup>h</sup>	Júpiter estacionario	17 <sup>d</sup> 02 <sup>h</sup>	Mercurio 1 °.3 al S. de la LunaOcul.
05 01	Luna en el apogeo	18 13	Marte 2 °.0 al S. de la Luna
05 09	Aldebarán 4°.3 al S. de la Luna	18 15	Antares 5 °.8 al S. de la Luna
05 21	Júpiter 0 °.9 al N. de la Luna.Ocul.	18 17	Juno 9 °.7 al N. de la Luna
06 07	Saturno 3 °.5 al N. de Mercurio	20 14	Plutón 0°.1 al N. de la Luna.Ocul.
06 15	Vesta 3°.4 al S. de la Luna	21 07	Vesta estacionario
07 05	Ceres 0°.9 al N. de la Luna.Ocul.	22 04	CUARTO CRECIENTE
08 04	Mercurio en el afelio	24 16	Neptuno 6°.2 al S. de la Luna
08 08	CUARTO MENGUANTE	25 09	Saturno en conjunción
09 03	Pollux 11 °.3 al N. de la Luna	26 22	Mercurio máx. elongación (24°E )
11 23	Régulus 6°.0 al N. de la Luna	27 10	Urano 5 °.1 al S. de la Luna
12 19	Venus 6 °.3 al N. de la Luna	28 10	Mercurio en máx. latitud sur
15 12	LUNA NUEVA	29 20	LUNA LLENA
15 15	Spica 0°.8 al N. de la Luna. Ocul.	31 21	Ceres estacionario
16 05	Saturno 4 °.6 al N. de la Luna	31 21	Venus en el perihelio
17 01	Luna en el perigeo		

#### Noviembre

01 <sup>d</sup> 16 <sup>h</sup>	Aldebarán 4°.2 al S. de la Luna	16 <sup>d</sup> 11 <sup>h</sup>	Mercurio en el nodo ascendente
01 16	Luna en el apogeo	16 23	Plutón 0°.1 al S. de la Luna.Ocul.
02 01	Júpiter 0°.9 al N. de la Luna.Ocul.	17 14	Palas estacionario
02 22	Vesta 3°.4 al S. de la Luna	17 16	Mercurio en conjunción inferior
03 15	Ceres 2°.3 al N. de la Luna.Ocul.	20 15	CUARTO CRECIENTE
05 11	Pollux 11 °.4 al N. de la Luna	20 22	Neptuno 6°.3 al S. de la Luna
07 01	CUARTO MENGUANTE	21 03	Mercurio en el perihelio
07 04	Mercurio estacionario	22 08	Venus en máx. latitud norte
08 09	Régulus 6°.1 al N. de la Luna	23 14	Urano 5 °.2 al S. de la Luna
11 11	Neptuno estacionario	26 20	Mercurio estacionario
11 18	Venus 5 °.3 al N. de la Luna	27 05	Saturno 0 °.6 al N. de Venus
12 02	Spica 0°.8 al N. de la Luna. Ocul.	27 11	Plutón 4°.6 al N. de Marte
12 21	Saturno 4 °.3 al N. de la Luna	28 15	LUNA LLENA. Ecl.pen. de Luna
13 22	LUNA NUEVA. Ecl.total de Sol	28 20	Luna en el apogeo
14 10	Luna en el perigeo	28 22	Aldebarán 4°.2 al S. de la Luna
14 10	Mercurio 1 °.0 al S. de la Luna.Ocul.	29 01	Júpiter 0°.6 al N. de la Luna.Ocul.
15 01	Antares 5 °.8 al S. de la Luna	29 18	Vesta 3°.3 al S. de la Luna
15 17	Juno 8 °.2 al N. de la Luna	30 15	Ceres 3°.7 al N. de la Luna
16 10	Marte 4 °.0 al S. de la Luna		

#### Diciembre

01 <sup>d</sup> 08 <sup>h</sup>	Mercurio en máx. latitud norte	15 <sup>d</sup> 10 <sup>h</sup>	Marte 5 °.6 al S. de la Luna
02 17	Pollux 11 °.4 al N. de la Luna	18 06	Neptuno 6°.2 al S. de la Luna
03 02	Júpiter en oposición	18 09	Ceres en oposición
04 23	Mercurio máx. elongación (21°W )	20 05	CUARTO CRECIENTE
05 16	Régulus 6°.1 al N. de la Luna	20 20	Urano 5 °.1 al S. de la Luna
06 16	CUARTO MENGUANTE	21 11	Solsticio de diciembre
09 08	Vesta en oposición	22 18	Juno en conjunción
09 12	Spica 0°.8 al N. de la Luna. Ocul.	24 18	Mercurio en el nodo descendente
10 13	Saturno 4 °.0 al N. de la Luna	25 21	Luna en el apogeo
11 14	Venus 1 °.6 al N. de la Luna	26 00	Júpiter 0°.4 al N. de la Luna.Ocul.
12 01	Mercurio 1 °.1 al N. de la Luna.Ocul.	26 05	Aldebarán 4°.2 al S. de la Luna
12 13	Antares 5 °.8 al S. de la Luna	26 11	Vesta 2°.7 al S. de la Luna
12 23	Luna en el perigeo	27 09	Ceres 5°.0 al N. de la Luna
13 09	LUNA NUEVA	28 10	LUNA LLENA
13 19	Juno 7 °.0 al N. de la Luna	29 04	Marte en máx. latitud sur
13 20	Urano estacionario	29 23	Pollux 11 °.3 al N. de la Luna
14 12	Plutón 0 °.2 al S. de la Luna.Ocul.	30 14	Plutón en conjunción



## Sol

En estas tablas se proporciona, para todos los días del año, la siguiente información:

- Hora (en Tiempo Universal) y acimut de la salida y puesta del limbo superior del Sol.  
(El acimut está medido sobre el horizonte a partir del Norte hacia el Este. Esto es:  $N = 0^\circ$  ;  $E = 90^\circ$  ;  $S = 180^\circ$  ;  $O = 270^\circ$ ).
- Hora (en Tiempo Universal) y altura de paso por el meridiano.
- Hora (en Tiempo Universal) de comienzo y fin del crepúsculo civil.  
Este se produce cuando el centro del sol alcanza una distancia cenital de  $96^\circ$  ( $6^\circ$  bajo el horizonte). (\*)
- Horas de luz (horas comprendidas entre la salida y puesta del sol).

(\*) *El grado de iluminación al comienzo o fin del crepúsculo civil se dice que es tal que las estrellas más brillantes son visibles y que el horizonte está claramente definido.*



# SOL

Longitud : -04h 34m 28.8s  
 Latitud : -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Comienzo			Paso		Puesta		Fin		Horas de luz	
			Crepúsculo Civil	Salida Hora	Az. °	Meridiano Hora	h. °	Hora	Az. °	Crepúsculo Civil	de luz		
			h	m		h	m	h	m	h	m	h	
Todas las horas son en Tiempo Universal													
1	Domingo	1	09 05	09 33	118	16 38	82	23 43	242	00 10	14,17	Enero 2012	
2	Lunes	2	09 06	09 34	118	16 38	82	23 43	242	00 11	14,15		
3	Martes	3	09 06	09 34	118	16 39	82	23 43	242	00 11	14,15		
4	Miércoles	4	09 07	09 35	118	16 39	82	23 43	243	00 11	14,13		
5	Jueves	5	09 08	09 36	117	16 40	82	23 43	243	00 11	14,12		
6	Viernes	6	09 09	09 37	117	16 40	82	23 43	243	00 11	14,10		
7	Sábado	7	09 10	09 37	117	16 41	82	23 44	243	00 11	14,12		
8	Domingo	8	09 11	09 38	117	16 41	81	23 44	243	00 11	14,10		
9	Lunes	9	09 11	09 39	117	16 41	81	23 44	243	00 11	14,08		
10	Martes	10	09 12	09 40	117	16 42	81	23 44	243	00 11	14,07		
11	Miércoles	11	09 13	09 41	116	16 42	81	23 43	244	00 11	14,03		
12	Jueves	12	09 14	09 42	116	16 43	81	23 43	244	00 11	14,02		
13	Viernes	13	09 15	09 43	116	16 43	81	23 43	244	00 11	14,00		
14	Sábado	14	09 16	09 43	116	16 43	81	23 43	244	00 11	14,00		
15	Domingo	15	09 17	09 44	116	16 44	80	23 43	244	00 10	13,98		
16	Lunes	16	09 18	09 45	115	16 44	80	23 43	245	00 10	13,97		
17	Martes	17	09 19	09 46	115	16 44	80	23 42	245	00 10	13,93		
18	Miércoles	18	09 20	09 47	115	16 45	80	23 42	245	00 10	13,92		
19	Jueves	19	09 21	09 48	115	16 45	80	23 42	245	00 09	13,90		
20	Viernes	20	09 22	09 49	114	16 45	79	23 42	246	00 09	13,88		
21	Sábado	21	09 23	09 50	114	16 46	79	23 41	246	00 09	13,85		
22	Domingo	22	09 24	09 51	114	16 46	79	23 41	246	00 08	13,83		
23	Lunes	23	09 25	09 52	114	16 46	79	23 40	247	00 08	13,80		
24	Martes	24	09 26	09 53	113	16 46	78	23 40	247	00 07	13,78		
25	Miércoles	25	09 27	09 54	113	16 47	78	23 40	247	00 07	13,77		
26	Jueves	26	09 28	09 54	113	16 47	78	23 39	247	00 06	13,75		
27	Viernes	27	09 29	09 55	112	16 47	78	23 39	248	00 06	13,73		
28	Sábado	28	09 30	09 56	112	16 47	77	23 38	248	00 05	13,70		
29	Domingo	29	09 31	09 57	112	16 48	77	23 37	248	00 04	13,67		
30	Lunes	30	09 32	09 58	112	16 48	77	23 37	249	00 04	13,65		
31	Martes	31	09 33	09 59	111	16 48	77	23 36	249	00 03	13,62		
<hr/>													
1	Miércoles	32	09 34	10 00	111	16 48	76	23 36	249	00 02	13,60	Febrero 2012	
2	Jueves	33	09 35	10 01	111	16 48	76	23 35	250	00 02	13,57		
3	Viernes	34	09 36	10 02	110	16 48	76	23 34	250	00 01	13,53		
4	Sábado	35	09 37	10 03	110	16 48	75	23 33	250	00 00	13,50		
5	Domingo	36	09 38	10 04	109	16 48	75	23 33	251	23 59	13,48		
6	Lunes	37	09 39	10 05	109	16 49	75	23 32	251	23 58	13,45		
7	Martes	38	09 40	10 05	109	16 49	75	23 31	251	23 57	13,43		
8	Miércoles	39	09 41	10 06	108	16 49	74	23 30	252	23 56	13,40		
9	Jueves	40	09 42	10 07	108	16 49	74	23 30	252	23 55	13,38		
10	Viernes	41	09 42	10 08	108	16 49	74	23 29	253	23 54	13,35		
11	Sábado	42	09 43	10 09	107	16 49	73	23 28	253	23 53	13,32		
12	Domingo	43	09 44	10 10	107	16 49	73	23 27	253	23 52	13,28		
13	Lunes	44	09 45	10 11	106	16 49	73	23 26	254	23 52	13,25		
14	Martes	45	09 46	10 12	106	16 49	72	23 25	254	23 51	13,22		
15	Miércoles	46	09 47	10 13	106	16 49	72	23 24	255	23 50	13,18		
16	Jueves	47	09 48	10 13	105	16 49	72	23 23	255	23 49	13,17		
17	Viernes	48	09 49	10 14	105	16 48	71	23 22	255	23 47	13,13		
18	Sábado	49	09 50	10 15	104	16 48	71	23 21	256	23 46	13,10		
19	Domingo	50	09 51	10 16	104	16 48	71	23 20	256	23 45	13,07		
20	Lunes	51	09 52	10 17	104	16 48	70	23 19	257	23 44	13,03		
21	Martes	52	09 52	10 18	103	16 48	70	23 18	257	23 43	13,00		
22	Miércoles	53	09 53	10 18	103	16 48	69	23 17	258	23 42	12,98		
23	Jueves	54	09 54	10 19	102	16 48	69	23 16	258	23 41	12,95		
24	Viernes	55	09 55	10 20	102	16 48	69	23 15	258	23 40	12,92		
25	Sábado	56	09 56	10 21	101	16 48	68	23 14	259	23 39	12,88		
26	Domingo	57	09 57	10 22	101	16 47	68	23 13	259	23 38	12,85		
27	Lunes	58	09 58	10 22	100	16 47	68	23 12	260	23 36	12,83		
28	Martes	59	09 58	10 23	100	16 47	67	23 11	260	23 35	12,80		
29	Miércoles	60	09 59	10 24	100	16 47	67	23 09	261	23 34	12,75		

# SOL

Longitud : -04h 34m 28.8s

Latitud : -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Comienzo			Paso		Puesta		Fin		Horas de luz	
			Crepúsculo Civil	Salida Hora	Az. °	Meridiano Hora	h. °	Hora	Az. °	Crepúsculo Civil	de luz h		
Todas las horas son en Tiempo Universal													
1	Jueves	61	10 00	10 25	99	16 47	66	23 08	261	23 33	12,72	Marzo 2012	
2	Viernes	62	10 01	10 25	99	16 46	66	23 07	262	23 32	12,70		
3	Sábado	63	10 02	10 26	98	16 46	66	23 06	262	23 30	12,67		
4	Domingo	64	10 02	10 27	98	16 46	65	23 05	262	23 29	12,63		
5	Lunes	65	10 03	10 28	97	16 46	65	23 03	263	23 28	12,58		
6	Martes	66	10 04	10 28	97	16 46	65	23 02	263	23 27	12,57		
7	Miércoles	67	10 05	10 29	96	16 45	64	23 01	264	23 26	12,53		
8	Jueves	68	10 05	10 30	96	16 45	64	23 00	264	23 24	12,50		
9	Viernes	69	10 06	10 31	96	16 45	63	22 59	265	23 23	12,47		
10	Sábado	70	10 07	10 31	95	16 45	63	22 57	265	23 22	12,43		
11	Domingo	71	10 08	10 32	95	16 44	63	22 56	266	23 21	12,40		
12	Lunes	72	10 08	10 33	94	16 44	62	22 55	266	23 19	12,37		
13	Martes	73	10 09	10 33	94	16 44	62	22 54	267	23 18	12,35		
14	Miércoles	74	10 10	10 34	93	16 43	61	22 52	267	23 17	12,30		
15	Jueves	75	10 10	10 35	93	16 43	61	22 51	268	23 15	12,27		
16	Viernes	76	10 11	10 35	92	16 43	61	22 50	268	23 14	12,25		
17	Sábado	77	10 12	10 36	92	16 43	60	22 49	268	23 13	12,22		
18	Domingo	78	10 13	10 37	91	16 42	60	22 47	269	23 12	12,17		
19	Lunes	79	10 13	10 37	91	16 42	59	22 46	269	23 10	12,15		
20	Martes	80	10 14	10 38	90	16 42	59	22 45	270	23 09	12,12		
21	Miércoles	81	10 15	10 39	90	16 41	59	22 44	270	23 08	12,08		
22	Jueves	82	10 15	10 40	89	16 41	58	22 42	271	23 07	12,03		
23	Viernes	83	10 16	10 40	89	16 41	58	22 41	271	23 05	12,02		
24	Sábado	84	10 17	10 41	89	16 41	57	22 40	272	23 04	11,98		
25	Domingo	85	10 17	10 42	88	16 40	57	22 39	272	23 03	11,95		
26	Lunes	86	10 18	10 42	88	16 40	57	22 37	273	23 02	11,92		
27	Martes	87	10 19	10 43	87	16 40	56	22 36	273	23 00	11,88		
28	Miércoles	88	10 19	10 43	87	16 39	56	22 35	274	22 59	11,87		
29	Jueves	89	10 20	10 44	86	16 39	55	22 34	274	22 58	11,83		
30	Viernes	90	10 21	10 45	86	16 39	55	22 32	274	22 57	11,78		
31	Sábado	91	10 21	10 45	85	16 38	55	22 31	275	22 55	11,77		
1	Domingo	92	10 22	10 46	85	16 38	54	22 30	275	22 54	11,73	Abril 2012	
2	Lunes	93	10 22	10 47	84	16 38	54	22 29	276	22 53	11,70		
3	Martes	94	10 23	10 47	84	16 38	54	22 27	276	22 52	11,67		
4	Miércoles	95	10 24	10 48	84	16 37	53	22 26	277	22 50	11,63		
5	Jueves	96	10 24	10 49	83	16 37	53	22 25	277	22 49	11,60		
6	Viernes	97	10 25	10 49	83	16 37	52	22 24	278	22 48	11,58		
7	Sábado	98	10 26	10 50	82	16 36	52	22 22	278	22 47	11,53		
8	Domingo	99	10 26	10 51	82	16 36	52	22 21	278	22 46	11,50		
9	Lunes	100	10 27	10 51	81	16 36	51	22 20	279	22 44	11,48		
10	Martes	101	10 27	10 52	81	16 36	51	22 19	279	22 43	11,45		
11	Miércoles	102	10 28	10 53	80	16 35	51	22 18	280	22 42	11,42		
12	Jueves	103	10 29	10 53	80	16 35	50	22 16	280	22 41	11,38		
13	Viernes	104	10 29	10 54	80	16 35	50	22 15	281	22 40	11,35		
14	Sábado	105	10 30	10 55	79	16 35	49	22 14	281	22 39	11,32		
15	Domingo	106	10 31	10 55	79	16 34	49	22 13	281	22 38	11,30		
16	Lunes	107	10 31	10 56	78	16 34	49	22 12	282	22 37	11,27		
17	Martes	108	10 32	10 57	78	16 34	48	22 11	282	22 35	11,23		
18	Miércoles	109	10 33	10 57	78	16 34	48	22 10	283	22 34	11,22		
19	Jueves	110	10 33	10 58	77	16 33	48	22 09	283	22 33	11,18		
20	Viernes	111	10 34	10 59	77	16 33	47	22 08	283	22 32	11,15		
21	Sábado	112	10 34	10 59	76	16 33	47	22 06	284	22 31	11,12		
22	Domingo	113	10 35	11 00	76	16 33	47	22 05	284	22 30	11,08		
23	Lunes	114	10 36	11 01	76	16 33	46	22 04	285	22 29	11,05		
24	Martes	115	10 36	11 01	75	16 33	46	22 03	285	22 28	11,03		
25	Miércoles	116	10 37	11 02	75	16 32	46	22 02	285	22 27	11,00		
26	Jueves	117	10 38	11 03	74	16 32	45	22 01	286	22 26	10,97		
27	Viernes	118	10 38	11 03	74	16 32	45	22 00	286	22 25	10,95		
28	Sábado	119	10 39	11 04	74	16 32	45	21 59	287	22 25	10,92		
29	Domingo	120	10 40	11 05	73	16 32	44	21 58	287	22 24	10,88		
30	Lunes	121	10 40	11 05	73	16 32	44	21 58	287	22 23	10,88		

# SOL

Longitud : -04h 34m 28.8s

Latitud : -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Comienzo			Paso			Fin			Horas de luz
			Crepúsculo Civil	Salida Hora	Az. °	Meridiano Hora	h. °	Puesta Hora	Az. °	Crepúsculo Civil		
			h m	h m		h m		h m		h m	h	
Todas las horas son en Tiempo Universal												
1	Martes	122	10 41	11 06	73	16 32	44	21 57	288	22 22	10,85	Mayo 2012
2	Miércoles	123	10 41	11 07	72	16 31	44	21 56	288	22 21	10,82	
3	Jueves	124	10 42	11 07	72	16 31	43	21 55	288	22 20	10,80	
4	Viernes	125	10 43	11 08	71	16 31	43	21 54	289	22 19	10,77	
5	Sábado	126	10 43	11 09	71	16 31	43	21 53	289	22 19	10,73	
6	Domingo	127	10 44	11 09	71	16 31	42	21 52	289	22 18	10,72	
7	Lunes	128	10 45	11 10	70	16 31	42	21 52	290	22 17	10,70	
8	Martes	129	10 45	11 11	70	16 31	42	21 51	290	22 16	10,67	
9	Miércoles	130	10 46	11 11	70	16 31	42	21 50	290	22 16	10,65	
10	Jueves	131	10 46	11 12	70	16 31	41	21 49	291	22 15	10,62	
11	Viernes	132	10 47	11 13	69	16 31	41	21 49	291	22 14	10,60	
12	Sábado	133	10 48	11 13	69	16 31	41	21 48	291	22 14	10,58	
13	Domingo	134	10 48	11 14	69	16 31	41	21 47	291	22 13	10,55	
14	Lunes	135	10 49	11 15	68	16 31	40	21 47	292	22 12	10,53	
15	Martes	136	10 50	11 15	68	16 31	40	21 46	292	22 12	10,52	
16	Miércoles	137	10 50	11 16	68	16 31	40	21 45	292	22 11	10,48	
17	Jueves	138	10 51	11 17	68	16 31	40	21 45	293	22 11	10,47	
18	Viernes	139	10 51	11 17	67	16 31	39	21 44	293	22 10	10,45	
19	Sábado	140	10 52	11 18	67	16 31	39	21 44	293	22 10	10,43	
20	Domingo	141	10 53	11 19	67	16 31	39	21 43	293	22 09	10,40	
21	Lunes	142	10 53	11 19	67	16 31	39	21 43	294	22 09	10,40	
22	Martes	143	10 54	11 20	66	16 31	39	21 42	294	22 08	10,37	
23	Miércoles	144	10 54	11 21	66	16 31	38	21 42	294	22 08	10,35	
24	Jueves	145	10 55	11 21	66	16 31	38	21 41	294	22 08	10,33	
25	Viernes	146	10 56	11 22	66	16 31	38	21 41	294	22 07	10,32	
26	Sábado	147	10 56	11 22	65	16 32	38	21 41	295	22 07	10,32	
27	Domingo	148	10 57	11 23	65	16 32	38	21 40	295	22 07	10,28	
28	Lunes	149	10 57	11 24	65	16 32	38	21 40	295	22 06	10,27	
29	Martes	150	10 58	11 24	65	16 32	37	21 40	295	22 06	10,27	
30	Miércoles	151	10 58	11 25	65	16 32	37	21 39	295	22 06	10,23	
31	Jueves	152	10 59	11 25	64	16 32	37	21 39	296	22 06	10,23	
-----												
1	Viernes	153	10 59	11 26	64	16 32	37	21 39	296	22 05	10,22	Junio 2012
2	Sábado	154	11 00	11 26	64	16 33	37	21 39	296	22 05	10,22	
3	Domingo	155	11 00	11 27	64	16 33	37	21 38	296	22 05	10,18	
4	Lunes	156	11 01	11 27	64	16 33	37	21 38	296	22 05	10,18	
5	Martes	157	11 01	11 28	64	16 33	37	21 38	296	22 05	10,17	
6	Miércoles	158	11 02	11 28	64	16 33	36	21 38	296	22 05	10,17	
7	Jueves	159	11 02	11 29	64	16 33	36	21 38	297	22 05	10,15	
8	Viernes	160	11 03	11 29	63	16 34	36	21 38	297	22 05	10,15	
9	Sábado	161	11 03	11 30	63	16 34	36	21 38	297	22 05	10,13	
10	Domingo	162	11 03	11 30	63	16 34	36	21 38	297	22 05	10,13	
11	Lunes	163	11 04	11 31	63	16 34	36	21 38	297	22 05	10,12	
12	Martes	164	11 04	11 31	63	16 34	36	21 38	297	22 05	10,12	
13	Miércoles	165	11 04	11 31	63	16 35	36	21 38	297	22 05	10,12	
14	Jueves	166	11 05	11 32	63	16 35	36	21 38	297	22 05	10,10	
15	Viernes	167	11 05	11 32	63	16 35	36	21 38	297	22 05	10,10	
16	Sábado	168	11 05	11 32	63	16 35	36	21 38	297	22 05	10,10	
17	Domingo	169	11 06	11 33	63	16 36	36	21 38	297	22 05	10,08	
18	Lunes	170	11 06	11 33	63	16 36	36	21 39	297	22 05	10,10	
19	Martes	171	11 06	11 33	63	16 36	36	21 39	297	22 06	10,10	
20	Miércoles	172	11 07	11 33	63	16 36	36	21 39	297	22 06	10,10	
21	Jueves	173	11 07	11 34	63	16 36	36	21 39	297	22 06	10,08	
22	Viernes	174	11 07	11 34	63	16 37	36	21 39	297	22 06	10,08	
23	Sábado	175	11 07	11 34	63	16 37	36	21 40	297	22 07	10,10	
24	Domingo	176	11 07	11 34	63	16 37	36	21 40	297	22 07	10,10	
25	Lunes	177	11 07	11 34	63	16 37	36	21 40	297	22 07	10,10	
26	Martes	178	11 08	11 34	63	16 37	36	21 41	297	22 07	10,12	
27	Miércoles	179	11 08	11 34	63	16 38	36	21 41	297	22 08	10,12	
28	Jueves	180	11 08	11 35	63	16 38	36	21 41	297	22 08	10,10	
29	Viernes	181	11 08	11 35	63	16 38	36	21 42	297	22 08	10,12	
30	Sábado	182	11 08	11 35	63	16 38	36	21 42	297	22 09	10,12	

# SOL

Longitud : -04h 34m 28.8s

Latitud : -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Comienzo			Paso			Puesta		Fin		Horas de luz	
			Crepúsculo Civil	Salida Hora	Az. °	Meridiano Hora	h. °	Hora	Az. °	Crepúsculo Civil	Horas de luz			
Todas las horas son en Tiempo Universal														
1	Domingo	183	11 08	11 35	63	16 38	36	21 42	297	22 09	10,12	Julio 2012		
2	Lunes	184	11 08	11 35	63	16 39	36	21 43	297	22 10	10,13			
3	Martes	185	11 08	11 34	63	16 39	36	21 43	297	22 10	10,15			
4	Miércoles	186	11 08	11 34	64	16 39	36	21 44	296	22 10	10,17			
5	Jueves	187	11 08	11 34	64	16 39	37	21 44	296	22 11	10,17			
6	Viernes	188	11 07	11 34	64	16 39	37	21 45	296	22 11	10,18			
7	Sábado	189	11 07	11 34	64	16 40	37	21 45	296	22 12	10,18			
8	Domingo	190	11 07	11 34	64	16 40	37	21 46	296	22 12	10,20			
9	Lunes	191	11 07	11 34	64	16 40	37	21 46	296	22 13	10,20			
10	Martes	192	11 07	11 33	64	16 40	37	21 47	296	22 13	10,23			
11	Miércoles	193	11 07	11 33	64	16 40	37	21 47	295	22 14	10,23			
12	Jueves	194	11 06	11 33	65	16 40	37	21 48	295	22 14	10,25			
13	Viernes	195	11 06	11 33	65	16 40	38	21 48	295	22 15	10,25			
14	Sábado	196	11 06	11 32	65	16 40	38	21 49	295	22 15	10,28			
15	Domingo	197	11 05	11 32	65	16 41	38	21 49	295	22 16	10,28			
16	Lunes	198	11 05	11 31	65	16 41	38	21 50	295	22 16	10,32			
17	Martes	199	11 05	11 31	66	16 41	38	21 51	294	22 17	10,33			
18	Miércoles	200	11 04	11 31	66	16 41	38	21 51	294	22 17	10,33			
19	Jueves	201	11 04	11 30	66	16 41	39	21 52	294	22 18	10,37			
20	Viernes	202	11 04	11 30	66	16 41	39	21 52	294	22 18	10,37			
21	Sábado	203	11 03	11 29	66	16 41	39	21 53	293	22 19	10,40			
22	Domingo	204	11 03	11 29	67	16 41	39	21 54	293	22 20	10,42			
23	Lunes	205	11 02	11 28	67	16 41	39	21 54	293	22 20	10,43			
24	Martes	206	11 02	11 28	67	16 41	40	21 55	293	22 21	10,45			
25	Miércoles	207	11 01	11 27	67	16 41	40	21 55	292	22 21	10,47			
26	Jueves	208	11 00	11 26	68	16 41	40	21 56	292	22 22	10,50			
27	Viernes	209	11 00	11 26	68	16 41	40	21 57	292	22 22	10,52			
28	Sábado	210	10 59	11 25	68	16 41	40	21 57	292	22 23	10,53			
29	Domingo	211	10 59	11 24	69	16 41	41	21 58	291	22 24	10,57			
30	Lunes	212	10 58	11 24	69	16 41	41	21 58	291	22 24	10,57			
31	Martes	213	10 57	11 23	69	16 41	41	21 59	291	22 25	10,60			
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1	Miércoles	214	10 57	11 22	69	16 41	41	22 00	290	22 25	10,63	Agosto 2012		
2	Jueves	215	10 56	11 21	70	16 41	42	22 00	290	22 26	10,65			
3	Viernes	216	10 55	11 21	70	16 41	42	22 01	290	22 26	10,67			
4	Sábado	217	10 54	11 20	70	16 41	42	22 02	289	22 27	10,70			
5	Domingo	218	10 54	11 19	71	16 40	42	22 02	289	22 28	10,72			
6	Lunes	219	10 53	11 18	71	16 40	43	22 03	289	22 28	10,75			
7	Martes	220	10 52	11 17	71	16 40	43	22 03	288	22 29	10,77			
8	Miércoles	221	10 51	11 16	72	16 40	43	22 04	288	22 29	10,80			
9	Jueves	222	10 50	11 15	72	16 40	44	22 05	288	22 30	10,83			
10	Viernes	223	10 49	11 14	72	16 40	44	22 05	287	22 31	10,85			
11	Sábado	224	10 48	11 14	73	16 40	44	22 06	287	22 31	10,87			
12	Domingo	225	10 47	11 13	73	16 39	44	22 07	287	22 32	10,90			
13	Lunes	226	10 47	11 12	73	16 39	45	22 07	286	22 32	10,92			
14	Martes	227	10 46	11 11	74	16 39	45	22 08	286	22 33	10,95			
15	Miércoles	228	10 45	11 10	74	16 39	45	22 08	286	22 33	10,97			
16	Jueves	229	10 44	11 09	75	16 39	46	22 09	285	22 34	11,00			
17	Viernes	230	10 43	11 08	75	16 38	46	22 10	285	22 35	11,03			
18	Sábado	231	10 42	11 06	75	16 38	46	22 10	284	22 35	11,07			
19	Domingo	232	10 41	11 05	76	16 38	47	22 11	284	22 36	11,10			
20	Lunes	233	10 40	11 04	76	16 38	47	22 12	284	22 36	11,13			
21	Martes	234	10 38	11 03	77	16 37	47	22 12	283	22 37	11,15			
22	Miércoles	235	10 37	11 02	77	16 37	48	22 13	283	22 37	11,18			
23	Jueves	236	10 36	11 01	77	16 37	48	22 13	282	22 38	11,20			
24	Viernes	237	10 35	11 00	78	16 37	48	22 14	282	22 39	11,23			
25	Sábado	238	10 34	10 59	78	16 36	49	22 15	282	22 39	11,27			
26	Domingo	239	10 33	10 58	79	16 36	49	22 15	281	22 40	11,28			
27	Lunes	240	10 32	10 56	79	16 36	49	22 16	281	22 40	11,33			
28	Martes	241	10 31	10 55	79	16 36	50	22 16	280	22 41	11,35			
29	Miércoles	242	10 29	10 54	80	16 35	50	22 17	280	22 41	11,38			
30	Jueves	243	10 28	10 53	80	16 35	51	22 18	280	22 42	11,42			
31	Viernes	244	10 27	10 52	81	16 35	51	22 18	279	22 43	11,43			



# SOL

Longitud : -04h 34m 28.8s

Latitud : -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Comienzo			Paso			Puesta		Fin		Horas de luz	
			Crepúsculo Civil	Salida Hora	Az. °	Meridiano Hora	h. °	Hora	Az. °	Crepúsculo Civil	Horas de luz			
Todas las horas son en Tiempo Universal														
1	Sábado	245	10 26	10 50	81	16 34	51	22 19	279	22 43	11,48	Septiembre 2012		
2	Domingo	246	10 25	10 49	81	16 34	52	22 19	278	22 44	11,50			
3	Lunes	247	10 23	10 48	82	16 34	52	22 20	278	22 44	11,53			
4	Martes	248	10 22	10 47	82	16 33	52	22 20	277	22 45	11,55			
5	Miércoles	249	10 21	10 45	83	16 33	53	22 21	277	22 45	11,60			
6	Jueves	250	10 20	10 44	83	16 33	53	22 22	277	22 46	11,63			
7	Viernes	251	10 18	10 43	84	16 32	53	22 22	276	22 47	11,65			
8	Sábado	252	10 17	10 42	84	16 32	54	22 23	276	22 47	11,68			
9	Domingo	253	10 16	10 40	85	16 32	54	22 23	275	22 48	11,72			
10	Lunes	254	10 15	10 39	85	16 31	55	22 24	275	22 48	11,75			
11	Martes	255	10 13	10 38	85	16 31	55	22 25	274	22 49	11,78			
12	Miércoles	256	10 12	10 36	86	16 31	55	22 25	274	22 49	11,82			
13	Jueves	257	10 11	10 35	86	16 30	56	22 26	273	22 50	11,85			
14	Viernes	258	10 10	10 34	87	16 30	56	22 26	273	22 51	11,87			
15	Sábado	259	10 08	10 32	87	16 29	57	22 27	273	22 51	11,92			
16	Domingo	260	10 07	10 31	88	16 29	57	22 28	272	22 52	11,95			
17	Lunes	261	10 06	10 30	88	16 29	57	22 28	272	22 52	11,97			
18	Martes	262	10 04	10 29	89	16 28	58	22 29	271	22 53	12,00			
19	Miércoles	263	10 03	10 27	89	16 28	58	22 29	271	22 54	12,03			
20	Jueves	264	10 02	10 26	90	16 28	58	22 30	270	22 54	12,07			
21	Viernes	265	10 00	10 25	90	16 27	59	22 30	270	22 55	12,08			
22	Sábado	266	09 59	10 23	90	16 27	59	22 31	269	22 55	12,13			
23	Domingo	267	09 58	10 22	91	16 27	60	22 32	269	22 56	12,17			
24	Lunes	268	09 56	10 21	91	16 26	60	22 32	268	22 57	12,18			
25	Martes	269	09 55	10 19	92	16 26	60	22 33	268	22 57	12,23			
26	Miércoles	270	09 54	10 18	92	16 26	61	22 34	268	22 58	12,27			
27	Jueves	271	09 53	10 17	93	16 25	61	22 34	267	22 58	12,28			
28	Viernes	272	09 51	10 16	93	16 25	62	22 35	267	22 59	12,32			
29	Sábado	273	09 50	10 14	94	16 25	62	22 35	266	23 00	12,35			
30	Domingo	274	09 49	10 13	94	16 24	62	22 36	266	23 00	12,38			
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1	Lunes	275	09 47	10 12	95	16 24	63	22 37	265	23 01	12,42	Octubre 2012		
2	Martes	276	09 46	10 10	95	16 24	63	22 37	265	23 02	12,45			
3	Miércoles	277	09 45	10 09	95	16 23	63	22 38	264	23 02	12,48			
4	Jueves	278	09 43	10 08	96	16 23	64	22 39	264	23 03	12,52			
5	Viernes	289	09 42	10 07	96	16 23	64	22 39	263	23 04	12,53			
6	Sábado	280	09 41	10 05	97	16 22	65	22 40	263	23 04	12,58			
7	Domingo	281	09 40	10 04	97	16 22	65	22 41	263	23 05	12,62			
8	Lunes	282	09 38	10 03	98	16 22	65	22 41	262	23 06	12,63			
9	Martes	283	09 37	10 02	98	16 22	66	22 42	262	23 07	12,67			
10	Miércoles	284	09 36	10 01	99	16 21	66	22 43	261	23 07	12,70			
11	Jueves	285	09 35	09 59	99	16 21	67	22 43	261	23 08	12,73			
12	Viernes	286	09 33	09 58	99	16 21	67	22 44	260	23 09	12,77			
13	Sábado	287	09 32	09 57	100	16 21	67	22 45	260	23 09	12,80			
14	Domingo	288	09 31	09 56	100	16 20	68	22 45	259	23 10	12,82			
15	Lunes	289	09 30	09 55	101	16 20	68	22 46	259	23 11	12,85			
16	Martes	290	09 29	09 53	101	16 20	68	22 47	259	23 12	12,90			
17	Miércoles	291	09 27	09 52	102	16 20	69	22 48	258	23 13	12,93			
18	Jueves	292	09 26	09 51	102	16 20	69	22 48	258	23 13	12,95			
19	Viernes	293	09 25	09 50	103	16 19	69	22 49	257	23 14	12,98			
20	Sábado	294	09 24	09 49	103	16 19	70	22 50	257	23 15	13,02			
21	Domingo	295	09 23	09 48	103	16 19	70	22 51	256	23 16	13,05			
22	Lunes	296	09 22	09 47	104	16 19	71	22 51	256	23 17	13,07			
23	Martes	297	09 21	09 46	104	16 19	71	22 52	256	23 17	13,10			
24	Miércoles	298	09 20	09 45	105	16 19	71	22 53	255	23 18	13,13			
25	Jueves	299	09 18	09 44	105	16 19	72	22 54	255	23 19	13,17			
26	Viernes	300	09 17	09 43	105	16 18	72	22 55	254	23 20	13,20			
27	Sábado	301	09 16	09 42	106	16 18	72	22 55	254	23 21	13,22			
28	Domingo	302	09 15	09 41	106	16 18	73	22 56	254	23 22	13,25			
29	Lunes	303	09 14	09 40	107	16 18	73	22 57	253	23 23	13,28			
30	Martes	304	09 13	09 39	107	16 18	73	22 58	253	23 23	13,32			
31	Miércoles	305	09 12	09 38	107	16 18	74	22 59	252	23 24	13,35			

# SOL

Longitud : -04h 34m 28.8s  
 Latitud : -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Comienzo			Paso		Puesta		Fin		Horas de luz
			Crepúsculo Civil	Salida Hora	Az. °	Meridiano Hora	h. °	Hora	Az. °	Crepúsculo Civil		
Todas las horas son en Tiempo Universal												
1	Jueves	306	09 11	09 37	108	16 18	74	22 59	252	23 25	13,37	Noviembre 2012
2	Viernes	307	09 11	09 36	108	16 18	74	23 00	252	23 26	13,40	
3	Sábado	308	09 10	09 35	108	16 18	75	23 01	251	23 27	13,43	
4	Domingo	309	09 09	09 35	109	16 18	75	23 02	251	23 28	13,45	
5	Lunes	310	09 08	09 34	109	16 18	75	23 03	251	23 29	13,48	
6	Martes	311	09 07	09 33	110	16 18	75	23 04	250	23 30	13,52	
7	Miércoles	312	09 06	09 32	110	16 18	76	23 05	250	23 31	13,55	
8	Jueves	313	09 05	09 32	110	16 18	76	23 05	250	23 32	13,55	
9	Viernes	314	09 05	09 31	111	16 18	76	23 06	249	23 33	13,58	
10	Sábado	315	09 04	09 30	111	16 18	77	23 07	249	23 33	13,62	
11	Domingo	316	09 03	09 30	111	16 19	77	23 08	249	23 34	13,63	
12	Lunes	317	09 03	09 29	112	16 19	77	23 09	248	23 35	13,67	
13	Martes	318	09 02	09 28	112	16 19	77	23 10	248	23 36	13,70	
14	Miércoles	319	09 01	09 28	112	16 19	78	23 11	248	23 37	13,72	
15	Jueves	320	09 01	09 27	113	16 19	78	23 12	247	23 38	13,75	
16	Viernes	321	09 00	09 27	113	16 19	78	23 12	247	23 39	13,75	
17	Sábado	322	08 59	09 26	113	16 20	78	23 13	247	23 40	13,78	
18	Domingo	323	08 59	09 26	113	16 20	79	23 14	246	23 41	13,80	
19	Lunes	324	08 58	09 25	114	16 20	79	23 15	246	23 42	13,83	
20	Martes	325	08 58	09 25	114	16 20	79	23 16	246	23 43	13,85	
21	Miércoles	326	08 58	09 24	114	16 21	79	23 17	246	23 44	13,88	
22	Jueves	327	08 57	09 24	115	16 21	80	23 18	245	23 45	13,90	
23	Viernes	328	08 57	09 24	115	16 21	80	23 19	245	23 46	13,92	
24	Sábado	329	08 56	09 24	115	16 21	80	23 20	245	23 47	13,93	
25	Domingo	330	08 56	09 23	115	16 22	80	23 20	245	23 48	13,95	
26	Lunes	331	08 56	09 23	115	16 22	80	23 21	244	23 49	13,97	
27	Martes	332	08 55	09 23	116	16 22	80	23 22	244	23 50	13,98	
28	Miércoles	333	08 55	09 23	116	16 23	81	23 23	244	23 50	14,00	
29	Jueves	334	08 55	09 22	116	16 23	81	23 24	244	23 51	14,03	
30	Viernes	335	08 55	09 22	116	16 23	81	23 25	244	23 52	14,05	
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1	Sábado	336	08 55	09 22	117	16 24	81	23 26	243	23 53	14,07	Diciembre 2012
2	Domingo	337	08 55	09 22	117	16 24	81	23 26	243	23 54	14,07	
3	Lunes	338	08 55	09 22	117	16 25	81	23 27	243	23 55	14,08	
4	Martes	339	08 54	09 22	117	16 25	82	23 28	243	23 56	14,10	
5	Miércoles	340	08 54	09 22	117	16 25	82	23 29	243	23 56	14,12	
6	Jueves	341	08 55	09 22	117	16 26	82	23 29	243	23 57	14,12	
7	Viernes	342	08 55	09 22	117	16 26	82	23 30	242	23 58	14,13	
8	Sábado	343	08 55	09 22	118	16 27	82	23 31	242	23 59	14,15	
9	Domingo	344	08 55	09 23	118	16 27	82	23 32	242	24 00	14,15	
10	Lunes	345	08 55	09 23	118	16 28	82	23 32	242		14,15	
11	Martes	346	08 55	09 23	118	16 28	82	23 33	242	00 00	14,17	
12	Miércoles	347	08 55	09 23	118	16 28	82	23 34	242	00 01	14,18	
13	Jueves	348	08 56	09 24	118	16 29	82	23 35	242	00 02	14,18	
14	Viernes	349	08 56	09 24	118	16 29	82	23 35	242	00 03	14,18	
15	Sábado	350	08 56	09 24	118	16 30	83	23 36	242	00 03	14,20	
16	Domingo	351	08 56	09 24	118	16 30	83	23 36	242	00 04	14,20	
17	Lunes	352	08 57	09 25	118	16 31	83	23 37	242	00 04	14,20	
18	Martes	353	08 57	09 25	118	16 31	83	23 38	242	00 05	14,22	
19	Miércoles	354	08 58	09 26	118	16 32	83	23 38	242	00 06	14,20	
20	Jueves	355	08 58	09 26	118	16 32	83	23 39	242	00 06	14,22	
21	Viernes	356	08 59	09 27	118	16 33	83	23 39	242	00 07	14,20	
22	Sábado	357	08 59	09 27	118	16 33	83	23 40	242	00 07	14,22	
23	Domingo	358	09 00	09 28	118	16 34	83	23 40	242	00 08	14,20	
24	Lunes	359	09 00	09 28	118	16 34	83	23 40	242	00 08	14,20	
25	Martes	360	09 01	09 29	118	16 35	83	23 41	242	00 08	14,20	
26	Miércoles	361	09 01	09 29	118	16 35	83	23 41	242	00 09	14,20	
27	Jueves	362	09 02	09 30	118	16 36	82	23 42	242	00 09	14,20	
28	Viernes	363	09 03	09 31	118	16 36	82	23 42	242	00 10	14,18	
29	Sábado	364	09 03	09 31	118	16 37	82	23 42	242	00 10	14,18	
30	Domingo	365	09 04	09 32	118	16 37	82	23 42	242	00 10	14,17	
31	Lunes	366	09 05	09 33	118	16 38	82	23 43	242	00 10	14,17	

## Luna

En esta sección se dan los siguientes datos:

- Hora (en Tiempo Universal) y acimut de salida y puesta del limbo superior de la Luna.  
El acimut está medido sobre el horizonte a partir del norte hacia el este. N = 0° ; E = 90° ; S = 180° ; O = 270°).
- Hora (UT) y altura de paso por el meridiano
- Paralaje horizontal Geocéntrica
- Semi-diámetro
- Porcentaje de iluminación de la Luna
- Fases de la Luna

Todas las horas son en Tiempo Universal

El porcentaje de iluminación representa la fracción de la Luna que vemos iluminada y está calculada para la 0h de UT, del día correspondiente.

Los días en que los fenómenos de salida, paso por el meridiano y puesta no ocurren, se han dejado en blanco.



# LUNA

Longitud -04h 34m 28.8s

Latitud -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Salida		Paso Meridiano		Puesta		Paralaje Horizontal		Semi-diámetro	Ilum. %	Fase				
			h	m	h	m	h	m	'	"				'	"		
Todas las horas son en Tiempo Universal																	
1	Domingo	1	17	08	78	22	52	47	03	59	279	54	29.72	14	50.64	47.7	Enero 2012
2	Lunes	2	18	02	73	23	35	43	04	31	284	54	15.59	14	46.79	57.1	Cuarto Creciente (1/1)
3	Martes	3	18	56	69				05	05	289	54	12.00	14	45.81	66.3	
4	Miércoles	4	19	50	66	00	21	40	05	42	292	54	18.46	14	47.57	74.8	
5	Jueves	5	20	45	64	01	08	38	06	23	295	54	33.96	14	51.79	82.6	
6	Viernes	6	21	37	63	01	57	36	07	09	297	54	57.02	14	58.07	89.3	
7	Sábado	7	22	28	64	02	49	36	08	00	297	55	25.74	15	05.89	94.5	
8	Domingo	8	23	15	66	03	41	37	08	56	295	55	58.01	15	14.68	98.2	
9	Lunes	9	23	58	70	04	33	39	09	55	292	56	31.60	15	23.83	99.8	Luna Llena
10	Martes	10				05	25	42	10	57	288	57	04.46	15	32.78	99.4	
11	Miércoles	11	00	38	74	06	16	46	11	59	283	57	34.91	15	41.07	96.7	
12	Jueves	12	01	15	80	07	05	51	13	01	277	58	01.80	15	48.40	91.7	
13	Viernes	13	01	51	86	07	54	57	14	04	271	58	24.57	15	54.60	84.6	
14	Sábado	14	02	26	92	08	43	62	15	08	264	58	43.14	15	59.66	75.8	
15	Domingo	15	03	02	99	09	34	68	16	12	258	58	57.68	16	03.62	65.6	
16	Lunes	16	03	41	105	10	26	73	17	17	253	59	08.31	16	06.51	54.5	Cuarto Menguante
17	Martes	17	04	23	110	11	20	77	18	23	248	59	14.89	16	08.31	43.1	
18	Miércoles	18	05	10	114	12	17	80	19	29	245	59	16.88	16	08.85	32.0	
19	Jueves	19	06	03	116	13	16	81	20	32	243	59	13.38	16	07.89	21.9	
20	Viernes	20	07	01	117	14	16	81	21	30	244	59	03.40	16	05.18	13.2	
21	Sábado	21	08	03	115	15	14	80	22	21	246	58	46.20	16	00.49	06.6	
22	Domingo	22	09	06	112	16	10	77	23	07	250	58	21.64	15	53.80	02.2	
23	Lunes	23	10	09	108	17	02	73	23	47	255	57	50.45	15	45.31	00.2	Luna Nueva
24	Martes	24	11	11	103	17	51	69				57	14.29	15	35.46	00.7	
25	Miércoles	25	12	10	97	18	37	64	00	24	260	56	35.55	15	24.91	03.4	
26	Jueves	26	13	07	91	19	21	59	00	57	266	55	57.01	15	14.41	08.0	
27	Viernes	27	14	03	86	20	04	54	01	28	271	55	21.53	15	04.75	14.3	
28	Sábado	28	14	57	80	20	46	49	01	59	277	54	51.68	14	56.61	21.8	
29	Domingo	29	15	51	75	21	30	45	02	30	282	54	29.58	14	50.60	30.2	
30	Lunes	30	16	45	71	22	14	42	03	03	287	54	16.80	14	47.12	39.2	
31	Martes	31	17	39	67	23	00	39	03	39	291	54	14.30	14	46.44	48.5	Cuarto Creciente
-----																	
1	Miércoles	32	18	33	65	23	48	37	04	18	294	54	22.41	14	48.64	57.9	Febrero 2012
2	Jueves	33	19	26	64				05	01	296	54	40.84	14	53.66	67.1	
3	Viernes	34	20	17	64	00	38	36	05	50	297	55	08.61	15	01.23	75.8	
4	Sábado	35	21	06	65	01	30	36	06	43	296	55	44.09	15	10.89	83.7	
5	Domingo	36	21	51	68	02	22	38	07	41	294	56	24.92	15	22.01	90.4	
6	Lunes	37	22	33	72	03	14	41	08	41	290	57	08.17	15	33.79	95.6	
7	Martes	38	23	13	77	04	06	44	09	44	286	57	50.51	15	45.32	98.9	Luna Llena
8	Miércoles	39	23	50	83	04	57	49	10	48	280	58	28.58	15	55.69	99.8	
9	Jueves	40				05	48	54	11	53	273	58	59.50	16	04.11	98.3	
10	Viernes	41	00	26	90	06	38	60	12	58	267	59	21.31	16	10.05	94.2	
11	Sábado	42	01	03	96	07	30	66	14	03	260	59	33.23	16	13.30	87.8	
12	Domingo	43	01	42	103	08	22	71	15	10	254	59	35.69	16	13.97	79.3	
13	Lunes	44	02	23	108	09	17	75	16	16	249	59	30.00	16	12.42	69.2	
14	Martes	45	03	09	112	10	13	79	17	22	246	59	17.91	16	09.13	58.2	Cuarto Menguante
15	Miércoles	46	04	00	115	11	11	81	18	25	244	59	01.10	16	04.55	46.8	
16	Jueves	47	04	55	116	12	09	81	19	23	244	58	40.92	15	59.05	35.8	
17	Viernes	48	05	54	116	13	06	80	20	16	245	58	18.20	15	52.86	25.6	
18	Sábado	49	06	56	113	14	02	78	21	03	249	57	53.34	15	46.09	16.6	
19	Domingo	50	07	57	110	14	54	75	21	44	253	57	26.53	15	38.79	09.4	
20	Lunes	51	08	58	105	15	43	71	22	21	258	56	57.97	15	31.01	04.2	
21	Martes	52	09	58	100	16	30	66	22	55	263	56	28.11	15	22.88	01.1	Luna Nueva
22	Miércoles	53	10	55	94	17	15	61	23	27	269	55	57.79	15	14.62	00.2	
23	Jueves	54	11	51	88	17	58	56	23	59	274	55	28.25	15	06.58	01.3	
24	Viernes	55	12	46	83	18	41	51				55	01.06	14	59.17	04.4	
25	Sábado	56	13	41	77	19	24	47	00	30	280	54	38.00	14	52.89	09.2	
26	Domingo	57	14	35	73	20	08	43	01	03	285	54	20.83	14	48.21	15.4	
27	Lunes	58	15	29	69	20	54	40	01	37	289	54	11.19	14	45.59	22.8	
28	Martes	59	16	23	66	21	40	38	02	15	292	54	10.43	14	45.38	31.2	
29	Miércoles	60	17	16	64	22	29	37	02	56	295	54	19.52	14	47.86	40.2	

# LUNA

Longitud -04h 34m 28.8s

Latitud -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Salida		Paso Meridiano		Puesta		Paralaje Horizontal		Semi-diámetro	Ilum. %	Fase				
			h	m	h	h.	h	Az.	'	"				'	"		
Todas las horas son en Tiempo Universal																	
1	Jueves	61	18	07	64	23	19	36	03	41	296	54	38.93	14	53.14	49.6	Marzo 2012
2	Viernes	62	18	55	64				04	32	296	55	08.50	15	01.20	59.2	Cuarto Creciente (1/1)
3	Sábado	63	19	41	67	00	10	37	05	26	295	55	47.36	15	11.78	68.7	
4	Domingo	64	20	25	70	01	01	39	06	24	292	56	33.72	15	24.41	77.6	
5	Lunes	65	21	05	75	01	53	43	07	25	288	57	24.84	15	38.33	85.7	
6	Martes	66	21	44	80	02	44	47	08	28	283	58	16.98	15	52.53	92.4	
7	Miércoles	67	22	21	87	03	35	52	09	33	277	59	05.71	16	05.81	97.2	
8	Jueves	68	22	59	93	04	27	57	10	39	270	59	46.40	16	16.89	99.6	Luna Llena
9	Viernes	69	23	38	100	05	19	63	11	46	263	60	15.05	16	24.69	99.3	
10	Sábado	70				06	13	69	12	55	257	60	29.07	16	28.51	96.2	
11	Domingo	71	00	20	106	07	08	74	14	04	251	60	27.89	16	28.19	90.5	
12	Lunes	72	01	06	111	08	06	77	15	12	247	60	12.93	16	24.11	82.5	
13	Martes	73	01	56	114	09	05	80	16	17	245	59	47.11	16	17.08	72.7	
14	Miércoles	74	02	51	116	10	04	81	17	18	244	59	13.99	16	08.06	62.0	
15	Jueves	75	03	50	116	11	02	81	18	13	245	58	37.04	15	58.00	50.8	Cuarto Menguante
16	Viernes	76	04	50	114	11	58	79	19	01	248	57	59.08	15	47.66	39.8	
17	Sábado	77	05	52	111	12	50	76	19	44	252	57	22.08	15	37.58	29.6	
18	Domingo	78	06	52	106	13	40	72	20	21	256	56	47.19	15	28.08	20.4	
19	Lunes	79	07	50	101	14	26	67	20	56	261	56	14.94	15	19.29	12.8	
20	Martes	80	08	48	96	15	11	63	21	28	267	55	45.49	15	11.27	06.8	
21	Miércoles	81	09	43	90	15	55	58	22	00	272	55	18.91	15	04.03	02.7	
22	Jueves	82	10	38	85	16	37	53	22	31	278	54	55.33	14	57.61	00.5	Luna Nueva
23	Viernes	83	11	33	80	17	20	49	23	03	283	54	35.14	14	52.11	00.3	
24	Sábado	84	12	27	75	18	04	45	23	37	287	54	18.97	14	47.71	01.9	
25	Domingo	85	13	21	71	18	49	41				54	07.74	14	44.65	05.3	
26	Lunes	86	14	15	67	19	35	39	00	13	291	54	02.51	14	43.22	10.3	
27	Martes	87	15	08	65	20	23	37	00	53	294	54	04.44	14	43.75	16.6	
28	Miércoles	88	15	59	64	21	12	37	01	37	295	54	14.59	14	46.52	24.2	
29	Jueves	89	16	48	64	22	01	37	02	25	296	54	33.84	14	51.76	32.8	
30	Viernes	90	17	34	66	22	51	39	03	16	295	55	02.67	14	59.61	42.1	Cuarto Creciente
31	Sábado	91	18	17	69	23	41	41	04	11	293	55	40.97	15	10.04	51.9	
-----																	
1	Domingo	92	18	57	73				05	10	290	56	27.86	15	22.81	61.9	Abril 2012
2	Lunes	93	19	36	78	00	31	45	06	10	285	57	21.45	15	37.41	71.8	
3	Martes	94	20	13	84	01	21	49	07	12	280	58	18.60	15	52.97	81.0	
4	Miércoles	95	20	51	90	02	12	55	08	17	273	59	15.00	16	08.34	88.9	
5	Jueves	96	21	29	97	03	03	60	09	23	267	60	05.38	16	22.06	95.1	
6	Viernes	97	22	11	103	03	57	66	10	31	260	60	44.23	16	32.64	98.9	Luna Llena
7	Sábado	98	22	56	108	04	52	71	11	42	254	61	06.97	16	38.83	99.8	
8	Domingo	99	23	46	113	05	51	76	12	52	249	61	10.97	16	39.92	97.8	
9	Lunes	100				06	52	79	14	02	246	60	56.33	16	35.93	92.9	
10	Martes	101	00	41	115	07	53	81	15	07	244	60	25.73	16	27.60	85.5	
11	Miércoles	102	01	41	116	08	54	81	16	06	245	59	43.59	16	16.12	76.3	
12	Jueves	103	02	43	114	09	52	79	16	58	247	58	54.94	16	02.87	65.9	
13	Viernes	104	03	45	112	10	47	77	17	43	250	58	04.41	15	49.11	55.0	Cuarto Menguante
14	Sábado	105	04	47	108	11	37	73	18	22	255	57	15.61	15	35.82	44.2	
15	Domingo	106	05	46	103	12	25	69	18	58	260	56	30.97	15	23.66	34.0	
16	Lunes	107	06	43	98	13	10	64	19	31	265	55	51.87	15	13.01	24.7	
17	Martes	108	07	39	92	13	53	59	20	02	271	55	18.82	15	04.01	16.6	
18	Miércoles	109	08	33	86	14	36	55	20	33	276	54	51.80	14	56.65	10.0	
19	Jueves	110	09	27	81	15	19	50	21	05	281	54	30.51	14	50.85	05.0	
20	Viernes	111	10	21	76	16	02	46	21	38	286	54	14.58	14	46.51	01.7	
21	Sábado	112	11	15	72	16	46	43	22	13	290	54	03.77	14	43.57	00.2	Luna Nueva
22	Domingo	113	12	09	68	17	32	40	22	52	293	53	58.05	14	42.01	00.5	
23	Lunes	114	13	02	66	18	19	38	23	34	295	53	57.66	14	41.90	02.6	
24	Martes	115	13	54	64	19	08	37				54	03.08	14	43.38	06.4	
25	Miércoles	116	14	43	64	19	57	37	00	21	296	54	14.98	14	46.62	11.8	
26	Jueves	117	15	30	65	20	46	38	01	11	295	54	34.10	14	51.83	18.6	
27	Viernes	118	16	13	68	21	35	40	02	04	294	55	01.08	14	59.18	26.7	
28	Sábado	119	16	53	71	22	23	43	03	00	291	55	36.26	15	08.76	35.9	
29	Domingo	120	17	31	76	23	12	47	03	58	287	56	19.46	15	20.53	45.8	Cuarto Creciente
30	Lunes	121	18	08	81				04	57	282	57	09.70	15	34.21	56.3	

# LUNA

Longitud -04h 34m 28.8s  
 Latitud -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Salida		Paso Meridiano		Puesta		Paralaje Horizontal		Semi-diámetro	Ilum. %	Fase
			Hora	Az. °	Hora	h. °	Hora	Az. °	'	"			
Todas las horas son en Tiempo Universal													
1	Martes	122	18 44	87	00 00	52	05 59	276	58 04.91	15 49.25	66.7	Mayo 2012	
2	Miércoles	123	19 21	93	00 50	57	07 02	270	59 01.76	16 04.73	76.8		
3	Jueves	124	20 00	100	01 41	63	08 07	263	59 55.64	16 19.40	85.8		
4	Viernes	125	20 43	106	02 34	68	09 16	257	60 41.05	16 31.77	93.0		
5	Sábado	126	21 31	110	03 31	73	10 26	252	61 12.46	16 40.33	97.9		
6	Domingo	127	22 24	114	04 31	77	11 38	247	61 25.55	16 43.89	99.9	Luna Llena	
7	Lunes	128	23 24	116	05 34	80	12 47	245	61 18.39	16 41.94	98.9		
8	Martes	129			06 37	81	13 51	244	60 52.04	16 34.76	94.9		
9	Miércoles	130	00 27	115	07 39	80	14 48	246	60 10.20	16 23.37	88.3		
10	Jueves	131	01 32	113	08 37	78	15 37	249	59 18.17	16 09.20	79.8		
11	Viernes	132	02 36	109	09 31	74	16 20	253	58 21.58	15 53.78	70.1		
12	Sábado	133	03 38	104	10 21	70	16 58	258	57 25.36	15 38.47	59.7	Cuarto Menguante	
13	Domingo	134	04 37	99	11 08	65	17 32	264	56 33.26	15 24.28	49.2		
14	Lunes	135	05 34	94	11 52	61	18 04	269	55 47.72	15 11.88	39.0		
15	Martes	136	06 29	88	12 35	56	18 35	275	55 10.03	15 01.61	29.6		
16	Miércoles	137	07 23	83	13 17	51	19 07	280	54 40.60	14 53.60	21.1		
17	Jueves	138	08 17	78	14 00	47	19 39	284	54 19.23	14 47.78	13.8		
18	Viernes	139	09 10	73	14 44	44	20 14	289	54 05.34	14 44.00	07.9		
19	Sábado	140	10 04	69	15 29	41	20 52	292	53 58.24	14 42.06	03.6		
20	Domingo	141	10 57	67	16 16	38	21 33	294	53 57.21	14 41.78	00.9	Luna Nueva	
21	Lunes	142	11 50	65	17 04	37	22 18	296	54 01.70	14 43.00	00.0		
22	Martes	143	12 40	64	17 53	37	23 07	296	54 11.39	14 45.64	00.9		
23	Miércoles	144	13 28	65	18 43	38	24 00	294	54 26.19	14 49.67	03.7		
24	Jueves	145	14 12	67	19 32	40			54 46.29	14 55.15	08.2		
25	Viernes	146	14 53	70	20 20	42	00 55	292	55 11.97	15 02.14	14.4		
26	Sábado	147	15 31	74	21 08	46	01 51	288	55 43.54	15 10.74	22.1		
27	Domingo	148	16 07	79	21 55	50	02 49	284	56 21.09	15 20.97	31.1		
28	Lunes	149	16 42	85	22 42	55	03 48	278	57 04.24	15 32.72	41.1	Cuarto Creciente	
29	Martes	150	17 18	91	23 31	61	04 49	272	57 51.86	15 45.69	51.8		
30	Miércoles	151	17 54	97			05 51	266	58 41.83	15 59.30	62.8		
31	Jueves	152	18 34	103	00 21	66	06 56	260	59 30.87	16 12.66	73.4		
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1	Viernes	153	19 17	108	01 15	71	08 03	254	60 14.66	16 24.59	83.1	Junio 2012	
2	Sábado	154	20 07	112	02 12	76	09 13	249	60 48.30	16 33.75	91.1		
3	Domingo	155	21 03	115	03 13	79	10 22	246	61 07.18	16 38.89	96.8		
4	Lunes	156	22 05	116	04 16	81	11 30	244	61 08.15	16 39.15	99.7	Luna Llena	
5	Martes	157	23 11	114	05 19	81	12 31	245	60 50.40	16 34.32	99.6		
6	Miércoles	158			06 21	79	13 26	247	60 15.82	16 24.90	96.5		
7	Jueves	159	00 18	111	07 18	76	14 13	251	59 28.51	16 12.01	91.0		
8	Viernes	160	01 23	107	08 12	72	14 55	256	58 33.72	15 57.09	83.4		
9	Sábado	161	02 25	101	09 01	67	15 31	262	57 36.79	15 41.59	74.4		
10	Domingo	162	03 24	96	09 48	63	16 05	267	56 42.26	15 26.74	64.7		
11	Lunes	163	04 21	90	10 32	58	16 37	273	55 53.56	15 13.47	54.6	Cuarto Menguante	
12	Martes	164	05 17	85	11 15	53	17 08	278	55 12.88	15 02.39	44.6		
13	Miércoles	165	06 11	79	11 58	49	17 41	283	54 41.38	14 53.81	35.1		
14	Jueves	166	07 05	75	12 42	45	18 15	287	54 19.38	14 47.82	26.2		
15	Viernes	167	07 58	71	13 26	41	18 51	291	54 06.56	14 44.33	18.3		
16	Sábado	168	08 52	67	14 13	39	19 31	294	54 02.20	14 43.14	11.6		
17	Domingo	169	09 45	65	15 01	37	20 15	295	54 05.34	14 43.99	06.3		
18	Lunes	170	10 36	64	15 50	37	21 03	296	54 14.88	14 46.59	02.5		
19	Martes	171	11 25	65	16 39	37	21 55	295	54 29.78	14 50.65	00.4	Luna Nueva	
20	Miércoles	172	12 11	66	17 29	39	22 50	293	54 49.13	14 55.92	00.2		
21	Jueves	173	12 53	69	18 18	41	23 46	290	55 12.22	15 02.21	01.9		
22	Viernes	174	13 33	73	19 06	45			55 38.61	15 09.40	05.6		
23	Sábado	175	14 09	77	19 53	49	00 44	285	56 08.06	15 17.42	11.2		
24	Domingo	176	14 44	83	20 40	54	01 43	280	56 40.42	15 26.23	18.5		
25	Lunes	177	15 19	89	21 28	59	02 42	274	57 15.48	15 35.78	27.4		
26	Martes	178	15 54	95	22 16	64	03 43	268	57 52.70	15 45.92	37.5		
27	Miércoles	179	16 31	101	23 07	69	04 45	262	58 30.98	15 56.35	48.5	Cuarto Creciente	
28	Jueves	180	17 12	106			05 49	256	59 08.47	16 06.56	59.7		
29	Viernes	181	17 57	111	00 00	74	06 55	251	59 42.50	16 15.82	70.7		
30	Sábado	182	18 48	114	00 57	77	08 03	247	60 09.73	16 23.24	80.8		

# LUNA

Longitud -04h 34m 28.8s  
 Latitud -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Salida		Paso Meridiano		Puesta		Paralaje Horizontal		Semi-diámetro	Ilum. %	Fase
			Hora	Az. °	Hora	h. °	Hora	Az. °	'	"			
Todas las horas son en Tiempo Universal													
1	Domingo	183	19 46	115	01 57	80	09 10	245	60 26.65	16 27.85	89.2	Julio 2012	
2	Lunes	184	20 50	115	03 00	81	10 13	244	60 30.27	16 28.84	95.5		
3	Martes	185	21 56	113	04 02	80	11 11	246	60 18.97	16 25.76	99.1	Luna Llena	
4	Miércoles	186	23 02	109	05 02	78	12 02	249	59 52.99	16 18.68	99.8		
5	Jueves	187			05 58	74	12 47	254	59 14.57	16 08.22	97.9		
6	Viernes	188	00 07	104	06 50	70	13 27	259	58 27.46	15 55.39	93.4		
7	Sábado	189	01 10	98	07 39	65	14 03	264	57 36.11	15 41.40	86.9		
8	Domingo	190	02 09	93	08 26	60	14 36	270	56 44.96	15 27.47	79.0		
9	Lunes	191	03 06	87	09 10	55	15 09	276	55 57.80	15 14.62	70.1		
10	Martes	192	04 02	82	09 54	50	15 41	281	55 17.49	15 03.65	60.5		
11	Miércoles	193	04 57	77	10 38	46	16 14	286	54 45.96	14 55.06	50.9	Cuarto Menguante	
12	Jueves	194	05 51	72	11 22	43	16 50	289	54 24.22	14 49.14	41.3		
13	Viernes	195	06 44	69	12 08	40	17 29	293	54 12.58	14 45.97	32.1		
14	Sábado	196	07 38	66	12 55	38	18 11	295	54 10.68	14 45.45	23.7		
15	Domingo	197	08 30	65	13 44	37	18 57	296	54 17.73	14 47.37	16.1		
16	Lunes	198	09 20	64	14 33	37	19 48	295	54 32.52	14 51.40	09.7		
17	Martes	199	10 07	65	15 23	38	20 42	294	54 53.58	14 57.13	04.8		
18	Miércoles	200	10 51	68	16 13	40	21 39	291	55 19.28	15 04.13	01.5		
19	Jueves	201	11 32	71	17 02	43	22 37	287	55 48.00	15 11.96	00.2	Luna Nueva	
20	Viernes	202	12 10	76	17 51	47	23 36	282	56 18.23	15 20.19	00.9		
21	Sábado	203	12 47	81	18 39	52			56 48.73	15 28.50	03.8		
22	Domingo	204	13 22	87	19 26	57	00 36	276	57 18.59	15 36.63	08.8		
23	Lunes	205	13 57	93	20 14	62	01 37	270	57 47.21	15 44.43	15.8		
24	Martes	206	14 33	99	21 04	68	02 39	264	58 14.21	15 51.78	24.6		
25	Miércoles	207	15 12	104	21 56	72	03 41	258	58 39.20	15 58.58	34.8		
26	Jueves	208	15 54	109	22 50	76	04 46	253	59 01.58	16 04.68	45.9	Cuarto Creciente	
27	Viernes	209	16 42	113	23 47	79	05 51	249	59 20.39	16 09.80	57.3		
28	Sábado	210	17 36	115			06 57	246	59 34.19	16 13.56	68.4		
29	Domingo	211	18 35	115	00 47	80	08 00	245	59 41.25	16 15.49	78.7		
30	Lunes	212	19 38	114	01 47	80	08 58	245	59 39.85	16 15.10	87.3		
31	Martes	213	20 44	111	02 47	79	09 52	248	59 28.70	16 12.07	94.0		
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1	Miércoles	214	21 49	107	03 44	76	10 39	251	59 07.42	16 06.27	98.2	Agosto 2012	
2	Jueves	215	22 52	101	04 38	72	11 21	256	58 36.80	15 57.93	99.8	Luna Llena	
3	Viernes	216	23 54	96	05 29	67	11 59	262	57 58.84	15 47.59	98.9		
4	Sábado	217			06 17	62	12 34	267	57 16.42	15 36.04	95.7		
5	Domingo	218	00 53	90	07 03	57	13 07	273	56 32.86	15 24.17	90.5		
6	Lunes	219	01 50	84	07 48	53	13 40	279	55 51.47	15 12.90	83.7		
7	Martes	220	02 46	79	08 32	48	14 13	283	55 15.17	15 03.01	75.7		
8	Miércoles	221	03 41	74	09 17	44	14 49	288	54 46.28	14 55.15	66.9		
9	Jueves	222	04 35	70	10 02	41	15 26	291	54 26.44	14 49.74	57.6	Cuarto Menguante	
10	Viernes	223	05 29	67	10 49	39	16 07	294	54 16.60	14 47.06	48.1		
11	Sábado	224	06 21	65	11 37	37	16 51	295	54 17.08	14 47.19	38.8		
12	Domingo	225	07 12	64	12 26	37	17 40	295	54 27.58	14 50.05	29.7		
13	Lunes	226	08 00	65	13 15	38	18 32	294	54 47.23	14 55.40	21.4		
14	Martes	227	08 46	67	14 05	39	19 28	292	55 14.61	15 02.86	14.0		
15	Miércoles	228	09 28	70	14 55	42	20 26	289	55 47.78	15 11.90	07.8		
16	Jueves	229	10 08	74	15 44	46	21 25	284	56 24.40	15 21.87	03.3		
17	Viernes	230	10 46	79	16 33	50	22 26	279	57 01.90	15 32.08	00.7	Luna Nueva	
18	Sábado	231	11 22	85	17 22	55	23 28	273	57 37.73	15 41.84	00.3		
19	Domingo	232	11 58	90	18 11	61			58 09.67	15 50.54	02.4		
20	Lunes	233	12 34	97	19 01	66	00 30	266	58 36.07	15 57.73	06.8		
21	Martes	234	13 13	102	19 53	71	01 34	260	58 56.05	16 03.17	13.5		
22	Miércoles	235	13 55	107	20 47	75	02 39	255	59 09.47	16 06.83	22.2		
23	Jueves	236	14 41	111	21 43	78	03 44	250	59 16.70	16 08.80	32.4		
24	Viernes	237	15 32	114	22 41	80	04 49	247	59 18.33	16 09.24	43.5	Cuarto Creciente	
25	Sábado	238	16 28	115	23 40	80	05 52	245	59 14.93	16 08.32	54.9		
26	Domingo	239	17 29	114			06 51	245	59 06.78	16 06.10	66.1		
27	Lunes	240	18 32	112	00 38	79	07 45	247	58 53.89	16 02.59	76.3		
28	Martes	241	19 35	108	01 35	77	08 33	250	58 36.11	15 57.74	85.2		
29	Miércoles	242	20 38	104	02 29	73	09 16	254	58 13.35	15 51.54	92.1		
30	Jueves	243	21 40	98	03 20	69	09 55	259	57 45.86	15 44.06	96.9		
31	Viernes	244	22 39	92	04 09	64	10 31	265	57 14.41	15 35.49	99.4	Luna Llena	



# LUNA

Longitud -04h 34m 28.8s

Latitud -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Salida		Paso Meridiano		Puesta		Paralaje Horizontal		Semi-diámetro	Ilum. %	Fase				
			h	m	h	°	h	°	'	"				'	"		
Todas las horas son en Tiempo Universal																	
1	Sábado	245	23	37	87	04	55	60	11	05	271	56	40.33	15	26.21	99.6	Septiembre 2012
2	Domingo	246				05	41	55	11	38	276	56	05.49	15	16.72	97.7	
3	Lunes	247	00	34	81	06	25	50	12	12	281	55	32.04	15	07.61	93.8	
4	Martes	248	01	30	76	07	10	46	12	47	286	55	02.26	14	59.50	88.2	
5	Miércoles	249	02	25	72	07	56	43	13	23	290	54	38.26	14	52.96	81.3	
6	Jueves	250	03	19	69	08	42	40	14	03	293	54	21.86	14	48.49	73.3	
7	Viernes	251	04	12	66	09	30	38	14	46	294	54	14.48	14	46.48	64.6	
8	Sábado	252	05	03	65	10	18	37	15	32	295	54	17.04	14	47.18	55.4	Cuarto Menguante
9	Domingo	253	05	52	65	11	07	37	16	23	295	54	29.93	14	50.69	45.9	
10	Lunes	254	06	38	66	11	56	39	17	16	293	54	52.92	14	56.95	36.4	
11	Martes	255	07	21	69	12	45	41	18	12	290	55	25.10	15	05.72	27.3	
12	Miércoles	256	08	02	72	13	34	44	19	11	286	56	04.82	15	16.54	18.9	
13	Jueves	257	08	40	77	14	23	48	20	11	281	56	49.61	15	28.74	11.5	
14	Viernes	258	09	18	82	15	12	53	21	12	275	57	36.30	15	41.45	05.6	
15	Sábado	259	09	54	88	16	02	58	22	15	269	58	21.16	15	53.67	01.7	
16	Domingo	260	10	31	94	16	52	64	23	20	263	59	00.41	16	04.36	00.2	Luna Nueva
17	Lunes	261	11	10	100	17	45	69				59	30.72	16	12.62	01.2	
18	Martes	262	11	52	105	18	40	73	00	26	257	59	49.86	16	17.83	05.0	
19	Miércoles	263	12	38	110	19	37	77	01	34	252	59	57.04	16	19.78	11.3	
20	Jueves	264	13	29	113	20	36	79	02	40	248	59	52.96	16	18.67	19.7	
21	Viernes	265	14	24	115	21	35	80	03	45	246	59	39.45	16	15.00	29.8	
22	Sábado	266	15	24	115	22	34	80	04	46	245	59	18.90	16	09.40	40.8	Cuarto Creciente
23	Domingo	267	16	26	113	23	30	78	05	41	246	58	53.67	16	02.52	52.2	
24	Lunes	268	17	28	109				06	31	249	58	25.72	15	54.91	63.2	
25	Martes	269	18	30	105	00	24	75	07	15	253	57	56.43	15	46.93	73.4	
26	Miércoles	270	19	31	100	01	15	71	07	54	258	57	26.61	15	38.81	82.4	
27	Jueves	271	20	30	94	02	04	66	08	30	263	56	56.71	15	30.67	89.7	
28	Viernes	272	21	27	89	02	50	61	09	05	268	56	27.02	15	22.58	95.1	
29	Sábado	273	22	24	83	03	35	57	09	38	274	55	57.92	15	14.66	98.5	
30	Domingo	274	23	20	78	04	20	52	10	11	279	55	29.98	15	07.05	99.9	Luna Llena
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1	Lunes	275				05	05	48	10	45	284	55	04.13	15	00.01	99.2	Octubre 2012
2	Martes	276	00	15	74	05	50	44	11	21	288	54	41.52	14	53.85	96.6	
3	Miércoles	277	01	09	70	06	36	41	12	00	291	54	23.54	14	48.95	92.4	
4	Jueves	278	02	03	67	07	23	39	12	42	294	54	11.64	14	45.71	86.6	
5	Viernes	289	02	55	66	08	11	38	13	27	295	54	07.21	14	44.50	79.6	
6	Sábado	280	03	44	65	08	59	37	14	15	295	54	11.48	14	45.67	71.5	
7	Domingo	281	04	31	66	09	48	38	15	06	294	54	25.32	14	49.44	62.6	
8	Lunes	282	05	15	68	10	36	40	16	00	291	54	49.21	14	55.94	53.2	Cuarto Menguante
9	Martes	283	05	56	71	11	24	43	16	57	288	55	22.99	15	05.14	43.4	
10	Miércoles	284	06	34	75	12	12	46	17	55	283	56	05.74	15	16.79	33.7	
11	Jueves	285	07	11	79	13	00	51	18	54	278	56	55.60	15	30.37	24.3	
12	Viernes	286	07	48	85	13	49	56	19	56	272	57	49.61	15	45.08	15.8	
13	Sábado	287	08	24	91	14	39	61	21	00	266	58	43.74	15	59.82	08.6	
14	Domingo	288	09	03	97	15	31	66	22	06	260	59	33.14	16	13.28	03.3	
15	Lunes	289	09	44	103	16	26	71	23	14	254	60	12.83	16	24.08	00.5	Luna Nueva
16	Martes	290	10	29	108	17	23	75				60	38.54	16	31.09	00.4	
17	Miércoles	291	11	20	112	18	24	78	00	23	250	60	47.77	16	33.60	03.3	
18	Jueves	292	12	15	114	19	25	80	01	32	247	60	40.28	16	31.56	08.9	
19	Viernes	293	13	15	115	20	26	80	02	36	245	60	18.14	16	25.53	16.9	
20	Sábado	294	14	18	113	21	25	78	03	35	246	59	44.95	16	16.49	26.6	
21	Domingo	295	15	22	110	22	21	75	04	28	248	59	04.94	16	05.59	37.4	
22	Lunes	296	16	25	106	23	13	72	05	14	252	58	22.05	15	53.91	48.5	Cuarto Creciente
23	Martes	297	17	25	101				05	55	256	57	39.41	15	42.30	59.4	
24	Miércoles	298	18	24	96	00	02	67	06	32	261	56	59.17	15	31.34	69.6	
25	Jueves	299	19	21	91	00	48	63	07	06	267	56	22.51	15	21.35	78.7	
26	Viernes	300	20	17	85	01	33	58	07	39	272	55	49.93	15	12.48	86.4	
27	Sábado	301	21	13	80	02	17	53	08	12	277	55	21.49	15	04.74	92.5	
28	Domingo	302	22	08	75	03	02	49	08	45	282	54	57.08	14	58.09	96.8	
29	Lunes	303	23	02	71	03	46	45	09	21	287	54	36.63	14	52.52	99.3	Luna Llena
30	Martes	304	23	56	68	04	32	42	09	58	290	54	20.23	14	48.05	00.0	
31	Miércoles	305				05	19	40	10	39	293	54	08.28	14	44.80	98.8	

# LUNA

Longitud -04h 34m 28.8s

Latitud -31° 30' 38.5"

San Juan - Argentina

Día del Mes	Día de la Semana	Día del Año	Salida		Paso Meridiano		Puesta		Paralaje Horizontal		Semi-diámetro	Ilum. %	Fase
			Hora	Az. °	Hora	h. °	Hora	Az. °	'	"			
Todas las horas son en Tiempo Universal													
1	Jueves	306	00 48	66	06 06	38	11 23	294	54 01.42	14 42.93	95.8	Noviembre 2012	
2	Viernes	307	01 39	65	06 54	38	12 10	295	54 00.51	14 42.68	91.3		
3	Sábado	308	02 26	66	07 43	38	13 00	294	54 06.56	14 44.33	85.2		
4	Domingo	309	03 11	67	08 30	39	13 53	292	54 20.52	14 48.13	77.9		
5	Lunes	310	03 52	70	09 18	42	14 47	289	54 43.23	14 54.31	69.5		
6	Martes	311	04 31	73	10 04	45	15 43	285	55 15.14	15 03.01	60.3		
7	Miércoles	312	05 07	77	10 51	49	16 40	280	55 56.15	15 14.18	50.4	Cuarto Menguante	
8	Jueves	313	05 43	83	11 38	53	17 39	275	56 45.34	15 27.57	40.2		
9	Viernes	314	06 18	88	12 25	58	18 39	269	57 40.71	15 42.65	30.1		
10	Sábado	315	06 54	94	13 15	64	19 43	263	58 38.97	15 58.52	20.5		
11	Domingo	316	07 33	100	14 08	69	20 49	257	59 35.52	16 13.92	12.1		
12	Lunes	317	08 16	105	15 04	73	21 58	252	60 24.79	16 27.34	05.5		
13	Martes	318	09 04	110	16 04	77	23 08	248	61 01.06	16 37.22	01.3	Luna Nueva	
14	Miércoles	319	09 58	113	17 06	79			61 19.69	16 42.30	00.0		
15	Jueves	320	10 58	115	18 10	80	00 17	246	61 18.32	16 41.92	01.8		
16	Viernes	321	12 03	114	19 12	79	01 21	245	60 57.58	16 36.27	06.5		
17	Sábado	322	13 09	112	20 11	77	02 18	247	60 20.81	16 26.26	13.7		
18	Domingo	323	14 14	108	21 07	73	03 09	250	59 33.06	16 13.26	22.7		
19	Lunes	324	15 17	103	21 58	69	03 53	255	58 39.83	15 58.76	32.9		
20	Martes	325	16 18	98	22 46	64	04 32	260	57 46.00	15 44.09	43.7	Cuarto Creciente	
21	Miércoles	326	17 16	92	23 32	59	05 08	265	56 55.26	15 30.28	54.3		
22	Jueves	327	18 13	87			05 41	271	56 10.03	15 17.96	64.4		
23	Viernes	328	19 08	81	00 16	55	06 14	276	55 31.57	15 07.48	73.7		
24	Sábado	329	20 03	77	01 00	50	06 47	281	55 00.25	14 58.95	81.9		
25	Domingo	330	20 57	72	01 44	46	07 21	285	54 35.90	14 52.32	88.7		
26	Lunes	331	21 51	69	02 29	43	07 58	289	54 18.00	14 47.44	94.0		
27	Martes	332	22 43	67	03 15	40	08 37	292	54 05.96	14 44.16	97.7		
28	Miércoles	333	23 35	65	04 03	39	09 20	294	53 59.28	14 42.34	99.7	Luna Llena	
29	Jueves	334			04 51	38	10 06	295	53 57.69	14 41.91	99.9		
30	Viernes	335	00 23	65	05 39	38	10 56	294	54 01.18	14 42.86	98.3		
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1	Sábado	336	01 09	66	06 27	39	11 47	293	54 10.03	14 45.27	95.0	Diciembre 2012	
2	Domingo	337	01 51	69	07 15	41	12 41	290	54 24.76	14 49.28	90.0		
3	Lunes	338	02 30	72	08 01	44	13 36	287	54 46.01	14 55.07	83.6		
4	Martes	339	03 07	76	08 47	47	14 32	282	55 14.40	15 02.80	75.7		
5	Miércoles	340	03 42	81	09 32	52	15 28	277	55 50.28	15 12.58	66.8		
6	Jueves	341	04 16	86	10 18	56	16 26	271	56 33.51	15 24.35	56.9	Cuarto Menguante	
7	Viernes	342	04 51	91	11 05	61	17 26	266	57 23.16	15 37.87	46.4		
8	Sábado	343	05 27	97	11 54	66	18 29	260	58 17.23	15 52.60	35.7		
9	Domingo	344	06 06	103	12 47	71	19 34	255	59 12.40	16 07.63	25.4		
10	Lunes	345	06 50	108	13 43	75	20 42	250	60 04.09	16 21.71	16.0		
11	Martes	346	07 39	112	14 43	78	21 51	247	60 46.79	16 33.34	08.3		
12	Miércoles	347	08 36	114	15 46	80	22 58	245	61 15.01	16 41.02	02.8		
13	Jueves	348	09 39	115	16 50	80			61 24.53	16 43.61	00.2	Luna Nueva	
14	Viernes	349	10 46	113	17 53	78	00 00	246	61 13.60	16 40.64	00.7		
15	Sábado	350	11 54	110	18 52	75	00 56	249	60 43.57	16 32.46	04.1		
16	Domingo	351	13 01	105	19 48	71	01 45	252	59 58.44	16 20.17	10.2		
17	Lunes	352	14 05	100	20 39	66	02 28	257	59 03.77	16 05.28	18.2		
18	Martes	353	15 06	94	21 27	61	03 06	263	58 05.38	15 49.37	27.6		
19	Miércoles	354	16 05	89	22 13	56	03 42	268	57 08.31	15 33.83	37.6		
20	Jueves	355	17 02	83	22 58	52	04 15	274	56 16.33	15 19.67	47.9	Cuarto Creciente	
21	Viernes	356	17 57	78	23 42	48	04 49	279	55 31.90	15 07.57	57.9		
22	Sábado	357	18 52	74			05 23	284	54 56.24	14 57.86	67.4		
23	Domingo	358	19 45	70	00 27	44	05 58	288	54 29.70	14 50.63	76.0		
24	Lunes	359	20 38	67	01 13	41	06 37	291	54 11.96	14 45.80	83.6		
25	Martes	360	21 30	66	01 59	39	07 18	293	54 02.29	14 43.16	89.9		
26	Miércoles	361	22 20	65	02 47	38	08 03	295	53 59.75	14 42.47	94.8		
27	Jueves	362	23 07	66	03 35	38	08 51	295	54 03.36	14 43.46	98.1		
28	Viernes	363	23 50	68	04 24	38	09 43	294	54 12.26	14 45.88	99.8	Luna Llena	
29	Sábado	364			05 12	40	10 36	291	54 25.77	14 49.56	99.6		
30	Domingo	365	00 31	71	05 59	43	11 31	288	54 43.52	14 54.39	97.6		
31	Lunes	366	01 09	74	06 45	46	12 27	284	55 05.41	15 00.36	93.8		

## Tiempo Sidéreo y Coordenadas del Sol

Se tabulan, para todos los días del año,

a las 0h UT    Tiempo sidéreo aparente y medio  
                  Ascensión recta y declinación aparentes, y  
                  distancia geocéntrica verdadera del Sol,  
                  y la ecuación del tiempo,

con las precisiones indicadas a continuación

- Ascensión recta            0<sup>s</sup>.01
- Declinación                0".1
- Tiempo sidéreo            0<sup>s</sup>.001
- Distancia geocéntrica    1x10<sup>-7</sup> u.a.
- Ecuación del tiempo      0<sup>s</sup>.1



## Tiempo sidéreo y coordenadas aparentes del Sol

Fecha 0 UT	Fecha Juliana	Tiempo Sidéreo de Greenwich		Ecuación del tiempo m s	Ascensión Recta h m s	Declinación ° ' "	Distancia Geocéntrica u.a.
		Medio h m s	Aparente s				
Ene 01	2455927.5	6 40 14.4496	15.4872	- 3 04.5	18 43 20.018	- 23 03 46.51	0.983329788
02	928.5	6 44 11.0050	12.0400	- 3 32.9	18 47 44.977	- 22 58 58.46	0.983310221
03	929.5	6 48 07.5603	08.5944	- 4 01.0	18 52 09.597	- 22 53 42.94	0.983295935
04	930.5	6 52 04.1157	05.1509	- 4 28.7	18 56 33.847	- 22 48 00.12	0.983287155
05	931.5	6 56 00.6711	01.7096	- 4 56.0	19 00 57.700	- 22 41 50.17	0.983284096
06	932.5	6 59 57.2265	58.2703	- 5 22.9	19 05 21.128	- 22 35 13.27	0.983286957
07	933.5	7 03 53.7818	54.8327	- 5 49.3	19 09 44.106	- 22 28 09.61	0.983295919
08	934.5	7 07 50.3372	51.3958	- 6 15.2	19 14 06.606	- 22 20 39.39	0.983311135
09	935.5	7 11 46.8926	47.9585	- 6 40.6	19 18 28.607	- 22 12 42.83	0.983332722
10	936.5	7 15 43.4479	44.5198	- 7 05.6	19 22 50.083	- 22 04 20.15	0.983360748
11	937.5	7 19 40.0033	41.0786	- 7 29.9	19 27 11.013	- 21 55 31.57	0.983395221
12	938.5	7 23 36.5587	37.6346	- 7 53.7	19 31 31.378	- 21 46 17.32	0.983436082
13	939.5	7 27 33.1140	34.1878	- 8 17.0	19 35 51.159	- 21 36 37.65	0.983483198
14	940.5	7 31 29.6694	30.7392	- 8 39.6	19 40 10.339	- 21 26 32.80	0.983536366
15	941.5	7 35 26.2248	27.2902	- 9 01.6	19 44 28.902	- 21 16 03.05	0.983595321
16	942.5	7 39 22.7801	23.8423	- 9 23.0	19 48 46.832	- 21 05 08.67	0.983659745
17	943.5	7 43 19.3355	20.3971	- 9 43.7	19 53 04.113	- 20 53 49.97	0.983729289
18	944.5	7 47 15.8909	16.9551	-10 03.8	19 57 20.730	- 20 42 07.27	0.983803589
19	945.5	7 51 12.4462	13.5163	-10 23.1	20 01 36.663	- 20 30 00.91	0.983882287
20	946.5	7 55 09.0016	10.0798	-10 41.8	20 05 51.894	- 20 17 31.23	0.983965056
21	947.5	7 59 05.5570	06.6439	-10 59.8	20 10 06.405	- 20 04 38.60	0.984051619
22	948.5	8 03 02.1123	03.2071	-11 17.0	20 14 20.176	- 19 51 23.39	0.984141763
23	949.5	8 06 58.6677	59.7679	-11 33.4	20 18 33.189	- 19 37 45.97	0.984235355
24	950.5	8 10 55.2231	56.3255	-11 49.1	20 22 45.429	- 19 23 46.72	0.984332336
25	951.5	8 14 51.7785	52.8800	-12 04.0	20 26 56.880	- 19 09 26.01	0.984432723
26	952.5	8 18 48.3338	49.4319	-12 18.1	20 31 07.532	- 18 54 44.23	0.984536591
27	953.5	8 22 44.8892	45.9823	-12 31.4	20 35 17.376	- 18 39 41.75	0.984644063
28	954.5	8 26 41.4446	42.5321	-12 43.9	20 39 26.402	- 18 24 18.98	0.984755288
29	955.5	8 30 37.9999	39.0826	-12 55.5	20 43 34.607	- 18 08 36.30	0.984870438
30	956.5	8 34 34.5553	35.6343	-13 06.4	20 47 41.985	- 17 52 34.11	0.984989693
31	957.5	8 38 31.1107	32.1878	-13 16.3	20 51 48.533	- 17 36 12.82	0.985113237
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Feb 01	958.5	8 42 27.6660	28.7434	-13 25.5	20 55 54.250	- 17 19 32.81	0.985241259
02	959.5	8 46 24.2214	25.3011	-13 33.8	20 59 59.135	- 17 02 34.51	0.985373945
03	960.5	8 50 20.7768	21.8605	-13 41.3	21 04 03.189	- 16 45 18.31	0.985511483
04	961.5	8 54 17.3321	18.4209	-13 48.0	21 08 06.413	- 16 27 44.61	0.985654060
05	962.5	8 58 13.8875	14.9815	-13 53.8	21 12 08.811	- 16 09 53.83	0.985801852
06	963.5	9 02 10.4429	11.5411	-13 58.8	21 16 10.387	- 15 51 46.35	0.985955017
07	964.5	9 06 06.9982	08.0985	-14 03.0	21 20 11.147	- 15 33 22.58	0.986113682
08	965.5	9 10 03.5536	04.6531	-14 06.4	21 24 11.098	- 15 14 42.90	0.986277927
09	966.5	9 14 00.1090	01.2047	-14 09.0	21 28 10.251	- 14 55 47.71	0.986447762
10	967.5	9 17 56.6644	57.7539	-14 10.9	21 32 08.618	- 14 36 37.38	0.986623116
11	968.5	9 21 53.2197	54.3022	-14 11.9	21 36 06.211	- 14 17 12.29	0.986803832
12	969.5	9 25 49.7751	50.8513	-14 12.2	21 40 03.046	- 13 57 32.83	0.986989665
13	970.5	9 29 46.3305	47.4026	-14 11.7	21 43 59.135	- 13 37 39.40	0.987180296
14	971.5	9 33 42.8858	43.9572	-14 10.5	21 47 54.493	- 13 17 32.40	0.987375358
15	972.5	9 37 39.4412	40.5149	-14 08.6	21 51 49.131	- 12 57 12.27	0.987574450
16	973.5	9 41 35.9966	37.0750	-14 06.0	21 55 43.058	- 12 36 39.41	0.987777169
17	974.5	9 45 32.5519	33.6360	-14 02.6	21 59 36.285	- 12 15 54.28	0.987983127
18	975.5	9 49 29.1073	30.1965	-13 58.6	22 03 28.820	- 11 54 57.30	0.988191969
19	976.5	9 53 25.6627	26.7550	-13 53.9	22 07 20.672	- 11 33 48.93	0.988403388
20	977.5	9 57 22.2180	23.3107	-13 48.5	22 11 11.849	- 11 12 29.58	0.988617134
21	978.5	10 01 18.7734	19.8634	-13 42.5	22 15 02.363	- 10 50 59.70	0.988833017
22	979.5	10 05 15.3288	16.4133	-13 35.8	22 18 52.224	- 10 29 19.72	0.989050913
23	980.5	10 09 11.8841	12.9614	-13 28.5	22 22 41.444	- 10 07 30.06	0.989270757
24	981.5	10 13 08.4395	09.5087	-13 20.5	22 26 30.036	- 9 45 31.14	0.989492536
25	982.5	10 17 04.9949	06.0562	-13 12.0	22 30 18.015	- 9 23 23.38	0.989716281
26	983.5	10 21 01.5502	02.6047	-13 02.8	22 34 05.394	- 9 01 07.21	0.989942058
27	984.5	10 24 58.1056	59.1550	-12 53.0	22 37 52.188	- 8 38 43.03	0.990169962
28	985.5	10 28 54.6610	55.7073	-12 42.7	22 41 38.414	- 8 16 11.25	0.990400106
29	986.5	10 32 51.2164	52.2616	-12 31.8	22 45 24.088	- 7 53 32.29	0.990632620

## Tiempo sidéreo y coordenadas aparentes del Sol

Fecha 0 UT	Fecha Juliana	Tiempo Sidéreo de Medio h m s	Greenwich Aparente s	Ecuación del tiempo m s	Ascensión Recta h m s	Declinación ° ' "	Distancia Geocéntrica u.a.
Mar 01	2455987.5	10 36 47.7717	48.8178	-12 20.4	22 49 09.225	- 7 30 46.54	0.990867648
02	988.5	10 40 44.3271	45.3752	-12 08.5	22 52 53.844	- 7 07 54.41	0.991105347
03	989.5	10 44 40.8825	41.9331	-11 56.0	22 56 37.961	- 6 44 56.29	0.991345887
04	990.5	10 48 37.4378	38.4906	-11 43.1	23 00 21.594	- 6 21 52.58	0.991589445
05	991.5	10 52 33.9932	35.0465	-11 29.7	23 04 04.762	- 5 58 43.66	0.991836206
06	992.5	10 56 30.5486	31.6001	-11 15.9	23 07 47.486	- 5 35 29.91	0.992086346
07	993.5	11 00 27.1039	28.1507	-11 01.6	23 11 29.787	- 5 12 11.69	0.992340018
08	994.5	11 04 23.6593	24.6986	-10 47.0	23 15 11.687	- 4 48 49.36	0.992597326
09	995.5	11 08 20.2147	21.2450	-10 32.0	23 18 53.214	- 4 25 23.27	0.992858304
10	996.5	11 12 16.7700	17.7915	-10 16.6	23 22 34.391	- 4 01 53.76	0.993122893
11	997.5	11 16 13.3254	14.3401	-10 00.9	23 26 15.248	- 3 38 21.18	0.993390925
12	998.5	11 20 09.8808	10.8920	- 9 44.9	23 29 55.808	- 3 14 45.86	0.993662138
13	999.5	11 24 06.4361	07.4473	- 9 28.6	23 33 36.097	- 2 51 08.17	0.993936183
14	2456000.5	11 28 02.9915	04.0055	- 9 12.1	23 37 16.136	- 2 27 28.49	0.994212661
15	001.5	11 31 59.5469	60.5649	- 8 55.4	23 40 55.946	- 2 03 47.20	0.994491148
16	002.5	11 35 56.1022	57.1240	- 8 38.4	23 44 35.545	- 1 40 04.67	0.994771221
17	003.5	11 39 52.6576	53.6814	- 8 21.3	23 48 14.952	- 1 16 21.31	0.995052479
18	004.5	11 43 49.2130	50.2362	- 8 03.9	23 51 54.185	- 0 52 37.51	0.995334560
19	005.5	11 47 45.7684	46.7881	- 7 46.5	23 55 33.262	- 0 28 53.63	0.995617141
20	006.5	11 51 42.3237	43.3374	- 7 28.9	23 59 12.200	- 0 05 10.09	0.995899952
21	007.5	11 55 38.8791	39.8847	- 7 11.1	0 02 51.019	+ 0 18 32.76	0.996182771
22	008.5	11 59 35.4345	36.4310	- 6 53.3	0 06 29.735	+ 0 42 14.53	0.996465429
23	009.5	12 03 31.9898	32.9773	- 6 35.4	0 10 08.368	+ 1 05 54.83	0.996747807
24	010.5	12 07 28.5452	29.5245	- 6 17.4	0 13 46.935	+ 1 29 33.31	0.997029830
25	011.5	12 11 25.1006	26.0733	- 5 59.4	0 17 25.453	+ 1 53 09.59	0.997311468
26	012.5	12 15 21.6559	22.6242	- 5 41.3	0 21 03.942	+ 2 16 43.31	0.997592727
27	013.5	12 19 18.2113	19.1771	- 5 23.2	0 24 42.417	+ 2 40 14.08	0.997873647
28	014.5	12 23 14.7667	15.7320	- 5 05.2	0 28 20.897	+ 3 03 41.56	0.998154296
29	015.5	12 27 11.3220	12.2883	- 4 47.1	0 31 59.398	+ 3 27 05.37	0.998434768
30	016.5	12 31 07.8774	08.8454	- 4 29.1	0 35 37.939	+ 3 50 25.17	0.998715183
31	017.5	12 35 04.4328	05.4024	- 4 11.1	0 39 16.536	+ 4 13 40.58	0.998995684
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Abr. 01	018.5	12 39 00.9881	01.9584	- 3 53.2	0 42 55.207	+ 4 36 51.27	0.999276439
02	019.5	12 42 57.5435	58.5125	- 3 35.5	0 46 33.970	+ 4 59 56.87	0.999557635
03	020.5	12 46 54.0989	55.0641	- 3 17.8	0 50 12.844	+ 5 22 57.05	0.999839479
04	021.5	12 50 50.6543	51.6131	- 3 00.2	0 53 51.850	+ 5 45 51.48	1.000122178
05	022.5	12 54 47.2096	48.1601	- 2 42.8	0 57 31.008	+ 6 08 39.82	1.000405925
06	023.5	12 58 43.7650	44.7065	- 2 25.6	1 01 10.344	+ 6 31 21.76	1.000690868
07	024.5	13 02 40.3204	41.2543	- 2 08.6	1 04 49.881	+ 6 53 57.00	1.000977080
08	025.5	13 06 36.8757	37.8052	- 1 51.8	1 08 29.644	+ 7 16 25.23	1.001264530
09	026.5	13 10 33.4311	34.3601	- 1 35.3	1 12 09.658	+ 7 38 46.15	1.001553072
10	027.5	13 14 29.9865	30.9184	- 1 19.0	1 15 49.943	+ 8 00 59.43	1.001842449
11	028.5	13 18 26.5418	27.4788	- 1 03.0	1 19 30.519	+ 8 23 04.74	1.002132315
12	029.5	13 22 23.0972	24.0393	- 0 47.4	1 23 11.404	+ 8 45 01.73	1.002422274
13	030.5	13 26 19.6526	20.5983	- 0 32.0	1 26 52.615	+ 9 06 50.07	1.002711905
14	031.5	13 30 16.2079	17.1548	- 0 17.0	1 30 34.167	+ 9 28 29.39	1.003000793
15	032.5	13 34 12.7633	13.7084	- 0 02.4	1 34 16.075	+ 9 49 59.35	1.003288551
16	033.5	13 38 09.3187	10.2592	+ 0 11.9	1 37 58.353	+ 10 11 19.58	1.003574821
17	034.5	13 42 05.8740	06.8080	+ 0 25.8	1 41 41.015	+ 10 32 29.75	1.003859287
18	035.5	13 46 02.4294	03.3556	+ 0 39.3	1 45 24.074	+ 10 53 29.51	1.004141676
19	036.5	13 49 58.9848	59.9031	+ 0 52.4	1 49 07.544	+ 11 14 18.50	1.004421755
20	037.5	13 53 55.5401	56.4513	+ 1 05.0	1 52 51.435	+ 11 34 56.40	1.004699333
21	038.5	13 57 52.0955	53.0011	+ 1 17.2	1 56 35.758	+ 11 55 22.85	1.004974263
22	039.5	14 01 48.6509	49.5528	+ 1 29.0	2 00 20.525	+ 12 15 37.51	1.005246439
23	040.5	14 05 45.2063	46.1067	+ 1 40.4	2 04 05.743	+ 12 35 40.05	1.005515795
24	041.5	14 09 41.7616	42.6626	+ 1 51.2	2 07 51.421	+ 12 55 30.13	1.005782303
25	042.5	14 13 38.3170	39.2201	+ 2 01.7	2 11 37.568	+ 13 15 07.41	1.006045975
26	043.5	14 17 34.8724	35.7786	+ 2 11.6	2 15 24.189	+ 13 34 31.56	1.006306859
27	044.5	14 21 31.4277	32.3372	+ 2 21.0	2 19 11.292	+ 13 53 42.24	1.006565036
28	045.5	14 25 27.9831	28.8951	+ 2 30.0	2 22 58.884	+ 14 12 39.12	1.006820623
29	046.5	14 29 24.5385	25.4514	+ 2 38.5	2 26 46.971	+ 14 31 21.88	1.007073770
30	047.5	14 33 21.0938	22.0055	+ 2 46.4	2 30 35.558	+ 14 49 50.18	1.007324662

## Tiempo sidéreo y coordenadas aparentes del Sol

Fecha 0 UT	Fecha Juliana	Tiempo Sidéreo de Medio h m s	Greenwich Aparente s	Ecuación del tiempo m s	Ascensión Recta h m s	Declinación ° ' "	Distancia Geocéntrica u.a.
May 01	2456048.5	14 37 17.6492	18.5572	+ 2 53.9	2 34 24.654	+ 15 08 03.70	1.007573514
02	049.5	14 41 14.2046	15.1068	+ 3 00.8	2 38 14.266	+ 15 26 02.15	1.007820567
03	050.5	14 45 10.7599	11.6553	+ 3 07.3	2 42 04.402	+ 15 43 45.20	1.008066072
04	051.5	14 49 07.3153	08.2044	+ 3 13.1	2 45 55.074	+ 16 01 12.56	1.008310268
05	052.5	14 53 03.8707	04.7558	+ 3 18.5	2 49 46.292	+ 16 18 23.95	1.008553352
06	053.5	14 57 00.4260	01.3110	+ 3 23.2	2 53 38.067	+ 16 35 19.10	1.008795442
07	054.5	15 00 56.9814	57.8703	+ 3 27.5	2 57 30.409	+ 16 51 57.72	1.009036551
08	055.5	15 04 53.5368	54.4327	+ 3 31.1	3 01 23.326	+ 17 08 19.53	1.009276570
09	056.5	15 08 50.0922	50.9962	+ 3 34.2	3 05 16.823	+ 17 24 24.23	1.009515275
10	057.5	15 12 46.6475	47.5588	+ 3 36.7	3 09 10.904	+ 17 40 11.54	1.009752357
11	058.5	15 16 43.2029	44.1189	+ 3 38.5	3 13 05.572	+ 17 55 41.13	1.009987451
12	059.5	15 20 39.7583	40.6758	+ 3 39.8	3 17 00.828	+ 18 10 52.71	1.010220171
13	060.5	15 24 36.3136	37.2297	+ 3 40.6	3 20 56.673	+ 18 25 45.98	1.010450137
14	061.5	15 28 32.8690	33.7813	+ 3 40.7	3 24 53.106	+ 18 40 20.65	1.010676990
15	062.5	15 32 29.4244	30.3315	+ 3 40.2	3 28 50.125	+ 18 54 36.42	1.010900400
16	063.5	15 36 25.9797	26.8812	+ 3 39.2	3 32 47.727	+ 19 08 33.01	1.011120068
17	064.5	15 40 22.5351	23.4315	+ 3 37.5	3 36 45.906	+ 19 22 10.15	1.011335734
18	065.5	15 44 19.0905	19.9832	+ 3 35.3	3 40 44.658	+ 19 35 27.57	1.011547167
19	066.5	15 48 15.6458	16.5368	+ 3 32.6	3 44 43.974	+ 19 48 24.98	1.011754175
20	067.5	15 52 12.2012	13.0925	+ 3 29.2	3 48 43.845	+ 20 01 02.15	1.011956601
21	068.5	15 56 08.7566	09.6503	+ 3 25.4	3 52 44.262	+ 20 13 18.80	1.012154323
22	069.5	16 00 05.3119	06.2098	+ 3 21.0	3 56 45.211	+ 20 25 14.68	1.012347262
23	070.5	16 04 01.8673	02.7704	+ 3 16.1	4 00 46.681	+ 20 36 49.55	1.012535379
24	071.5	16 07 58.4227	59.3313	+ 3 10.7	4 04 48.657	+ 20 48 03.17	1.012718675
25	072.5	16 11 54.9780	55.8915	+ 3 04.8	4 08 51.125	+ 20 58 55.30	1.012897196
26	073.5	16 15 51.5334	52.4504	+ 2 58.4	4 12 54.070	+ 21 09 25.71	1.013071032
27	074.5	16 19 48.0888	49.0072	+ 2 51.5	4 16 57.477	+ 21 19 34.17	1.013240316
28	075.5	16 23 44.6442	45.5617	+ 2 44.2	4 21 01.329	+ 21 29 20.47	1.013405225
29	076.5	16 27 41.1995	42.1139	+ 2 36.5	4 25 05.613	+ 21 38 44.39	1.013565977
30	077.5	16 31 37.7549	38.6648	+ 2 28.4	4 29 10.314	+ 21 47 45.75	1.013722828
31	078.5	16 35 34.3103	35.2157	+ 2 19.8	4 33 15.419	+ 21 56 24.34	1.013876063
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Jun 01	079.5	16 39 30.8656	31.7680	+ 2 10.9	4 37 20.916	+ 22 04 39.99	1.014025979
02	080.5	16 43 27.4210	28.3234	+ 2 01.5	4 41 26.791	+ 22 12 32.55	1.014172862
03	081.5	16 47 23.9764	24.8828	+ 1 51.8	4 45 33.034	+ 22 20 01.85	1.014316953
04	082.5	16 51 20.5317	21.4459	+ 1 41.8	4 49 39.632	+ 22 27 07.76	1.014458413
05	083.5	16 55 17.0871	18.0113	+ 1 31.4	4 53 46.570	+ 22 33 50.13	1.014597300
06	084.5	16 59 13.6425	14.5767	+ 1 20.7	4 57 53.833	+ 22 40 08.81	1.014733555
07	085.5	17 03 10.1978	11.1402	+ 1 09.7	5 02 01.405	+ 22 46 03.67	1.014867012
08	086.5	17 07 06.7532	07.7005	+ 0 58.4	5 06 09.270	+ 22 51 34.55	1.014997418
09	087.5	17 11 03.3086	04.2574	+ 0 46.8	5 10 17.410	+ 22 56 41.32	1.015124472
10	088.5	17 14 59.8639	60.8114	+ 0 35.0	5 14 25.807	+ 23 01 23.87	1.015247845
11	089.5	17 18 56.4193	57.3636	+ 0 22.9	5 18 34.443	+ 23 05 42.09	1.015367210
12	090.5	17 22 52.9747	53.9149	+ 0 10.6	5 22 43.296	+ 23 09 35.87	1.015482256
13	091.5	17 26 49.5300	50.4665	- 0 01.9	5 26 52.346	+ 23 13 05.13	1.015592689
14	092.5	17 30 46.0854	47.0192	- 0 14.6	5 31 01.569	+ 23 16 09.80	1.015698243
15	093.5	17 34 42.6408	43.5737	- 0 27.4	5 35 10.943	+ 23 18 49.83	1.015798677
16	094.5	17 38 39.1962	40.1302	- 0 40.3	5 39 20.442	+ 23 21 05.15	1.015893776
17	095.5	17 42 35.7515	36.6888	- 0 53.4	5 43 30.040	+ 23 22 55.73	1.015983354
18	096.5	17 46 32.3069	33.2492	- 1 06.5	5 47 39.712	+ 23 24 21.54	1.016067253
19	097.5	17 50 28.8623	29.8107	- 1 19.6	5 51 49.428	+ 23 25 22.57	1.016145350
20	098.5	17 54 25.4176	26.3728	- 1 32.8	5 55 59.162	+ 23 25 58.80	1.016217560
21	099.5	17 58 21.9730	22.9344	- 1 46.0	6 00 08.885	+ 23 26 10.23	1.016283842
22	100.5	18 02 18.5284	19.4946	- 1 59.1	6 04 18.568	+ 23 25 56.87	1.016344201
23	101.5	18 06 15.0837	16.0528	- 2 12.1	6 08 28.182	+ 23 25 18.75	1.016398695
24	102.5	18 10 11.6391	12.6086	- 2 25.1	6 12 37.701	+ 23 24 15.88	1.016447434
25	103.5	18 14 08.1945	09.1621	- 2 37.9	6 16 47.098	+ 23 22 48.30	1.016490582
26	104.5	18 18 04.7498	05.7139	- 2 50.6	6 20 56.346	+ 23 20 56.05	1.016528358
27	105.5	18 22 01.3052	02.2652	- 3 03.2	6 25 05.423	+ 23 18 39.19	1.016561024
28	106.5	18 25 57.8606	58.8174	- 3 15.5	6 29 14.305	+ 23 15 57.79	1.016588888
29	107.5	18 29 54.4159	55.3720	- 3 27.6	6 33 22.972	+ 23 12 51.93	1.016612281
30	108.5	18 33 50.9713	51.9300	- 3 39.5	6 37 31.404	+ 23 09 21.68	1.016631544

## Tiempo sidéreo y coordenadas aparentes del Sol

Fecha 0 UT	Fecha Juliana	Tiempo Sidéreo de Greenwich		Ecuación del tiempo m s	Ascensión Recta h m s	Declinación ° ' "	Distancia Geocéntrica u.a.
		Medio h m s	Aparente s				
Jul 01	2456109.5	18 37 47.5267	48.4916	- 3 51.1	6 41 39.582	+ 23 05 27.16	1.016647001
02	110.5	18 41 44.0821	45.0561	- 4 02.4	6 45 47.487	+ 23 01 08.47	1.016658928
03	111.5	18 45 40.6374	41.6216	- 4 13.5	6 49 55.100	+ 22 56 25.72	1.016667523
04	112.5	18 49 37.1928	38.1862	- 4 24.2	6 54 02.405	+ 22 51 19.01	1.016672889
05	113.5	18 53 33.7482	34.7480	- 4 34.6	6 58 09.384	+ 22 45 48.45	1.016675022
06	114.5	18 57 30.3035	31.3064	- 4 44.7	7 02 16.022	+ 22 39 54.16	1.016673825
07	115.5	19 01 26.8589	27.8614	- 4 54.4	7 06 22.304	+ 22 33 36.26	1.016669120
08	116.5	19 05 23.4143	24.4139	- 5 03.8	7 10 28.216	+ 22 26 54.89	1.016660684
09	117.5	19 09 19.9696	20.9651	- 5 12.8	7 14 33.744	+ 22 19 50.19	1.016648262
10	118.5	19 13 16.5250	17.5162	- 5 21.4	7 18 38.873	+ 22 12 22.32	1.016631594
11	119.5	19 17 13.0804	14.0680	- 5 29.5	7 22 43.588	+ 22 04 31.46	1.016610422
12	120.5	19 21 09.6357	10.6214	- 5 37.3	7 26 47.874	+ 21 56 17.79	1.016584501
13	121.5	19 25 06.1911	07.1766	- 5 44.5	7 30 51.716	+ 21 47 41.51	1.016553601
14	122.5	19 29 02.7465	03.7340	- 5 51.4	7 34 55.098	+ 21 38 42.82	1.016517505
15	123.5	19 32 59.3018	60.2931	- 5 57.7	7 38 58.004	+ 21 29 21.94	1.016476017
16	124.5	19 36 55.8572	56.8536	- 6 03.6	7 43 00.420	+ 21 19 39.08	1.016428958
17	125.5	19 40 52.4126	53.4148	- 6 08.9	7 47 02.328	+ 21 09 34.47	1.016376172
18	126.5	19 44 48.9679	49.9758	- 6 13.7	7 51 03.715	+ 20 59 08.37	1.016317534
19	127.5	19 48 45.5233	46.5356	- 6 18.0	7 55 04.564	+ 20 48 20.99	1.016252953
20	128.5	19 52 42.0787	43.0934	- 6 21.8	7 59 04.860	+ 20 37 12.60	1.016182386
21	129.5	19 56 38.6341	39.6487	- 6 24.9	8 03 04.591	+ 20 25 43.45	1.016105844
22	130.5	20 00 35.1894	36.2016	- 6 27.5	8 07 03.744	+ 20 13 53.78	1.016023398
23	131.5	20 04 31.7448	32.7524	- 6 29.6	8 11 02.307	+ 20 01 43.87	1.015935185
24	132.5	20 08 28.3002	29.3024	- 6 31.0	8 15 00.271	+ 19 49 13.96	1.015841408
25	133.5	20 12 24.8555	25.8528	- 6 31.8	8 18 57.630	+ 19 36 24.33	1.015742331
26	134.5	20 16 21.4109	22.4052	- 6 32.0	8 22 54.377	+ 19 23 15.25	1.015638268
27	135.5	20 20 17.9663	18.9605	- 6 31.5	8 26 50.508	+ 19 09 46.99	1.015529576
28	136.5	20 24 14.5216	15.5192	- 6 30.5	8 30 46.021	+ 18 55 59.82	1.015416629
29	137.5	20 28 11.0770	12.0807	- 6 28.8	8 34 40.913	+ 18 41 54.03	1.015299803
30	138.5	20 32 07.6324	08.6439	- 6 26.5	8 38 35.182	+ 18 27 29.90	1.015179449
31	139.5	20 36 04.1877	05.2068	- 6 23.6	8 42 28.830	+ 18 12 47.69	1.015055866
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Ago 01	140.5	20 40 00.7431	01.7677	- 6 20.1	8 46 21.859	+ 17 57 47.68	1.014929284
02	141.5	20 43 57.2985	58.3256	- 6 15.9	8 50 14.270	+ 17 42 30.13	1.014799846
03	142.5	20 47 53.8538	54.8800	- 6 11.2	8 54 06.072	+ 17 26 55.30	1.014667605
04	143.5	20 51 50.4092	51.4315	- 6 05.8	8 57 57.268	+ 17 11 03.46	1.014532536
05	144.5	20 55 46.9646	47.9811	- 5 59.9	9 01 47.869	+ 16 54 54.88	1.014394544
06	145.5	20 59 43.5200	44.5301	- 5 53.4	9 05 37.880	+ 16 38 29.83	1.014253485
07	146.5	21 03 40.0753	41.0795	- 5 46.2	9 09 27.311	+ 16 21 48.60	1.014109186
08	147.5	21 07 36.6307	37.6302	- 5 38.5	9 13 16.168	+ 16 04 51.49	1.013961458
09	148.5	21 11 33.1861	34.1827	- 5 30.3	9 17 04.458	+ 15 47 38.79	1.013810104
10	149.5	21 15 29.7414	30.7372	- 5 21.5	9 20 52.188	+ 15 30 10.82	1.013654927
11	150.5	21 19 26.2968	27.2936	- 5 12.1	9 24 39.366	+ 15 12 27.88	1.013495736
12	151.5	21 23 22.8522	23.8515	- 5 02.1	9 28 25.997	+ 14 54 30.28	1.013332343
13	152.5	21 27 19.4075	20.4103	- 4 51.7	9 32 12.087	+ 14 36 18.37	1.013164566
14	153.5	21 31 15.9629	16.9692	- 4 40.7	9 35 57.643	+ 14 17 52.44	1.012992233
15	154.5	21 35 12.5183	13.5272	- 4 29.1	9 39 42.672	+ 13 59 12.84	1.012815187
16	155.5	21 39 09.0736	10.0836	- 4 17.1	9 43 27.178	+ 13 40 19.90	1.012633293
17	156.5	21 43 05.6290	06.6376	- 4 04.5	9 47 11.169	+ 13 21 13.94	1.012446450
18	157.5	21 47 02.1844	03.1889	- 3 51.5	9 50 54.651	+ 13 01 55.30	1.012254606
19	158.5	21 50 58.7397	59.7380	- 3 37.9	9 54 37.632	+ 12 42 24.32	1.012057769
20	159.5	21 54 55.2951	56.2858	- 3 23.8	9 58 20.119	+ 12 22 41.32	1.011856022
21	160.5	21 58 51.8505	52.8337	- 3 09.3	10 02 02.124	+ 12 02 46.63	1.011649527
22	161.5	22 02 48.4058	49.3832	- 2 54.3	10 05 43.655	+ 11 42 40.59	1.011438526
23	162.5	22 06 44.9612	45.9355	- 2 38.8	10 09 24.726	+ 11 22 23.52	1.011223327
24	163.5	22 10 41.5166	42.4910	- 2 22.9	10 13 05.346	+ 11 01 55.75	1.011004294
25	164.5	22 14 38.0720	39.0494	- 2 06.5	10 16 45.529	+ 10 41 17.61	1.010781826
26	165.5	22 18 34.6273	35.6095	- 1 49.7	10 20 25.289	+ 10 20 29.43	1.010556331
27	166.5	22 22 31.1827	32.1699	- 1 32.5	10 24 04.639	+ 9 59 31.52	1.010328207
28	167.5	22 26 27.7381	28.7289	- 1 14.9	10 27 43.594	+ 9 38 24.19	1.010097822
29	168.5	22 30 24.2934	25.2852	- 0 56.9	10 31 22.173	+ 9 17 07.75	1.009865491
30	169.5	22 34 20.8488	21.8384	- 0 38.6	10 35 00.393	+ 8 55 42.50	1.009631467
31	170.5	22 38 17.4042	18.3885	- 0 19.9	10 38 38.275	+ 8 34 08.72	1.009395930



## Tiempo sidéreo y coordenadas aparentes del Sol

Fecha 0 UT	Fecha Juliana	Tiempo Sidéreo de Greenwich		Ecuación del tiempo m s	Ascensión Recta h m s	Declinación ° ' "	Distancia Geocéntrica u.a.
		Medio h m s	Aparente s				
Sep 01	2456171.5	22 42 13.9595	14.9365	- 0 00.9	10 42 15.840	+ 8 12 26.72	1.009158989
02	172.5	22 46 10.5149	11.4834	+ 0 18.4	10 45 53.110	+ 7 50 36.78	1.008920684
03	173.5	22 50 07.0703	08.0304	+ 0 37.9	10 49 30.108	+ 7 28 39.20	1.008680997
04	174.5	22 54 03.6256	04.5785	+ 0 57.7	10 53 06.854	+ 7 06 34.28	1.008439863
05	175.5	22 58 00.1810	01.1283	+ 1 17.8	10 56 43.369	+ 6 44 22.33	1.008197183
06	176.5	23 01 56.7364	57.6801	+ 1 38.0	11 00 19.675	+ 6 22 03.66	1.007952837
07	177.5	23 05 53.2917	54.2338	+ 1 58.4	11 03 55.791	+ 5 59 38.61	1.007706686
08	178.5	23 09 49.8471	50.7892	+ 2 19.1	11 07 31.736	+ 5 37 07.48	1.007458581
09	179.5	23 13 46.4025	47.3457	+ 2 39.8	11 11 07.529	+ 5 14 30.62	1.007208366
10	180.5	23 17 42.9579	43.9026	+ 3 00.7	11 14 43.189	+ 4 51 48.34	1.006955878
11	181.5	23 21 39.5132	40.4591	+ 3 21.7	11 18 18.733	+ 4 29 01.00	1.006700946
12	182.5	23 25 36.0686	37.0143	+ 3 42.8	11 21 54.179	+ 4 06 08.94	1.006443402
13	183.5	23 29 32.6240	33.5674	+ 4 04.0	11 25 29.545	+ 3 43 12.49	1.006183076
14	184.5	23 33 29.1793	30.1181	+ 4 25.3	11 29 04.846	+ 3 20 12.00	1.005919816
15	185.5	23 37 25.7347	26.6664	+ 4 46.6	11 32 40.101	+ 2 57 07.83	1.005653497
16	186.5	23 41 22.2901	23.2129	+ 5 07.9	11 36 15.325	+ 2 34 00.32	1.005384044
17	187.5	23 45 18.8454	19.7591	+ 5 29.2	11 39 50.536	+ 2 10 49.83	1.005111451
18	188.5	23 49 15.4008	16.3066	+ 5 50.6	11 43 25.752	+ 1 47 36.71	1.004835799
19	189.5	23 53 11.9562	12.8567	+ 6 11.9	11 47 00.988	+ 1 24 21.29	1.004557265
20	190.5	23 57 08.5115	09.4103	+ 6 33.1	11 50 36.262	+ 1 01 03.95	1.004276117
21	191.5	0 01 05.0669	05.9670	+ 6 54.4	11 54 11.591	+ 0 37 45.02	1.003992701
22	192.5	0 05 01.6223	02.5258	+ 7 15.5	11 57 46.991	+ 0 14 24.87	1.003707413
23	193.5	0 08 58.1776	59.0851	+ 7 36.6	12 01 22.479	- 0 08 56.17	1.003420679
24	194.5	0 12 54.7330	55.6433	+ 7 57.6	12 04 58.075	- 0 32 17.74	1.003132926
25	195.5	0 16 51.2884	52.1992	+ 8 18.4	12 08 33.799	- 0 55 39.52	1.002844558
26	196.5	0 20 47.8437	48.7521	+ 8 39.1	12 12 09.672	- 1 19 01.16	1.002555948
27	197.5	0 24 44.3991	45.3022	+ 8 59.6	12 15 45.716	- 1 42 22.35	1.002267418
28	198.5	0 28 40.9545	41.8499	+ 9 19.9	12 19 21.957	- 2 05 42.76	1.001979237
29	199.5	0 32 37.5099	38.3964	+ 9 40.0	12 22 58.419	- 2 29 02.06	1.001691614
30	200.5	0 36 34.0652	34.9427	+ 9 59.8	12 26 35.128	- 2 52 19.95	1.001404698
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Oct 01	201.5	0 40 30.6206	31.4899	+10 19.4	12 30 12.107	- 3 15 36.09	1.001118585
02	202.5	0 44 27.1760	28.0387	+10 38.7	12 33 49.383	- 3 38 50.15	1.000833318
03	203.5	0 48 23.7313	24.5895	+10 57.6	12 37 26.978	- 4 02 01.79	1.000548896
04	204.5	0 52 20.2867	21.1424	+11 16.2	12 41 04.916	- 4 25 10.68	1.000265282
05	205.5	0 56 16.8421	17.6971	+11 34.5	12 44 43.218	- 4 48 16.46	0.999982410
06	206.5	1 00 13.3974	14.2530	+11 52.3	12 48 21.908	- 5 11 18.78	0.999700189
07	207.5	1 04 09.9528	10.8097	+12 09.8	12 52 01.004	- 5 34 17.28	0.999418507
08	208.5	1 08 06.5082	07.3662	+12 26.8	12 55 40.529	- 5 57 11.58	0.999137234
09	209.5	1 12 03.0635	03.9219	+12 43.4	12 59 20.501	- 6 20 01.33	0.998856221
10	210.5	1 15 59.6189	60.4759	+12 59.5	13 03 00.940	- 6 42 46.13	0.998575302
11	211.5	1 19 56.1743	57.0278	+13 15.2	13 06 41.863	- 7 05 25.62	0.998294299
12	212.5	1 23 52.7296	53.5774	+13 30.3	13 10 23.290	- 7 27 59.40	0.998013022
13	213.5	1 27 49.2850	50.1251	+13 44.9	13 14 05.237	- 7 50 27.09	0.997731287
14	214.5	1 31 45.8404	46.6718	+13 59.0	13 17 47.721	- 8 12 48.29	0.997448930
15	215.5	1 35 42.3957	43.2193	+14 12.5	13 21 30.758	- 8 35 02.61	0.997165836
16	216.5	1 39 38.9511	39.7690	+14 25.4	13 25 14.363	- 8 57 09.67	0.996881966
17	217.5	1 43 35.5065	36.3223	+14 37.8	13 28 58.549	- 9 19 09.05	0.996597379
18	218.5	1 47 32.0619	32.8794	+14 49.5	13 32 43.330	- 9 41 00.37	0.996312242
19	219.5	1 51 28.6172	29.4393	+15 00.7	13 36 28.714	- 10 02 43.22	0.996026829
20	220.5	1 55 25.1726	26.0002	+15 11.3	13 40 14.715	- 10 24 17.20	0.995741494
21	221.5	1 59 21.7280	22.5604	+15 21.2	13 44 01.342	- 10 45 41.89	0.995456644
22	222.5	2 03 18.2833	19.1183	+15 30.5	13 47 48.608	- 11 06 56.89	0.995172704
23	223.5	2 07 14.8387	15.6732	+15 39.1	13 51 36.528	- 11 28 01.82	0.994890097
24	224.5	2 11 11.3941	12.2253	+15 47.1	13 55 25.118	- 11 48 56.28	0.994609218
25	225.5	2 15 07.9494	08.7750	+15 54.4	13 59 14.393	- 12 09 39.88	0.994330428
26	226.5	2 19 04.5048	05.3232	+16 01.0	14 03 04.372	- 12 30 12.25	0.994054042
27	227.5	2 23 01.0602	01.8711	+16 06.8	14 06 55.070	- 12 50 33.01	0.993780333
28	228.5	2 26 57.6155	58.4197	+16 11.9	14 10 46.504	- 13 10 41.77	0.993509522
29	229.5	2 30 54.1709	54.9698	+16 16.3	14 14 38.691	- 13 30 38.15	0.993241783
30	230.5	2 34 50.7263	51.5218	+16 19.9	14 18 31.647	- 13 50 21.77	0.992977245
31	231.5	2 38 47.2816	48.0760	+16 22.7	14 22 25.385	- 14 09 52.24	0.992715990

## Tiempo sidéreo y coordenadas aparentes del Sol

Fecha 0 UT	Fecha Juliana	Tiempo Sidéreo de Greenwich			Ecuación del tiempo m s	Ascensión Recta h m s			Declinación ° ' "	Distancia Geocéntrica u.a.
		Medio h m s	Aparente s							
Nov 01	2456232.5	2 42 43.8370	44.6321	+16 24.7	14 26 19.918	- 14 29 09.17	0.992458059			
02	233.5	2 46 40.3924	41.1898	+16 25.9	14 30 15.259	- 14 48 12.16	0.992203454			
03	234.5	2 50 36.9478	37.7483	+16 26.3	14 34 11.419	- 15 07 00.81	0.991952143			
04	235.5	2 54 33.5031	34.3069	+16 25.9	14 38 08.407	- 15 25 34.72	0.991704063			
05	236.5	2 58 30.0585	30.8648	+16 24.6	14 42 06.233	- 15 43 53.47	0.991459118			
06	237.5	3 02 26.6139	27.4214	+16 22.5	14 46 04.904	- 16 01 56.67	0.991217188			
07	238.5	3 06 23.1692	23.9762	+16 19.5	14 50 04.426	- 16 19 43.90	0.990978122			
08	239.5	3 10 19.7246	20.5288	+16 15.7	14 54 04.806	- 16 37 14.75	0.990741742			
09	240.5	3 14 16.2800	17.0795	+16 11.0	14 58 06.047	- 16 54 28.81	0.990507844			
10	241.5	3 18 12.8353	13.6289	+16 05.5	15 02 08.153	- 17 11 25.67	0.990276206			
11	242.5	3 22 09.3907	10.1783	+15 59.1	15 06 11.126	- 17 28 04.91	0.990046597			
12	243.5	3 26 05.9461	06.7293	+15 51.8	15 10 14.965	- 17 44 26.14	0.989818802			
13	244.5	3 30 02.5014	03.2835	+15 43.6	15 14 19.669	- 18 00 28.95	0.989592649			
14	245.5	3 33 59.0568	59.8416	+15 34.6	15 18 25.232	- 18 16 12.96	0.989368043			
15	246.5	3 37 55.6122	56.4034	+15 24.8	15 22 31.646	- 18 31 37.75	0.989144994			
16	247.5	3 41 52.1675	52.9674	+15 14.1	15 26 38.899	- 18 46 42.94	0.988923632			
17	248.5	3 45 48.7229	49.5313	+15 02.6	15 30 46.980	- 19 01 28.13	0.988704199			
18	249.5	3 49 45.2783	46.0933	+14 50.2	15 34 55.876	- 19 15 52.91	0.988487020			
19	250.5	3 53 41.8336	42.6522	+14 37.1	15 39 05.578	- 19 29 56.91	0.988272472			
20	251.5	3 57 38.3890	39.2078	+14 23.1	15 43 16.076	- 19 43 39.74	0.988060954			
21	252.5	4 01 34.9444	35.7607	+14 08.4	15 47 27.361	- 19 57 01.03	0.987852852			
22	253.5	4 05 31.4998	32.3119	+13 52.9	15 51 39.425	- 20 10 00.43	0.987648531			
23	254.5	4 09 28.0551	28.8625	+13 36.6	15 55 52.260	- 20 22 37.59	0.987448323			
24	255.5	4 13 24.6105	25.4135	+13 19.6	16 00 05.858	- 20 34 52.18	0.987252520			
25	256.5	4 17 21.1659	21.9658	+13 01.8	16 04 20.208	- 20 46 43.86	0.987061379			
26	257.5	4 21 17.7212	18.5199	+12 43.2	16 08 35.299	- 20 58 12.31	0.986875116			
27	258.5	4 25 14.2766	15.0762	+12 24.0	16 12 51.120	- 21 09 17.20	0.986693909			
28	259.5	4 29 10.8320	11.6345	+12 04.0	16 17 07.656	- 21 19 58.24	0.986517894			
29	260.5	4 33 07.3873	08.1944	+11 43.3	16 21 24.894	- 21 30 15.11	0.986347171			
30	261.5	4 37 03.9427	04.7553	+11 21.9	16 25 42.817	- 21 40 07.51	0.986181797			
<hr/>										
Dic 01	262.5	4 41 00.4981	01.3164	+10 59.9	16 30 01.409	- 21 49 35.16	0.986021790			
02	263.5	4 44 57.0534	57.8771	+10 37.2	16 34 20.650	- 21 58 37.75	0.985867128			
03	264.5	4 48 53.6088	54.4365	+10 13.9	16 38 40.522	- 22 07 15.02	0.985717751			
04	265.5	4 52 50.1642	50.9941	+ 9 50.0	16 43 01.003	- 22 15 26.69	0.985573559			
05	266.5	4 56 46.7195	47.5496	+ 9 25.5	16 47 22.072	- 22 23 12.49	0.985434418			
06	267.5	5 00 43.2749	44.1031	+ 9 00.4	16 51 43.706	- 22 30 32.18	0.985300154			
07	268.5	5 04 39.8303	40.6552	+ 8 34.8	16 56 05.882	- 22 37 25.52	0.985170557			
08	269.5	5 08 36.3857	37.2068	+ 8 08.6	17 00 28.575	- 22 43 52.27	0.985045382			
09	270.5	5 12 32.9410	33.7592	+ 7 42.0	17 04 51.758	- 22 49 52.23	0.984924358			
10	271.5	5 16 29.4964	30.3139	+ 7 14.9	17 09 15.403	- 22 55 25.20	0.984807199			
11	272.5	5 20 26.0518	26.8722	+ 6 47.4	17 13 39.480	- 23 00 31.01	0.984693628			
12	273.5	5 24 22.6071	23.4343	+ 6 19.5	17 18 03.956	- 23 05 09.49	0.984583408			
13	274.5	5 28 19.1625	19.9995	+ 5 51.2	17 22 28.792	- 23 09 20.51	0.984476375			
14	275.5	5 32 15.7179	16.5659	+ 5 22.6	17 26 53.950	- 23 13 03.92	0.984372471			
15	276.5	5 36 12.2732	13.1313	+ 4 53.7	17 31 19.388	- 23 16 19.61	0.984271756			
16	277.5	5 40 08.8286	09.6938	+ 4 24.6	17 35 45.066	- 23 19 07.44	0.984174401			
17	278.5	5 44 05.3840	06.2527	+ 3 55.3	17 40 10.946	- 23 21 27.33	0.984080665			
18	279.5	5 48 01.9393	02.8083	+ 3 25.8	17 44 36.991	- 23 23 19.16	0.983990858			
19	280.5	5 51 58.4947	59.3615	+ 2 56.2	17 49 03.166	- 23 24 42.88	0.983905313			
20	281.5	5 55 55.0501	55.9136	+ 2 26.5	17 53 29.439	- 23 25 38.42	0.983824360			
21	282.5	5 59 51.6054	52.4658	+ 1 56.7	17 57 55.776	- 23 26 05.76	0.983748310			
22	283.5	6 03 48.1608	49.0190	+ 1 26.9	18 02 22.146	- 23 26 04.87	0.983677449			
23	284.5	6 07 44.7162	45.5739	+ 0 57.1	18 06 48.515	- 23 25 35.75	0.983612030			
24	285.5	6 11 41.2715	42.1308	+ 0 27.3	18 11 14.853	- 23 24 38.40	0.983552280			
25	286.5	6 15 37.8269	38.6896	- 0 02.4	18 15 41.128	- 23 23 12.84	0.983498395			
26	287.5	6 19 34.3823	35.2500	- 0 32.1	18 20 07.306	- 23 21 19.13	0.983450537			
27	288.5	6 23 30.9377	31.8116	- 1 01.5	18 24 33.358	- 23 18 57.30	0.983408839			
28	289.5	6 27 27.4930	28.3736	- 1 30.9	18 28 59.252	- 23 16 07.41	0.983373398			
29	290.5	6 31 24.0484	24.9352	- 2 00.0	18 33 24.957	- 23 12 49.54	0.983344272			
30	291.5	6 35 20.6038	21.4956	- 2 28.9	18 37 50.443	- 23 09 03.78	0.983321478			
31	292.5	6 39 17.1591	18.0542	- 2 57.6	18 42 15.681	- 23 04 50.22	0.983304988			

## Planetas

En este capítulo se tabulan las salidas y puestas como así también el paso por el meridiano del lugar (OFA) de los planetas para todos los meses del año (cada 5 días dentro de cada mes), con la precisión suficiente para lograr su localización en el cielo, en forma aproximada.

Además se ofrecen los datos de ascensión recta, declinación, elongación y magnitud a 0<sup>h</sup> U.T.

La información tabulada es la siguiente (entre paréntesis se indica la precisión)

- Hora de Salida, Paso por Meridiano y Puesta en Tiempo Universal (1<sup>m</sup>)
- Acimut de salida y puesta (1°)
- Altura de paso por meridiano (1°)
- Ascensión recta aparente (0.1<sup>m</sup>)
- Declinación aparente (1')
- Elongación (1°)
- Magnitud (0.1 mg)



## Mercurio

(Todas las horas son en Tiempo Universal)

Fecha	Salida		Paso Merid.		Puesta		A.R.	Decl.	Elong.	Mag.
	Hora h m	Az. °	Hora h m	h °	Hora h m	Az. °				
Ene 00	08 09	116	15 10	81	22 11	243	17 10.4	-21 53	W 20	-0.5
5	08 15	118	15 20	82	22 24	242	17 39.7	-22 59	W 19	-0.5
10	08 25	119	15 31	83	22 38	241	18 11.0	-23 40	W 17	-0.6
15	08 38	119	15 44	83	22 51	241	18 43.6	-23 53	W 14	-0.6
20	08 53	118	15 58	83	23 04	242	19 17.2	-23 35	W 12	-0.7
25	09 10	117	16 13	82	23 16	243	19 51.4	-22 42	W 9	-0.9
Feb 00	09 34	115	16 31	80	23 28	245	20 32.9	-20 52	W 6	-1.1
5	09 55	112	16 46	78	23 36	248	21 07.8	-18 40	S 3	-1.4
10	10 18	109	17 01	75	23 43	252	21 42.6	-15 51	E 3	-1.5
15	10 42	105	17 16	71	23 49	256	22 17.3	-12 27	E 6	-1.5
20	11 07	100	17 30	67	23 53	261	22 51.3	- 8 31	E 10	-1.5
25	11 30	95	17 42	63	23 54	266	23 23.5	- 4 16	E 14	-1.3
Mar 00	11 45	91	17 49	60	23 52	270	23 46.2	- 0 55	E 17	-1.0
5	11 54	87	17 49	56	23 44	274	0 08.1	+ 2 43	E 18	-0.4
10	11 50	84	17 39	54	23 28	276	0 19.2	+ 5 06	E 17	0.3
15	11 29	84	17 16	54	23 04	276	0 17.7	+ 5 41	E 12	----
20	10 53	85	16 44	55	22 35	274	0 06.0	+ 4 26	N 5	----
25	10 13	88	16 10	58	22 07	271	23 51.0	+ 2 00	W 7	----
Abr 00	09 31	92	15 35	60	21 40	268	23 38.8	- 0 56	W 16	----
5	09 07	93	15 15	62	21 23	267	23 37.5	- 2 28	W 22	----
10	08 54	94	15 03	62	21 12	266	23 44.1	- 2 57	W 25	0.7
15	08 49	93	14 57	62	21 05	267	23 57.1	- 2 26	W 27	0.5
20	08 50	92	14 55	60	21 00	269	0 14.9	- 1 07	W 27	0.3
25	08 58	89	14 58	58	20 57	271	0 36.4	+ 0 54	W 27	0.1
May 00	09 09	86	15 03	55	20 56	274	1 01.2	+ 3 28	W 25	-0.1
5	09 25	82	15 12	52	20 57	278	1 29.0	+ 6 30	W 22	-0.3
10	09 45	78	15 23	49	21 01	282	2 00.0	+ 9 53	W 19	-0.6
15	10 10	74	15 39	45	21 07	286	2 34.5	+13 29	W 14	-1.0
20	10 39	70	15 58	42	21 17	291	3 13.2	+17 07	W 9	-1.5
25	11 12	66	16 22	38	21 32	294	3 56.0	+20 28	W 3	-2.1
Jun 00	11 53	62	16 54	35	21 55	298	4 51.4	+23 35	E 4	-2.0
5	12 23	61	17 21	34	22 18	300	5 37.9	+25 01	E 10	-1.5
10	12 48	60	17 44	34	22 41	300	6 21.7	+25 21	E 16	-1.0
15	13 05	61	18 03	35	23 02	299	7 01.2	+24 43	E 20	-0.5
20	13 15	63	18 17	36	23 20	297	7 35.4	+23 22	E 23	-0.2
25	13 18	65	18 25	38	23 34	295	8 04.1	+21 34	E 25	0.1
Jul 00	13 14	68	18 28	40	23 41	292	8 27.0	+19 31	E 26	0.4
5	13 05	70	18 24	42	23 43	290	8 43.8	+17 27	E 25	0.6
10	12 50	72	18 13	44	23 37	288	8 53.8	+15 34	E 23	0.9
15	12 28	74	17 55	45	23 22	286	8 56.5	+14 07	E 20	----
20	12 01	75	17 29	46	22 57	285	8 51.5	+13 20	E 14	----
25	11 30	75	16 57	46	22 25	285	8 39.9	+13 22	E 8	----
Ago 00	10 52	73	16 17	45	21 41	287	8 23.0	+14 25	W 6	----
5	10 27	72	15 49	43	21 10	288	8 13.2	+15 45	W 12	----
10	10 11	70	15 30	42	20 48	290	8 12.8	+17 03	W 16	----
15	10 06	69	15 23	41	20 40	291	8 24.1	+17 52	W 19	0.1
20	10 10	69	15 28	41	20 46	291	8 46.8	+17 49	W 18	-0.5
25	10 19	71	15 40	43	21 02	289	9 18.5	+16 38	W 15	-1.1
Sep 00	10 31	75	16 01	46	21 32	285	10 02.4	+13 43	W 10	-1.5
5	10 40	79	16 19	49	21 58	281	10 39.8	+10 23	W 6	-1.7
10	10 46	83	16 34	53	22 23	277	11 15.5	+ 6 35	N 2	-1.7
15	10 50	88	16 48	57	22 47	272	11 49.1	+ 2 38	E 4	-1.4
20	10 52	92	17 00	61	23 08	267	12 20.8	- 1 18	E 8	-1.1
25	10 53	97	17 10	65	23 27	263	12 50.9	- 5 06	E 11	-0.8
Oct 00	10 54	101	17 19	68	23 45	259	13 19.8	- 8 42	E 14	-0.6
5	10 53	105	17 27	72	23 57	257	13 47.9	-12 03	E 17	-0.5
10	10 53	108	17 35	75	00 15	252	14 15.2	-15 06	E 20	-0.4
15	10 52	112	17 42	77	00 29	249	14 41.9	-17 48	E 22	-0.3
20	10 52	114	17 47	80	00 41	246	15 07.5	-20 06	E 23	-0.3
25	10 50	117	17 51	81	00 51	244	15 31.1	-21 55	E 24	-0.2
Nov 00	10 45	118	17 50	83	00 55	242	15 54.5	-23 19	E 24	-0.1
5	10 36	118	17 40	83	00 47	242	16 06.0	-23 36	E 21	0.2
10	10 16	117	17 17	82	00 23	243	16 04.7	-22 45	E 16	----
15	09 45	114	16 38	79	23 29	246	15 47.5	-20 28	E 6	----
20	09 10	111	15 54	76	22 37	250	15 22.2	-17 18	W 6	----
25	08 41	108	15 21	74	22 00	252	15 06.9	-15 09	W 15	----
Dic 00	08 25	108	15 05	74	21 46	252	15 08.9	-14 58	W 19	-0.2
5	08 18	110	15 02	76	21 47	250	15 24.2	-16 12	W 21	-0.5
10	08 16	112	15 06	77	21 56	248	15 47.2	-18 03	W 20	-0.6
15	08 19	114	15 14	79	22 10	246	16 14.6	-19 59	W 18	-0.7
20	08 24	116	15 25	81	22 26	244	16 44.6	-21 42	W 16	-0.7
25	08 32	118	15 37	82	22 42	242	17 16.4	-23 05	W 14	-0.7

Venus											
(Todas las horas son en Tiempo Universal)											
Fecha	Salida		Paso Merid.		Puesta		A.R.	Decl.	Elong.	Mag.	
	Hora h m	Az. °	Hora h m	h °	Hora h m	Az. °					
Ene	00	12 11	112	19 01	78	01 52	247	21 02.4	-18 47	E 34	-3.8
	5	12 21	110	19 06	76	01 51	250	21 26.9	-16 55	E 35	-3.8
	10	12 30	108	19 10	74	01 50	252	21 50.8	-14 51	E 36	-3.8
	15	12 40	105	19 14	71	01 48	255	22 14.2	-12 38	E 37	-3.9
	20	12 49	102	19 17	69	01 45	258	22 37.0	-10 17	E 38	-3.9
	25	12 58	99	19 19	67	01 41	261	22 59.3	- 7 49	E 39	-3.9
Feb	00	13 08	96	19 22	64	01 36	264	23 25.5	- 4 46	E 40	-3.9
	5	13 16	93	19 24	61	01 31	267	23 47.0	- 2 10	E 41	-3.9
	10	13 24	89	19 25	58	01 26	270	0 08.2	+ 0 27	E 41	-4.0
	15	13 32	86	19 26	56	01 21	273	0 29.2	+ 3 04	E 42	-4.0
	20	13 39	83	19 27	53	01 16	276	0 50.0	+ 5 39	E 43	-4.0
	25	13 47	80	19 28	51	01 10	279	1 10.7	+ 8 12	E 44	-4.1
Mar	00	13 52	78	19 29	49	01 06	282	1 27.2	+10 10	E 44	-4.1
	5	13 59	75	19 30	46	01 01	284	1 47.9	+12 34	E 45	-4.1
	10	14 06	73	19 31	44	00 56	287	2 08.4	+14 50	E 45	-4.2
	15	14 12	70	19 32	42	00 51	290	2 29.0	+16 58	E 46	-4.2
	20	14 19	68	19 32	40	00 46	292	2 49.4	+18 57	E 46	-4.2
	25	14 24	66	19 33	38	00 42	294	3 09.7	+20 46	E 46	-4.3
Abr	00	14 30	63	19 33	36	00 37	297	3 33.7	+22 41	E 46	-4.3
	5	14 34	62	19 33	35	00 32	298	3 53.1	+24 04	E 46	-4.4
	10	14 36	60	19 32	34	00 28	300	4 11.9	+25 14	E 45	-4.4
	15	14 37	59	19 30	33	00 23	301	4 29.7	+26 11	E 45	-4.4
	20	14 36	58	19 26	32	00 17	302	4 46.2	+26 55	E 43	-4.5
	25	14 32	58	19 21	32	00 11	302	5 01.1	+27 26	E 42	-4.5
May	00	14 26	57	19 13	31	00 03	303	5 13.7	+27 44	E 40	-4.5
	5	14 16	57	19 03	31	23 50	303	5 23.6	+27 50	E 37	-4.5
	10	14 02	57	18 50	32	23 37	303	5 30.2	+27 43	E 34	-4.5
	15	13 43	58	18 32	32	23 21	302	5 32.9	+27 23	E 30	-4.4
	20	13 20	59	18 10	33	23 01	301	5 31.4	+26 48	E 24	-4.3
	25	12 51	60	17 44	33	22 37	300	5 25.4	+25 57	E 18	-4.1
Jun	00	12 11	61	17 08	35	22 05	298	5 13.3	+24 34	E 10	-3.7
	5	11 34	63	16 35	36	21 37	297	5 00.7	+23 09	E 2	----
	10	10 57	65	16 03	38	21 09	295	4 48.0	+21 38	W 6	----
	15	10 23	67	15 33	39	20 43	293	4 37.1	+20 11	W 14	-3.9
	20	09 53	68	15 06	40	20 20	292	4 29.4	+18 59	W 21	-4.1
	25	09 28	69	14 43	41	19 59	291	4 25.7	+18 06	W 26	-4.3
Jul	00	09 07	70	14 25	42	19 42	290	4 26.0	+17 35	W 31	-4.4
	5	08 51	70	14 09	42	19 27	290	4 29.9	+17 23	W 35	-4.4
	10	08 39	70	13 57	42	19 15	290	4 37.0	+17 28	W 38	-4.4
	15	08 30	69	13 47	41	19 05	291	4 46.9	+17 43	W 41	-4.4
	20	08 24	69	13 40	41	18 56	291	4 59.2	+18 06	W 42	-4.4
	25	08 20	68	13 35	41	18 50	292	5 13.5	+18 33	W 44	-4.4
Ago	00	08 17	68	13 31	40	18 44	292	5 32.8	+19 05	W 45	-4.3
	5	08 16	67	13 29	40	18 42	293	5 50.4	+19 29	W 45	-4.3
	10	08 16	67	13 28	39	18 40	293	6 09.3	+19 47	W 46	-4.3
	15	08 17	67	13 29	39	18 40	293	6 29.2	+19 58	W 46	-4.2
	20	08 18	67	13 30	39	18 41	293	6 49.9	+20 00	W 46	-4.2
	25	08 19	67	13 31	39	18 43	293	7 11.3	+19 51	W 46	-4.2
Sep	00	08 21	67	13 34	40	18 47	292	7 37.6	+19 26	W 45	-4.1
	5	08 22	68	13 37	40	18 52	292	8 00.0	+18 51	W 45	-4.1
	10	08 23	69	13 40	41	18 57	291	8 22.7	+18 04	W 44	-4.0
	15	08 23	70	13 43	42	19 03	290	8 45.5	+17 04	W 43	-4.0
	20	08 23	72	13 46	43	19 09	288	9 08.3	+15 52	W 43	-4.0
	25	08 22	73	13 49	45	19 16	286	9 31.1	+14 29	W 42	-4.0
Oct	00	08 21	75	13 52	46	19 23	285	9 53.9	+12 55	W 41	-3.9
	5	08 20	77	13 55	48	19 31	282	10 16.6	+11 11	W 40	-3.9
	10	08 18	80	13 58	50	19 39	280	10 39.2	+ 9 18	W 39	-3.9
	15	08 16	82	14 01	52	19 46	278	11 01.7	+ 7 18	W 38	-3.9
	20	08 13	84	14 03	54	19 54	275	11 24.1	+ 5 11	W 37	-3.9
	25	08 10	87	14 06	56	20 03	273	11 46.5	+ 2 59	W 36	-3.9
Nov	00	08 07	90	14 09	59	20 13	270	12 13.4	+ 0 16	W 35	-3.8
	5	08 04	93	14 12	62	20 21	267	12 35.9	- 2 03	W 34	-3.8
	10	08 01	96	14 15	64	20 30	264	12 58.6	- 4 21	W 33	-3.8
	15	07 59	98	14 18	66	20 39	261	13 21.4	- 6 39	W 32	-3.8
	20	07 57	101	14 22	68	20 48	259	13 44.6	- 8 54	W 31	-3.8
	25	07 55	104	14 26	71	20 57	256	14 08.0	-11 05	W 30	-3.8
Dic	00	07 54	106	14 30	73	21 07	254	14 31.9	-13 09	W 28	-3.8
	5	07 53	108	14 35	75	21 17	251	14 56.2	-15 07	W 27	-3.8
	10	07 53	110	14 40	76	21 27	249	15 21.0	-16 55	W 26	-3.8
	15	07 54	112	14 45	78	21 37	247	15 46.3	-18 32	W 25	-3.8
	20	07 57	114	14 51	79	21 47	246	16 12.1	-19 57	W 24	-3.7
	25	08 00	115	14 58	80	21 57	244	16 38.3	-21 07	W 23	-3.7

MARTE											
(Todas las horas son en Tiempo Universal)											
Fecha	Salida		Paso Merid.		Puesta		A.R.	Decl.	Elong.	Mag.	
	Hora	Az.	Hora	h	Hora	Az.					
	h m	°	h m	°	h m	°	h m	°	°		
Ene	00	03 39	83	09 24	53	15 10	277	11 27.4	+ 6 42	W109	0.2
	5	03 23	83	09 09	53	14 55	277	11 31.8	+ 6 22	W113	0.1
	10	03 06	83	08 53	53	14 40	277	11 35.4	+ 6 08	W117	0.0
	15	02 49	83	08 36	53	14 23	277	11 38.1	+ 6 00	W122	-0.1
	20	02 31	83	08 18	53	14 05	277	11 39.8	+ 5 59	W126	-0.2
	25	02 12	83	07 59	53	13 45	277	11 40.4	+ 6 05	W131	-0.4
Feb	00	01 48	83	07 34	53	13 20	277	11 39.5	+ 6 21	W138	-0.5
	5	01 27	82	07 12	52	12 57	278	11 37.5	+ 6 43	W143	-0.7
	10	01 06	82	06 49	52	12 33	278	11 34.2	+ 7 11	W149	-0.8
	15	00 43	81	06 25	51	12 07	279	11 29.7	+ 7 46	W155	-0.9
	20	00 19	80	06 00	51	11 40	280	11 24.2	+ 8 26	W162	-1.0
	25	23 50	79	05 34	50	11 12	280	11 17.7	+ 9 08	W168	-1.1
Mar	00	23 30	79	05 12	49	10 50	281	11 12.0	+ 9 44	W173	-1.2
	5	23 05	78	04 45	49	10 21	282	11 04.6	+10 27	W176	-1.2
	10	22 39	77	04 18	48	09 52	283	10 57.1	+11 07	E171	-1.2
	15	22 14	76	03 52	47	09 24	283	10 49.9	+11 42	E164	-1.1
	20	21 49	76	03 25	47	08 56	284	10 43.3	+12 11	E158	-1.0
	25	21 25	76	03 00	47	08 30	284	10 37.6	+12 33	E151	-0.9
Abr	00	20 57	75	02 31	46	08 01	285	10 32.2	+12 49	E144	-0.7
	5	20 34	75	02 08	46	07 38	285	10 29.1	+12 54	E139	-0.6
	10	20 13	75	01 47	46	07 16	285	10 27.1	+12 51	E133	-0.5
	15	19 52	75	01 26	47	06 57	285	10 26.4	+12 41	E128	-0.4
	20	19 33	76	01 07	47	06 38	284	10 26.9	+12 25	E124	-0.3
	25	19 14	76	00 49	47	06 21	284	10 28.4	+12 03	E119	-0.2
May	00	18 55	77	00 32	48	06 05	283	10 31.0	+11 36	E115	-0.1
	5	18 38	77	00 16	48	05 50	283	10 34.5	+11 04	E111	0.0
	10	18 21	78	23 59	05	05 37	282	10 38.8	+10 27	E108	0.1
	15	18 05	79	23 43	50	05 24	281	10 43.8	+ 9 47	E104	0.2
	20	17 49	80	23 29	50	05 12	280	10 49.5	+ 9 02	E101	0.3
	25	17 34	81	23 16	51	05 00	279	10 55.8	+ 8 14	E 98	0.4
Jun	00	17 16	82	23 01	52	04 47	278	11 04.1	+ 7 12	E 94	0.5
	5	17 01	83	22 48	53	04 37	277	11 11.4	+ 6 18	E 92	0.6
	10	16 47	84	22 37	54	04 28	276	11 19.2	+ 5 20	E 89	0.6
	15	16 33	85	22 25	55	04 19	275	11 27.4	+ 4 20	E 87	0.7
	20	16 20	87	22 14	56	04 10	273	11 36.0	+ 3 18	E 84	0.7
	25	16 06	88	22 03	57	04 02	272	11 44.8	+ 2 14	E 82	0.8
Jul	00	15 53	89	21 53	58	03 54	271	11 54.0	+ 1 08	E 80	0.8
	5	15 40	91	21 42	59	03 47	270	12 03.4	0 00	E 77	0.9
	10	15 27	92	21 33	61	03 40	268	12 13.1	- 1 09	E 75	0.9
	15	15 15	93	21 23	62	03 33	267	12 23.1	- 2 19	E 73	1.0
	20	15 02	95	21 13	63	03 26	266	12 33.3	- 3 30	E 71	1.0
	25	14 50	96	21 04	64	03 20	264	12 43.8	- 4 42	E 69	1.0
Ago	00	14 36	98	20 54	66	03 13	262	12 56.7	- 6 09	E 67	1.1
	5	14 24	99	20 45	67	03 07	261	13 07.7	- 7 22	E 65	1.1
	10	14 13	101	20 37	68	03 02	260	13 19.0	- 8 35	E 64	1.1
	15	14 01	102	20 28	69	02 57	258	13 30.5	- 9 48	E 62	1.1
	20	13 50	103	20 21	70	02 52	257	13 42.3	-11 00	E 60	1.2
	25	13 40	105	20 13	72	02 47	255	13 54.3	-12 11	E 59	1.2
Sep	00	13 27	107	20 04	73	02 42	254	14 09.2	-13 35	E 57	1.2
	5	13 17	108	19 57	74	02 38	252	14 21.9	-14 43	E 55	1.2
	10	13 08	109	19 50	75	02 34	251	14 34.8	-15 49	E 54	1.2
	15	12 58	110	19 44	76	02 31	250	14 48.1	-16 53	E 52	1.2
	20	12 50	112	19 38	77	02 27	248	15 01.7	-17 55	E 51	1.2
	25	12 41	113	19 32	78	02 24	247	15 15.5	-18 53	E 49	1.2
Oct	00	12 33	114	19 27	79	02 21	246	15 29.7	-19 48	E 48	1.2
	5	12 25	115	19 22	80	02 19	245	15 44.2	-20 40	E 46	1.2
	10	12 18	116	19 17	81	02 16	244	15 59.0	-21 27	E 45	1.2
	15	12 11	117	19 12	81	02 14	243	16 14.0	-22 09	E 44	1.2
	20	12 05	117	19 08	82	02 11	243	16 29.4	-22 47	E 42	1.2
	25	11 59	118	19 04	83	02 09	242	16 45.0	-23 20	E 41	1.2
Nov	00	11 53	119	18 59	83	02 06	241	17 04.1	-23 51	E 39	1.2
	5	11 49	119	18 56	83	02 03	241	17 20.2	-24 11	E 38	1.2
	10	11 45	119	18 52	84	02 00	241	17 36.5	-24 25	E 37	1.2
	15	11 41	120	18 49	84	01 58	240	17 53.0	-24 32	E 35	1.2
	20	11 38	120	18 46	84	01 54	240	18 09.6	-24 32	E 34	1.2
	25	11 35	119	18 43	84	01 51	241	18 26.3	-24 26	E 33	1.2
Dic	00	11 33	119	18 40	83	01 47	241	18 43.1	-24 13	E 32	1.2
	5	11 31	119	18 37	83	01 44	241	18 59.8	-23 53	E 30	1.2
	10	11 30	118	18 34	83	01 39	242	19 16.6	-23 27	E 29	1.2
	15	11 28	117	18 31	82	01 34	242	19 33.3	-22 53	E 28	1.2
	20	11 27	117	18 28	81	01 29	243	19 49.9	-22 13	E 27	1.2
	25	11 26	116	18 25	81	01 24	244	20 06.4	-21 27	E 26	1.2

Júpiter  
(Todas las horas son en Tiempo Universal)

Fecha	Salida		Paso Merid.		Puesta		A.R. h m	Decl. ° '	Elong. °	Mag.	
	Hora	Az.	Hora	h	Hora	Az.					
	h m	°	h m	°	h m	°					
Ene	00	18 13	78	23 49	49	05 29	282	1 55.0	+10 27	E111	-2.6
	5	17 55	78	23 30	49	05 10	282	1 55.4	+10 32	E107	-2.5
	10	17 36	78	23 11	49	04 51	282	1 56.2	+10 38	E102	-2.5
	15	17 18	78	22 53	48	04 32	282	1 57.3	+10 45	E 97	-2.5
	20	17 00	78	22 35	48	04 13	282	1 58.7	+10 54	E 92	-2.4
	25	16 42	77	22 17	48	03 55	283	2 00.4	+11 05	E 87	-2.4
Feb	00	16 22	77	21 56	48	03 33	283	2 02.8	+11 20	E 82	-2.4
	5	16 05	77	21 38	48	03 15	283	2 05.1	+11 34	E 78	-2.3
	10	15 49	76	21 21	47	02 57	284	2 07.7	+11 48	E 73	-2.3
	15	15 33	76	21 04	47	02 40	284	2 10.5	+12 04	E 69	-2.3
	20	15 17	76	20 48	47	02 22	284	2 13.5	+12 21	E 65	-2.2
	25	15 01	75	20 31	47	02 05	285	2 16.7	+12 39	E 60	-2.2
Mar	00	14 49	75	20 18	46	01 51	285	2 19.4	+12 53	E 57	-2.2
	5	14 33	75	20 02	46	01 34	285	2 22.9	+13 12	E 53	-2.2
	10	14 18	74	19 46	46	01 17	286	2 26.6	+13 31	E 49	-2.1
	15	14 03	74	19 30	45	01 01	286	2 30.4	+13 51	E 45	-2.1
	20	13 48	74	19 15	45	00 44	286	2 34.4	+14 11	E 41	-2.1
	25	13 34	73	18 59	45	00 28	287	2 38.6	+14 31	E 37	-2.1
Abr	00	13 16	73	18 41	44	00 08	287	2 43.7	+14 56	E 32	-2.1
	5	13 02	72	18 25	44	23 49	288	2 48.0	+15 16	E 29	-2.0
	10	12 48	72	18 10	44	23 33	288	2 52.5	+15 37	E 25	-2.0
	15	12 33	72	17 55	43	23 17	289	2 57.0	+15 57	E 21	-2.0
	20	12 19	71	17 40	43	23 01	289	3 01.6	+16 17	E 17	-2.0
	25	12 05	71	17 25	43	22 45	289	3 06.3	+16 37	E 14	-2.0
May	00	11 51	70	17 10	42	22 29	290	3 11.0	+16 57	E 10	-2.0
	5	11 37	70	16 55	42	22 13	290	3 15.8	+17 16	E 6	-2.0
	10	11 23	70	16 40	42	21 57	290	3 20.6	+17 35	E 3	-2.0
	15	11 09	69	16 25	41	21 42	291	3 25.4	+17 53	S 1	-2.0
	20	10 55	69	16 10	41	21 26	291	3 30.2	+18 10	W 5	-2.0
	25	10 41	69	15 56	41	21 10	291	3 35.0	+18 28	W 8	-2.0
Jun	00	10 24	68	15 38	40	20 52	292	3 40.8	+18 47	W 13	-2.0
	5	10 10	68	15 23	40	20 36	292	3 45.6	+19 03	W 16	-2.0
	10	09 55	68	15 08	40	20 20	292	3 50.3	+19 18	W 20	-2.0
	15	09 41	67	14 53	40	20 05	293	3 55.1	+19 33	W 24	-2.0
	20	09 27	67	14 38	39	19 49	293	3 59.7	+19 47	W 27	-2.0
	25	09 12	67	14 23	39	19 33	293	4 04.3	+20 00	W 31	-2.0
Jul	00	08 58	66	14 08	39	19 18	294	4 08.8	+20 12	W 35	-2.0
	5	08 43	66	13 52	39	19 02	294	4 13.3	+20 24	W 38	-2.1
	10	08 28	66	13 37	39	18 46	294	4 17.6	+20 34	W 42	-2.1
	15	08 13	66	13 22	38	18 30	294	4 21.8	+20 44	W 46	-2.1
	20	07 58	66	13 06	38	18 14	294	4 25.9	+20 54	W 50	-2.1
	25	07 43	65	12 50	38	17 58	295	4 29.8	+21 02	W 53	-2.1
Ago	00	07 24	65	12 31	38	17 38	295	4 34.4	+21 12	W 58	-2.2
	5	07 08	65	12 15	38	17 22	295	4 37.9	+21 19	W 62	-2.2
	10	06 52	65	11 59	38	17 05	295	4 41.3	+21 25	W 66	-2.2
	15	06 36	65	11 42	38	16 48	295	4 44.5	+21 31	W 70	-2.2
	20	06 19	65	11 25	38	16 31	295	4 47.4	+21 36	W 74	-2.3
	25	06 03	65	11 08	38	16 14	295	4 50.1	+21 40	W 78	-2.3
Sep	00	05 42	65	10 48	37	15 53	295	4 53.0	+21 45	W 84	-2.3
	5	05 25	65	10 30	37	15 36	295	4 55.2	+21 48	W 88	-2.4
	10	05 07	65	10 12	37	15 18	295	4 57.0	+21 50	W 92	-2.4
	15	04 49	64	09 54	37	14 59	296	4 58.5	+21 52	W 97	-2.4
	20	04 30	64	09 36	37	14 41	296	4 59.7	+21 54	W101	-2.5
	25	04 12	64	09 17	37	14 22	296	5 00.5	+21 55	W106	-2.5
Oct	00	03 52	64	08 58	37	14 03	296	5 01.0	+21 55	W111	-2.5
	5	03 33	64	08 38	37	13 43	296	5 01.2	+21 55	W116	-2.6
	10	03 13	64	08 18	37	13 23	296	5 01.0	+21 55	W121	-2.6
	15	02 53	64	07 58	37	13 03	296	5 00.4	+21 54	W126	-2.6
	20	02 32	64	07 37	37	12 42	296	4 59.5	+21 52	W131	-2.7
	25	02 11	65	07 16	37	12 21	295	4 58.2	+21 50	W136	-2.7
Nov	00	01 45	65	06 51	37	11 56	295	4 56.2	+21 47	W143	-2.7
	5	01 24	65	06 29	37	11 35	295	4 54.3	+21 45	W148	-2.8
	10	01 02	65	06 07	38	11 13	295	4 52.0	+21 41	W154	-2.8
	15	00 39	65	05 45	38	10 51	295	4 49.6	+21 37	W159	-2.8
	20	00 17	65	05 23	38	10 29	295	4 46.9	+21 33	W165	-2.8
	25	23 50	65	05 00	38	10 06	295	4 44.1	+21 29	W171	-2.8
Dic	00	23 27	65	04 38	38	09 44	295	4 41.2	+21 24	W176	-2.8
	5	23 04	65	04 15	38	09 22	295	4 38.3	+21 19	E178	-2.8
	10	22 41	65	03 53	38	09 00	295	4 35.5	+21 14	E172	-2.8
	15	22 19	65	03 30	38	08 37	295	4 32.7	+21 09	E166	-2.8
	20	21 56	65	03 08	38	08 15	295	4 30.0	+21 04	E161	-2.8
	25	21 34	66	02 46	38	07 53	294	4 27.5	+21 00	E155	-2.8



Saturno											
(Todas las horas son en Tiempo Universal)											
Fecha	Salida		Paso Merid.		Puesta		A.R.	Decl.	Elong.	Mag.	
	Hora h m	Az. °	Hora h m	h °	Hora h m	Az. °					
Ene	00	05 22	100	11 45	68	18 08	260	13 48.4	- 8 35	W 71	0.7
	5	05 03	101	11 26	68	17 49	259	13 49.5	- 8 40	W 76	0.7
	10	04 44	101	11 08	68	17 31	259	13 50.6	- 8 45	W 80	0.7
	15	04 25	101	10 49	68	17 12	259	13 51.5	- 8 48	W 85	0.7
	20	04 06	101	10 30	68	16 53	259	13 52.2	- 8 51	W 90	0.6
	25	03 47	101	10 11	68	16 34	259	13 52.8	- 8 53	W 95	0.6
Feb	00	03 24	101	09 48	68	16 11	259	13 53.2	- 8 54	W101	0.6
	5	03 04	101	09 28	68	15 52	259	13 53.4	- 8 53	W106	0.6
	10	02 45	101	09 08	68	15 32	259	13 53.5	- 8 52	W111	0.5
	15	02 25	101	08 49	68	15 12	259	13 53.3	- 8 50	W116	0.5
	20	02 05	101	08 29	68	14 52	259	13 53.0	- 8 47	W121	0.5
	25	01 45	101	08 09	68	14 32	259	13 52.6	- 8 43	W126	0.5
Mar	00	01 29	101	07 52	68	14 15	259	13 52.1	- 8 39	W131	0.4
	5	01 09	100	07 32	68	13 55	260	13 51.4	- 8 34	W136	0.4
	10	00 49	100	07 11	68	13 34	260	13 50.5	- 8 28	W141	0.4
	15	00 28	100	06 51	68	13 13	260	13 49.5	- 8 22	W146	0.4
	20	00 08	100	06 30	67	12 52	260	13 48.4	- 8 15	W152	0.3
	25	23 43	100	06 09	67	12 31	260	13 47.2	- 8 07	W157	0.3
Abr	00	23 19	100	05 44	67	12 05	260	13 45.6	- 7 58	W163	0.3
	5	22 58	100	05 23	67	11 44	260	13 44.2	- 7 49	W168	0.3
	10	22 37	99	05 02	67	11 22	261	13 42.8	- 7 41	W173	0.2
	15	22 16	99	04 41	67	11 01	261	13 41.4	- 7 33	W177	0.2
	20	21 56	99	04 20	67	10 40	261	13 39.9	- 7 24	E175	0.2
	25	21 35	99	03 59	66	10 18	261	13 38.5	- 7 16	E170	0.3
May	00	21 14	99	03 38	66	09 57	261	13 37.1	- 7 09	E165	0.3
	5	20 54	99	03 17	66	09 35	261	13 35.8	- 7 01	E160	0.3
	10	20 33	98	02 56	66	09 14	262	13 34.5	- 6 54	E155	0.4
	15	20 12	98	02 35	66	08 53	262	13 33.3	- 6 48	E149	0.4
	20	19 52	98	02 14	66	08 32	262	13 32.2	- 6 43	E144	0.4
	25	19 31	98	01 53	66	08 11	262	13 31.2	- 6 38	E139	0.5
Jun	00	19 07	98	01 29	66	07 47	262	13 30.2	- 6 33	E133	0.5
	5	18 47	98	01 08	66	07 26	262	13 29.5	- 6 30	E128	0.5
	10	18 27	98	00 48	66	07 06	262	13 28.9	- 6 28	E123	0.6
	15	18 07	98	00 28	66	06 46	262	13 28.5	- 6 27	E119	0.6
	20	17 47	98	00 08	66	06 26	262	13 28.2	- 6 27	E114	0.6
	25	17 27	98	23 45	66	06 06	262	13 28.1	- 6 27	E109	0.7
Jul	00	17 07	98	23 25	66	05 46	262	13 28.1	- 6 29	E104	0.7
	5	16 48	98	23 05	66	05 27	262	13 28.3	- 6 32	E 99	0.7
	10	16 28	98	22 46	66	05 08	262	13 28.6	- 6 35	E 95	0.7
	15	16 09	98	22 27	66	04 49	262	13 29.1	- 6 39	E 90	0.7
	20	15 50	98	22 08	66	04 30	262	13 29.8	- 6 45	E 86	0.7
	25	15 31	98	21 49	66	04 12	262	13 30.6	- 6 51	E 81	0.8
Ago	00	15 08	99	21 27	66	03 49	261	13 31.7	- 6 59	E 76	0.8
	5	14 49	99	21 08	66	03 31	261	13 32.8	- 7 06	E 71	0.8
	10	14 30	99	20 50	66	03 13	261	13 34.0	- 7 15	E 67	0.8
	15	14 11	99	20 31	67	02 55	261	13 35.3	- 7 24	E 62	0.8
	20	13 53	99	20 13	67	02 37	261	13 36.8	- 7 33	E 58	0.8
	25	13 34	99	19 55	67	02 20	261	13 38.4	- 7 43	E 53	0.8
Sep	00	13 12	100	19 34	67	01 59	260	13 40.4	- 7 56	E 48	0.8
	5	12 54	100	19 16	67	01 41	260	13 42.2	- 8 07	E 44	0.8
	10	12 36	100	18 58	68	01 24	260	13 44.1	- 8 19	E 39	0.8
	15	12 17	100	18 40	68	01 07	260	13 46.0	- 8 31	E 35	0.7
	20	11 59	101	18 23	68	00 50	259	13 48.0	- 8 43	E 31	0.7
	25	11 41	101	18 05	68	00 32	259	13 50.1	- 8 55	E 27	0.7
Oct	00	11 23	101	17 48	68	00 15	259	13 52.3	- 9 07	E 22	0.7
	5	11 05	101	17 30	69	23 55	259	13 54.5	- 9 20	E 18	0.7
	10	10 47	102	17 13	69	23 38	258	13 56.7	- 9 33	E 14	0.7
	15	10 29	102	16 55	69	23 21	258	13 59.0	- 9 45	E 9	0.6
	20	10 11	102	16 38	69	23 05	258	14 01.3	- 9 58	E 5	0.6
	25	09 53	102	16 21	69	22 48	258	14 03.6	-10 10	N 2	0.6
Nov	00	09 32	103	16 00	70	22 27	257	14 06.3	-10 25	W 5	0.6
	5	09 14	103	15 42	70	22 11	257	14 08.6	-10 37	W 10	0.6
	10	08 56	103	15 25	70	21 54	257	14 10.9	-10 49	W 14	0.6
	15	08 38	103	15 08	70	21 37	257	14 13.2	-11 01	W 18	0.6
	20	08 20	104	14 50	70	21 20	256	14 15.4	-11 12	W 23	0.6
	25	08 02	104	14 33	71	21 03	256	14 17.6	-11 23	W 27	0.7
Dic	00	07 44	104	14 15	71	20 46	256	14 19.8	-11 33	W 32	0.7
	5	07 26	104	13 57	71	20 29	256	14 21.8	-11 43	W 36	0.7
	10	07 08	104	13 40	71	20 11	256	14 23.9	-11 52	W 41	0.7
	15	06 50	105	13 22	71	19 54	255	14 25.8	-12 01	W 45	0.7
	20	06 32	105	13 04	71	19 36	255	14 27.6	-12 10	W 50	0.7
	25	06 14	105	12 46	72	19 19	255	14 29.4	-12 17	W 55	0.6

Urano (Todas las horas son en Tiempo Universal)											
Fecha	Salida		Paso Merid.		Puesta		A.R. h m	Decl. ° '	Elong. °	Mag.	
	Hora h m	Az. °	Hora h m	h °	Hora h m	Az. °					
Ene	00	15 56	91	21 59	60	04 05	269	0 04.2	- 0 20	E 82	5.9
	5	15 37	91	21 40	59	03 46	269	0 04.5	- 0 18	E 77	5.9
	10	15 18	91	21 20	59	03 26	269	0 05.0	- 0 15	E 72	5.9
	15	14 59	91	21 01	59	03 07	269	0 05.5	- 0 11	E 67	5.9
	20	14 40	90	20 42	59	02 48	270	0 06.0	- 0 07	E 62	5.9
	25	14 21	90	20 23	59	02 29	270	0 06.7	- 0 03	E 57	5.9
Feb	00	13 59	90	20 00	59	02 06	270	0 07.5	+ 0 03	E 51	5.9
	5	13 40	90	19 41	59	01 47	270	0 08.3	+ 0 08	E 46	5.9
	10	13 21	90	19 23	59	01 28	270	0 09.1	+ 0 13	E 42	5.9
	15	13 03	90	19 04	59	01 08	270	0 10.0	+ 0 19	E 37	5.9
	20	12 44	90	18 45	59	00 49	270	0 10.9	+ 0 25	E 32	5.9
	25	12 26	90	18 26	59	00 30	270	0 11.8	+ 0 31	E 27	5.9
Mar	00	12 11	90	18 11	59	00 15	270	0 12.6	+ 0 36	E 23	5.9
	5	11 53	89	17 53	58	23 53	271	0 13.6	+ 0 43	E 19	5.9
	10	11 34	89	17 34	58	23 34	271	0 14.6	+ 0 50	E 14	5.9
	15	11 16	89	17 15	58	23 15	271	0 15.6	+ 0 56	E 9	5.9
	20	10 58	89	16 57	58	22 56	271	0 16.7	+ 1 03	E 5	5.9
	25	10 39	89	16 38	58	22 37	271	0 17.7	+ 1 10	S 1	5.9
Abr	00	10 17	89	16 16	58	22 14	271	0 19.0	+ 1 18	W 6	5.9
	5	09 59	89	15 57	58	21 55	271	0 20.0	+ 1 25	W 10	5.9
	10	09 41	89	15 39	58	21 37	271	0 21.0	+ 1 31	W 15	5.9
	15	09 22	88	15 20	58	21 18	272	0 22.1	+ 1 38	W 20	5.9
	20	09 04	88	15 01	57	20 59	272	0 23.0	+ 1 44	W 24	5.9
	25	08 45	88	14 43	57	20 40	272	0 24.0	+ 1 51	W 29	5.9
May	00	08 27	88	14 24	57	20 21	272	0 24.9	+ 1 56	W 34	5.9
	5	08 08	88	14 05	57	20 02	272	0 25.8	+ 2 02	W 38	5.9
	10	07 50	88	13 46	57	19 43	272	0 26.7	+ 2 08	W 43	5.9
	15	07 31	88	13 27	57	19 24	272	0 27.5	+ 2 13	W 47	5.9
	20	07 12	88	13 08	57	19 05	272	0 28.3	+ 2 18	W 52	5.9
	25	06 54	88	12 50	57	18 45	272	0 29.0	+ 2 22	W 57	5.9
Jun	00	06 31	87	12 27	57	18 22	273	0 29.8	+ 2 27	W 62	5.9
	5	06 12	87	12 08	57	18 03	273	0 30.3	+ 2 30	W 67	5.9
	10	05 53	87	11 48	57	17 44	273	0 30.9	+ 2 34	W 71	5.9
	15	05 34	87	11 29	57	17 25	273	0 31.3	+ 2 36	W 76	5.9
	20	05 15	87	11 10	57	17 05	273	0 31.7	+ 2 39	W 81	5.9
	25	04 55	87	10 51	57	16 46	273	0 32.0	+ 2 40	W 85	5.8
Jul	00	04 36	87	10 31	57	16 26	273	0 32.3	+ 2 42	W 90	5.8
	5	04 17	87	10 12	56	16 07	273	0 32.4	+ 2 43	W 95	5.8
	10	03 57	87	09 52	56	15 47	273	0 32.5	+ 2 43	W100	5.8
	15	03 37	87	09 32	56	15 27	273	0 32.5	+ 2 43	W104	5.8
	20	03 18	87	09 13	56	15 08	273	0 32.5	+ 2 42	W109	5.8
	25	02 58	87	08 53	57	14 48	273	0 32.3	+ 2 41	W114	5.8
Ago	00	02 34	87	08 29	57	14 24	273	0 32.1	+ 2 40	W120	5.8
	5	02 14	87	08 09	57	14 04	273	0 31.8	+ 2 38	W125	5.8
	10	01 54	87	07 49	57	13 44	273	0 31.5	+ 2 35	W130	5.8
	15	01 34	87	07 29	57	13 24	273	0 31.0	+ 2 32	W134	5.8
	20	01 13	87	07 09	57	13 04	273	0 30.6	+ 2 29	W139	5.8
	25	00 53	87	06 49	57	12 44	272	0 30.0	+ 2 26	W144	5.7
Sep	00	00 29	88	06 24	57	12 20	272	0 29.3	+ 2 21	W150	5.7
	5	00 08	88	06 04	57	12 00	272	0 28.7	+ 2 17	W155	5.7
	10	23 43	88	05 44	57	11 40	272	0 28.0	+ 2 13	W160	5.7
	15	23 23	88	05 23	57	11 20	272	0 27.3	+ 2 08	W165	5.7
	20	23 02	88	05 03	57	11 00	272	0 26.6	+ 2 04	W170	5.7
	25	22 42	88	04 43	57	10 40	272	0 25.9	+ 1 59	W176	5.7
Oct	00	22 21	88	04 22	57	10 19	272	0 25.1	+ 1 54	E179	5.7
	5	22 01	88	04 02	57	09 59	272	0 24.4	+ 1 49	E174	5.7
	10	21 40	88	03 42	57	09 39	272	0 23.7	+ 1 45	E169	5.7
	15	21 19	88	03 21	58	09 19	272	0 23.0	+ 1 40	E164	5.7
	20	20 59	88	03 01	58	08 59	272	0 22.3	+ 1 36	E159	5.7
	25	20 39	89	02 41	58	08 38	271	0 21.6	+ 1 32	E154	5.7
Nov	00	20 14	89	02 16	58	08 14	271	0 20.9	+ 1 27	E147	5.7
	5	19 54	89	01 56	58	07 54	271	0 20.3	+ 1 23	E142	5.7
	10	19 33	89	01 36	58	07 34	271	0 19.8	+ 1 20	E137	5.8
	15	19 13	89	01 16	58	07 14	271	0 19.3	+ 1 17	E132	5.8
	20	18 53	89	00 56	58	06 54	271	0 19.0	+ 1 15	E127	5.8
	25	18 33	89	00 36	58	06 34	271	0 18.6	+ 1 13	E122	5.8
Dic	00	18 13	89	00 16	58	06 14	271	0 18.4	+ 1 12	E117	5.8
	5	17 53	89	23 52	58	05 55	271	0 18.2	+ 1 11	E111	5.8
	10	17 33	89	23 32	58	05 35	271	0 18.1	+ 1 10	E106	5.8
	15	17 14	89	23 13	58	05 15	271	0 18.1	+ 1 11	E101	5.8
	20	16 54	89	22 53	58	04 56	271	0 18.1	+ 1 11	E 96	5.8
	25	16 35	89	22 33	58	04 36	271	0 18.3	+ 1 12	E 91	5.8

Neptuno (Todas las horas son en Tiempo Universal)											
Fecha	Salida		Paso Merid.		Puesta		A.R. h m	Decl. ° '	Elong. °	Mag.	
	Hora h m	Az. °	Hora h m	h °	Hora h m	Az. °					
Ene	00	13 27	105	20 00	72	02 36	255	22 04.8	-12 23	E 50	7.9
	5	13 08	105	19 41	72	02 17	255	22 05.3	-12 20	E 45	8.0
	10	12 49	105	19 22	71	01 58	255	22 05.9	-12 17	E 40	8.0
	15	12 30	105	19 02	71	01 39	255	22 06.5	-12 13	E 35	8.0
	20	12 11	105	18 43	71	01 19	255	22 07.1	-12 10	E 30	8.0
	25	11 53	105	18 24	71	01 00	255	22 07.8	-12 06	E 25	8.0
Feb	00	11 30	105	18 02	71	00 37	255	22 08.6	-12 02	E 19	8.0
	5	11 11	104	17 43	71	00 18	256	22 09.3	-11 58	E 14	8.0
	10	10 52	104	17 24	71	23 55	256	22 10.0	-11 54	E 10	8.0
	15	10 34	104	17 05	71	23 36	256	22 10.7	-11 50	E 5	8.0
	20	10 15	104	16 46	71	23 17	256	22 11.5	-11 46	S 1	8.0
	25	09 56	104	16 27	71	22 58	256	22 12.2	-11 42	W 5	8.0
Mar	00	09 41	104	16 12	71	22 43	256	22 12.8	-11 39	W 9	8.0
	5	09 22	104	15 53	71	22 23	256	22 13.5	-11 35	W 14	8.0
	10	09 04	104	15 34	71	22 04	256	22 14.2	-11 31	W 19	8.0
	15	08 45	104	15 15	71	21 45	256	22 14.9	-11 27	W 23	8.0
	20	08 26	104	14 56	71	21 26	256	22 15.6	-11 24	W 28	8.0
	25	08 07	104	14 37	71	21 07	256	22 16.2	-11 20	W 33	8.0
Abr	00	07 44	104	14 14	70	20 44	256	22 16.9	-11 16	W 39	8.0
	5	07 25	104	13 55	70	20 25	256	22 17.5	-11 13	W 43	8.0
	10	07 06	103	13 36	70	20 05	257	22 18.1	-11 10	W 48	7.9
	15	06 47	103	13 17	70	19 46	257	22 18.6	-11 07	W 53	7.9
	20	06 28	103	12 58	70	19 27	257	22 19.1	-11 05	W 58	7.9
	25	06 09	103	12 38	70	19 07	257	22 19.5	-11 02	W 62	7.9
May	00	05 50	103	12 19	70	18 48	257	22 19.9	-11 00	W 67	7.9
	5	05 31	103	12 00	70	18 29	257	22 20.2	-10 59	W 72	7.9
	10	05 11	103	11 40	70	18 09	257	22 20.5	-10 57	W 77	7.9
	15	04 52	103	11 21	70	17 50	257	22 20.8	-10 56	W 82	7.9
	20	04 33	103	11 01	70	17 30	257	22 20.9	-10 55	W 86	7.9
	25	04 13	103	10 42	70	17 11	257	22 21.1	-10 54	W 91	7.9
Jun	00	03 50	103	10 18	70	16 47	257	22 21.2	-10 54	W 97	7.9
	5	03 30	103	09 59	70	16 28	257	22 21.2	-10 54	W102	7.9
	10	03 10	103	09 39	70	16 08	257	22 21.2	-10 54	W106	7.9
	15	02 51	103	09 19	70	15 48	257	22 21.1	-10 55	W111	7.9
	20	02 31	103	09 00	70	15 28	257	22 21.0	-10 56	W116	7.9
	25	02 11	103	08 40	70	15 09	257	22 20.8	-10 57	W121	7.9
Jul	00	01 51	103	08 20	70	14 49	257	22 20.6	-10 58	W126	7.9
	5	01 31	103	08 00	70	14 29	257	22 20.3	-11 00	W130	7.9
	10	01 11	103	07 40	70	14 09	257	22 20.0	-11 02	W135	7.8
	15	00 51	103	07 20	70	13 49	257	22 19.7	-11 04	W140	7.8
	20	00 31	103	07 00	70	13 29	257	22 19.3	-11 06	W145	7.8
	25	00 10	103	06 40	70	13 09	257	22 18.9	-11 09	W150	7.8
Ago	00	23 42	104	06 16	70	12 45	256	22 18.4	-11 12	W156	7.8
	5	23 22	104	05 56	70	12 25	256	22 17.9	-11 14	W161	7.8
	10	23 02	104	05 35	70	12 05	256	22 17.4	-11 17	W166	7.8
	15	22 41	104	05 15	71	11 45	256	22 16.9	-11 20	W171	7.8
	20	22 21	104	04 55	71	11 25	256	22 16.4	-11 23	W175	7.8
	25	22 01	104	04 35	71	11 05	256	22 15.9	-11 26	E179	7.8
Sep	00	21 36	104	04 11	71	10 41	256	22 15.2	-11 30	E174	7.8
	5	21 16	104	03 51	71	10 21	256	22 14.7	-11 33	E169	7.8
	10	20 56	104	03 30	71	10 01	256	22 14.2	-11 36	E164	7.8
	15	20 36	104	03 10	71	09 41	256	22 13.7	-11 38	E159	7.8
	20	20 15	104	02 50	71	09 21	256	22 13.3	-11 41	E154	7.8
	25	19 55	104	02 30	71	09 01	256	22 12.8	-11 43	E149	7.8
Oct	00	19 35	104	02 10	71	08 41	256	22 12.4	-11 46	E144	7.8
	5	19 15	104	01 50	71	08 21	256	22 12.0	-11 48	E139	7.8
	10	18 55	104	01 30	71	08 01	256	22 11.7	-11 50	E134	7.8
	15	18 35	104	01 10	71	07 41	256	22 11.4	-11 51	E129	7.9
	20	18 15	104	00 50	71	07 21	256	22 11.1	-11 53	E123	7.9
	25	17 55	104	00 30	71	07 02	256	22 10.9	-11 54	E118	7.9
Nov	00	17 31	104	00 06	71	06 38	256	22 10.8	-11 55	E112	7.9
	5	17 11	104	23 43	71	06 18	256	22 10.7	-11 55	E107	7.9
	10	16 52	104	23 23	71	05 58	256	22 10.6	-11 55	E102	7.9
	15	16 32	104	23 03	71	05 39	256	22 10.6	-11 55	E 97	7.9
	20	16 12	104	22 44	71	05 19	256	22 10.7	-11 55	E 92	7.9
	25	15 53	104	22 24	71	05 00	256	22 10.8	-11 54	E 87	7.9
Dic	00	15 33	104	22 05	71	04 40	256	22 11.0	-11 53	E 82	7.9
	5	15 14	104	21 45	71	04 21	256	22 11.2	-11 52	E 77	7.9
	10	14 55	104	21 26	71	04 01	256	22 11.5	-11 50	E 72	7.9
	15	14 36	104	21 07	71	03 42	256	22 11.8	-11 48	E 67	7.9
	20	14 16	104	20 47	71	03 22	256	22 12.2	-11 46	E 62	7.9
	25	13 57	104	20 28	71	03 03	256	22 12.7	-11 44	E 57	7.9

Plutón											
(Todas las horas son en Tiempo Universal)											
Fecha	Salida		Paso Merid.		Puesta		A.R.	Decl.	Elong.	Mag.	
	Hora	Az.	Hora	h	Hora	Az.					
	h m	°	h m	°	h m	°	h m	°	°		
Ene	00	09 35	113	16 26	79	23 18	247	18 30.8	-19 19	N 4	14.1
	5	09 16	113	16 07	79	22 59	247	18 31.6	-19 19	W 8	14.1
	10	08 57	113	15 49	79	22 40	247	18 32.3	-19 19	W 12	14.1
	15	08 38	113	15 30	79	22 21	247	18 33.1	-19 19	W 17	14.1
	20	08 19	113	15 11	79	22 02	247	18 33.8	-19 19	W 22	14.1
	25	08 00	113	14 52	79	21 43	247	18 34.5	-19 18	W 27	14.1
Feb	00	07 38	113	14 29	78	21 20	247	18 35.3	-19 18	W 32	14.1
	5	07 19	113	14 10	78	21 01	247	18 36.0	-19 17	W 37	14.1
	10	07 00	113	13 51	78	20 42	247	18 36.6	-19 17	W 42	14.1
	15	06 41	113	13 32	78	20 23	247	18 37.2	-19 16	W 47	14.1
	20	06 21	113	13 13	78	20 04	247	18 37.7	-19 16	W 52	14.1
	25	06 02	113	12 54	78	19 45	247	18 38.2	-19 15	W 57	14.1
Mar	00	05 47	113	12 38	78	19 29	247	18 38.6	-19 15	W 61	14.1
	5	05 28	113	12 19	78	19 10	247	18 39.0	-19 15	W 66	14.1
	10	05 08	113	12 00	78	18 51	247	18 39.3	-19 14	W 71	14.1
	15	04 49	113	11 40	78	18 31	247	18 39.7	-19 14	W 75	14.1
	20	04 30	113	11 21	78	18 12	247	18 39.9	-19 13	W 80	14.1
	25	04 10	113	11 01	78	17 53	247	18 40.1	-19 13	W 85	14.1
Abr	00	03 47	113	10 38	78	17 29	247	18 40.3	-19 13	W 91	14.1
	5	03 27	113	10 18	78	17 09	247	18 40.4	-19 13	W 96	14.1
	10	03 08	113	09 59	78	16 50	247	18 40.4	-19 12	W101	14.1
	15	02 48	113	09 39	78	16 30	247	18 40.4	-19 12	W106	14.1
	20	02 28	113	09 19	78	16 10	247	18 40.3	-19 12	W111	14.1
	25	02 08	113	09 00	78	15 51	247	18 40.2	-19 12	W116	14.1
May	00	01 49	113	08 40	78	15 31	247	18 40.0	-19 13	W121	14.0
	5	01 29	113	08 20	78	15 11	247	18 39.8	-19 13	W125	14.0
	10	01 09	113	08 00	78	14 51	247	18 39.5	-19 13	W130	14.0
	15	00 49	113	07 40	78	14 31	247	18 39.2	-19 13	W135	14.0
	20	00 29	113	07 20	78	14 11	247	18 38.9	-19 14	W140	14.0
	25	00 09	113	07 00	78	13 51	247	18 38.5	-19 14	W145	14.0
Jun	00	23 41	113	06 36	78	13 27	247	18 37.9	-19 15	W151	14.0
	5	23 20	113	06 16	78	13 07	247	18 37.5	-19 16	W156	14.0
	10	23 00	113	05 55	78	12 47	247	18 37.0	-19 16	W160	14.0
	15	22 40	113	05 35	78	12 27	247	18 36.5	-19 17	W165	14.0
	20	22 20	113	05 15	78	12 06	247	18 36.0	-19 18	W170	14.0
	25	22 00	113	04 55	79	11 46	247	18 35.5	-19 19	W174	14.0
Jul	00	21 39	113	04 35	79	11 26	247	18 34.9	-19 20	E176	14.0
	5	21 19	113	04 15	79	11 06	247	18 34.4	-19 21	E173	14.0
	10	20 59	113	03 54	79	10 46	247	18 33.9	-19 22	E169	14.0
	15	20 39	113	03 34	79	10 26	247	18 33.3	-19 23	E164	14.0
	20	20 18	113	03 14	79	10 06	247	18 32.8	-19 24	E160	14.0
	25	19 58	113	02 54	79	09 46	247	18 32.4	-19 25	E155	14.0
Ago	00	19 34	113	02 30	79	09 22	247	18 31.8	-19 27	E149	14.0
	5	19 14	113	02 10	79	09 02	247	18 31.4	-19 28	E144	14.0
	10	18 54	113	01 50	79	08 42	247	18 31.0	-19 29	E139	14.0
	15	18 34	113	01 30	79	08 22	247	18 30.7	-19 30	E135	14.0
	20	18 14	113	01 10	79	08 02	247	18 30.3	-19 31	E130	14.0
	25	17 54	113	00 50	79	07 42	247	18 30.1	-19 32	E125	14.1
Sep	00	17 30	114	00 26	79	07 18	246	18 29.8	-19 34	E119	14.1
	5	17 10	114	00 06	79	06 58	246	18 29.7	-19 35	E114	14.1
	10	16 50	114	23 42	79	06 39	246	18 29.6	-19 36	E109	14.1
	15	16 30	114	23 23	79	06 19	246	18 29.5	-19 37	E104	14.1
	20	16 11	114	23 03	79	05 59	246	18 29.5	-19 38	E 99	14.1
	25	15 51	114	22 43	79	05 40	246	18 29.5	-19 39	E 95	14.1
Oct	00	15 31	114	22 24	79	05 20	246	18 29.6	-19 40	E 90	14.1
	5	15 12	114	22 04	79	05 01	246	18 29.8	-19 41	E 85	14.1
	10	14 52	114	21 45	79	04 41	246	18 30.0	-19 42	E 80	14.1
	15	14 33	114	21 26	79	04 22	246	18 30.3	-19 43	E 75	14.1
	20	14 14	114	21 06	79	04 03	246	18 30.6	-19 44	E 70	14.1
	25	13 54	114	20 47	79	03 43	246	18 31.0	-19 45	E 65	14.1
Nov	00	13 31	114	20 24	79	03 20	246	18 31.5	-19 45	E 60	14.1
	5	13 12	114	20 05	79	03 01	246	18 32.0	-19 46	E 55	14.1
	10	12 53	114	19 46	79	02 42	246	18 32.5	-19 46	E 50	14.1
	15	12 34	114	19 26	79	02 23	246	18 33.0	-19 47	E 45	14.1
	20	12 15	114	19 07	79	02 04	246	18 33.6	-19 47	E 40	14.1
	25	11 56	114	18 48	79	01 45	246	18 34.3	-19 47	E 35	14.2
Dic	00	11 37	114	18 29	79	01 26	246	18 34.9	-19 48	E 30	14.2
	5	11 18	114	18 10	79	01 07	246	18 35.6	-19 48	E 25	14.2
	10	10 59	114	17 51	79	00 48	246	18 36.3	-19 48	E 20	14.2
	15	10 40	114	17 33	79	00 29	246	18 37.0	-19 48	E 16	14.2
	20	10 21	114	17 14	79	00 10	246	18 37.8	-19 48	E 11	14.2
	25	10 02	114	16 55	79	23 48	246	18 38.5	-19 48	E 6	14.2

## Posiciones Aparentes de Estrellas

Esta sección contiene los lugares aparentes, para 2012 de 711 estrellas del Quinto Catálogo Fundamental (FK5) (\*), entre  $-90^\circ$  y  $+40^\circ$  de declinación y más brillantes que magnitud +5.00. Las posiciones están calculadas para las 0 hs. de U.T. y tabuladas cada 30 días con una precisión de  $0^s.01$  y  $0".1$  en ascensión recta y declinación respectivamente.

El momento de paso, por un meridiano cualquiera, puede estimarse aproximadamente por la fórmula

$$UT = \alpha - \lambda - \theta_0$$

donde

UT = tiempo universal

$\alpha$  = ascensión recta de la estrella

$\lambda$  = longitud geográfica (+ al este)

$\theta_0$  = tiempo sidéreo a 0h de UT (pág. 35 a 42)

(\*) Veröffentlichungen des Astronomischen Rechen - Institut,  
Heidelberg N° 32, 1988



**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	904		1630		905		1002		1		3	
Nombre	♁ Octantis		♃ Piscium		♃ Ceti		♃ Piscium		♓ Andromedae		♋ Phoenicis	
Mag. SP	4.78	K0	4.41	M3	4.55	A0	4.61	K0	2.06	A0p	3.88	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	0h02m	-76°59'	0h02m	-5°56'	0h04m	-17°15'	0h06m	-5°38'	0h09m	+29°09'	0h10m	-45°40'
Dic 31	13s00	52°9'	38s28	28°5'	24s86	51°0'	s74	3°6'	4s68	58°2'	4s27	43°1'
Ene 30	10.71	47.6	37.96	30.1	24.52	51.5	.42	5.2	4.26	54.6	3.70	40.9
Mar 01	9.31	38.3	37.78	30.3	24.32	50.0	.23	5.4	3.99	49.6	3.35	35.2
Mar 31	9.15	27.2	37.87	28.5	24.40	46.2	.31	3.7	4.07	45.2	3.37	26.9
Abr 30	10.32	16.3	38.33	24.5	24.86	40.4	.76	59.7*	4.57	43.3	3.87	17.6
May 30	12.64	8.0	39.10	18.9	25.63	33.7	1.52	54.1*	5.43	44.8	4.79	9.1
Jun 29	15.59	3.9	40.01	12.8	26.56	27.6	2.42	48.1*	6.44	49.4	5.94	3.3
Jul 29	18.46	4.9	40.86	7.7	27.44	23.3	3.28	42.9*	7.38	56.1	7.05	1.4
Ago 28	20.54	10.5	41.48	4.6	28.09	21.7	3.91	39.7*	8.06	63.5	7.88	3.6
Sep 27	21.24	19.2	41.77	3.8	28.39	22.9	4.21	38.9*	8.39	70.1	8.25	9.2
Oct 27	20.39	28.1	41.74	5.1	28.35	26.1	4.18	40.1*	8.37	74.9	8.13	16.3
Nov 26	18.27	34.2	41.48	7.5	28.06	29.7	3.94	42.5*	8.09	77.2	7.65	22.3
Dic 26	15.58	35.3	41.13	10.0	27.68	32.5	3.58	44.9*	7.67	76.6	7.00	25.1
Ene 25	13.14	30.9	40.79	11.7	27.32	33.4	3.24	46.7*	7.24	73.3	6.39	23.7

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N°	7		1004		1005		9		10		11	
Nombre	γ Pegasi		χ Pegasi		σ Andromedae		ι Ceti		ζ Tucanae		β Hydri	
Mag. SP	2.83	B2	4.80	M0	4.52	A2	3.56	K0	4.23	F8	2.80	G0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	0h13m	+15°15'	0h15m	+20°16'	0h19m	+36°51'	0h20m	-8°45'	0h20m	-64°48'	0h26m	-77°11'
Dic 31	55s28	30°2'	17s56	55°3'	1s71	42°6'	6s13	6°3'	44s15	8°8'	23s67	7°8'
Ene 30	54.92	27.3	17.18	52.1	1.22	39.1	5.79	7.7	43.02	5.0	21.21	3.3
Mar 01	54.69	24.0	16.94	48.3	.88	33.5	5.56	7.6	42.28	57.1*	19.55	54.5*
Mar 31	54.75	22.0	17.00	45.3	.91	28.0	5.60	5.3	42.16	46.7*	19.10	43.5*
Abr 30	55.21	22.4	17.46	44.9	1.42	24.8	6.01	.9	42.77	35.8*	20.02	32.3*
May 30	55.99	25.5	18.25	47.4	2.31	25.1	6.74	54.9*	44.06	26.7*	22.18	23.3*
Jun 29	56.92	30.8	19.20	52.4	3.38	29.0	7.64	48.8*	45.74	21.2*	25.11	18.4*
Jul 29	57.80	37.0	20.10	58.8	4.40	35.6	8.52	43.8*	47.43	20.5*	28.12	18.5*
Ago 28	58.45	42.9	20.77	65.2	5.15	43.5	9.18	40.9*	48.72	24.5*	30.46	23.5*
Sep 27	58.78	47.4	21.11	70.4	5.53	51.1	9.52	40.6*	49.30	32.1*	31.50	31.9*
Oct 27	58.79	49.8	21.12	73.8	5.54	57.2	9.53	42.5*	49.06	40.7*	30.95	41.0*
Nov 26	58.56	50.2	20.89	74.9	5.25	60.7	9.31	45.3*	48.15	47.4*	29.03	47.8*
Dic 26	58.21	48.7	20.52	73.8	4.78	60.9	8.96	48.0*	46.91	49.7*	26.37	49.9*
Ene 25	57.84	45.9	20.13	70.8	4.28	57.9	8.60	49.7*	45.71	46.9*	23.79	46.3*

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N°	12		15		18		19		20		1015	
Nombre	α Phoenicis		λ <sup>1</sup> Phoenicis		π Andromedae		ε Andromedae		δ Andromedae		μ Phoenicis	
Mag. SP	2.39	K0	4.77	A2	4.36	B3	4.37	G5	3.27	K2	4.59	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	0h26m	-42°14'	0h32m	-48°44'	0h37m	+33°47'	0h39m	+29°23'	0h40m	+30°56'	0h41m	-46°01'
Dic 31	55s83	18°1'	2s76	6°0'	35s93	41°8'	15s92	9°4'	2s79	9°0'	56s74	1°1'
Ene 30	55.27	16.8	2.09	4.3	35.45	38.8	15.47	6.5	2.33	6.1	56.10	59.9*
Mar 01	54.89	11.9	1.61	58.6*	35.08	33.8	15.12	1.9	1.98	1.3	55.62	54.7*
Mar 31	54.85	4.2	1.52	50.0*	35.06	28.8	15.10	57.5*	1.95	56.7*	55.49	46.6*
Abr 30	55.26	55.1*	1.93	40.3*	35.49	25.8	15.51	55.3*	2.37	54.3*	55.85	37.1*
May 30	56.10	46.5*	2.81	31.2*	36.32	26.2	16.30	56.2*	3.17	55.0*	56.66	28.0*
Jun 29	57.18	40.1*	3.97	24.9*	37.35	29.9	17.30	.1	4.18	58.8*	57.77	21.3*
Jul 29	58.26	37.5*	5.15	22.5*	38.36	36.0	18.27	6.2	5.17	4.9	58.91	18.5*
Ago 28	59.09	39.0*	6.08	24.6*	39.15	43.3	19.03	13.2	5.95	12.0	59.82	20.0*
Sep 27	59.51	44.0*	6.55	30.4*	39.59	50.4	19.47	19.7	6.39	18.7	60.31	25.4*
Oct 27	59.48	50.9*	6.51	38.0*	39.68	56.1	19.55	24.5	6.48	23.8	60.32	32.7*
Nov 26	59.08	57.1*	6.04	44.6*	39.46	59.4	19.36	27.2	6.29	26.7	59.92	39.5*
Dic 26	58.50	.5	5.35	48.1*	39.05	59.7	18.98	27.1	5.90	26.8	59.29	43.3*
Ene 25	57.91	59.9*	4.64	47.1*	38.56	57.1	18.52	24.5	5.43	24.2	58.62	42.9*

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	23		22		27		28		1022		33	
Nombre	η Phoenicis		β Ceti		ζ Andromedae		δ Piscium		20 Ceti		μ Andromedae	
Mag. SP	4.36	A0	2.04	K0	4.06	K0	4.43	K5	4.77	K0	3.87	A2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	0h43m	-57°23'	0h44m	-17°54'	0h48m	+24°20'	0h49m	+7°39'	0h53m	-1°04'	0h57m	+38°34'
Dic 31	56s29	44"8	15s28	58"8	3s01	27"3	22s53	25"8	41s39	23"7	30s21	26"4
Ene 30	55.38	42.6	14.89	59.8	2.59	24.6	22.16	23.5	41.03	25.7	29.67	23.9
Mar 01	54.70	36.2	14.58	58.4	2.25	20.6	21.86	21.4	40.72	26.7	29.22	18.9
Mar 31	54.47	26.9	14.54	54.7	2.20	17.1	21.83	20.8	40.67	25.9	29.11	13.3
Abr 30	54.85	16.3	14.87	48.7	2.57	15.6	22.16	22.2	40.98	22.8	29.50	9.5
May 30	55.80	6.8	15.56	41.8	3.32	17.1	22.85	26.0	41.64	17.8	30.32	8.8
Jun 29	57.12	.3	16.46	35.2	4.28	21.3	23.74	31.4	42.52	12.0	31.39	11.5
Jul 29	58.51	58.3*	17.38	30.5	5.23	27.2	24.63	37.1	43.40	6.5	32.47	17.2
Ago 28	59.63	1.1	18.10	28.7	5.99	33.7	25.35	41.9	44.12	2.6	33.35	24.4
Sep 27	60.22	7.7	18.52	29.9	6.44	39.3	25.77	45.0	44.56	1.0	33.89	31.9
Oct 27	60.18	16.1	18.60	33.3	6.56	43.4	25.89	46.0	44.68	1.6	34.05	38.3
Nov 26	59.59	23.5	18.40	37.5	6.40	45.3	25.76	45.3	44.55	3.6	33.88	42.5
Dic 26	58.68	27.1	18.04	40.9	6.05	44.9	25.45	43.5	44.25	6.1	33.46	43.7
Ene 25	57.73	25.9	17.64	42.3	5.63	42.4	25.08	41.2	43.88	8.2	32.93	41.7

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N°	35		36		40		42		1032		43	
Nombre	α Sculptoris		ε Piscium		η Ceti		β Andromedae		χ Piscium		τ Piscium	
Mag. SP	4.31	B5	4.28	K0	3.45	K0	2.06	M0	4.66	K0	4.51	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	0h59m	-29°17'	1h03m	+7°57'	1h09m	-10°06'	1h10m	+35°41'	1h12m	+21°06'	1h12m	+30°09'
Dic 31	14s66	22"1	38s30	40"7	15s65	50"4	29s35	35"5	10s60	22"2	24s22	42"8
Ene 30	14.19	22.6	37.93	38.4	15.26	52.0	28.83	33.2	10.18	19.9	23.75	40.5
Mar 01	13.80	19.9	37.60	36.4	14.92	51.9	28.38	28.6	9.81	16.5	23.33	36.4
Mar 31	13.67	14.4	37.52	35.6	14.81	49.6	28.24	23.6	9.69	13.6	23.20	32.1
Abr 30	13.95	6.8	37.81	37.0	15.07	45.1	28.57	20.1	9.98	12.6	23.51	29.5
May 30	14.62	58.7*	38.47	40.7	15.69	39.0	29.34	19.5	10.66	14.2	24.24	29.7
Jun 29	15.55	51.7*	39.35	45.9	16.55	32.6	30.37	22.2	11.58	18.2	25.21	32.9
Jul 29	16.52	47.4*	40.25	51.5	17.45	27.4	31.43	27.5	12.53	23.8	26.22	38.3
Ago 28	17.32	46.6*	40.99	56.3	18.21	24.5	32.31	34.3	13.33	29.6	27.07	44.8
Sep 27	17.80	49.5*	41.46	59.4	18.68	24.3	32.88	41.3	13.84	34.6	27.61	51.0
Oct 27	17.91	54.8*	41.62	60.4	18.85	26.6	33.09	47.2	14.04	38.0	27.82	56.0
Nov 26	17.70	.5	41.51	59.8	18.74	30.0	32.98	51.1	13.96	39.5	27.73	59.0
Dic 26	17.29	4.6	41.23	58.0	18.44	33.3	32.61	52.2	13.67	39.1	27.40	59.6
Ene 25	16.81	5.7	40.85	55.8	18.05	35.3	32.10	50.4	13.26	37.0	26.94	57.6

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N°	45		47		49		1044		50		54	
Nombre	υ Piscium		θ Ceti		γ Phoenicis		δ Phoenicis		η Piscium		α Eridani (Achernar)	
Mag. SP	4.76	A2	3.60	K0	3.41	K5	3.95	K0	3.62	G5	0.46	B5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	1h20m	+27°20'	1h24m	-8°07'	1h28m	-43°15'	1h31m	-49°00'	1h32m	+15°24'	1h38m	-57°10'
Dic 31	12s50	6"7	41s53	1"1	56s57	18"9	48s31	32"9	12s26	51"6	12s57	30"3
Ene 30	12.05	4.6	41.14	2.9	55.91	19.3	47.54	33.1	11.86	49.5	11.57	30.3
Mar 01	11.63	.8	40.77	3.2	55.32	15.6	46.85	28.9	11.46	46.9	10.67	25.5
Mar 31	11.48	57.0*	40.61	1.3	55.01	8.6	46.47	21.1	11.30	45.0	10.14	17.0
Abr 30	11.76	54.9*	40.83	57.2*	55.15	59.3*	46.59	11.3	11.52	44.9	10.19	6.6
May 30	12.45	55.4*	41.41	51.3*	55.78	49.8*	47.24	1.4	12.13	47.1	10.87	56.3*
Jun 29	13.39	58.7*	42.25	45.1*	56.75	42.1*	48.28	53.5*	13.00	51.4	12.03	48.3*
Jul 29	14.39	4.0	43.15	39.7*	57.85	37.8*	49.46	49.4*	13.93	56.7	13.40	44.5*
Ago 28	15.23	10.1	43.92	36.5*	58.83	38.0*	50.52	50.0*	14.74	61.9	14.65	45.6*
Sep 27	15.79	15.9	44.44	36.1*	59.46	42.4*	51.22	55.1*	15.30	65.9	15.48	51.4*
Oct 27	16.02	20.4	44.65	38.0*	59.66	49.7*	51.43	2.9	15.55	68.2	15.72	60.0*
Nov 26	15.96	23.0	44.58	41.3*	59.45	57.2*	51.17	10.9	15.53	68.8	15.37	8.5
Dic 26	15.66	23.3	44.30	44.6*	58.92	2.5	50.55	16.3	15.29	67.9	14.57	14.1
Ene 25	15.22	21.5	43.92	46.8*	58.26	3.7	49.78	17.3	14.90	65.8	13.56	15.0



**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	56		1049		59		60		1051		62	
Nombre	V Piscium		175 G. Ceti		τ Ceti		O Piscium		χ Ceti		ζ Ceti	
Mag. SP	4.44	K0	4.99	G5	3.50	K0	4.26	K0	4.67	F0	3.73	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	1h42m	+ 5°33'	1h43m	- 3°37'	1h44m	-15°52'	1h46m	+ 9°13'	1h50m	-10°37'	1h52m	-10°16'
Dic 31	7s91	13°8	24s26	30°5	41s49	14°1	6s32	26°0	14s68	23°8	7s42	19°1
Ene 30	7.53	11.7	23.88	32.6	41.06	15.9	5.93	24.0	14.28	25.8	7.02	21.2
Mar 01	7.13	10.0	23.48	33.4	40.63	15.3	5.53	22.0	13.86	26.0	6.60	21.4
Mar 31	6.94	9.6	23.28	32.3	40.40	12.1	5.33	21.1	13.63	23.9	6.37	19.3
Abr 30	7.12	11.3	23.44	29.1	40.54	6.7	5.50	22.0	13.76	19.4	6.49	15.0
May 30	7.68	15.0	23.98	23.9	41.07	59.7*	6.06	25.1	14.28	13.3	7.01	8.9
Jun 29	8.51	20.1	24.79	18.0	41.87	52.8*	6.88	29.9	15.07	6.8	7.80	2.4
Jul 29	9.41	25.5	25.69	12.6	42.77	47.4*	7.80	35.1	15.97	1.4	8.70	57.0*
Ago 28	10.21	29.9	26.49	8.9	43.58	44.8*	8.61	39.7	16.78	58.3*	9.51	53.8*
Sep 27	10.78	32.4	27.05	7.7	44.14	45.4*	9.19	42.8	17.36	58.1*	10.10	53.6*
Oct 27	11.05	32.9	27.32	8.9	44.38	48.7*	9.49	43.9	17.65	.5	10.39	56.0*
Nov 26	11.05	31.7	27.31	11.6	44.33	53.2*	9.50	43.4	17.64	4.4	10.39	59.8*
Dic 26	10.83	29.7	27.08	14.6	44.05	57.3*	9.29	41.8	17.40	8.2	10.16	3.5
Ene 25	10.46	27.5	26.70	16.9	43.63	59.5*	8.92	39.7	17.01	10.6	9.77	6.0

N°	64		65		67		66		69		68	
Nombre	α Trianguli		ξ Piscium		ψ Phoenicis		β Arietis		η <sup>2</sup> Hydri		χ Eridani	
Mag. SP	3.41	F5	4.62	K0	4.41	M3	2.64	A5	4.69	K0	3.70	G5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	1h53m	+29°38'	1h54m	+ 3°15'	1h54m	-46°14'	1h55m	+20°52'	1h55m	-67°35'	1h56m	-51°32'
Dic 31	51s30	40°7	15s19	6°2	10s97	34°4	23s24	23°6	16s79	17°2	28s76	54°15
Ene 30	50.84	39.3	14.81	4.2	10.24	35.5	22.82	21.9	15.21	17.2	27.92	55.3
Mar 01	50.35	35.9	14.40	2.7	9.54	32.3	22.38	19.1	13.76	12.2	27.11	51.6
Mar 31	50.10	32.0	14.18	2.7	9.09	25.3	22.14	16.4	12.80	3.4	26.60	44.1
Abr 30	50.27	29.3	14.31	4.7	9.12	15.9	22.30	15.3	12.63	52.5*	26.59	34.2
May 30	50.88	28.9	14.84	8.7	9.66	6.0	22.87	16.4	13.34	41.7*	27.15	23.9
Jun 29	51.80	31.3	15.64	13.9	10.60	57.7*	23.73	19.7	14.76	33.5*	28.15	15.5
Jul 29	52.82	35.7	16.54	19.3	11.72	52.9*	24.69	24.5	16.55	29.7*	29.37	10.9
Ago 28	53.73	41.3	17.35	23.4	12.77	52.7*	25.56	29.7	18.28	31.1*	30.52	11.0
Sep 27	54.41	46.9	17.95	25.6	13.51	57.1*	26.19	34.2	19.48	37.3*	31.34	15.9
Oct 27	54.76	51.5	18.26	25.6	13.81	4.6	26.54	37.3	19.86	46.4*	31.66	23.9
Nov 26	54.81	54.6	18.29	24.0	13.66	12.8	26.59	38.8	19.35	55.6*	31.47	32.4
Dic 26	54.57	55.6	18.09	21.7	13.14	18.8	26.38	38.6	18.14	1.7	30.86	38.6
Ene 25	54.13	54.4	17.72	19.5	12.42	20.8	25.98	37.0	16.57	2.7	30.03	40.4

N°	72		71		1055		74		75		1058	
Nombre	α Hydri		υ Ceti		ν Fornacis		α Arietis		β Trianguli		ξ <sup>1</sup> Ceti	
Mag. SP	2.86	F0	4.00	M0	4.69	A0p	2.00	K2	3.00	A5	4.37	G5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	1h59m	-61°30'	2h00m	-21°01'	2h05m	-29°14'	2h07m	+23°31'	2h10m	+35°03'	2h13m	+ 8°54'
Dic 31	11s69	40°6	38s28	1°3	5s57	14°4	56s26	32°0	21s24	4°9	43s00	28°8
Ene 30	10.49	41.1	37.83	3.4	5.07	16.4	55.84	30.6	20.75	4.1	42.62	26.9
Mar 01	9.36	36.6	37.36	2.6	4.54	15.0	55.36	27.8	20.20	.8	42.18	25.1
Mar 31	8.61	28.3	37.07	59.1*	4.20	10.3	55.09	24.8	19.87	56.4*	41.91	24.2
Abr 30	8.50	17.7	37.15	53.0*	4.24	3.1	55.21	23.2	20.00	52.8*	42.00	25.0
May 30	9.11	7.1	37.64	45.5*	4.71	54.6*	55.76	23.6	20.59	51.3*	42.49	28.0
Jun 29	10.30	58.7*	38.43	38.2*	5.51	46.7*	56.62	26.4	21.52	52.6*	43.27	32.5
Jul 29	11.79	54.4*	39.35	32.7*	6.47	41.3*	57.59	30.9	22.59	56.4*	44.17	37.5
Ago 28	13.22	55.2*	40.20	30.3*	7.36	39.4*	58.49	36.0	23.58	1.8	45.02	41.8
Sep 27	14.24	.9	40.82	31.5*	8.02	41.7*	59.17	40.6	24.34	7.7	45.66	44.6
Oct 27	14.60	9.8	41.13	35.7*	8.35	47.0*	59.56	44.1	24.78	13.1	46.04	45.5
Nov 26	14.27	18.9	41.13	41.2*	8.34	53.7*	59.65	46.0	24.88	17.1	46.14	44.9
Dic 26	13.38	25.1	40.87	46.0*	8.03	59.2*	59.46	46.4	24.67	19.0	45.98	43.2
Ene 25	12.19	26.6	40.44	48.6*	7.54	1.9	59.07	45.1	24.20	18.5	45.62	41.2

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	82		79		1065		1066		86		85	
Nombre	φ Eridani		γ Trianguli		δ Hydri		ρ Ceti		κ Eridani		ξ <sup>2</sup> Ceti	
Mag. SP	3.56	B8	4.01	A0	4.09	A2	4.89	A0	4.25	B5	4.28	A0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	2h16m	-51°27'	2h18m	+33°54'	2h22m	-68°36'	2h26m	-12°14'	2h27m	-47°38'	2h28m	+8°31'
Dic 31	59s60	23°0	7s46	34°9	ε23	18°2	36s15	'8	28s96	59°0	52s75	6°1
Ene 30	58.76	24.7	6.98	34.1	58.56*	19.3	35.75	3.3	28.21	61.2	52.38	4.2
Mar 01	57.89	21.8	6.43	31.1	56.90*	15.3	35.27	3.6	27.40	58.9	51.92	2.5
Mar 31	57.28	14.8	6.09	26.9	55.70*	7.1	34.95	1.6	26.81	52.6	51.61	1.7
Abr 30	57.17	5.1	6.19	23.5	55.29*	56.5*	34.96	57.1*	26.68	43.4	51.66	2.5
May 30	57.62	54.8*	6.75	22.1	55.80*	45.6*	35.38	50.9*	27.08	33.2	52.10	5.4
Jun 29	58.55	46.0*	7.66	23.4	57.11*	36.8*	36.11	44.2*	27.93	24.4	52.86	9.8
Jul 29	59.74	40.7*	8.71	27.0	58.91*	32.1*	36.99	38.6*	29.04	18.7	53.75	14.7
Ago 28	60.91	40.3*	9.70	32.2	.74	32.6*	37.84	35.4*	30.15	17.7	54.61	18.9
Sep 27	61.79	44.7*	10.47	37.8	2.14	38.3*	38.51	35.3*	31.01	21.6	55.29	21.5
Oct 27	62.20	52.7*	10.93	42.9	2.72	47.3*	38.90	38.0*	31.45	29.1	55.71	22.3
Nov 26	62.09	1.5	11.06	46.7	2.36	56.9*	38.99	42.4*	31.41	37.8	55.86	21.4
Dic 26	61.54	8.4	10.87	48.6	1.19	3.9	38.82	46.8*	30.95	44.8	55.73	19.7
Ene 25	60.71	11.0	10.42	48.1	59.54*	6.0	38.44	49.7*	30.22	48.0	55.38	17.7

N°	1071		1072		91		95		1075		94	
Nombre	σ Ceti		ν Ceti*		δ Ceti		ε Hydri		ι Eridani		35 Arietis	
Mag. SP	4.75	F5	4.86	G5	4.07	B2	4.11	B9	4.11	K0	4.66	B3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	2h32m	-15°11'	2h36m	+5°38'	2h40m	+0°23'	2h39m	-68°12'	2h41m	-39°48'	2h44m	+27°45'
Dic 31	43s68	22°4	35s14	58°7	10s62	1°6	49s04	57°7	12s18	13°0	15s09	49°7
Ene 30	43.26	25.0	34.78	56.7	10.25	59.3*	47.41	59.6	11.56	15.8	14.68	49.0
Mar 01	42.77	25.2	34.31	55.1	9.78	58.1*	45.72	56.4	10.86	14.5	14.14	46.6
Mar 31	42.42	22.9	33.99	54.7	9.45	58.3*	44.42	48.8	10.33	9.3	13.76	43.5
Abr 30	42.41	18.0	34.01	56.0	9.45	.5	43.87	38.5	10.20	1.1	13.77	41.1
May 30	42.81	11.4	34.42	59.4	9.85	4.7	44.23	27.5	10.54	51.6*	14.23	40.4
Jun 29	43.52	4.4	35.15	64.0	10.56	10.0	45.42	18.3	11.30	42.8*	15.04	42.0
Jul 29	44.41	58.7*	36.04	68.9	11.43	15.2	47.15	13.0	12.30	36.7*	16.02	45.4
Ago 28	45.27	55.6*	36.90	73.0	12.29	19.0	48.97	12.9	13.31	34.9*	16.99	49.9
Sep 27	45.95	55.9*	37.59	75.2	12.98	20.6	50.44	17.9	14.12	37.7*	17.78	54.4
Oct 27	46.35	59.1*	38.02	75.4	13.42	19.9	51.15	26.8	14.59	44.3*	18.30	58.2
Nov 26	46.46	4.0	38.19	74.0	13.58	17.5	50.94	36.6	14.65	52.5*	18.52	60.8
Dic 26	46.29	8.8	38.07	71.9	13.47	14.6	49.88	44.2	14.33	59.5*	18.42	62.0
Ene 25	45.90	11.9	37.73	69.7	13.13	12.2	48.28	47.1	13.74	3.2	18.04	61.5

N°	97		98		101		100		102		104	
Nombre	π Ceti		μ Ceti		β Fornacis		41 Arietis		τ <sup>2</sup> Eridani		η Eridani	
Mag. SP	4.25	B5	4.27	F0	4.46	K0	3.63	B8	4.75	K0	3.89	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	2h44m	-13°48'	2h45m	+10°10'	2h49m	-32°21'	2h50m	+27°18'	2h51m	-20°57'	2h57m	-8°50'
Dic 31	46s02	20°4	40s56	8°0	39s52	17°0	47s17	55°0	39s23	11°0	5s42	53°5
Ene 30	45.62	23.2	40.20	6.3	39.00	20.1	46.77	54.4	38.80	14.1	5.05	56.2
Mar 01	45.12	23.6	39.72	4.5	38.37	19.5	46.23	52.1	38.26	14.2	4.55	57.1
Mar 31	44.75	21.6	39.38	3.5	37.89	15.3	45.84	49.1	37.84	11.3	4.16	55.8
Abr 30	44.71	17.0	39.38	4.0	37.77	8.1	45.83	46.7	37.76	5.8	4.10	52.2
May 30	45.07	10.6	39.78	6.5	38.09	59.4*	46.27	46.1	38.09	58.4*	4.44	46.6
Jun 29	45.76	3.8	40.51	10.5	38.79	50.9*	47.06	47.6	38.77	50.9*	5.10	40.4
Jul 29	46.63	58.1*	41.40	15.1	39.72	44.7*	48.03	50.9	39.65	44.9*	5.96	34.8
Ago 28	47.49	54.8*	42.28	19.2	40.67	42.3*	49.00	55.2	40.53	41.9*	6.82	31.3
Sep 27	48.20	54.8*	43.00	21.9	41.45	44.2*	49.80	59.5	41.26	42.6*	7.54	30.7
Oct 27	48.64	57.8*	43.47	22.8	41.92	49.8*	50.35	63.1	41.73	46.7*	8.02	33.0
Nov 26	48.79	2.6	43.67	22.1	42.04	57.3*	50.59	65.6	41.88	52.7*	8.21	37.1
Dic 26	48.65	7.4	43.58	20.6	41.81	3.9	50.51	66.8	41.73	58.3*	8.12	41.4
Ene 25	48.28	10.6	43.25	18.7	41.32	7.8	50.14	66.3	41.32	1.9	7.78	44.6

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	106		1082		1083		107		1085		109	
Nombre	δ Eridani* p Acamar		24 Persei		λ Ceti		α Ceti		τ <sup>3</sup> Eridani		ρ Persei	
Mag. SP	3.25	A2	4.93	K0	4.70	B5	2.53	M0	4.09	A3	3.3-4.0	M3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	2h58m	-40°15'	2h59m	+35°14'	3h00m	+ 8°57'	3h02m	+ 4°08'	3h02m	-23°34'	3h06m	+38°53'
Dic 31	46s76	23°4	54s53	12°4	26s61	31°6	59s39	23°6	59s47	34°8	3s27	32°2
Ene 30	46.15	26.8	54.08	12.6	26.27	29.8	59.05	21.5	59.03	38.1	2.81	32.8
Mar 01	45.42	25.9	53.48	10.4	25.78	28.2	58.57	20.0	58.46	38.4	2.16	30.8
Mar 31	44.83	21.1	53.02	6.7	25.41	27.3	58.19	19.7	58.00	35.4	1.67	26.8
Abr 30	44.62	13.2	52.98	3.1	25.36	28.0	58.13	21.2	57.88	29.6	1.60	22.7
May 30	44.90	3.6	53.41	1.0	25.72	30.6	58.47	24.6	58.17	21.9	2.03	20.0
Jun 29	45.61	54.7*	54.24	1.2	26.41	34.5	59.14	29.2	58.82	14.1	2.88	19.4
Jul 29	46.58	48.2*	55.28	3.6	27.28	39.0	60.00	34.0	59.69	8.0	3.95	21.4
Ago 28	47.60	46.0*	56.33	7.7	28.16	43.0	60.87	37.8	60.59	4.9	5.05	25.2
Sep 27	48.45	48.5*	57.21	12.5	28.91	45.4	61.61	39.7	61.35	5.8	5.99	30.1
Oct 27	48.98	55.1*	57.83	17.2	29.42	46.0	62.12	39.5	61.85	10.3	6.66	35.2
Nov 26	49.10	3.4	58.12	21.1	29.65	45.0	62.35	37.7	62.03	16.7	6.98	39.7
Dic 26	48.83	10.9	58.05	23.6	29.60	43.3	62.30	35.1	61.89	22.8	6.92	42.8
Ene 25	48.25	15.1	57.65	24.0	29.29	41.4	61.99	32.8	61.48	26.7	6.51	43.7

N°	114		1089		1091		1093		119		121	
Nombre	δ Arietis		ζ Arietis		ζ Eridani		κ Ceti		82 G. Eridani		ο Tauri	
Mag. SP	4.35	K0	4.89	A0	4.80	A3	4.83	G5	4.27	G5	3.60	G5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	3h12m	+19°46'	3h15m	+21°05'	3h16m	- 8°46'	3h20m	+ 3°25'	3h20m	-43°01'	3h25m	+ 9°04'
Dic 31	24s52	33°8	41s13	34°4	29s62	24°2	4s52	"2	28s43	27°3	32s80	25°8
Ene 30	24.17	32.9	40.78	33.6	29.32	27.1	4.20	58.0*	27.81	31.3	32.48	24.0
Mar 01	23.66	31.1	40.26	31.8	28.81	28.2	3.71	56.6*	27.04	30.9	31.98	22.5
Mar 31	23.24	29.1	39.84	29.7	28.39	27.1	3.30	56.4*	26.38	26.3	31.56	21.7
Abr 30	23.18	28.0	39.76	28.4	28.27	23.6	3.20	57.9*	26.10	18.4	31.45	22.2
May 30	23.52	28.5	40.10	28.6	28.55	18.2	3.49	1.3	26.32	8.7	31.74	24.6
Jun 29	24.23	30.8	40.80	30.6	29.17	12.0	4.13	5.9	26.99	59.3*	32.37	28.2
Jul 29	25.14	34.2	41.71	33.9	30.00	6.4	4.97	10.6	27.98	52.4*	33.22	32.5
Ago 28	26.07	38.1	42.65	37.7	30.87	2.8	5.85	14.3	29.06	49.8*	34.11	36.1
Sep 27	26.87	41.4	43.46	41.0	31.62	2.1	6.61	16.1	30.00	52.1*	34.89	38.3
Oct 27	27.45	43.5	44.05	43.4	32.15	4.4	7.16	15.6	30.63	58.6*	35.46	38.7
Nov 26	27.74	44.5	44.36	44.6	32.40	8.6	7.45	13.5	30.85	7.4	35.78	37.6
Dic 26	27.73	44.5	44.35	44.7	32.36	13.1	7.44	10.8	30.63	15.4	35.79	35.7
Ene 25	27.42	43.6	44.05	44.0	32.04	16.5	7.15	8.4	30.05	20.2	35.51	33.8

N°	123		126		1097		125		127		1099	
Nombre	ξ Tauri		κ Reticuli		17 Eridani		5 Tauri		ε Eridani		τ <sup>5</sup> Eridani	
Mag. SP	3.74	B8	4.72	F5	4.73	B9	4.11	K0	3.73	K0	4.26	B8
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	3h27m	+ 9°46'	3h29m	-62°53'	3h31m	- 5°01'	3h31m	+12°58'	3h33m	- 9°24'	3h34m	-21°35'
Dic 31	54s48	38°1	38s39	46°5	17s62	56°6	37s56	50°2	34s42	59°1	23s49	31°9
Ene 30	54.16	36.4	37.18	50.7	17.30	59.5	37.25	48.8	34.07	62.2	23.10	35.9
Mar 01	53.67	34.9	35.75	49.8	16.79	60.8	36.75	47.3	33.55	63.4	22.52	36.8
Mar 31	53.24	34.0	34.50	44.3	16.35	60.2	36.31	46.1	33.09	62.3	22.01	34.6
Abr 30	53.12	34.5	33.79	35.2	16.20	57.4	36.19	46.1	32.93	58.8	21.80	29.5
May 30	53.40	36.6	33.83	24.5	16.44	52.7	36.46	47.6	33.16	53.4	22.00	22.4
Jun 29	54.04	40.2	34.59	14.5	17.03	47.1	37.09	50.7	33.75	47.2	22.57	14.7
Jul 29	54.88	44.3	35.91	7.6	17.85	41.8	37.95	54.5	34.55	41.6	23.39	8.3
Ago 28	55.77	48.0	37.45	5.4	18.71	38.1	38.85	58.0	35.42	38.0	24.29	4.8
Sep 27	56.56	50.2	38.84	8.7	19.48	37.1	39.65	60.5	36.18	37.5	25.09	5.2
Oct 27	57.15	50.7	39.73	16.5	20.05	38.9	40.26	61.4	36.74	39.9	25.67	9.2
Nov 26	57.47	49.7	39.92	26.5	20.36	42.5	40.60	61.0	37.03	44.4	25.96	15.5
Dic 26	57.49	48.0	39.35	35.5	20.36	46.6	40.63	59.8	37.01	49.1	25.91	21.9
Ene 25	57.22	46.1	38.21	40.6	20.07	49.9	40.36	58.3	36.70	52.7	25.56	26.4

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	1101		130		133		135		141		136	
Nombre	10 Tauri		110 G. Eridani		δ Formacis		δ Eridani		β Reticuli		17 Tauri	
Mag. SP	4.28	G5	4.58	K0	5.00	B5	3.54	K0	3.85	K0	3.70	B5p
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	3h37m	+ 0°26'	3h37m	-40°14'	3h42m	-31°54'	3h43m	- 9°43'	3h44m	-64°46'	3h45m	+24°09'
Dic 31	34s13	28°8	35s42	9°3	47s71	1°2	54s15	18°0	24s10	13°8	41s25	14°6
Ene 30	33.82	26.3	34.85	13.9	47.24	5.8	53.82	21.3	22.82	18.6	40.94	14.4
Mar 01	33.32	24.9	34.09	14.3	46.58	6.7	53.30	22.5	21.27	18.3	40.40	13.0
Mar 31	32.88	24.9	33.41	10.6	45.98	3.8	52.83	21.5	19.86	13.3	39.91	11.0
Abr 30	32.72	26.7	33.06	3.4	45.69	57.5*	52.64	18.1	18.99	4.6	39.75	9.3
May 30	32.96	30.4	33.19	54.1*	45.83	49.1*	52.84	12.7	18.90	54.0*	40.00	8.8
Jun 29	33.55	35.2	33.77	44.9*	46.38	40.5*	53.39	6.4	19.60	43.9*	40.65	9.8
Jul 29	34.35	40.0	34.67	37.7*	47.22	33.5*	54.19	.7	20.92	36.6*	41.54	12.2
Ago 28	35.22	43.6	35.69	34.5*	48.17	30.0*	55.06	57.0*	22.54	34.0*	42.50	15.3
Sep 27	36.01	45.0	36.61	36.3*	49.03	31.1*	55.84	56.3*	24.05	36.9*	43.38	18.3
Oct 27	36.59	44.0	37.27	42.4*	49.66	36.3*	56.44	58.7*	25.08	44.6*	44.07	20.7
Nov 26	36.92	41.1	37.53	51.0*	49.96	43.9*	56.77	3.2	25.35	54.7*	44.48	22.1
Dic 26	36.95	37.8	37.38	59.2*	49.88	51.6*	56.79	8.1	24.81	4.0	44.57	22.8
Ene 25	36.68	35.0	36.86	4.6	49.46	56.8*	56.50	11.8	23.61	9.7	44.30	22.7

N°	140		139		146		142		143		144	
Nombre	τ <sup>6</sup> Eridani		η Tauri		γ Hydri		27 Tauri		138 G. Eridani		ζ Persei	
Mag. SP	4.23	F8	2.87	B5p	3.24	M0	3.63	B8	4.17	K0	2.85	B1
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	3h47m	-23°12'	3h48m	+24°08'	3h47m	-74°12'	3h49m	+24°05'	3h49m	-36°09'	3h54m	+31°55'
Dic 31	26s25	51°8	17s85	42°3	5s77	11°7	58s54	34°5	58s26	52°4	59s61	20°3
Ene 30	25.86	56.1	17.54	42.1	3.59	16.3	58.23	34.3	57.76	57.3	59.28	21.0
Mar 01	25.27	57.3	17.00	40.8	1.02	15.8	57.69	33.0	57.05	58.2	58.69	20.0
Mar 31	24.73	55.2	16.51	38.8	58.69*	10.6	57.20	31.0	56.39	55.2	58.15	17.5
Abr 30	24.48	50.1	16.34	37.1	57.17*	1.7	57.02	29.3	56.04	48.6	57.95	14.7
May 30	24.63	42.9	16.59	36.6	56.81*	51.1*	57.26	28.8	56.14	39.9	58.19	12.8
Jun 29	25.17	35.1	17.23	37.6	57.69*	41.1*	57.90	29.8	56.67	30.8	58.85	12.5
Jul 29	25.97	28.6	18.11	40.0	59.56*	34.0*	58.78	32.1	57.52	23.6	59.79	13.8
Ago 28	26.87	25.0	19.07	43.0	1.95	31.6*	59.74	35.1	58.50	20.1	60.81	16.4
Sep 27	27.69	25.4	19.96	45.9	4.21	34.8*	60.63	38.0	59.40	21.3	61.77	19.6
Oct 27	28.31	29.6	20.65	48.2	5.72	42.6*	61.32	40.3	60.07	26.9	62.53	22.8
Nov 26	28.63	36.3	21.07	49.7	6.02	52.8*	61.75	41.7	60.38	35.0	63.01	25.6
Dic 26	28.61	43.1	21.16	50.4	5.01	2.1	61.85	42.4	60.30	43.2	63.12	27.6
Ene 25	28.26	48.0	20.91	50.2	2.95	7.6	61.60	42.2	59.85	48.8	62.85	28.5

N°	149		1110		148		150		151		1112	
Nombre	γ Eridani		δ Reticuli		ξ Persei		λ Tauri		ν Tauri		37 Tauri	
Mag. SP	2.95	K5	4.56	M0	4.04	Oe5	3.47	var B3	3.91	A0	4.36	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	3h58m	-13°28'	3h58m	-61°22'	3h59m	+35°49'	4h01m	+12°31'	4h03m	+ 6°01'	4h05m	+22°07'
Dic 31	40s06	26°9	59s40	4°1	51s32	42°7	26s25	33°4	53s00	25°8	30s24	"4
Ene 30	39.75	30.8	58.33	9.6	50.98	44.0	25.99	32.0	52.73	23.7	29.97	.1
Mar 01	39.21	32.3	56.96	10.1	50.36	43.2	25.48	30.7	52.24	22.2	29.45	59.0*
Mar 31	38.70	31.2	55.68	5.9	49.78	40.5	25.00	29.7	51.76	21.8	28.94	57.3*
Abr 30	38.46	27.5	54.85	57.8*	49.55	37.2	24.80	29.7	51.55	22.7	28.72	55.9*
May 30	38.61	21.7	54.71	47.4*	49.79	34.6	24.99	31.1	51.72	25.3	28.92	55.7*
Jun 29	39.12	15.1	55.29	37.2*	50.46	33.5	25.55	33.9	52.26	29.1	29.50	56.8*
Jul 29	39.89	9.2	56.44	29.5*	51.42	34.3	26.36	37.4	53.04	33.1	30.35	59.1*
Ago 28	40.76	5.4	57.89	26.3*	52.49	36.6	27.26	40.5	53.91	36.5	31.30	1.8
Sep 27	41.57	5.0	59.28	28.5*	53.49	39.9	28.10	42.6	54.74	38.1	32.19	4.3
Oct 27	42.20	7.9	60.28	35.8*	54.30	43.5	28.77	43.1	55.40	37.7	32.91	6.0
Nov 26	42.57	13.1	60.64	45.8*	54.82	46.9	29.20	42.3	55.82	35.8	33.38	6.9
Dic 26	42.62	18.8	60.28	55.4*	54.95	49.6	29.32	40.9	55.93	33.2	33.53	7.2
Ene 25	42.35	23.1	59.29	1.7	54.67	51.1	29.10	39.3	55.72	30.9	33.31	6.9

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	154		155		156		1118		157		159	
Nombre	O <sup>1</sup> Eridani		α Horologii		α Reticuli		μ Tauri		γ Doradus		γ Tauri	
Mag. SP	4.04	F2	3.86	K0	3.35	G5	4.29	B3	4.25	F5	3.63	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	4h12m	-6°48'	4h14m	-42°15'	4h14m	-62°26'	4h16m	+8°55'	4h16m	-51°27'	4h20m	+15°39'
Dic 31	32s03	21°7'	27s95	58°6'	38s04	43°6'	16s62	24°1'	24s17	28°6'	34s32	27°8'
Ene 30	31.75	25.1	27.42	64.4	36.97	49.6	16.38	22.3	23.46	34.6	34.09	26.8
Mar 01	31.24	26.8	26.62	66.1	35.54	50.9	15.89	20.9	22.47	36.2	33.59	25.7
Mar 31	30.74	26.3	25.84	63.4	34.16	47.2	15.39	20.2	21.49	33.0	33.08	24.6
Abr 30	30.49	23.7	25.35	56.9	33.22	39.5	15.16	20.7	20.85	25.9	32.83	24.2
May 30	30.61	19.0	25.33	47.9	32.96	29.3	15.30	22.7	20.75	16.2	32.98	24.9
Jun 29	31.09	13.4	25.78	38.4	33.46	19.0	15.81	25.9	21.21	6.2	33.50	27.0
Jul 29	31.84	8.0	26.61	30.6	34.57	11.0	16.58	29.5	22.12	58.1*	34.29	29.8
Ago 28	32.70	4.3	27.63	26.6	36.04	7.3	17.46	32.6	23.27	54.2*	35.19	32.5
Sep 27	33.51	3.5	28.63	27.6	37.51	9.1	18.30	34.3	24.42	55.5*	36.06	34.4
Oct 27	34.18	5.6	29.40	33.4	38.61	16.0	19.00	34.2	25.30	1.8	36.79	35.1
Nov 26	34.60	9.8	29.81	42.2	39.07	26.0	19.46	32.6	25.72	11.3	37.28	34.6
Dic 26	34.71	14.5	29.77	51.2	38.76	35.9	19.61	30.5	25.60	20.9	37.46	33.7
Ene 25	34.48	18.3	29.29	57.8	37.78	42.8	19.43	28.5	24.97	27.8	37.28	32.6

N°	158		162		1121		164		1125		171	
Nombre	54 Persei		δ Tauri		43 Eridani		ε Tauri		ρ Tauri		α Doradus	
Mag. SP	4.93	G5	3.76	K0	3.95	K5	3.54	K0	4.65	A5	3.27	A0p
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	4h21m	+34°35'	4h23m	+17°34'	4h24m	-33°59'	4h29m	+19°12'	4h34m	+14°52'	4h34m	-55°01'
Dic 31	18s11	51°8'	43s45	18°3'	33s50	25°0'	24s96	28°7'	37s53	12°6'	18s97	19°8'
Ene 30	17.83	53.2	43.22	17.5	33.09	30.7	24.75	28.2	37.33	11.5	18.23	26.5
Mar 01	17.23	52.9	42.71	16.5	32.41	32.8	24.24	27.3	36.84	10.5	17.13	28.8
Mar 31	16.63	50.7	42.20	15.3	31.72	30.9	23.71	26.0	36.31	9.5	16.02	26.2
Abr 30	16.34	47.8	41.94	14.6	31.29	25.3	23.44	25.2	36.04	9.2	15.23	19.4
May 30	16.51	45.3	42.08	15.0	31.28	17.2	23.57	25.1	36.14	10.0	15.00	9.9
Jun 29	17.11	44.1	42.60	16.7	31.70	8.3	24.08	26.6	36.62	12.1	15.38	59.7*
Jul 29	18.01	44.5	43.39	19.2	32.46	.8	24.86	28.8	37.38	14.8	16.27	51.3*
Ago 28	19.06	46.2	44.30	21.8	33.39	56.5*	25.78	31.2	38.27	17.3	17.47	46.9*
Sep 27	20.07	48.8	45.18	23.8	34.32	56.9*	26.68	33.1	39.15	19.0	18.72	47.8*
Oct 27	20.93	51.7	45.93	24.6	35.06	1.8	27.44	34.1	39.90	19.4	19.72	53.9*
Nov 26	21.51	54.6	46.44	24.5	35.50	9.7	27.97	34.2	40.43	18.6	20.24	3.5
Dic 26	21.72	57.1	46.63	23.9	35.55	18.2	28.18	33.8	40.65	17.4	20.16	13.6
Ene 25	21.50	58.7	46.46	23.0	35.20	24.6	28.02	33.2	40.51	16.2	19.50	21.1

N°	170		168		169		172		1129		174	
Nombre	U <sup>2</sup> Eridani		α Tauri (Aldebaran)		ν Eridani		53 Eridani*		α Caeli		τ Tauri	
Mag. SP	3.82	K0	0.85	K5	3.93	B2	3.87	K0	4.45	F2	4.28	B5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	4h36m	-30°32'	4h36m	+16°32'	4h37m	-3°19'	4h38m	-14°16'	4h41m	-41°50'	4h43m	+22°58'
Dic 31	5s39	21°0'	42s37	2°0'	s23	41°8'	48s58	52°9'	s95	33°9'	4s05	49°8'
Ene 30	5.04	26.8	42.17	1.2	.02	45.1	48.33	57.4	.49	40.4	3.86	49.8
Mar 01	4.40	29.2	41.68	.2	59.53*	46.9	47.80	59.6	59.70*	43.0	3.35	49.3
Mar 31	3.73	27.8	41.15	59.2*	59.00*	46.9	47.24	59.0	58.89*	41.2	2.79	48.0
Abr 30	3.30	22.8	40.87	58.7*	58.70*	44.9	46.91	55.7	58.33*	35.4	2.49	46.7
May 30	3.27	15.2	40.97	59.1*	58.77*	41.1	46.93	50.3	58.21*	26.8	2.58	46.2
Jun 29	3.66	6.7	41.45	.9	59.19*	36.1	47.34	43.7	58.57*	17.4	3.06	46.7
Jul 29	4.38	59.3*	42.21	3.3	59.90*	31.2	48.03	37.7	59.32*	9.3	3.84	48.1
Ago 28	5.28	54.9*	43.11	5.7	.74	27.7	48.87	33.8	.30	4.7	4.76	50.0
Sep 27	6.18	54.9*	43.99	7.4	1.57	26.7	49.71	33.1	1.31	4.9	5.69	51.8
Oct 27	6.94	59.3*	44.76	7.9	2.29	28.4	50.43	36.0	2.15	10.2	6.50	52.9
Nov 26	7.41	6.9	45.30	7.4	2.78	32.2	50.92	41.5	2.66	18.9	7.09	53.5
Dic 26	7.51	15.2	45.53	6.5	2.97	36.6	51.08	47.7	2.71	28.3	7.35	53.7
Ene 25	7.22	21.6	45.39	5.5	2.81	40.3	50.88	52.7	2.31	35.6	7.22	53.7

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	176		1134		1133		179		1136		180	
Nombre	μ Eridani		π <sup>3</sup> Orionis		Bradley 658 (Persei)		π <sup>4</sup> Orionis		O <sup>1</sup> Orionis		π <sup>5</sup> Orionis	
Mag. SP	4.02	B5	3.19	F8	4.88	K2	3.69	B3	4.74	M0	3.72	B3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	4h46m	- 3°13'	4h50m	+ 6°58'	4h50m	+37°30'	4h51m	+ 5°37'	4h53m	+14°16'	4h54m	+ 2°27'
Dic 31	11s30	59°9	35s02	54°5	50s12	36°8	56s16	30°5	18s47	13°4	57s94	34°5
Ene 30	11.10	63.2	34.85	52.4	49.90	39.0	55.99	28.2	18.31	12.3	57.77	31.8
Mar 01	10.61	65.1	34.38	51.0	49.30	39.4	55.52	26.7	17.83	11.3	57.30	30.2
Mar 31	10.08	65.2	33.85	50.5	48.65	37.8	54.99	26.2	17.29	10.5	56.77	29.8
Abr 30	9.76	63.2	33.55	51.2	48.27	34.9	54.67	27.1	16.98	10.3	56.45	31.0
May 30	9.80	59.5	33.60	53.3	48.34	31.9	54.72	29.4	17.03	11.1	56.48	33.8
Jun 29	10.21	54.6	34.02	56.5	48.86	29.8	55.12	32.8	17.45	13.1	56.87	37.7
Jul 29	10.89	49.8	34.72	60.1	49.73	29.1	55.81	36.5	18.17	15.6	57.55	41.8
Ago 28	11.72	46.3	35.58	62.9	50.79	29.8	56.66	39.4	19.04	17.9	58.38	44.9
Sep 27	12.56	45.3	36.44	64.1	51.86	31.5	57.51	40.6	19.93	19.3	59.23	46.0
Oct 27	13.29	47.0	37.19	63.4	52.81	34.0	58.27	39.7	20.71	19.3	59.98	44.8
Nov 26	13.81	50.9	37.74	61.2	53.51	36.8	58.82	37.3	21.29	18.2	60.54	41.8
Dic 26	14.03	55.4	37.99	58.4	53.83	39.7	59.07	34.2	21.57	16.8	60.79	38.2
Ene 25	13.89	59.1	37.88	56.0	53.69	42.0	58.96	31.7	21.47	15.5	60.68	35.2
N°	181		184		1140		186		189		188	
Nombre	ι Aurigae		ι Tauri		11 Orionis		ε Leporis		ζ Doradus		β Eridani	
Mag. SP	2.69	K2	4.64	A5	4.68	B9	3.19	K5	4.72	F8	2.79	A3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	4h57m	+33°11'	5h03m	+21°36'	5h05m	+15°25'	5h06m	-22°21'	5h05m	-57°27'	5h08m	- 5°04'
Dic 31	53s24	7°3	54s89	24°1	21s13	12°5	2s80	24°4	46s64	31°2	31s50	20°5
Ene 30	53.06	8.9	54.75	24.1	20.99	11.6	2.56	30.2	45.93	38.9	31.34	24.3
Mar 01	52.51	9.2	54.27	23.7	20.53	10.7	2.01	33.1	44.78	42.4	30.87	26.4
Mar 31	51.88	7.8	53.70	22.7	19.98	10.0	1.39	32.7	43.54	41.1	30.32	26.6
Abr 30	51.51	5.5	53.36	21.7	19.64	9.7	.96	29.1	42.58	35.2	29.96	24.7
May 30	51.56	3.3	53.39	21.4	19.66	10.3	.88	22.9	42.15	26.2	29.94	20.9
Jun 29	52.04	1.8	53.80	21.9	20.06	11.9	1.19	15.5	42.37	16.0	30.27	15.9
Jul 29	52.85	1.5	54.53	23.2	20.75	14.1	1.83	8.6	43.17	7.1	30.91	10.9
Ago 28	53.85	2.3	55.43	24.8	21.61	16.2	2.65	4.2	44.38	1.8	31.72	7.4
Sep 27	54.88	3.9	56.36	26.0	22.51	17.3	3.53	3.5	45.70	1.8	32.56	6.5
Oct 27	55.80	5.7	57.20	26.6	23.32	17.3	4.32	6.9	46.85	7.2	33.33	8.5
Nov 26	56.49	7.7	57.84	26.6	23.94	16.3	4.88	13.5	47.55	16.6	33.90	12.8
Dic 26	56.82	9.8	58.16	26.5	24.25	14.9	5.10	21.1	47.60	27.2	34.17	17.8
Ene 25	56.71	11.4	58.09	26.3	24.18	13.8	4.93	27.4	46.99	35.6	34.08	22.0
N°	190		1144		192		196		194		197	
Nombre	λ Eridani		μ Leporis		μ Aurigae		ϑ Doradus		β Orionis (Rigel)		O Columbae	
Mag. SP	4.27	B2	3.31	var. A0p	4.86	A3	4.83	K0	0.12	B8p	4.83	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	5h09m	- 8°44'	5h13m	-16°11'	5h14m	+38°29'	5h13m	-67°10'	5h15m	- 8°11'	5h17m	-34°53'
Dic 31	48s28	25°0	33s07	35°6	22s11	53°9	48s16	26°4	11s93	22°2	59s41	9°4
Ene 30	48.11	29.3	32.88	40.8	21.96	56.5	47.09	34.5	11.78	26.5	59.12	16.5
Mar 01	47.63	31.6	32.38	43.6	21.39	57.5	45.43	38.3	11.31	28.8	58.47	20.2
Mar 31	47.07	31.7	31.79	43.5	20.71	56.4	43.62	37.1	10.75	29.0	57.72	19.9
Abr 30	46.70	29.4	31.38	40.6	20.26	53.7	42.15	31.5	10.36	26.8	57.17	15.6
May 30	46.66	25.1	31.30	35.3	20.25	50.6	41.38	22.4	10.32	22.6	56.98	8.3
Jun 29	46.99	19.5	31.61	28.7	20.70	48.1	41.49	12.2	10.63	17.2	57.23	59.6*
Jul 29	47.61	14.1	32.22	22.5	21.52	46.7	42.42	3.1	11.24	11.9	57.85	51.7*
Ago 28	48.42	10.4	33.03	18.3	22.56	46.6	43.95	57.6*	12.04	8.2	58.71	46.5*
Sep 27	49.27	9.5	33.89	17.4	23.66	47.6	45.72	57.4*	12.89	7.2	59.67	45.8*
Oct 27	50.04	11.8	34.67	20.3	24.67	49.4	47.27	2.8	13.67	9.5	60.53	50.0*
Nov 26	50.61	16.6	35.25	26.1	25.45	52.0	48.17	12.3	14.26	14.2	61.15	57.8*
Dic 26	50.88	22.2	35.51	32.9	25.86	54.9	48.17	23.0	14.54	19.8	61.37	7.0
Ene 25	50.78	26.9	35.39	38.6	25.79	57.4	47.24	31.8	14.45	24.5	61.15	14.7

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	195		1146		1147		201		202		204	
Nombre	τ Orionis		λ Leporis		22 Orionis		γ Orionis (Bellatrix)		β Tauri		β Leporis	
Mag. SP	3.60	B5	4.29	B1	4.73	B3	1.64	B2	1.65	B8	2.84	G0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	5h18m	- 6°49'	5h20m	-13°09'	5h22m	- 0°22'	5h25m	+ 6°21'	5h27m	+28°36'	5h28m	-20°45'
Dic 31	16s45	59°5	12s62	58°9	27s81	20°6	52s00	31°9	9s52	58°7	50s31	8°2
Ene 30	16.32	63.6	12.47	63.9	27.70	23.9	51.91	29.5	9.43	59.8	50.15	14.2
Mar 01	15.85	65.9	11.98	66.6	27.25	25.8	51.48	28.1	8.95	60.2	49.63	17.5
Mar 31	15.29	66.2	11.40	66.7	26.70	26.2	50.93	27.6	8.34	59.5	49.01	17.6
Abr 30	14.91	64.2	10.99	64.2	26.33	24.9	50.56	28.3	7.93	58.0	48.55	14.6
May 30	14.86	60.2	10.91	59.4	26.28	21.8	50.52	30.3	7.89	56.5	48.42	8.9
Jun 29	15.17	55.0	11.20	53.2	26.59	17.7	50.83	33.3	8.26	55.6	48.67	1.9
Jul 29	15.77	49.9	11.80	47.4	27.20	13.5	51.45	36.5	8.97	55.4	49.24	55.1*
Ago 28	16.57	46.2	12.60	43.3	28.00	10.4	52.26	39.0	9.89	55.8	50.04	50.5*
Sep 27	17.42	45.3	13.45	42.4	28.85	9.4	53.12	39.9	10.87	56.5	50.91	49.6*
Oct 27	18.20	47.5	14.24	45.0	29.64	11.1	53.93	38.8	11.80	57.2	51.72	52.7*
Nov 26	18.79	52.0	14.83	50.4	30.26	14.7	54.57	36.1	12.54	57.9	52.34	59.1*
Dic 26	19.09	57.4	15.12	56.8	30.58	19.0	54.92	33.0	12.96	58.9	52.64	6.6
Ene 25	19.02	61.9	15.03	62.2	30.53	22.7	54.89	30.4	12.95	59.9	52.54	13.1

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N°	206		1151		207		212		208		209	
Nombre	δ Orionis		χ Aurigae		α Leporis		β Doradus		φ <sup>1</sup> Orionis		ι Orionis*	
Mag. SP	2.23	B0	4.76	B1	2.58	F0	3.40	var F5p	4.41	B0	2.76	Oe5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	5h32m	- 0°17'	5h33m	+32°11'	5h33m	-17°48'	5h33m	-62°29'	5h35m	+ 9°29'	5h36m	- 5°54'
Dic 31	42s51	32°2	37s25	58°2	20s39	58°0	47s32	4°4	34s42	44°6	6s35	15°4
Ene 30	42.42	35.6	37.17	59.9	20.24	63.7	46.57	13.1	34.36	42.7	6.26	19.6
Mar 01	41.99	37.6	36.68	60.8	19.75	66.9	45.25	17.8	33.93	41.5	5.82	22.0
Mar 31	41.44	38.0	36.04	60.1	19.15	67.2	43.76	17.6	33.39	41.1	5.26	22.4
Abr 30	41.05	36.7	35.60	58.4	18.70	64.4	42.50	12.8	33.00	41.4	4.85	20.7
May 30	40.97	33.8	35.54	56.4	18.57	59.2	41.80	4.3	32.94	42.9	4.76	17.0
Jun 29	41.26	29.8	35.90	54.8	18.81	52.6	41.83	54.3*	33.23	45.3	5.02	12.1
Jul 29	41.84	25.6	36.62	53.9	19.38	46.1	42.56	45.0*	33.84	47.9	5.59	7.2
Ago 28	42.63	22.6	37.55	53.9	20.15	41.7	43.82	38.9*	34.64	50.1	6.36	3.7
Sep 27	43.48	21.7	38.57	54.4	21.02	40.7	45.34	37.9*	35.51	50.9	7.21	2.8
Oct 27	44.28	23.4	39.54	55.2	21.83	43.6	46.73	42.6*	36.34	49.9	8.01	4.8
Nov 26	44.92	27.1	40.33	56.3	22.46	49.6	47.65	51.7*	37.01	47.6	8.65	9.4
Dic 26	45.28	31.5	40.78	57.9	22.78	56.8	47.82	2.6	37.40	44.9	9.00	14.7
Ene 25	45.25	35.2	40.78	59.5	22.70	63.0	47.20	12.0	37.40	42.7	8.97	19.3

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N°	210		211		215		217		1154		219	
Nombre	ε Orionis		ζ Tauri		α Columbae		γ Leporis		δ Doradus		ζ Leporis	
Mag. SP	1.70	B0	3.00	B3p	2.64	B5p	3.60	F8	4.35	A5	3.55	A2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	5h36m	- 1°11'	5h38m	+21°08'	5h40m	-34°04'	5h45m	-22°26'	5h44m	-65°44'	5h47m	-14°49'
Dic 31	54s64	47°3	27s84	52°9	9s46	13°9	2s50	50°5	51s10	"9	34s89	12°8
Ene 30	54.57	50.9	27.78	52.8	9.23	21.5	2.36	57.0	50.28	10.0	34.79	18.4
Mar 01	54.14	52.9	27.35	52.7	8.63	25.7	1.86	60.7	48.80	15.1	34.34	21.6
Mar 31	53.59	53.4	26.77	52.2	7.89	26.1	1.22	61.2	47.09	15.4	33.75	22.1
Abr 30	53.19	52.1	26.37	51.5	7.30	22.4	.73	58.3	45.61	11.0	33.29	19.8
May 30	53.10	49.0	26.30	51.2	7.06	15.6	.55	52.7	44.73	2.9	33.14	15.1
Jun 29	53.37	44.9	26.61	51.5	7.23	7.2	.75	45.6	44.64	52.9*	33.35	9.0
Jul 29	53.95	40.6	27.26	52.3	7.78	59.1*	1.28	38.8	45.36	43.4*	33.88	3.0
Ago 28	54.72	37.5	28.11	53.3	8.60	53.7*	2.05	34.0	46.70	37.0*	34.63	58.8*
Sep 27	55.57	36.6	29.03	53.8	9.55	52.4*	2.93	32.9	48.37	35.7*	35.49	57.7*
Oct 27	56.38	38.4	29.92	53.6	10.44	56.1*	3.76	36.0	49.95	40.1*	36.31	.3
Nov 26	57.03	42.3	30.65	53.0	11.12	3.8	4.42	42.5	51.01	49.0*	36.97	5.9
Dic 26	57.39	46.9	31.08	52.5	11.42	13.0	4.76	50.5	51.24	60.0*	37.34	12.8
Ene 25	57.38	50.8	31.09	52.3	11.27	21.0	4.69	57.4	50.56	9.6	37.31	18.8

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	220		1156		223		222		221		1158	
Nombre	K Orionis		γ Pictoris		β Columbae		δ Leporis		V Aurigae		136 Tauri	
Mag. SP	2.06	B0	4.51	K0	3.12	K0	3.81	K0	3.97	K0	4.58	A0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	5h48m	-9°40'	5h50m	-56°09'	5h51m	-35°46'	5h51m	-20°52'	5h52m	+39°08'	5h54m	+27°36'
Dic 31	24s60	5°0	6s60	59°6	27s41	"2	55s04	52°3	26s46	59°4	11s34	45°6
Ene 30	24.53	9.9	6.11	68.7	27.20	8.1	54.94	58.7	26.43	62.4	11.33	46.6
Mar 01	24.10	12.7	5.09	73.9	26.59	12.7	54.46	62.5	25.92	64.2	10.90	47.3
Mar 31	23.53	13.3	3.89	74.6	25.83	13.3	53.83	63.2	25.22	64.0	10.29	47.0
Abr 30	23.09	11.4	2.85	70.5	25.21	9.9	53.34	60.7	24.70	62.0	9.84	46.0
May 30	22.96	7.3	2.27	62.6	24.92	3.2	53.16	55.4	24.56	59.1	9.73	44.7
Jun 29	23.18	2.0	2.27	52.9	25.05	54.6*	53.34	48.6	24.88	56.1	10.01	43.8
Jul 29	23.71	56.6*	2.86	43.5	25.58	46.4*	53.85	41.9	25.59	53.9	10.64	43.3
Ago 28	24.46	52.8*	3.91	37.1	26.39	40.6*	54.61	37.2	26.57	52.6	11.51	43.3
Sep 27	25.30	51.8*	5.19	35.6	27.34	39.1*	55.48	36.0	27.67	52.3	12.48	43.3
Oct 27	26.12	54.1*	6.42	39.7	28.26	42.6*	56.32	39.0	28.75	53.1	13.43	43.2
Nov 26	26.79	59.1*	7.31	48.4	28.98	50.3*	57.00	45.3	29.66	54.8	14.24	43.3
Dic 26	27.17	5.2	7.60	59.2	29.32	59.7*	57.37	53.1	30.20	57.4	14.73	43.7
Ene 25	27.16	10.5	7.23	68.8	29.19	8.1	57.33	60.0	30.26	60.3	14.80	44.6

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N°	224		226		1160		229		227		1163	
Nombre	α Orionis (Betelgeuse)		η Leporis		γ Columbae		η Columbae		β Aurigae		1 Geminorum	
Mag. SP	0.4-1.3	M0	3.71	F0	4.36	B3	3.96	K0	1.90	A0p	4.16	G5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	5h55m	+7°24'	5h57m	-14°10'	5h58m	-35°17'	5h59m	-42°49'	6h00m	+44°56'	6h04m	+23°15'
Dic 31	54s88	23°8	2s04	6°5	2s18	6°3	35s11	3°5	32s17	46°1	57s18	35°4
Ene 30	54.86	21.4	1.97	12.1	2.00	14.3	34.87	12.1	32.15	50.0	57.21	35.7
Mar 01	54.47	20.0	1.53	15.4	1.42	19.1	34.18	17.4	31.60	52.5	56.81	36.1
Mar 31	53.93	19.6	.95	16.0	.66	20.0	33.32	18.3	30.83	52.6	56.23	35.9
Abr 30	53.51	20.2	.48	13.9	.03	16.8	32.58	14.9	30.23	50.4	55.78	35.3
May 30	53.40	21.8	.31	9.4	59.73*	10.3	32.20	7.9	30.04	46.7	55.64	34.7
Jun 29	53.63	24.4	.50	3.5	59.84*	1.9	32.26	59.0*	30.35	42.8	55.88	34.5
Jul 29	54.18	27.2	1.01	57.6*	.34	53.7*	32.77	50.2*	31.09	39.4	56.47	34.5
Ago 28	54.94	29.3	1.74	53.3*	1.14	47.9*	33.61	44.0*	32.13	37.3	57.28	34.8
Sep 27	55.80	29.9	2.59	52.2*	2.08	46.3*	34.63	42.3*	33.32	36.6	58.21	34.6
Oct 27	56.65	28.5	3.42	54.7*	3.01	49.7*	35.64	45.8*	34.51	37.4	59.14	34.1
Nov 26	57.36	25.7	4.11	.3	3.74	57.2*	36.41	53.8*	35.51	39.7	59.94	33.3
Dic 26	57.80	22.5	4.50	7.1	4.11	6.7	36.77	3.9	36.12	43.2	60.46	32.8
Ene 25	57.85	19.8	4.50	13.1	4.01	15.2	36.62	13.1	36.20	47.0	60.55	32.9

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N°	232		235		1168		238		240		243	
Nombre	V Orionis		δ Pictoris		K Aurigae		K Columbae		ζ Canis Majoris		β Canis Majoris	
Mag. SP	4.42	B2	4.81	B1	4.35	K0	4.37	K0	3.02	B3	1.98	B1
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	6h08m	+14°45'	6h10m	-54°58'	6h16m	+29°29'	6h17m	-35°08'	6h20m	-30°04'	6h23m	-17°57'
Dic 31	21s29	50°2	35s88	27°9	15s07	24°9	3s23	52°5	51s05	20°0	18s57	55°7
Ene 30	21.32	49.0	35.51	37.4	15.13	26.2	3.12	60.8	50.97	27.9	18.56	62.1
Mar 01	20.94	48.5	34.59	43.5	14.72	27.4	2.57	66.2	50.48	32.9	18.15	66.2
Mar 31	20.39	48.2	33.43	44.9	14.12	27.5	1.82	67.6	49.80	34.4	17.56	67.4
Abr 30	19.95	48.2	32.39	41.7	13.62	26.6	1.17	65.0	49.20	32.0	17.05	65.6
May 30	19.82	48.8	31.76	34.5	13.45	25.2	.83	58.9	48.89	26.4	16.80	61.1
Jun 29	20.03	50.0	31.68	25.0	13.67	23.8	.88	50.7	48.95	18.8	16.90	54.9
Jul 29	20.57	51.5	32.17	15.6	14.25	22.7	1.32	42.5	49.38	11.1	17.34	48.6
Ago 28	21.34	52.6	33.13	8.7	15.08	21.9	2.07	36.5	50.10	5.4	18.02	44.0
Sep 27	22.21	52.8	34.36	6.5	16.05	21.3	3.00	34.5	50.99	3.5	18.86	42.5
Oct 27	23.10	51.7	35.60	10.0	17.04	20.7	3.95	37.5	51.90	6.3	19.73	45.0
Nov 26	23.86	49.7	36.55	18.3	17.91	20.5	4.73	44.8	52.67	13.2	20.47	50.9
Dic 26	24.36	47.7	36.95	29.0	18.48	21.0	5.16	54.2	53.12	22.2	20.94	58.4
Ene 25	24.46	46.2	36.69	39.1	18.62	22.2	5.12	63.0	53.12	30.5	21.00	65.2



**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	241		244		245		1173		249		251	
Nombre	μ Geminorum		ε Monocerotis*		α Carinae (Canopus)		ν Geminorum		ξ <sup>2</sup> Canis Majoris		γ Geminorum	
Mag. SP	2.88	M0	4.44	A5	-0.72	F0	4.15	B5	4.54	A0	1.93	A0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	6h23m	+22°30'	6h24m	+4°34'	6h24m	-52°42'	6h29m	+20°12'	6h35m	-22°58'	6h38m	+16°23'
Dic 31	47s34	13°4'	29s74	59°1'	17s18	19°8'	46s58	2°3'	38s34	41°3'	30s20	5°5'
Ene 30	47.42	13.5	29.79	56.1	16.90	29.6	46.67	2.0	38.35	48.6	30.32	4.5
Mar 01	47.05	14.0	29.45	54.4	16.08	36.0	46.33	2.2	37.94	53.3	30.00	4.3
Mar 31	46.49	14.0	28.91	53.9	15.01	38.0	45.77	2.3	37.32	54.9	29.46	4.3
Abr 30	46.02	13.7	28.46	54.6	14.03	35.3	45.30	2.1	36.77	53.2	28.99	4.4
May 30	45.84	13.3	28.29	56.6	13.40	28.6	45.12	2.0	36.48	48.4	28.79	4.8
Jun 29	46.01	13.0	28.44	59.4	13.29	19.4	45.28	2.0	36.52	41.8	28.93	5.5
Jul 29	46.55	13.0	28.91	62.4	13.72	10.0	45.78	2.5	36.92	34.9	29.39	6.4
Ago 28	47.32	13.0	29.61	64.5	14.60	2.9	46.53	2.6	37.59	29.7	30.10	6.9
Sep 27	48.23	12.5	30.44	65.0	15.76	.3	47.42	2.2	38.43	27.9	30.96	6.5
Oct 27	49.17	11.5	31.30	63.2	16.96	3.4	48.34	.9	39.32	30.4	31.87	5.0
Nov 26	50.01	10.2	32.07	59.7	17.93	11.3	49.18	59.3*	40.10	36.6	32.70	2.7
Dic 26	50.58	9.4	32.58	55.7	18.39	22.0	49.75	58.0*	40.60	44.8	33.29	.6
Ene 25	50.73	9.3	32.70	52.4	18.23	32.2	49.92	57.4*	40.68	52.5	33.48	59.3*

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N°	252		254		257		256		258		262	
Nombre	ν Pupis		ε Geminorum		α Canis Majoris A (Sirius)		ξ Geminorum		18 Monocerotis		α Pictoris	
Mag. SP	3.17	B8	2.98	G5	-1.46	A0	3.36	F5	4.47	K0	3.27	A5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	6h38m	-43°12'	6h44m	+25°06'	6h45m	-16°44'	6h46m	+12°52'	6h48m	+2°23'	6h48m	-61°57'
Dic 31	12s06	36°3'	46s45	53°1'	45s47	13°3'	3s51	41°4'	34s60	40°6'	22s69	26°7'
Ene 30	11.95	45.7	46.59	53.6	45.52	19.9	3.64	39.7	34.72	37.0	22.37	37.1
Mar 01	11.35	52.1	46.27	54.5	45.15	24.3	3.34	39.0	34.42	35.0	21.34	44.6
Mar 31	10.51	54.4	45.70	55.0	44.57	25.8	2.81	38.9	33.90	34.3	19.94	47.8
Abr 30	9.73	52.4	45.20	54.8	44.05	24.4	2.34	39.2	33.43	35.1	18.57	46.1
May 30	9.23	46.4	44.98	54.1	43.78	20.4	2.12	40.0	33.21	37.1	17.59	40.0
Jun 29	9.16	37.9	45.11	53.5	43.83	14.7	2.24	41.3	33.29	40.1	17.21	31.0
Jul 29	9.53	29.1	45.58	52.7	44.21	8.8	2.67	42.7	33.69	43.3	17.53	21.3
Ago 28	10.27	22.3	46.32	51.9	44.86	4.4	3.35	43.6	34.34	45.5	18.48	13.5
Sep 27	11.26	19.5	47.22	50.8	45.67	3.0	4.19	43.3	35.14	45.9	19.87	9.9
Oct 27	12.31	22.1	48.19	49.4	46.54	5.5	5.08	41.5	36.01	43.9	21.38	12.1
Nov 26	13.20	29.5	49.08	48.1	47.32	11.4	5.91	38.7	36.81	40.0	22.64	19.6
Dic 26	13.71	39.6	49.72	47.4	47.83	18.9	6.50	35.9	37.38	35.4	23.27	30.3
Ene 25	13.70	49.4	49.94	47.7	47.95	25.9	6.70	33.9	37.57	31.5	23.10	41.2

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N°	1180		263		261		266		268		1183	
Nombre	κ Canis Major.		τ Pupis		θ Geminorum		θ Can. Majoris		ε Can. Majoris		σ Can. Majoris	
Mag. SP	3.96	B2p	2.93	K0	3.60	A2	4.07	K2	1.50	B1	3.46	K5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	6h50m	-32°31'	6h50m	-50°37'	6h53m	+33°56'	6h54m	-12°03'	6h59m	-28°59'	7h02m	-27°57'
Dic 31	21s96	34°6'	18s25	57°1'	41s44	30°6'	49s89	28°9'	10s54	33°1'	16s55	22°4'
Ene 30	21.97	43.2	18.13	67.2	41.62	32.8	49.99	34.9	10.59	41.5	16.62	30.7
Mar 01	21.52	49.2	17.44	74.4	41.29	34.9	49.67	38.8	10.20	47.3	16.24	36.5
Mar 31	20.84	51.5	16.45	77.4	40.67	36.0	49.13	40.2	9.56	49.7	15.61	38.9
Abr 30	20.20	50.0	15.50	75.8	40.11	35.5	48.62	39.1	8.95	48.4	15.00	37.7
May 30	19.80	44.9	14.85	69.9	39.84	33.9	48.34	35.6	8.57	43.8	14.63	33.1
Jun 29	19.76	37.4	14.66	61.3	39.94	31.7	48.38	30.6	8.52	36.8	14.58	26.3
Jul 29	20.10	29.6	14.98	52.0	40.42	29.3	48.73	25.3	8.84	29.3	14.89	19.0
Ago 28	20.76	23.4	15.75	44.6	41.20	27.2	49.35	21.2	9.46	23.4	15.50	13.1
Sep 27	21.63	20.8	16.83	41.3	42.18	25.3	50.15	19.9	10.30	20.9	16.33	10.7
Oct 27	22.58	23.1	18.01	43.5	43.23	23.9	51.01	22.0	11.23	23.0	17.26	12.8
Nov 26	23.43	29.8	19.02	50.9	44.21	23.3	51.81	27.3	12.08	29.4	18.11	19.1
Dic 26	23.97	39.0	19.61	61.3	44.93	24.0	52.37	34.1	12.65	38.3	18.68	27.8
Ene 25	24.06	48.0	19.59	71.8	45.19	25.9	52.55	40.4	12.79	47.0	18.83	36.4

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	270		271		269		273		1189		1186	
Nombre	O <sup>2</sup> Can.	Majoris	γ Can.	Majoris	ζ Geminorum		γ Can.	Majoris	γ <sup>2</sup> Volantis*		20 Monocerotis	
Mag. SP	3.03	B5p	4.11	B5	3.79	var. GOp	1.86	F8p	3.78	K0	4.92	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	7h03m	-23°51'	7h04m	-15°39'	7h04m	+20°32'	7h08m	-26°24'	7h08m	-70°31'	7h10m	-4°15'
Dic 31	36s33	18°6'	23s03	19°7'	55s20	51°0'	57s51	59°7'	42s32	17°0'	54s67	38°5'
Ene 30	36.42	26.3	23.15	26.4	55.40	50.7	57.61	67.9	41.91	27.9	54.84	43.4
Mar 01	36.07	31.7	22.84	30.8	55.14	51.1	57.25	73.6	40.50	36.2	54.58	46.4
Mar 31	35.47	34.0	22.29	32.6	54.61	51.6	56.65	76.2	38.52	40.4	54.07	47.5
Abr 30	34.90	32.8	21.77	31.6	54.11	51.8	56.05	75.1	36.48	39.8	53.59	46.7
May 30	34.55	28.6	21.46	28.0	53.86	51.8	55.68	70.8	34.88	34.6	53.31	44.1
Jun 29	34.52	22.2	21.46	22.6	53.93	51.8	55.62	64.3	34.07	26.1	53.33	40.3
Jul 29	34.83	15.4	21.78	16.8	54.32	51.7	55.91	57.1	34.22	16.4	53.65	36.3
Ago 28	35.43	9.9	22.38	12.3	54.99	51.2	56.50	51.4	35.32	8.1	54.24	33.2
Sep 27	36.24	7.7	23.16	10.6	55.84	50.0	57.32	49.0	37.13	3.8	55.01	32.4
Oct 27	37.14	9.8	24.04	12.7	56.77	48.1	58.23	50.9	39.20	5.0	55.87	34.5
Nov 26	37.98	15.9	24.86	18.2	57.67	45.9	59.09	57.1	40.98	11.8	56.70	39.1
Dic 26	38.56	24.1	25.45	25.6	58.34	44.1	59.69	65.6	41.91	22.3	57.31	44.9
Ene 25	38.73	32.2	25.64	32.5	58.62	43.4	59.87	74.1	41.70	33.5	57.55	50.1

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N°	274		1187		275		1188		281		278	
Nombre	63 Aurigae		δ Monocerotis		J Pupis		51 Geminorum		δ Volantis		π Puppis	
Mag. SP	4.90	K2	4.15	A0	4.49	F0	5.00	var M3	3.98	F5	2.70	K5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	7h12m	+39°17'	7h12m	-0°31'	7h12m	-46°46'	7h14m	+16°07'	7h16m	-67°58'	7h17m	-37°07'
Dic 31	35s72	42°7'	33s94	3°5'	58s52	59°9'	9s41	59°5'	53s18	56°3'	38s54	23°8'
Ene 30	35.98	45.7	34.12	7.8	58.52	70.0	9.63	58.2	52.91	67.3	38.62	33.2
Mar 01	35.67	48.9	33.87	10.3	57.98	77.6	9.39	58.0	51.74	75.9	38.21	40.2
Mar 31	35.03	50.6	33.38	11.2	57.12	81.3	8.89	58.3	50.03	80.5	37.51	43.5
Abr 30	34.41	50.4	32.90	10.5	56.25	80.5	8.40	58.7	48.24	80.2	36.81	42.8
May 30	34.06	48.4	32.62	8.3	55.63	75.4	8.13	59.3	46.82	75.3	36.32	38.1
Jun 29	34.10	45.4	32.64	5.0	55.40	67.3	8.18	59.9	46.08	66.9	36.17	30.8
Jul 29	34.54	41.9	32.97	1.6	55.64	58.4	8.53	60.5	46.20	57.2	36.41	22.6
Ago 28	35.31	38.6	33.56	59.1*	56.29	50.8	9.16	60.6	47.15	48.9	37.01	15.8
Sep 27	36.32	35.8	34.33	58.6*	57.27	47.1	9.97	59.6	48.75	44.3	37.87	12.5
Oct 27	37.44	33.9	35.20	.8	58.39	48.7	10.89	57.4	50.62	45.3	38.87	14.1
Nov 26	38.52	33.4	36.03	5.1	59.41	55.5	11.77	54.6	52.26	51.9	39.80	20.6
Dic 26	39.34	34.6	36.65	10.3	60.07	65.6	12.45	52.0	53.19	62.3	40.44	30.1
Ene 25	39.68	37.3	36.91	14.9	60.17	76.1	12.74	50.4	53.11	73.6	40.61	39.8

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N°	277		279		283		282		285		286	
Nombre	λ Geminorum		δ Geminorum		η Can. Majoris		ι Geminorum		β Can. Majoris		ρ Geminorum	
Mag. SP	3.58	A2	3.53	F0	2.44	B5p	3.79	K0	2.90	B8	4.18	F0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	7h18m	+16°30'	7h20m	+21°57'	7h24m	-29°19'	7h26m	+27°46'	7h27m	+8°15'	7h29m	+31°45'
Dic 31	52s74	47°3'	56s34	16°0'	38s89	51°7'	34s49	5°2'	53s60	34°1'	59s38	15°5'
Ene 30	52.97	46.1	56.59	15.8	39.03	60.3	34.77	6.0	53.84	31.3	59.68	17.0
Mar 01	52.74	46.0	56.37	16.6	38.70	66.7	34.55	7.6	53.64	30.0	59.46	19.3
Mar 31	52.25	46.4	55.85	17.3	38.10	69.8	34.02	8.9	53.16	29.7	58.91	20.9
Abr 30	51.75	46.8	55.34	17.7	37.48	69.1	33.48	9.2	52.68	30.3	58.35	21.3
May 30	51.48	47.3	55.05	17.7	37.05	65.0	33.16	8.6	52.39	31.7	58.01	20.3
Jun 29	51.51	47.9	55.08	17.4	36.94	58.5	33.17	7.5	52.39	33.5	58.00	18.6
Jul 29	51.85	48.4	55.43	16.9	37.17	51.1	33.52	5.9	52.70	35.4	58.36	16.3
Ago 28	52.47	48.3	56.07	15.9	37.73	45.0	34.17	4.0	53.26	36.5	59.02	13.7
Sep 27	53.28	47.2	56.90	14.4	38.53	42.1	35.03	1.7	54.03	36.0	59.91	11.1
Oct 27	54.19	45.0	57.85	12.1	39.47	43.7	36.01	59.3*	54.91	33.7	60.94	8.6
Nov 26	55.08	42.1	58.77	9.7	40.36	49.8	36.99	57.3*	55.78	30.0	61.95	6.9
Dic 26	55.77	39.5	59.49	7.9	41.01	58.6	37.75	56.4*	56.46	25.9	62.75	6.6
Ene 25	56.08	37.9	59.82	7.4	41.23	67.6	38.11	56.9*	56.78	22.8	63.13	7.8

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	1194		1193		288		287		1198		1196	
Nombre	σ Puppis		6 Can. Minor.		108 G. Puppis		α Geminorum A* (Castor)		γ Carinae		υ Geminorum	
Mag. SP	3.25	K5	4.54	K0	4.45	F8	1.58	A0	4.94	K5	4.06	K5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	7h29m	-43°19'	7h30m	+11°58'	7h34m	-22°19'	7h35m	+31°51'	7h36m	-52°33'	7h36m	+26°51'
Dic 31	41s16	47°4	33s47	33°4	38s84	36°9	28s27	20°5	1s85	52°5	45s81	45°4
Ene 30	41.26	57.5	33.74	31.2	39.03	44.7	28.59	22.0	1.92	63.3	46.12	46.0
Mar 01	40.82	65.3	33.54	30.5	38.77	50.4	28.38	24.3	1.37	71.9	45.93	47.5
Mar 31	40.05	69.4	33.06	30.5	38.23	53.2	27.83	26.0	.43	76.7	45.42	48.9
Abr 30	39.25	69.1	32.58	31.1	37.67	52.7	27.26	26.4	59.42*	76.8	44.88	49.3
May 30	38.66	64.6	32.29	32.1	37.28	49.2	26.91	25.6	58.63*	72.5	44.55	49.0
Jun 29	38.42	57.1	32.28	33.4	37.18	43.4	26.89	23.8	58.25*	64.7	44.53	48.0
Jul 29	38.60	48.4	32.59	34.6	37.40	37.0	27.23	21.4	58.36*	55.6	44.85	46.5
Ago 28	39.18	41.0	33.16	35.0	37.92	31.6	27.87	18.7	58.98*	47.5	45.46	44.5
Sep 27	40.09	37.0	33.93	34.2	38.68	29.2	28.75	15.9	60.00*	42.9	46.30	42.1
Oct 27	41.15	38.2	34.82	31.9	39.58	30.9	29.77	13.3	1.23	43.6	47.27	39.5
Nov 26	42.17	44.6	35.71	28.4	40.46	36.5	30.79	11.4	2.40	49.9	48.25	37.1
Dic 26	42.87	54.3	36.41	24.9	41.12	44.6	31.61	10.9	3.19	59.9	49.04	35.9
Ene 25	43.07	64.7	36.75	22.4	41.40	52.8	32.00	12.1	3.38	61.0	49.43	36.1

N°	290		291		293		297		294		295	
Nombre	127 G. Puppis		α Can. Minor. (Procyon)		α Monocerotis		ζ Volantis		κ Geminorum*		β Geminorum	
Mag. SP	4.53	B8	0.38	F5	3.93	K0	3.95	K0	3.57		1.14	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	7h37m	-34°59'	7h40m	+5°11'	7h41m	-9°35'	7h41m	-72°38'	7h45m	+24°21'	7h46m	+27°59'
Dic 31	53s37	59°9	1s15	17°2	54s31	4°5	43s95	16°2	16s27	45°2	9s06	25°6
Ene 30	53.53	69.3	1.41	13.6	54.56	10.5	43.79	27.5	16.60	45.3	9.39	26.4
Mar 01	53.20	76.5	1.23	11.7	54.36	14.6	42.47	36.9	16.44	46.5	9.22	28.1
Mar 31	52.56	80.3	.76	11.2	53.89	16.4	40.39	42.6	15.95	47.7	8.71	29.7
Abr 30	51.89	80.2	.28	11.8	53.38	15.9	38.12	43.5	15.43	48.4	8.17	30.4
May 30	51.39	76.2	59.97*	13.3	53.04	13.2	36.17	39.7	15.09	48.3	7.81	30.0
Jun 29	51.20	69.4	59.94*	15.5	52.98	9.0	34.98	32.1	15.05	47.7	7.77	28.8
Jul 29	51.38	61.5	.21	17.6	53.20	4.4	34.83	22.6	15.33	46.6	8.05	27.1
Ago 28	51.91	54.7	.75	19.0	53.71	.7	35.77	13.9	15.91	44.9	8.65	24.8
Sep 27	52.72	51.2	1.48	18.6	54.43	59.5*	37.61	8.4	16.72	42.7	9.47	22.1
Oct 27	53.70	52.5	2.35	16.2	55.29	1.4	39.91	8.3	17.67	39.9	10.44	19.3
Nov 26	54.65	58.5	3.22	12.0	56.16	6.4	42.03	14.0	18.64	37.1	11.44	16.8
Dic 26	55.35	67.6	3.91	7.3	56.84	13.1	43.33	24.0	19.43	35.3	12.25	15.5
Ene 25	55.60	77.4	4.24	3.4	57.16	19.4	43.41	35.4	19.84	35.0	12.66	15.9

N°	1200		1204		301		1207		303		1210	
Nombre	81 Geminorum		ξ Puppis		213 G. Puppis		φ Geminorum		χ Carinae		225 G. Puppis	
Mag. SP	4.88	K2	3.34	G0p	3.73	G5	4.97	A2	3.47	B3	4.79	A2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	7h46m	+18°28'	7h49m	-24°53'	7h52m	-40°36'	7h54m	+26°43'	7h57m	-53°01'	7h58m	-30°22'
Dic 31	54s88	27°2	52s74	41°7	42s36	40°5	19s87	39°7	9s39	6°5	13s54	18°2
Ene 30	55.20	26.2	52.98	50.0	42.56	50.6	20.23	40.2	9.56	17.5	13.79	27.3
Mar 01	55.05	26.4	52.75	56.3	42.23	58.6	20.09	41.8	9.10	26.7	13.56	34.4
Mar 31	54.59	27.2	52.22	59.6	41.56	63.2	19.61	43.4	8.21	32.2	13.00	38.3
Abr 30	54.09	27.9	51.64	59.5	40.81	63.6	19.08	44.2	7.20	33.2	12.38	38.6
May 30	53.76	28.4	51.22	56.2	40.23	59.9	18.72	44.0	6.37	29.6	11.91	35.3
Jun 29	53.72	28.6	51.07	50.4	39.95	53.1	18.65	43.1	5.91	22.4	11.71	29.2
Jul 29	53.99	28.5	51.24	43.8	40.06	44.8	18.91	41.5	5.93	13.4	11.84	22.0
Ago 28	54.54	27.8	51.72	38.0	40.56	37.5	19.47	39.3	6.46	5.1	12.30	15.6
Sep 27	55.30	26.1	52.46	35.2	41.39	33.3	20.27	36.6	7.43	59.9*	13.04	12.2
Oct 27	56.22	23.4	53.36	36.6	42.41	34.0	21.23	33.6	8.66	60.0*	13.97	13.2
Nov 26	57.15	20.1	54.27	42.2	43.44	39.8	22.23	30.8	9.88	5.6	14.92	18.8
Dic 26	57.92	17.4	54.98	50.4	44.21	49.1	23.06	29.2	10.77	15.4	15.67	27.4
Ene 25	58.31	16.0	55.30	59.1	44.50	59.5	23.50	29.3	11.06	26.5	16.00	36.7

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	304		1212		305		306		308		309	
Nombre	27 Monocerotis		232 G. Puppis		χ Geminorum		ζ Puppis		ρ Puppis		γ Velorum*	
Mag. SP	4.93	K0	4.62	A2	4.94	K0	2.25	Od	2.81	F5	1.82	Oap
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	8h00m	-3°43'	8h00m	-18°26'	8h04m	+27°45'	8h04m	-40°02'	8h08m	-24°20'	8h09m	-47°22'
Dic 31	25s28	6"1	29s22	15"3	21s28	11"8	4s95	29"7	8s12	38"8	58s66	34"6
Ene 30	25.60	11.3	29.50	22.9	21.68	12.3	5.20	39.8	8.42	47.2	58.92	45.3
Mar 01	25.46	14.6	29.33	28.4	21.57	14.2	4.92	48.0	8.24	53.7	58.58	54.3
Mar 31	25.03	16.0	28.86	31.3	21.10	16.0	4.28	52.9	7.75	57.2	57.85	59.9
Abr 30	24.55	15.6	28.32	31.3	20.56	16.9	3.55	53.7	7.18	57.5	57.00	61.2
May 30	24.20	13.4	27.93	28.4	20.18	16.8	2.96	50.3	6.75	54.6	56.29	58.0
Jun 29	24.11	10.1	27.79	23.4	20.09	15.8	2.66	43.8	6.56	49.2	55.88	51.3
Jul 29	24.30	6.6	27.95	17.7	20.32	14.0	2.74	35.7	6.68	42.7	55.89	42.7
Ago 28	24.76	3.8	28.40	12.8	20.86	11.5	3.19	28.3	7.11	37.1	56.35	34.7
Sep 27	25.45	3.2	29.10	10.5	21.64	8.5	3.98	23.9	7.81	34.1	57.20	29.6
Oct 27	26.30	5.3	29.97	12.1	22.60	5.2	5.00	24.3	8.70	35.3	58.31	29.5
Nov 26	27.18	10.1	30.87	17.3	23.61	2.2	6.03	29.9	9.63	40.6	59.45	34.9
Dic 26	27.92	16.0	31.60	25.0	24.47	.6	6.83	39.1	10.38	48.7	60.32	44.3
Ene 25	28.30	21.5	31.96	32.8	24.95	.7	7.18	49.4	10.76	57.3	60.69	55.2

N°	311		312		313		318		1219		315	
Nombre	20 Puppis		β Cancri		289 G. Puppis		δ Chamaeleontis		294 G. Puppis		ε Carinae	
Mag. SP	4.99	G5	3.52	K2	4.45	A5	4.35		4.83	K0	1.86	K0" B
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	8h13m	-15°49'	8h17m	+9°08'	8h19m	-36°42'	8h20m	-77°31'	8h21m	-33°05'	8h22m	-59°33'
Dic 31	57s99	48"5	15s36	29"8	4s92	4"7	20s09	33"0	56s09	51"1	49s97	7"1
Ene 30	58.33	55.7	15.75	26.7	5.24	14.6	20.30	44.4	56.42	60.6	50.26	18.5
Mar 01	58.20	61.0	15.68	25.4	5.03	22.7	18.88	54.8	56.25	68.4	49.81	28.5
Mar 31	57.76	63.9	15.28	25.4	4.47	27.7	16.29	62.1	55.73	73.1	48.82	35.3
Abr 30	57.25	63.9	14.81	26.1	3.79	28.7	13.18	65.1	55.10	74.1	47.62	37.6
May 30	56.86	61.4	14.46	27.4	3.24	25.9	10.26	63.1	54.58	71.3	46.55	35.1
Jun 29	56.70	56.9	14.35	29.0	2.94	19.8	8.18	56.8	54.31	65.5	45.84	28.5
Jul 29	56.82	51.6	14.51	30.3	2.98	12.2	7.41	47.9	54.36	58.3	45.67	19.6
Ago 28	57.24	47.1	14.95	30.9	3.38	5.0	8.16	38.7	54.75	51.5	46.12	10.8
Sep 27	57.91	45.0	15.63	29.9	4.11	.7	10.31	32.1	55.45	47.5	47.14	4.7
Oct 27	58.76	46.5	16.48	27.0	5.08	1.0	13.35	30.3	56.38	47.9	48.54	3.6
Nov 26	59.67	51.6	17.40	22.8	6.10	6.2	16.39	34.4	57.38	53.1	49.99	8.2
Dic 26	60.42	59.0	18.19	18.3	6.92	15.0	18.50	43.3	58.19	61.7	51.10	17.5
Ene 25	60.83	66.4	18.65	14.9	7.33	25.0	19.04	54.7	58.61	71.4	51.53	28.9

N°	316		319		1223		324		1224		325	
Nombre	Bradley 1197 (Hydrae)		β Volantis		δ Hydrae		48 G. Velorum		σ Hydrae		6 Hydrae	
Mag. SP	3.90	A0	3.77	K0	4.16	A0	4.14	A5	4.44	K0	4.98	K2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	8h26m	-3°57'	8h25m	-66°10'	8h38m	+5°39'	8h38m	-43°02'	8h39m	+3°17'	8h40m	-12°31'
Dic 31	20s70	7"4	56s24	49"9	22s71	16"9	8s59	8"5	28s26	31"7	40s52	26"6
Ene 30	21.09	12.8	56.55	61.4	23.16	13.0	8.97	19.0	28.70	27.5	40.94	33.5
Mar 01	21.03	16.4	55.93	71.8	23.14	11.1	8.80	28.1	28.69	25.0	40.90	38.6
Mar 31	20.65	18.0	54.66	79.0	22.79	10.6	8.22	34.1	28.34	24.3	40.53	41.3
Abr 30	20.18	17.7	53.11	81.7	22.34	11.3	7.48	36.1	27.88	24.9	40.05	41.6
May 30	19.81	15.8	51.68	79.6	21.97	12.8	6.83	33.9	27.52	26.5	39.65	39.5
Jun 29	19.66	12.6	50.70	73.1	21.81	14.8	6.41	28.0	27.36	28.7	39.45	35.7
Jul 29	19.78	9.2	50.39	64.2	21.92	16.6	6.36	20.1	27.46	30.9	39.52	31.1
Ago 28	20.18	6.6	50.87	55.1	22.29	17.6	6.70	12.3	27.82	32.3	39.86	27.2
Sep 27	20.81	6.0	52.08	48.6	22.91	16.9	7.43	7.1	28.44	31.9	40.46	25.4
Oct 27	21.64	8.1	53.79	47.1	23.73	14.1	8.44	6.5	29.25	29.3	41.28	26.9
Nov 26	22.54	12.9	55.55	51.5	24.65	9.5	9.55	11.1	30.17	24.6	42.20	31.8
Dic 26	23.33	19.0	56.86	60.7	25.48	4.4	10.48	20.0	30.99	19.3	43.01	38.7
Ene 25	23.79	24.7	57.34	72.2	25.99	.2	10.96	30.5	31.50	14.7	43.50	45.9

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	1227		1226		1228		327		326		328	
Nombre	O Velorum		53 G. Velorum		γ Cancri		α Pyxidis		δ Cancri		ι Cancri*	
Mag. SP	3.62	B3	3.84	F5p	4.67	A0	3.68	B2	3.94	K0	4.02	G5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	8h40m	-52°58'	8h41m	-46°41'	8h44m	+21°25'	8h44m	-33°14'	8h45m	+18°06'	8h47m	+28°42'
Dic 31	42s75	7°3	6s08	45°2	4s34	1°7	9s20	5°1	27s46	7°5	31s09	26°6
Ene 30	43.15	18.4	6.48	55.9	4.84	.7	9.61	14.7	27.96	5.9	31.64	26.9
Mar 01	42.89	28.4	6.29	65.4	4.85	1.5	9.51	22.8	27.97	6.1	31.66	28.9
Mar 31	42.16	35.3	5.66	71.8	4.49	3.1	9.05	28.0	27.62	7.2	31.28	31.5
Abr 30	41.22	38.0	4.87	74.1	4.00	4.5	8.45	29.6	27.15	8.5	30.76	33.2
May 30	40.35	36.0	4.15	72.0	3.61	5.3	7.91	27.5	26.76	9.5	30.33	33.7
Jun 29	39.77	30.0	3.68	66.1	3.43	5.3	7.59	22.2	26.59	9.9	30.13	32.8
Jul 29	39.61	21.6	3.58	58.0	3.54	4.6	7.57	15.2	26.70	9.6	30.22	30.8
Ago 28	39.95	13.0	3.92	49.9	3.93	2.7	7.89	8.4	27.07	8.4	30.62	27.6
Sep 27	40.78	6.9	4.67	44.4	4.58	59.8*	8.54	4.1	27.70	5.9	31.31	23.7
Oct 27	41.96	5.6	5.73	43.4	5.45	55.9*	9.45	4.0	28.56	2.2	32.22	19.4
Nov 26	43.25	9.9	6.90	47.9	6.43	51.8*	10.46	8.7	29.52	57.9*	33.25	15.4
Dic 26	44.31	18.8	7.87	56.8	7.32	48.5*	11.34	17.0	30.40	54.2*	34.20	13.0
Ene 25	44.82	29.9	8.37	67.5	7.90	47.0*	11.83	26.7	30.96	52.1*	34.81	12.8

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N°	332		336		334		337		1234		343	
Nombre	γ Pyxidis		108 G. Carinae		ζ Hydrae		α Cancri		91 G. Velorum		α Volantis	
Mag. SP	4.01	K2	3.84	B8	3.11	K0	4.25	A3	4.45	F8	4.00	A5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	8h51m	-27°45'	8h55m	-60°41'	8h56m	+5°53'	8h59m	+11°48'	9h00m	-41°18'	9h02m	-66°26'
Dic 31	7s26	35°4	23s67	39°2	6s85	32°3	13s85	11°9	36s97	18°7	42s66	51°0
Ene 30	7.69	44.3	24.16	50.6	7.34	28.4	14.37	9.0	37.44	29.1	43.24	62.5
Mar 01	7.64	51.8	23.88	61.2	7.38	26.4	14.42	8.0	37.37	38.3	42.90	73.5
Mar 31	7.23	56.5	23.01	69.1	7.06	26.0	14.11	8.4	36.88	44.6	41.83	81.9
Abr 30	6.69	57.9	21.84	72.8	6.62	26.8	13.67	9.5	36.21	47.2	40.39	86.1
May 30	6.20	55.9	20.70	71.6	6.25	28.3	13.29	10.9	35.57	45.6	38.93	85.5
Jun 29	5.91	51.0	19.86	66.1	6.06	30.2	13.10	12.1	35.14	40.4	37.80	80.3
Jul 29	5.89	44.6	19.52	57.6	6.12	31.8	13.16	12.8	35.02	33.0	37.27	72.0
Ago 28	6.19	38.6	19.80	48.6	6.44	32.6	13.48	12.6	35.29	25.4	37.52	62.8
Sep 27	6.80	34.8	20.71	41.8	7.02	31.8	14.06	10.9	35.93	20.0	38.54	55.5
Oct 27	7.67	35.0	22.09	39.5	7.82	28.9	14.87	7.4	36.89	18.9	40.18	52.6
Nov 26	8.64	39.7	23.63	43.0	8.74	24.2	15.81	2.8	38.00	23.0	42.02	55.6
Dic 26	9.51	47.6	24.91	51.5	9.59	19.0	16.68	58.2*	38.97	31.4	43.54	63.8
Ene 25	10.02	56.7	25.55	62.8	10.15	14.7	17.27	54.9*	39.53	41.7	44.30	75.1

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N°	342		1237		345		348		347		351	
Nombre	97 G. Velorum		Piazzi 8 <sup>h</sup> 245 (Lyncis)		λ Velorum		β Carinae		ρ Hydrae		ι Carinae	
Mag. SP	3.75	K0	4.56	G5	2.21	K5	1.68	A0	3.88	A0	2.25	F0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	9h04m	-47°08'	9h07m	+38°23'	9h08m	-43°29'	9h13m	-69°46'	9h15m	+2°15'	9h17m	-59°19'
Dic 31	38s77	60°0	23s42	40°7	30s94	8°5	24s33	11°6	4s37	21°3	29s32	46°0
Ene 30	39.27	70.7	24.07	42.4	31.45	18.9	25.05	22.9	4.91	16.6	29.94	57.1
Mar 01	39.18	80.5	24.16	46.1	31.39	28.5	24.72	34.1	5.00	13.8	29.82	68.0
Mar 31	38.64	87.6	23.78	50.1	30.91	35.2	23.54	43.0	4.73	12.9	29.10	76.4
Abr 30	37.88	90.7	23.20	52.6	30.22	38.2	21.88	47.8	4.32	13.4	28.05	80.8
May 30	37.15	89.4	22.68	53.0	29.55	36.9	20.15	47.8	3.94	14.9	26.98	80.4
Jun 29	36.62	84.2	22.39	51.2	29.08	31.9	18.76	43.1	3.72	17.1	26.13	75.6
Jul 29	36.44	76.5	22.41	47.6	28.92	24.4	18.03	35.0	3.72	19.2	25.73	67.7
Ago 28	36.68	68.3	22.77	42.7	29.15	16.6	18.19	25.7	3.98	20.5	25.89	58.7
Sep 27	37.36	62.3	23.46	37.1	29.78	10.9	19.28	18.0	4.51	20.1	26.67	51.6
Oct 27	38.39	60.7	24.43	31.8	30.76	9.5	21.09	14.6	5.28	17.4	27.95	48.7
Nov 26	39.58	64.5	25.56	27.6	31.89	13.3	23.19	17.0	6.20	12.6	29.46	51.4
Dic 26	40.63	72.8	26.63	25.9	32.91	21.5	24.96	24.7	7.07	6.8	30.78	59.4
Ene 25	41.23	83.5	27.36	27.0	33.51	32.0	25.88	35.8	7.68	1.8	31.54	10.4

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	352		1243		353		1244		354		356	
Nombre	α Lyncis		γ Pyxidis		K Velorum		K Leonis		α Hydrae		ε Antliae	
Mag. SP	3.13	K5	4.72	M0	2.50	B3	4.46	K0	1.98	K2	4.51	K2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	9h21m	+34°19'	9h22m	-26°01'	9h22m	-55°03'	9h25m	+26°07'	9h28m	- 8°43'	9h29m	-36°00'
Dic 31	52s73	55°6	6s24	20°2	33s80	57°5	26s53	16°8	15s50	3°5	49s17	32°5
Ene 30	53.40	56.4	6.78	28.9	34.42	68.5	27.17	16.1	16.06	10.0	49.75	42.2
Mar 01	53.54	59.4	6.84	36.4	34.37	79.2	27.32	17.7	16.18	14.7	49.81	51.1
Mar 31	53.22	63.1	6.53	41.4	33.77	87.4	27.04	20.3	15.93	17.3	49.47	57.5
Abr 30	52.70	65.8	6.04	43.3	32.88	91.6	26.58	22.5	15.52	17.7	48.92	60.4
May 30	52.20	66.6	5.57	42.0	31.96	91.3	26.14	23.7	15.13	16.2	48.36	59.6
Jun 29	51.90	65.5	5.24	37.8	31.23	86.6	25.88	23.5	14.87	13.2	47.94	55.2
Jul 29	51.89	62.6	5.15	32.1	30.88	78.9	25.86	22.0	14.82	9.5	47.77	48.7
Ago 28	52.18	58.3	5.36	26.3	31.04	70.2	26.13	19.0	15.03	6.4	47.94	41.7
Sep 27	52.79	53.1	5.88	22.5	31.73	63.2	26.68	14.9	15.52	5.1	48.47	36.6
Oct 27	53.68	47.6	6.69	22.4	32.88	60.5	27.51	10.0	16.26	6.7	49.33	35.3
Nov 26	54.76	42.9	7.66	26.6	34.25	63.3	28.51	5.1	17.18	11.3	50.38	38.9
Dic 26	55.80	40.3	8.58	34.1	35.48	71.2	29.49	1.5	18.07	17.9	51.37	46.6
Ene 25	56.55	40.6	9.19	42.9	36.22	82.1	30.20	.3	18.69	24.6	52.02	56.3

N°	361		1246		360		1249		1250		365	
Nombre	N Velorum		ξ Leonis		10 Leonis Min.		Bradley 1352 (Hydrae)		ι Hydrae		O Leonis	
Mag. SP	3.13	K5	4.97	G5	4.55	G5	4.68	K0	3.91	K0	3.52	F5,A3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	9h31m	-57°05'	9h32m	+11°14'	9h35m	+36°20'	9h39m	+ 4°35'	9h40m	- 1°12'	9h41m	+ 9°49'
Dic 31	39s91	28°4	40s60	17°5	2s98	3°0	9s79	13°3	33s03	18°0	52s44	45°3
Ene 30	40.60	39.4	41.20	14.1	3.71	3.9	10.40	8.7	33.63	23.4	53.07	41.6
Mar 01	40.58	50.2	41.35	13.0	3.90	7.3	10.56	6.3	33.79	26.9	53.25	40.1
Mar 31	39.99	58.8	41.13	13.4	3.61	11.3	10.35	5.7	33.59	28.4	53.04	40.4
Abr 30	39.07	63.5	40.72	14.7	3.09	14.4	9.97	6.5	33.21	28.2	52.66	41.6
May 30	38.08	63.6	40.34	16.2	2.58	15.5	9.59	8.0	32.83	26.7	52.27	43.2
Jun 29	37.28	59.2	40.09	17.6	2.24	14.4	9.33	10.0	32.57	24.3	52.01	44.7
Jul 29	36.87	51.6	40.06	18.3	2.17	11.3	9.28	11.7	32.51	21.8	51.96	45.7
Ago 28	36.97	42.9	40.28	18.0	2.42	6.5	9.47	12.5	32.69	20.0	52.15	45.6
Sep 27	37.65	35.7	40.77	16.1	3.00	.8	9.94	11.7	33.15	19.9	52.62	43.8
Oct 27	38.82	32.5	41.52	12.4	3.88	54.9*	10.67	8.6	33.87	22.3	53.35	40.2
Nov 26	40.26	34.9	42.45	7.4	4.97	49.9*	11.58	3.7	34.78	27.1	54.27	35.1
Dic 26	41.57	42.5	43.37	2.3	6.06	47.2*	12.49	58.0*	35.68	33.2	55.19	29.9
Ene 25	42.37	53.3	44.04	58.6*	6.86	47.5*	13.15	53.2*	36.34	38.9	55.87	25.8

N°	366		1254		367		371		373		375	
Nombre	ρ Antliae		ι Carinae		ε Leonis		μ Leonis		183 G. Hydrae		φ Velorum	
Mag. SP	4.79	F5p	3.4-4.1	G0	2.98	Gop	3.88	K0	4.94	M0	3.54	B5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	9h44m	-27°49'	9h45m	-62°34'	9h46m	+23°42'	9h53m	+25°56'	9h55m	-19°04'	9h57m	-54°37'
Dic 31	48s95	48°5	39s39	"5	37s07	34°1	31s86	26°3	30s92	21°4	21s85	43°9
Ene 30	49.56	57.4	40.23	11.5	37.76	32.6	32.58	25.2	31.55	29.3	22.64	54.5
Mar 01	49.70	65.2	40.26	22.7	37.97	33.8	32.81	26.6	31.74	35.9	22.79	65.3
Mar 31	49.45	70.8	39.62	32.0	37.76	36.2	32.61	29.5	31.55	40.3	22.37	74.2
Abr 30	48.99	73.2	38.55	37.6	37.34	38.6	32.19	32.2	31.16	42.0	21.60	79.6
May 30	48.51	72.4	37.36	38.5	36.91	40.2	31.75	33.8	30.74	41.1	20.73	80.5
Jun 29	48.14	68.7	36.33	34.7	36.62	40.5	31.44	34.0	30.41	37.8	19.96	76.9
Jul 29	47.99	63.0	35.72	27.4	36.55	39.4	31.35	32.6	30.27	33.2	19.50	70.0
Ago 28	48.13	57.2	35.72	18.5	36.74	36.8	31.52	29.6	30.39	28.7	19.50	61.6
Sep 27	48.59	53.0	36.41	10.6	37.22	32.8	31.98	25.1	30.80	25.7	20.03	54.2
Oct 27	49.36	52.3	37.72	6.6	37.99	27.7	32.75	19.7	31.52	25.9	21.08	50.5
Nov 26	50.34	56.0	39.37	8.2	38.96	22.4	33.73	14.3	32.45	29.9	22.44	52.1
Dic 26	51.31	63.3	40.90	15.2	39.95	18.2	34.74	10.1	33.39	36.8	23.75	59.0
Ene 25	51.99	72.2	41.88	25.8	40.70	16.2	35.51	8.4	34.09	44.8	24.65	69.4

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	378		1261		379		380		381		385	
Nombre	π Leonis		υ <sup>2</sup> Hydrae		η Leonis		α Leonis (Regulus)		λ Hydrae		ω Carinae	
Mag. SP	4.70	M0	4.60	B8	3.52	A0p	1.35	B8	3.61	K0	3.32	B8
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	10h00m	+7°58'	10h05m	-13°07'	10h08m	+16°41'	10h09m	+11°53'	10h11m	-12°25'	10h14m	-70°06'
Dic 31	55s72	41°2'	47s27	46°9'	4s09	41°6'	5s49	58°8'	15s10	13°1'	6s44	2°0'
Ene 30	56.39	37.1	47.93	54.0	4.80	38.8	6.18	55.2	15.77	20.2	7.69	12.4
Mar 01	56.62	35.2	48.16	59.7	5.07	38.5	6.44	54.0	16.01	25.8	7.94	24.0
Mar 31	56.47	35.2	48.01	63.2	4.93	39.9	6.31	54.7	15.88	29.2	7.26	34.3
Abr 30	56.12	36.3	47.66	64.4	4.58	42.0	5.97	56.3	15.54	30.3	5.93	41.4
May 30	55.74	38.0	47.26	63.3	4.18	43.8	5.58	58.1	15.15	29.3	4.30	43.9
Jun 29	55.46	39.7	46.95	60.5	3.88	44.9	5.29	59.5	14.83	26.5	2.75	41.5
Jul 29	55.36	40.9	46.81	56.6	3.76	44.9	5.17	60.2	14.68	22.8	1.66	35.0
Ago 28	55.50	41.0	46.90	53.0	3.88	43.5	5.28	59.6	14.76	19.4	1.35	26.1
Sep 27	55.91	39.5	47.29	51.0	4.28	40.5	5.67	57.4	15.13	17.4	2.01	17.6
Oct 27	56.59	36.0	47.97	51.8	4.97	35.9	6.35	53.3	15.80	18.4	3.57	12.2
Nov 26	57.50	30.8	48.88	56.0	5.90	30.4	7.25	48.0	16.70	22.6	5.70	12.1
Dic 26	58.44	25.2	49.81	62.6	6.87	25.2	8.21	42.5	17.64	29.1	7.77	17.8
Ene 25	59.16	20.7	50.53	69.9	7.64	21.9	8.96	38.5	18.37	36.3	9.21	27.8

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N°	382		384		1264		1268		391		389	
Nombre	191 G.Velorum		ζ Leonis		187 G.Carinae		204 G.Velorum		J Carinae		μ Hydrae	
Mag. SP	3.85	A2	3.44	F0	3.40	K5	4.83	K5	4.00	F5	3.81	K5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	10h15m	-42°11'	10h17m	+23°20'	10h17m	-61°23'	10h22m	-41°42'	10h24m	-74°05'	10h26m	-16°54'
Dic 31	19s16	9°9'	26s33	51°6'	34s01	44°6'	55s27	54°1'	43s33	43°8'	44s93	14°9'
Ene 30	19.92	19.7	27.09	49.6	35.02	55.0	56.05	63.8	44.91	53.9	45.64	22.5
Mar 01	20.16	29.5	27.40	50.5	35.28	66.3	56.33	73.5	45.28	65.5	45.93	28.9
Mar 31	19.94	37.3	27.28	53.1	34.86	76.1	56.15	81.3	44.51	76.2	45.84	33.1
Abr 30	19.44	41.9	26.92	55.9	33.99	82.6	55.68	86.1	42.90	83.9	45.52	34.9
May 30	18.84	42.6	26.50	58.0	32.91	84.7	55.09	87.0	40.85	87.0	45.13	34.3
Jun 29	18.30	39.5	26.16	58.7	31.90	82.0	54.55	84.0	38.84	85.2	44.79	31.6
Jul 29	17.97	33.4	26.01	57.8	31.20	75.5	54.21	78.1	37.36	79.1	44.59	27.6
Ago 28	17.96	26.1	26.11	55.2	31.04	66.9	54.17	71.0	36.84	70.3	44.62	23.5
Sep 27	18.35	19.9	26.49	51.0	31.54	58.8	54.54	64.7	37.52	61.5	44.94	20.9
Oct 27	19.17	17.0	27.18	45.5	32.69	54.0	55.33	61.8	39.35	55.6	45.59	21.1
Nov 26	20.27	19.0	28.12	39.7	34.26	54.5	56.42	63.6	41.92	54.8	46.49	24.8
Dic 26	21.40	25.7	29.14	34.8	35.84	60.5	57.56	70.0	44.47	59.9	47.45	31.3
Ene 25	22.24	35.2	29.95	32.4	36.97	70.5	58.42	79.5	46.26	69.5	48.22	38.9

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N°	392		390		393		397		396		401	
Nombre	α Antliae		β Leonis Min.		196 G. Carinae		203 G. Carinae		ρ Leonis		γ Chamaeleontis	
Mag. SP	4.25	K5	4.21	K0	3.82	F0	3.32	B5p	3.85	B0p	4.11	M0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	10h27m	-31°08'	10h28m	+36°38'	10h28m	-58°48'	10h32m	-61°45'	10h33m	+9°14'	10h35m	-78°40'
Dic 31	46s78	3°3'	39s54	5°5'	24s16	15°3'	32s13	1°4'	31s26	9°7'	42s30	21°0'
Ene 30	47.53	12.2	40.41	5.3	25.17	25.5	33.23	11.6	32.00	5.5	44.55	30.8
Mar 01	47.82	20.7	40.79	8.5	25.50	36.6	33.60	22.8	32.34	3.7	45.18	42.3
Mar 31	47.70	27.1	40.67	13.2	25.19	46.3	33.28	32.8	32.28	3.9	44.24	53.3
Abr 30	47.33	30.7	40.25	17.4	24.45	52.9	32.47	39.8	31.99	5.4	42.05	61.6
May 30	46.86	31.0	39.74	19.7	23.50	55.2	31.42	42.5	31.63	7.3	39.15	65.6
Jun 29	46.43	28.2	39.31	19.6	22.58	52.9	30.38	40.4	31.31	9.0	36.21	64.5
Jul 29	46.16	23.0	39.08	16.9	21.92	46.7	29.61	34.3	31.14	10.0	33.95	58.9
Ago 28	46.16	17.0	39.13	12.1	21.74	38.3	29.36	25.9	31.20	9.8	32.98	50.3
Sep 27	46.49	12.2	39.51	5.8	22.16	30.4	29.78	17.7	31.50	8.0	33.70	41.2
Oct 27	47.19	10.4	40.24	58.7*	23.19	25.5	30.88	12.4	32.11	4.2	36.08	34.7
Nov 26	48.16	13.0	41.27	52.3*	24.66	25.7	32.45	12.3	32.99	58.7*	39.53	33.2
Dic 26	49.20	19.5	42.39	48.1*	26.16	31.4	34.08	17.7	33.95	52.9*	43.03	37.5
Ene 25	50.01	28.3	43.32	47.3*	27.28	41.2	35.30	27.4	34.75	48.3*	45.56	46.6

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	1275		402		406		411		410		412	
Nombre	37 Leonis Min.		225 G. Velorum*		ϩ Carinae		δ <sup>2</sup> Chamaeleontis		V Hydrae		46 Leonis Min.	
Mag.	SP											
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	10h39m	+31°54'	10h39m	-55°40'	10h43m	-64°27'	10h45m	-80°36'	10h50m	-16°15'	10h54m	+34°08'
Dic 31	28s47	11°7	52s05	9°7	28s29	37°5	59s62	21°0	17s64	46°6	3s56	21°3
Ene 30	29.33	10.7	53.06	19.6	29.52	47.4	62.42	30.4	18.41	54.0	4.47	20.2
Mar 01	29.73	12.9	53.44	30.5	29.99	58.7	63.35	41.9	18.78	60.2	4.93	22.7
Mar 31	29.66	17.0	53.24	40.1	29.70	69.0	62.39	53.1	18.77	64.4	4.90	27.2
Abr 30	29.30	21.0	52.62	46.7	28.86	76.6	59.89	61.7	18.50	66.3	4.56	31.6
May 30	28.84	23.5	51.80	49.1	27.71	79.8	56.43	66.2	18.14	65.9	4.10	34.5
Jun 29	28.44	24.0	50.97	47.1	26.54	78.3	52.83	65.7	17.79	63.5	3.66	35.0
Jul 29	28.20	22.1	50.36	41.2	25.63	72.5	49.96	60.5	17.55	59.8	3.38	33.1
Ago 28	28.22	18.1	50.16	33.2	25.27	64.2	48.60	52.1	17.52	56.0	3.34	28.8
Sep 27	28.55	12.4	50.51	25.4	25.65	55.7	49.26	43.0	17.78	53.4	3.62	22.6
Oct 27	29.22	5.7	51.43	20.5	26.79	49.9	51.96	36.1	18.37	53.5	4.26	15.4
Nov 26	30.18	59.1*	52.78	20.6	28.47	49.1	56.01	34.0	19.24	56.9	5.22	8.5
Dic 26	31.26	54.4*	54.21	26.1	30.25	54.0	60.22	37.8	20.22	63.2	6.32	3.5
Ene 25	32.18	52.7*	55.31	35.6	31.61	63.4	63.36	46.5	21.04	70.6	7.28	1.7

N°	414		1283		415		1284		418		419	
Nombre	ι Antliae		α Crateris		239 G. Velorum		58 Leonis		χ Leonis		χ <sup>1</sup> Hydrae	
Mag.	SP											
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	10h57m	-37°12'	11h00m	-18°22'	11h00m	-42°17'	11h01m	+ 3°32'	11h05m	+ 7°15'	11h05m	-27°21'
Dic 31	21s37	25°6	26s11	8°1	47s14	40°5	15s34	41°0	42s63	45°0	59s24	49°7
Ene 30	22.24	34.5	26.91	15.7	48.05	49.6	16.14	35.8	43.43	40.2	60.08	57.9
Mar 01	22.65	43.6	27.30	22.2	48.49	59.2	16.54	32.9	43.86	37.9	60.50	65.8
Mar 31	22.63	51.2	27.32	26.8	48.47	67.5	16.57	32.1	43.89	37.8	60.53	71.9
Abr 30	22.30	56.1	27.08	29.1	48.12	73.0	16.35	33.0	43.67	39.2	60.27	75.5
May 30	21.82	57.5	26.71	29.0	47.59	75.0	16.02	34.7	43.34	41.1	59.88	76.2
Jun 29	21.33	55.4	26.35	26.7	47.03	73.1	15.69	36.7	43.01	43.1	59.47	74.1
Jul 29	20.96	50.5	26.09	23.0	46.60	68.1	15.47	38.4	42.78	44.4	59.16	69.9
Ago 28	20.84	44.2	26.02	18.9	46.44	61.3	15.44	39.1	42.73	44.5	59.05	64.7
Sep 27	21.08	38.4	26.24	16.0	46.67	54.9	15.66	38.3	42.94	42.9	59.26	60.4
Oct 27	21.73	35.4	26.80	15.7	47.35	51.2	16.20	35.1	43.47	39.3	59.84	58.7
Nov 26	22.73	36.8	27.67	18.8	48.40	51.9	17.03	30.0	44.30	33.8	60.74	60.8
Dic 26	23.85	42.5	28.66	24.9	49.58	57.3	17.99	23.9	45.26	27.7	61.78	66.7
Ene 25	24.78	51.1	29.50	32.4	50.57	66.1	18.83	18.4	46.10	22.6	62.67	74.7

N°	1289		421		422		423		1292		425	
Nombre	260 G. Carinae		β Crateris		δ Leonis		ϩ Leonis		φ Leonis		V Ursae Major.	
Mag.	SP											
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	11h09m	-59°02'	11h12m	-22°53'	11h14m	+20°26'	11h14m	+15°21'	11h17m	- 3°43'	11h19m	+33°01'
Dic 31	11s33	35°5	19s51	49°9	49s17	53°2	56s56	16°5	20s75	29°3	11s93	4°8
Ene 30	12.54	44.7	20.34	57.7	50.04	50.0	57.41	12.7	21.57	35.3	12.88	3.1
Mar 01	13.12	55.6	20.78	64.9	50.51	49.9	57.87	11.7	22.02	39.6	13.41	5.2
Mar 31	13.07	65.7	20.83	70.4	50.57	52.2	57.94	13.1	22.09	41.6	13.48	9.6
Abr 30	12.53	73.3	20.61	73.4	50.35	55.4	57.73	15.6	21.91	41.8	13.21	14.3
May 30	11.69	77.0	20.25	73.8	49.99	58.2	57.39	18.2	21.60	40.6	12.78	17.7
Jun 29	10.76	76.2	19.87	71.8	49.63	59.8	57.04	20.0	21.27	38.5	12.33	18.9
Jul 29	9.98	71.2	19.57	67.9	49.36	59.7	56.78	20.4	21.02	36.1	12.00	17.5
Ago 28	9.60	63.4	19.47	63.4	49.28	57.8	56.71	19.3	20.94	34.3	11.88	13.6
Sep 27	9.81	55.3	19.65	59.7	49.47	53.8	56.90	16.2	21.11	33.9	12.06	7.6
Oct 27	10.68	49.4	20.20	58.6	50.00	48.1	57.41	11.3	21.61	35.9	12.61	.2
Nov 26	12.08	48.2	21.07	61.2	50.84	41.6	58.23	5.1	22.42	40.3	13.50	52.9*
Dic 26	13.65	52.5	22.09	67.0	51.84	35.6	59.22	59.1*	23.38	46.5	14.59	47.2*
Ene 25	14.96	61.2	22.97	74.7	52.75	31.9	60.10	54.7*	24.23	52.7	15.58	44.8*



**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	1293		426		428		427		431		1297	
Nombre	55 Ursae Major.		δ Crateris		π Centauri*		σ Leonis		γ Crateris*		τ Leonis	
Mag. SP	4.78	A2	3.56	K0	3.89	B5	4.05	A0	4.08	A5	4.95	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	11h19m	+38°06'	11h20m	-14°50'	11h21m	-54°33'	11h21m	+ 5°57'	11h25m	-17°45'	11h28m	+ 2°46'
Dic 31	51s43	30"7	s96	59"7	38s36	36"2	49s69	18"4	33s41	21"9	37s63	55"2
Ene 30	52.43	29.6	1.79	66.8	39.52	45.1	50.53	13.3	34.26	29.2	38.47	49.8
Mar 01	52.98	32.4	2.24	72.8	40.13	55.6	51.00	10.7	34.73	35.6	38.96	46.6
Mar 31	53.04	37.6	2.33	76.8	40.17	65.4	51.08	10.5	34.83	40.2	39.06	45.8
Abr 30	52.74	42.9	2.14	78.7	39.78	72.8	50.91	11.7	34.66	42.5	38.91	46.6
May 30	52.27	46.5	1.82	78.4	39.09	76.4	50.60	13.7	34.34	42.6	38.61	48.4
Jun 29	51.77	47.4	1.47	76.4	38.30	75.7	50.27	15.7	33.98	40.7	38.28	50.4
Jul 29	51.40	45.5	1.19	73.1	37.63	71.1	50.01	17.2	33.68	37.3	38.02	52.2
Ago 28	51.26	40.7	1.08	69.7	37.27	63.8	49.92	17.5	33.55	33.5	37.91	53.0
Sep 27	51.44	33.9	1.25	67.4	37.41	56.0	50.08	16.2	33.70	30.7	38.05	52.2
Oct 27	52.01	26.0	1.75	67.5	38.15	50.4	50.57	12.7	34.20	30.3	38.52	49.2
Nov 26	52.94	18.3	2.58	70.7	39.39	49.3	51.37	7.3	35.03	33.2	39.31	44.1
Dic 26	54.08	12.9	3.56	76.6	40.83	53.3	52.33	1.1	36.02	39.0	40.27	37.9
Ene 25	55.12	11.0	4.43	83.7	42.07	61.7	53.20	55.7*	36.91	46.3	41.14	32.3

N°	434		436		1299		437		439		1301	
Nombre	ξ Hydrae		λ Centauri		θ Crateris		υ Leonis		ο Hydrae		ζ Crateris	
Mag. SP	3.54	G5	3.13	B9	4.70	B9	4.30	K0	4.70	B8	4.73	G5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	11h33m	-31°55'	11h36m	-63°05'	11h37m	- 9°52'	11h37m	- 0°53'	11h40m	-34°48'	11h45m	-18°25'
Dic 31	40s19	43"9	25s56	19"6	21s84	31"6	38s13	51"8	53s25	56"3	26s75	24"2
Ene 30	41.11	51.9	27.02	28.1	22.70	38.2	38.99	57.6	54.21	64.4	27.64	31.4
Mar 01	41.64	60.2	27.84	38.7	23.20	43.4	39.49	61.4	54.77	72.9	28.17	37.8
Mar 31	41.76	67.1	27.97	49.3	23.34	46.5	39.63	62.9	54.92	80.2	28.34	42.5
Abr 30	41.58	71.6	27.50	57.9	23.21	47.7	39.50	62.6	54.76	85.3	28.22	45.0
May 30	41.21	73.3	26.61	62.7	22.93	47.1	39.22	61.2	54.39	87.4	27.94	45.4
Jun 29	40.77	71.9	25.54	63.1	22.59	45.1	38.89	59.1	53.93	86.3	27.58	43.7
Jul 29	40.38	68.0	24.56	59.0	22.30	42.4	38.61	57.0	53.51	82.4	27.26	40.5
Ago 28	40.18	62.6	23.96	51.7	22.16	39.8	38.48	55.7	53.28	76.9	27.08	36.9
Sep 27	40.30	57.6	24.01	43.3	22.27	38.4	38.59	55.8	53.36	71.5	27.16	34.0
Oct 27	40.81	54.9	24.83	36.5	22.72	39.2	39.04	58.2	53.87	68.2	27.61	33.4
Nov 26	41.71	56.0	26.31	34.0	23.51	42.9	39.81	62.9	54.77	68.8	28.41	35.9
Dic 26	42.78	61.0	28.08	36.9	24.47	48.8	40.77	69.0	55.88	73.5	29.40	41.4
Ene 25	43.75	68.8	29.65	44.7	25.36	55.4	41.65	75.0	56.89	81.2	30.32	48.5

N°	442		1302		443		1304		444		445	
Nombre	γ Muscae		ν Virginis		65 G. Centauri		93 Leonis		β Leonis (Denebola)		β Virginis	
Mag. SP	3.64	A5	4.03	M0	4.11	G0	4.53 var	F8	2.14	A2	3.61	F8
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	11h46m	-66°47'	11h46m	+ 6°27'	11h47m	-61°14'	11h48m	+20°08'	11h49m	+14°29'	11h51m	+ 1°41'
Dic 31	16s17	51"1	32s79	13"3	11s09	51"5	40s35	33"5	44s40	45"1	23s51	20"9
Ene 30	17.86	59.1	33.66	8.1	12.53	59.7	41.26	29.7	45.29	40.7	24.39	15.3
Mar 01	18.84	69.7	34.20	5.5	13.38	10.1	41.83	29.3	45.85	39.4	24.94	11.9
Mar 31	19.04	80.6	34.36	5.3	13.58	20.5	42.00	31.6	46.01	40.7	25.12	10.9
Abr 30	18.55	89.6	34.25	6.7	13.22	29.1	41.86	35.1	45.89	43.4	25.02	11.6
May 30	17.55	95.1	33.97	8.9	12.44	34.1	41.55	38.4	45.60	46.2	24.77	13.3
Jun 29	16.29	96.1	33.64	11.0	11.47	34.7	41.17	40.5	45.25	48.4	24.44	15.4
Jul 29	15.10	92.5	33.35	12.5	10.54	30.9	40.85	40.8	44.94	49.2	24.15	17.2
Ago 28	14.32	85.3	33.20	12.7	9.95	23.9	40.68	39.0	44.77	48.3	24.00	18.1
Sep 27	14.28	76.6	33.28	11.3	9.94	15.6	40.76	35.2	44.84	45.4	24.07	17.5
Oct 27	15.14	69.4	33.70	7.6	10.67	8.9	41.17	29.4	45.25	40.4	24.49	14.7
Nov 26	16.78	66.2	34.46	2.1	12.04	6.2	41.94	22.5	46.01	34.1	25.24	9.7
Dic 26	18.77	68.4	35.41	55.8*	13.73	8.9	42.93	16.1	46.97	27.6	26.19	3.5
Ene 25	20.56	75.7	36.31	50.4*	15.26	16.3	43.87	11.8	47.89	22.8	27.10	57.6*

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	446		1311		450		452		453		455	
Nombre	B Centauri		π Virginis		O Virginis		δ Centauri		ε Corvi		δ Crucis	
Mag. SP	4.46	K0	4.66	A3	4.12	G5	2.60	B3p	3.00	K0	2.80	B3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	11h51m	-45°14'	12h01m	+ 6°32'	12h05m	+ 8°39'	12h09m	-50°47'	12h10m	-22°41'	12h15m	-58°49'
Dic 31	49s59	37°7'	33s41	21°0'	53s27	28°6'	3s90	31°7'	48s95	30°1'	52s35	4°5'
Ene 30	50.68	45.8	34.30	15.8	54.17	23.5	5.14	39.3	49.90	37.1	53.81	11.8
Mar 01	51.35	55.2	34.88	13.1	54.76	21.2	5.93	48.7	50.52	44.0	54.77	21.5
Mar 31	51.55	63.9	35.09	13.0	54.98	21.4	6.23	58.1	50.77	49.3	55.15	31.6
Abr 30	51.38	70.6	35.01	14.5	54.91	23.3	6.10	65.6	50.73	52.7	55.00	40.3
May 30	50.94	74.0	34.76	16.8	54.66	25.8	5.64	70.1	50.48	53.7	54.42	45.8
Jun 29	50.36	73.7	34.43	19.0	54.33	28.1	4.99	70.7	50.12	52.6	53.57	47.2
Jul 29	49.82	70.0	34.12	20.5	54.01	29.5	4.33	67.4	49.75	49.6	52.70	44.3
Ago 28	49.47	63.8	33.94	20.8	53.81	29.5	3.86	61.3	49.50	45.7	52.05	38.0
Sep 27	49.50	57.1	33.98	19.3	53.84	27.7	3.81	54.1	49.51	42.2	51.91	30.1
Oct 27	50.03	52.2	34.35	15.7	54.20	23.7	4.30	48.3	49.88	40.6	52.45	23.3
Nov 26	51.02	51.2	35.08	10.2	54.91	17.9	5.35	46.1	50.65	42.3	53.65	20.0
Dic 26	52.27	55.0	36.02	3.8	55.85	11.5	6.69	48.9	51.65	47.1	55.24	21.7
Ene 25	53.41	62.5	36.94	58.3*	56.78	6.1	7.98	55.8	52.63	54.0	56.76	28.3

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N°	457		459		460		1317		1318		462	
Nombre	γ Corvi		β Chamaleontis		η Virginis		16 Virginis		12 Comae Beren.		α Crucis A*	
Mag. SP	2.59	B8	4.26	B5	3.89	A0	4.96	K0	4.79	F5	1.58	B1
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	12h16m	-17°36'	12h19m	-79°22'	12h20m	- 0°44'	12h21m	+ 3°14'	12h23m	+25°46'	12h27m	-63°10'
Dic 31	29s73	51°0'	11s73	48°5'	35s29	26°6'	1s57	16°9'	10s21	11°3'	21s68	2°6'
Ene 30	30.66	57.8	15.33	54.9	36.20	32.5	2.48	11.4	11.19	7.5	23.35	9.4
Mar 01	31.28	63.9	17.73	64.8	36.81	36.3	3.10	8.1	11.87	7.5	24.50	19.0
Mar 31	31.55	68.4	18.58	76.1	37.08	37.8	3.37	7.4	12.15	10.8	24.99	29.3
Abr 30	31.53	70.9	17.88	86.5	37.07	37.4	3.35	8.4	12.10	15.4	24.87	38.5
May 30	31.31	71.4	15.85	94.1	36.86	35.8	3.14	10.5	11.82	19.6	24.23	44.8
Jun 29	30.97	70.0	12.99	97.2	36.55	33.7	2.82	12.7	11.43	22.3	23.25	46.9
Jul 29	30.61	67.2	10.03	95.3	36.22	31.7	2.50	14.5	11.03	22.7	22.20	44.6
Ago 28	30.37	64.0	7.79	89.0	35.99	30.4	2.26	15.2	10.75	20.4	21.38	38.5
Sep 27	30.36	61.3	7.05	80.2	36.00	30.5	2.25	14.4	10.71	15.7	21.13	30.4
Oct 27	30.71	60.6	8.23	71.5	36.30	32.9	2.56	11.4	11.02	9.0	21.66	23.0
Nov 26	31.44	62.8	11.19	66.1	36.98	37.5	3.24	6.3	11.72	1.3	22.96	18.8
Dic 26	32.41	67.9	15.11	65.9	37.91	43.5	4.17	60.0*	12.70	54.3*	24.72	19.8
Ene 25	33.37	74.6	18.88	71.4	38.85	49.5	5.10	54.2*	13.70	49.9*	26.46	25.7

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N°	464		465		468		469		471		1323	
Nombre	σ Centauri		δ Corvi		γ Crucis		γ Muscae		β Corvi		23 Comae Beren.	
Mag. SP	3.91	B3	2.95	A0	1.63	var M3	3.87	B5	2.65	G5	4.81	A0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	12h28m	-50°17'	12h30m	-16°35'	12h31m	-57°10'	12h33m	-72°12'	12h35m	-23°28'	12h35m	+22°33'
Dic 31	46s40	59°1'	33s38	16°0'	55s26	57°2'	17s83	2°0'	5s45	4°4'	30s58	13°9'
Ene 30	47.67	66.1	34.32	22.6	56.71	64.0	20.19	8.2	6.43	11.1	31.56	9.6
Mar 01	48.54	75.2	34.98	28.5	57.72	73.3	21.84	17.8	7.12	17.8	32.25	9.1
Mar 31	48.94	84.3	35.29	32.8	58.19	83.1	22.56	28.7	7.45	23.2	32.57	11.8
Abr 30	48.91	92.0	35.31	35.1	58.14	91.7	22.36	38.7	7.49	26.7	32.56	16.0
May 30	48.53	96.8	35.12	35.5	57.67	97.4	21.35	46.0	7.30	28.1	32.32	20.2
Jun 29	47.92	97.9	34.79	34.3	56.91	99.2	19.79	49.1	6.95	27.3	31.95	23.1
Jul 29	47.25	95.3	34.44	31.7	56.07	96.9	18.10	47.4	6.57	24.7	31.56	23.8
Ago 28	46.74	89.6	34.16	28.7	55.42	91.1	16.76	41.4	6.26	21.0	31.26	22.2
Sep 27	46.60	82.6	34.12	26.3	55.21	83.5	16.26	32.9	6.19	17.5	31.19	18.1
Oct 27	47.01	76.7	34.42	25.7	55.65	76.7	16.91	24.6	6.50	15.7	31.45	11.9
Nov 26	47.98	74.1	35.12	27.9	56.76	73.1	18.70	19.4	7.21	16.8	32.11	4.4
Dic 26	49.31	76.1	36.07	32.9	58.27	74.5	21.16	19.2	8.20	21.1	33.06	57.3*
Ene 25	50.62	82.5	37.04	39.3	59.77	80.5	23.61	24.5	9.21	27.6	34.05	52.5*

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	474		475		1326		481		1331		1332	
Nombre	α Muscae		χ Virginis		ρ Virginis		β Crucis		143 G. Cent.		31 Comae Beren.	
Mag. SP	2.69	B3	4.66	K0	4.88	A0	1.25	B1	4.91	A0	4.94	G0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	12h38m	-69°12'	12h39m	- 8°04'	12h42m	+10°09'	12h48m	-59°45'	12h51m	-34°04'	12h52m	+27°27'
Dic 31	s33	11°0	56s03	4°4	33s30	41°2	30s88	21°7	24s81	5°9	20s38	57°4
Ene 30	2.41	17.1	56.97	10.5	34.25	36.0	32.46	27.7	25.89	12.4	21.40	53.2
Mar 01	3.89	26.5	57.64	15.3	34.92	33.6	33.61	36.7	26.68	19.8	22.15	53.1
Mar 31	4.59	37.2	57.97	18.0	35.26	34.1	34.21	46.6	27.10	26.7	22.52	56.5
Abr 30	4.48	47.0	58.02	18.9	35.29	36.5	34.25	55.5	27.19	32.0	22.56	61.6
May 30	3.67	54.1	57.85	18.2	35.12	39.4	33.81	61.8	27.01	35.0	22.33	66.5
Jun 29	2.39	57.1	57.55	16.5	34.80	42.0	33.01	64.3	26.63	35.3	21.94	69.8
Jul 29	.97	55.4	57.21	14.2	34.45	43.6	32.08	62.6	26.16	33.0	21.51	70.6
Ago 28	59.82*	49.6	56.93	12.1	34.17	43.5	31.31	57.2	25.77	28.7	21.15	68.5
Sep 27	59.38*	41.3	56.87	11.1	34.09	41.5	30.99	49.6	25.63	23.8	21.01	63.8
Oct 27	59.93*	33.2	57.13	12.0	34.33	37.3	31.36	42.3	25.89	20.1	21.21	56.8
Nov 26	1.47	28.1	57.78	15.4	34.96	31.3	32.47	38.0	26.63	19.4	21.83	48.7
Dic 26	3.62	28.1	58.71	20.9	35.87	24.7	34.05	38.4	27.69	22.4	22.78	41.2
Ene 25	5.78	33.3	59.66	27.1	36.83	19.1	35.68	43.7	28.79	28.4	23.81	36.4

N°	482		1335		484		485		488		487	
Nombre	150 G. Centauri		ψ Virginis		δ Virginis		α Canum Venat. *f		ε Virginis		δ Muscae	
Mag. SP	4.27	A5	4.79	M3	3.38	M0	2.90	A0p	2.83	K0	3.62	K2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	12h54m	-40°14'	12h55m	- 9°36'	12h56m	+ 3°19'	12h56m	+38°14'	13h02m	+10°53'	13h03m	-71°36'
Dic 31	10s80	49°8	2s66	35°8	16s27	30°5	38s40	36°2	50s07	13°0	12s84	51°8
Ene 30	11.94	56.2	3.61	41.9	17.21	24.8	39.51	32.6	51.02	7.7	15.26	56.8
Mar 01	12.79	64.0	4.32	46.8	17.91	21.5	40.34	33.9	51.74	5.3	17.10	65.5
Mar 31	13.25	71.7	4.70	49.7	18.28	20.8	40.75	38.9	52.13	5.9	18.12	75.9
Abr 30	13.35	78.0	4.79	50.8	18.36	22.1	40.76	45.4	52.22	8.5	18.24	86.1
May 30	13.15	81.9	4.66	50.3	18.22	24.3	40.47	51.3	52.08	11.8	17.52	93.9
Jun 29	12.72	82.8	4.37	48.7	17.93	26.7	39.99	54.8	51.78	14.6	16.15	97.9
Jul 29	12.19	80.6	4.02	46.5	17.58	28.6	39.45	55.0	51.41	16.3	14.52	97.3
Ago 28	11.75	76.0	3.72	44.4	17.28	29.4	39.01	51.8	51.09	16.3	13.10	92.2
Sep 27	11.57	70.4	3.61	43.1	17.16	28.6	38.80	45.5	50.95	14.3	12.39	84.2
Oct 27	11.84	65.7	3.83	43.7	17.37	25.6	38.99	37.0	51.13	10.0	12.77	75.7
Nov 26	12.62	64.0	4.45	46.7	17.96	20.6	39.63	27.9	51.70	3.9	14.32	69.7
Dic 26	13.75	66.2	5.36	52.0	18.85	14.3	40.64	20.1	52.59	57.1*	16.66	68.5
Ene 25	14.92	72.1	6.33	58.0	19.80	8.5	41.75	15.8	53.55	51.5*	19.14	72.5

N°	489		490		492		493		1344		1345	
Nombre	ξ <sup>2</sup> Centauri		θ Virginis*		β Comae Beren.		η Muscae		σ Virginis		61 Virginis	
Mag. SP	4.27	B3	4.38	A0	4.26	G0	4.80	B8	4.80	M0	4.74	G5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	13h07m	-49°58'	13h10m	- 5°36'	13h12m	+27°48'	13h16m	-67°57'	13h18m	+ 5°23'	13h19m	-18°22'
Dic 31	41s74	21°0	38s19	32°3	29s13	30°6	10s15	32°1	16s29	59°2	6s04	58°1
Ene 30	43.07	26.7	39.14	38.2	30.15	26.1	12.26	36.7	17.25	53.6	7.03	64.1
Mar 01	44.09	34.8	39.87	42.6	30.94	25.9	13.92	45.0	17.99	50.5	7.80	69.9
Mar 31	44.68	43.4	40.29	44.8	31.37	29.4	14.90	55.0	18.43	50.2	8.26	74.2
Abr 30	44.84	51.2	40.43	45.1	31.45	34.7	15.14	64.8	18.57	51.9	8.43	76.8
May 30	44.62	56.6	40.34	44.0	31.27	40.0	14.66	72.6	18.48	54.6	8.35	77.7
Jun 29	44.09	58.7	40.07	42.2	30.89	43.8	13.61	76.6	18.22	57.2	8.07	77.0
Jul 29	43.42	57.2	39.71	40.1	30.43	45.0	12.28	76.3	17.85	59.2	7.68	75.1
Ago 28	42.82	52.5	39.39	38.4	30.03	43.3	11.07	71.6	17.51	59.9	7.32	72.4
Sep 27	42.53	46.0	39.24	37.8	29.82	38.8	10.41	64.0	17.34	58.8	7.13	70.0
Oct 27	42.77	39.9	39.41	39.0	29.95	31.8	10.66	55.8	17.48	55.5	7.29	69.0
Nov 26	43.60	36.4	39.98	42.6	30.51	23.6	11.90	49.8	18.02	50.3	7.87	70.5
Dic 26	44.87	37.2	40.86	48.0	31.42	16.0	13.87	48.4	18.87	43.9	8.77	74.7
Ene 25	46.24	42.3	41.83	54.0	32.44	10.9	16.02	52.1	19.83	38.0	9.77	80.5

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	495		496		1347		498		1349		1351	
Nombre	γ Hydrae		ι Centauri		ι Centauri*		α Virginis (Spica)		70 Virginis		78 Virginis	
Mag. SP	3.00	G5	2.75	A2	4.53	B5	0.97	B2	4.98	G0	4.94	A2p
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	13h19m	-23°14'	13h21m	-36°46'	13h23m	-61°03'	13h25m	-11°13'	13h29m	+13°42'	13h34m	+3°35'
Dic 31	38s68	20°0	20s85	42°2	30s15	8°0	53s47	44°3	4s41	25°5	48s01	27°5
Ene 30	39.70	25.9	21.98	47.9	31.86	12.7	54.44	50.2	5.38	20.0	48.97	21.8
Mar 01	40.49	32.0	22.87	54.9	33.22	20.6	55.21	55.1	6.15	17.8	49.74	18.5
Mar 31	40.98	37.0	23.41	61.8	34.06	30.0	55.68	58.1	6.62	18.8	50.22	17.9
Abr 30	41.16	40.4	23.62	67.5	34.33	39.1	55.87	59.3	6.78	21.9	50.42	19.4
May 30	41.09	42.0	23.52	71.2	34.05	46.2	55.82	59.1	6.69	25.7	50.37	21.9
Jun 29	40.81	41.7	23.16	72.3	33.32	49.8	55.57	57.7	6.41	29.0	50.13	24.5
Jul 29	40.41	39.8	22.67	70.7	32.35	49.3	55.21	55.7	6.03	30.9	49.77	26.6
Ago 28	40.03	36.7	22.20	66.9	31.44	44.9	54.85	53.6	5.65	30.7	49.41	27.5
Sep 27	39.83	33.5	21.95	61.9	30.93	37.8	54.66	52.1	5.44	28.3	49.19	26.7
Oct 27	40.00	31.5	22.12	57.7	31.11	30.2	54.79	52.3	5.53	23.7	49.28	23.9
Nov 26	40.59	32.1	22.79	56.0	32.09	25.0	55.33	54.8	6.04	17.1	49.78	19.0
Dic 26	41.53	35.6	23.83	57.9	33.66	24.0	56.21	59.6	6.88	10.0	50.61	12.8
Ene 25	42.57	41.3	24.98	63.1	35.40	27.8	57.19	65.3	7.85	4.2	51.56	6.9

N°	501		502		504		506		507		509	
Nombre	ζ Virginis		17 H.Canum Venat		ε Centauri		ι Centauri		τ Bootis		η Ursae Majoris	
Mag. SP	3.37	A2	4.98	F0	2.30	B1	4.23	F5	4.50	F5	1.86	B3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	13h35m	-0°39'	13h35m	+37°06'	13h40m	-53°31'	13h46m	-33°06'	13h47m	+17°23'	13h48m	+49°14'
Dic 31	21s93	47°4	22s62	42°0	44s08	42°7	26s53	25°5	53s09	22°9	2s72	37°2
Ene 30	22.89	53.1	23.73	37.4	45.54	47.1	27.64	30.6	54.07	17.4	3.99	32.9
Mar 01	23.66	56.9	24.64	37.7	46.74	54.3	28.56	36.9	54.88	15.4	5.08	34.0
Mar 31	24.14	58.1	25.18	42.2	47.53	62.7	29.16	42.9	55.40	17.0	5.74	39.9
Abr 30	24.35	57.4	25.33	48.9	47.88	70.8	29.46	47.9	55.61	20.9	5.91	47.9
May 30	24.31	55.5	25.15	55.4	47.77	77.1	29.45	51.2	55.56	25.4	5.66	55.5
Jun 29	24.07	53.2	24.72	59.8	47.27	80.4	29.17	52.3	55.29	29.2	5.08	60.5
Jul 29	23.71	51.1	24.18	61.2	46.54	80.1	28.71	51.1	54.89	31.3	4.34	61.8
Ago 28	23.35	49.9	23.65	59.0	45.81	76.2	28.24	47.9	54.47	31.1	3.61	58.8
Sep 27	23.13	50.0	23.32	53.4	45.35	70.0	27.94	43.7	54.19	28.4	3.11	52.1
Oct 27	23.22	52.1	23.35	45.2	45.44	63.3	28.01	40.1	54.22	23.3	3.04	42.6
Nov 26	23.72	56.3	23.86	35.9	46.20	58.7	28.57	38.6	54.67	16.3	3.52	32.2
Dic 26	24.55	62.1	24.77	27.4	47.49	58.0	29.54	40.3	55.48	8.8	4.51	23.2
Ene 25	25.51	67.9	25.87	22.1	48.97	61.6	30.65	45.0	56.45	2.9	5.76	18.0

N°	508		510		513		512		514		516	
Nombre	μ Centauri		89 Virginis		η Bootis		ζ Centauri		294 G.Centauri		τ Virginis	
Mag. SP	3.04	var B2p	4.97	K0	2.68	G0	2.55	B2p	4.71	K0	4.26	A2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	13h50m	-42°32'	13h50m	-18°11'	13h55m	+18°19'	13h56m	-47°20'	13h58m	-63°44'	14h02m	+1°28'
Dic 31	25s07	7°0	35s41	52°1	18s44	48°9	22s19	55°3	36s96	44°3	18s92	51°6
Ene 30	26.30	11.6	36.41	57.6	19.42	43.3	23.51	59.5	38.85	47.4	19.88	45.9
Mar 01	27.33	18.2	37.25	62.8	20.25	41.3	24.63	66.1	40.48	54.2	20.69	42.4
Mar 31	28.03	25.3	37.81	66.7	20.79	43.0	25.40	73.6	41.61	62.9	21.25	41.5
Abr 30	28.37	31.7	38.08	69.1	21.03	47.1	25.79	80.7	42.15	72.1	21.53	42.7
May 30	28.36	36.5	38.10	69.9	20.99	51.8	25.79	86.2	42.04	79.9	21.56	45.1
Jun 29	28.03	38.8	37.88	69.4	20.73	55.7	25.42	89.1	41.37	84.7	21.36	47.8
Jul 29	27.49	38.1	37.50	67.7	20.32	57.9	24.83	88.9	40.33	85.5	21.00	49.9
Ago 28	26.92	34.7	37.10	65.3	19.90	57.7	24.18	85.6	39.24	82.2	20.61	51.1
Sep 27	26.55	29.6	36.84	63.0	19.60	54.9	23.75	80.1	38.49	75.7	20.33	50.7
Oct 27	26.61	24.4	36.90	61.9	19.61	49.6	23.78	74.3	38.46	67.9	20.34	48.4
Nov 26	27.22	21.3	37.39	62.9	20.04	42.4	24.41	70.4	39.31	61.6	20.76	43.9
Dic 26	28.29	21.7	38.25	66.5	20.83	34.8	25.53	69.9	40.90	59.1	21.54	38.0
Ene 25	29.52	25.7	39.26	71.8	21.81	28.8	26.86	73.4	42.80	61.3	22.49	32.3

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	518		519		520		522		523		526	
Nombre	β Centauri*		π Hydrae		ϑ Centauri		12 Bootis		K Virginis		α Bootis (Arcturus)	
Mag. SP	0.61	B1	3.27	K0	2.06	K0	4.83	F5	4.19	K0	-0.04	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	14h04m	-60°25'	14h07m	-26°44'	14h07m	-36°25'	14h10m	+25°01'	14h13m	-10°20'	14h16m	+19°06'
Dic 31	45s89	52°10'	7s47	34°5'	27s73	51°8'	59s53	38°8'	35s88	9'	15s36	45°7'
Ene 30	47.62	55.1	8.53	39.3	28.88	56.3	60.53	33.1	36.85	6.2	16.33	39.8
Mar 01	49.12	61.6	9.44	44.8	29.87	62.2	61.41	31.6	37.70	10.6	17.18	37.5
Mar 31	50.18	70.0	10.08	49.7	30.57	68.3	62.00	34.1	38.30	13.2	17.77	39.0
Abr 30	50.72	78.7	10.44	53.4	30.95	73.7	62.29	39.2	38.63	13.9	18.07	43.1
May 30	50.68	86.1	10.50	55.7	31.01	77.6	62.27	45.0	38.70	13.4	18.08	48.0
Jun 29	50.13	90.7	10.29	56.3	30.76	79.4	62.00	49.7	38.53	12.0	17.84	52.2
Jul 29	49.24	91.5	9.90	55.1	30.29	78.8	61.56	52.1	38.19	10.2	17.43	54.6
Ago 28	48.27	88.4	9.44	52.6	29.77	76.0	61.08	51.7	37.78	8.3	16.97	54.5
Sep 27	47.58	82.2	9.11	49.4	29.39	71.8	60.71	48.3	37.47	7.1	16.61	51.7
Oct 27	47.53	74.8	9.13	46.8	29.39	67.7	60.65	42.1	37.47	7.2	16.55	46.3
Nov 26	48.29	68.8	9.60	46.2	29.90	65.4	61.02	34.0	37.87	9.6	16.90	39.0
Dic 26	49.72	66.5	10.48	48.3	30.86	66.2	61.80	25.9	38.66	13.9	17.65	31.1
Ene 25	51.45	68.7	11.54	52.8	32.01	70.1	62.78	19.7	39.62	19.2	18.60	24.7

  

N°	525		1370		1371		529		1373		1377	
Nombre	ι Virginis		A Bootis		λ Virginis		V Centauri		ψ Centauri		τ <sup>1</sup> Lupi	
Mag. SP	4.08	F5	4.81	K0	4.52	A2	4.33	B5	4.05	A0	4.56	B3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	14h16m	-6°03'	14h18m	+35°26'	14h19m	-13°25'	14h21m	-56°26'	14h21m	-37°56'	14h26m	-45°16'
Dic 31	42s28	44°3'	32s53	46°6'	49s32	47°7'	15s16	31°2'	21s68	31°1'	59s17	35°4'
Ene 30	43.24	49.8	33.60	40.9	50.30	52.9	16.73	33.8	22.86	35.0	60.46	38.6
Mar 01	44.08	53.9	34.56	40.1	51.16	57.4	18.14	39.7	23.89	40.6	61.61	44.2
Mar 31	44.68	55.8	35.22	43.9	51.79	60.3	19.18	47.3	24.65	46.5	62.47	50.8
Abr 30	45.01	55.9	35.52	50.4	52.15	61.6	19.76	55.4	25.10	52.0	62.99	57.2
May 30	45.09	54.7	35.48	57.4	52.24	61.6	19.84	62.4	25.21	56.2	63.11	62.6
Jun 29	44.92	52.8	35.15	62.9	52.08	60.6	19.45	66.8	24.99	58.3	62.86	65.8
Jul 29	44.58	50.9	34.62	65.5	51.74	58.9	18.69	67.9	24.53	58.1	62.33	66.2
Ago 28	44.17	49.3	34.04	64.5	51.31	57.0	17.83	65.3	23.98	55.5	61.69	63.7
Sep 27	43.86	48.7	33.59	60.0	50.99	55.5	17.18	59.7	23.56	51.3	61.19	59.0
Oct 27	43.84	49.6	33.46	52.4	50.97	55.2	17.06	52.9	23.51	47.0	61.10	53.6
Nov 26	44.23	52.8	33.79	43.1	51.36	56.8	17.68	47.2	23.98	44.2	61.59	49.5
Dic 26	45.00	57.6	34.58	34.2	52.15	60.6	18.93	44.8	24.92	44.4	62.61	48.5
Ene 25	45.95	63.1	35.63	27.9	53.12	65.6	20.49	46.6	26.09	47.7	63.88	51.1

  

N°	532		533		534		535		1380		537	
Nombre	52 Hydrae*		φ Virginis		ρ Bootis		γ Bootis		σ Bootis		η Centauri	
Mag. SP	4.97	B8	4.81	K0	3.58	K0	3.03	F0	4.46	F0	2.31	B3p,A2p
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	14h28m	-29°32'	14h28m	-2°17'	14h32m	+30°18'	14h32m	+38°14'	14h35m	+29°41'	14h36m	-42°12'
Dic 31	56s76	51°0'	52s67	10°1'	23s19	42°2'	35s66	53°5'	14s56	10°0'	20s72	41°1'
Ene 30	57.84	55.2	53.62	15.6	24.20	36.2	36.74	47.5	15.57	4.0	21.95	44.2
Mar 01	58.81	60.3	54.47	19.4	25.14	34.7	37.74	46.6	16.51	2.4	23.07	49.4
Mar 31	59.53	65.2	55.09	20.7	25.81	37.7	38.46	50.5	17.18	5.3	23.92	55.5
Abr 30	59.96	69.2	55.45	19.9	26.16	43.6	38.81	57.5	17.54	11.2	24.45	61.4
May 30	60.10	72.0	55.56	18.0	26.18	50.3	38.79	64.9	17.58	17.8	24.62	66.2
Jun 29	59.93	73.1	55.41	15.6	25.92	55.7	38.46	70.9	17.32	23.3	24.42	69.1
Jul 29	59.54	72.4	55.07	13.5	25.44	58.7	37.91	73.8	16.86	26.3	23.93	69.5
Ago 28	59.05	70.2	54.65	12.1	24.90	58.4	37.28	73.0	16.31	26.1	23.32	67.3
Sep 27	58.66	66.9	54.32	11.9	24.44	54.7	36.76	68.5	15.86	22.5	22.83	63.0
Oct 27	58.60	63.9	54.26	13.5	24.29	48.0	36.56	60.8	15.71	15.9	22.72	58.1
Nov 26	59.01	62.5	54.60	17.1	24.58	39.4	36.84	51.3	15.99	7.4	23.16	54.5
Dic 26	59.86	63.8	55.34	22.3	25.32	30.6	37.60	42.0	16.72	58.7*	24.11	53.7
Ene 25	60.93	67.6	56.27	27.9	26.31	24.1	38.65	35.5	17.70	52.1*	25.32	56.2

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	538		541		539		545		1383		544	
Nombre	α Centauri A*		α Lupi		α Circini*		μ Virginis		34 Bootis		371 G.Centauri	
Mag. SP	-0.01	G0	2.30	B2	3.19	F0	3.88	F5	4.81 var.	M0	4.05	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	14h40m	-60°53'	14h42m	-47°26'	14h43m	-65°01'	14h43m	-5°42'	14h43m	+26°28'	14h44m	-35°13'
Dic 31	29s90	3°5	48s43	24°0	34s66	35°9	45s04	50°9	59s45	13°5	27s76	35°7
Ene 30	31.62	5.3	49.75	26.5	36.63	37.0	45.99	56.1	60.43	7.3	28.89	39.1
Mar 01	33.19	10.6	50.97	31.6	38.48	42.0	46.86	60.0	61.35	5.3	29.93	44.0
Mar 31	34.38	18.1	51.92	37.9	39.93	49.5	47.52	61.8	62.04	7.7	30.74	49.2
Abr 30	35.06	26.3	52.52	44.5	40.81	58.2	47.94	61.5	62.42	13.0	31.26	53.9
May 30	35.16	33.7	52.71	50.2	41.01	66.3	48.09	60.1	62.50	19.4	31.45	57.6
Jun 29	34.68	38.8	52.50	53.9	40.52	72.3	47.97	58.1	62.28	24.8	31.30	59.7
Jul 29	33.78	40.4	51.96	54.8	39.52	74.7	47.65	56.1	61.85	28.0	30.89	59.7
Ago 28	32.72	38.2	51.27	52.8	38.31	73.0	47.22	54.6	61.32	28.1	30.35	57.7
Sep 27	31.88	32.6	50.70	48.3	37.31	67.6	46.86	54.1	60.87	25.1	29.89	54.2
Oct 27	31.63	25.4	50.55	42.7	36.98	60.1	46.76	55.0	60.69	19.1	29.77	50.3
Nov 26	32.20	18.9	50.99	38.1	37.59	53.0	47.07	58.0	60.95	11.0	30.16	47.8
Dic 26	33.52	15.5	51.99	36.4	39.05	48.8	47.78	62.6	61.64	2.5	31.01	47.9
Ene 25	35.22	16.4	53.30	38.2	41.00	49.1	48.72	67.9	62.60	55.8*	32.13	50.8

N°	547		542		548		552		553		556	
Nombre	109 Virginis		α Apollis		α <sup>2</sup> Librae		β Lupi		κ Centauri		σ Librae	
Mag. SP	3.72	A0	3.83	K5	2.75	A3	2.68	B2p	3.13	B3	3.29	M3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	14h46m	+1°50'	14h49m	-79°05'	14h51m	-16°05'	14h59m	-43°10'	15h00m	-42°09'	15h04m	-25°19'
Dic 31	54s56	16°8	31s70	37°9	36s24	39°2	23s63	57°4	1s03	9°9	50s27	50°2
Ene 30	55.49	11.2	35.76	37.6	37.22	43.8	24.86	59.6	2.24	12.2	51.29	53.8
Mar 01	56.35	7.7	39.71	41.9	38.12	48.0	26.02	64.1	3.39	16.7	52.26	58.0
Mar 31	57.01	7.0	42.86	49.7	38.83	50.9	26.96	69.7	4.32	22.1	53.05	61.7
Abr 30	57.42	8.6	44.71	59.4	39.29	52.4	27.59	75.4	4.94	27.7	53.58	64.6
May 30	57.57	11.3	44.97	69.0	39.48	52.7	27.85	80.3	5.20	32.4	53.82	66.5
Jun 29	57.45	14.3	43.66	76.5	39.39	52.0	27.72	83.6	5.07	35.6	53.76	67.2
Jul 29	57.12	16.7	41.16	80.2	39.06	50.7	27.26	84.6	4.63	36.5	53.42	66.7
Ago 28	56.69	18.0	38.20	79.2	38.62	49.0	26.63	83.0	4.01	34.9	52.94	65.1
Sep 27	56.31	17.7	35.75	73.6	38.23	47.3	26.07	79.1	3.46	31.1	52.50	62.7
Oct 27	56.20	15.5	34.75	65.1	38.11	46.5	25.87	74.3	3.27	26.4	52.34	60.5
Nov 26	56.48	11.3	35.76	56.5	38.42	47.5	26.23	70.3	3.62	22.6	52.62	59.6
Dic 26	57.17	5.6	38.65	50.5	39.14	50.5	27.12	68.8	4.50	21.2	53.36	60.9
Ene 25	58.09	60.0*	42.64	49.3	40.10	54.8	28.33	70.4	5.69	22.9	54.36	64.1

N°	557		1396		1398		559		558		1399	
Nombre	ψ Bootis		45 Bootis		κ <sup>1</sup> Lupi*		ι Librae		ζ Lupi		ι Lupi	
Mag. SP	4.54	K0	4.93	F0	3.87	B9	4.54	A0p	3.41	K0	4.91	F0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	15h04m	+26°53'	15h07m	+24°49'	15h12m	-48°46'	15h12m	-19°50'	15h13m	-52°08'	15h15m	-31°33'
Dic 31	59s86	42°5	52s05	1°0	50s87	59°2	58s05	19°9	13s74	39°6	25s51	52°9
Ene 30	60.81	36.0	53.00	54.5*	52.19	60.5	59.03	23.8	15.15	40.6	26.57	55.7
Mar 01	61.75	33.7	53.92	52.1*	53.49	64.4	59.97	27.7	16.52	44.5	27.61	59.7
Mar 31	62.48	35.9	54.65	54.0*	54.56	70.0	60.74	30.7	17.66	50.3	28.46	63.8
Abr 30	62.93	41.3	55.11	59.1*	55.30	76.2	61.28	32.6	18.45	56.9	29.06	67.5
May 30	63.06	47.9	55.26	5.5	55.63	82.0	61.54	33.5	18.79	63.2	29.36	70.4
Jun 29	62.89	53.7	55.11	11.2	55.51	86.3	61.50	33.4	18.65	67.9	29.31	72.2
Jul 29	62.47	57.4	54.71	14.8	55.01	88.0	61.19	32.5	18.09	70.0	28.96	72.3
Ago 28	61.92	58.0	54.18	15.5	54.29	86.9	60.73	30.9	17.31	69.0	28.44	70.9
Sep 27	61.42	55.3	53.69	13.1	53.63	83.0	60.30	29.1	16.59	64.9	27.95	68.2
Oct 27	61.18	49.5	53.45	7.6	53.35	77.6	60.12	27.8	16.28	59.1	27.75	65.1
Nov 26	61.37	41.5	53.63	59.8*	53.67	72.6	60.36	27.8	16.62	53.6	28.01	63.0
Dic 26	62.00	32.9	54.26	51.4*	54.59	69.9	61.05	29.9	17.60	50.4	28.76	63.0
Ene 25	62.92	25.9	55.17	44.5*	55.89	70.5	62.01	33.5	18.97	50.7	29.80	65.4

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	563		564		561		560		1402		566	
Nombre	δ Bootis		β Librae		β Circini		γ Triang. Aust.		δ Lupi		φ <sup>1</sup> Lupi	
Mag. SP	3.49	K0	2.61	B8	4.07	A3	2.89	A0	3.22	B2	3.56	K5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	15h16m	+33°15'	15h17m	-9°25'	15h18m	-58°50'	15h20m	-68°43'	15h22m	-40°41'	15h22m	-36°18'
Dic 31	1s10	51°5	42s57	46°6	32s54	41°9	8s23	19°7	13s95	27°6	38s26	18°7
Ene 30	2.08	44.7	43.49	51.2	34.16	42.0	10.42	18.9	15.12	29.4	39.37	20.8
Mar 01	3.06	42.5	44.39	55.0	35.77	45.6	12.65	22.1	16.27	33.1	40.45	24.6
Mar 31	3.85	45.2	45.13	56.8	37.12	51.7	14.53	28.5	17.23	37.8	41.37	29.0
Abr 30	4.34	51.3	45.65	56.9	38.06	58.9	15.82	36.7	17.93	42.7	42.03	33.2
May 30	4.49	58.8	45.91	55.9	38.46	66.2	16.32	45.2	18.27	47.2	42.36	36.9
Jun 29	4.30	65.3	45.87	54.3	38.27	71.8	15.97	52.1	18.22	50.3	42.32	39.4
Jul 29	3.84	69.4	45.59	52.5	37.59	74.7	14.91	55.9	17.83	51.5	41.96	40.2
Ago 28	3.24	70.0	45.14	51.0	36.63	74.0	13.46	55.6	17.22	50.4	41.40	39.0
Sep 27	2.66	67.0	44.72	50.1	35.74	69.8	12.13	51.2	16.65	47.2	40.87	36.0
Oct 27	2.35	60.6	44.53	50.4	35.33	63.4	11.47	43.9	16.39	42.9	40.62	32.4
Nov 26	2.48	51.8	44.74	52.3	35.67	56.9	11.86	36.1	16.65	39.2	40.87	29.4
Dic 26	3.09	42.5	45.38	56.1	36.76	52.6	13.30	30.4	17.45	37.6	41.63	28.5
Ene 25	4.03	35.2	46.28	60.6	38.34	52.0	15.44	28.7	18.59	38.8	42.71	30.2

N°	1403		568		572		576		1409		578	
Nombre	φ <sup>2</sup> Lupi		μ Bootis* p.		β Coronae Bor.		δ Coronae Bor.		37 Librae		α Coronae Bor.	
Mag. SP	4.54	B3	4.31	F0	3.68	F0p	4.14	B5	4.62	K0	2.23	A0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	15h23m	-36°54'	15h24m	+37°19'	15h28m	+29°03'	15h33m	+31°18'	15h34m	-10°06'	15h35m	+26°40'
Dic 31	59s56	6°2	58s22	46°2	21s42	33°9	26s68	49°3	53s44	27°3	13s85	11°2
Ene 30	60.68	8.3	59.21	39.2	22.36	27.1	27.62	42.3	54.35	31.7	14.77	4.3
Mar 01	61.78	12.0	60.23	36.9	23.31	24.4	28.60	39.6	55.26	35.3	15.71	1.5
Mar 31	62.70	16.4	61.07	39.9	24.10	26.6	29.41	41.8	56.04	37.0	16.50	3.3
Abr 30	63.37	20.7	61.60	46.5	24.62	32.2	29.95	47.7	56.61	37.1	17.04	8.6
May 30	63.71	24.5	61.76	54.4	24.82	39.2	30.16	55.0	56.91	36.1	17.27	15.4
Jun 29	63.68	27.1	61.56	61.4	24.69	45.7	30.03	61.7	56.92	34.5	17.17	21.7
Jul 29	63.31	27.9	61.07	65.8	24.28	49.9	29.61	66.2	56.66	32.8	16.79	26.0
Ago 28	62.75	26.8	60.41	66.6	23.71	51.0	29.01	67.4	56.22	31.4	16.23	27.3
Sep 27	62.21	23.8	59.78	63.5	23.15	48.7	28.43	65.0	55.77	30.5	15.69	25.3
Oct 27	61.96	20.1	59.40	56.8	22.83	43.0	28.08	59.1	55.54	30.7	15.36	20.0
Nov 26	62.20	17.0	59.48	47.7	22.92	34.9	28.15	50.7	55.71	32.4	15.44	12.2
Dic 26	62.96	16.0	60.07	38.1	23.49	26.0	28.70	41.6	56.31	35.9	15.99	3.5
Ene 25	64.05	17.5	61.02	30.5	24.38	18.7	29.59	34.1	57.19	40.2	16.86	56.3

N°	577		574		579		1413		582		583	
Nombre	γ Librae		ε Triang. Aust.		υ Librae		κ Librae		α Serpentis		β Serpentis	
Mag. SP	3.91	K0	4.11	K0	3.58	K2	4.74	K5	2.65	K0	3.67	A2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	15h36m	-14°49'	15h37m	-66°21'	15h37m	-28°10'	15h42m	-19°43'	15h44m	+6°23'	15h46m	+15°22'
Dic 31	15s35	51°7	55s12	19°8	49s05	30°8	41s88	7°3	54s37	6°6	46s98	51°4
Ene 30	16.28	55.6	57.10	18.5	50.06	33.4	42.83	10.7	55.24	.8	47.85	45.0
Mar 01	17.20	59.2	59.15	21.0	51.07	36.8	43.78	14.1	56.13	57.5*	48.75	41.8
Mar 31	18.00	61.3	60.95	26.6	51.94	40.1	44.61	16.6	56.89	57.4*	49.52	42.4
Abr 30	18.58	62.1	62.25	34.1	52.59	42.9	45.23	18.1	57.45	59.9*	50.09	46.2
May 30	18.90	61.9	62.86	42.1	52.95	45.1	45.58	18.7	57.75	3.9	50.37	51.6
Jun 29	18.92	61.0	62.68	49.0	52.97	46.3	45.61	18.6	57.75	7.9	50.35	56.8
Jul 29	18.65	59.8	61.81	53.1	52.68	46.4	45.35	17.9	57.48	11.1	50.05	60.7
Ago 28	18.20	58.4	60.53	53.3	52.18	45.3	44.89	16.6	57.03	12.7	49.57	62.4
Sep 27	17.75	57.1	59.29	49.5	51.67	43.2	44.41	15.1	56.56	12.4	49.06	61.4
Oct 27	17.51	56.6	58.60	42.8	51.42	40.8	44.16	13.9	56.28	9.9	48.76	57.7
Nov 26	17.68	57.4	58.85	35.2	51.60	39.2	44.31	13.8	56.39	5.3	48.84	51.7
Dic 26	18.29	60.1	60.08	29.4	52.26	39.4	44.92	15.5	56.93	59.3*	49.35	44.4
Ene 25	19.19	63.8	61.99	27.2	53.24	41.6	45.84	18.6	57.76	53.5*	50.18	37.8

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	584		585		588		586		1414		589	
Nombre	K Serpentis		μ Serpentis		ε Lupi		χ Lupi		K Coronae Bor.		χ Triang. Aust.	
Mag. SP	4.09	K5	3.54	A0	3.71	A2	3.95	B9	4.82	K0	2.85	F0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	15h49m	+18°06'	15h50m	-3°28'	15h51m	+4°26'	15h51m	-33°39'	15h51m	+35°36'	15h56m	-63°27'
Dic 31	19s16	3°8	17s89	7°8	27s71	21°3	47s29	48°5	42s58	56°4	17s52	56°5
Ene 30	20.02	57.3*	18.76	12.6	28.57	15.7	48.33	50.1	43.51	48.9	19.27	54.8
Mar 01	20.93	54.0*	19.66	16.0	29.46	12.4	49.40	53.1	44.51	46.0	21.14	56.6
Mar 31	21.71	54.9*	20.43	17.0	30.23	12.1	50.34	56.5	45.39	48.2	22.83	61.4
Abr 30	22.28	59.1*	21.02	15.9	30.81	14.4	51.07	59.8	45.99	54.4	24.11	68.2
May 30	22.57	4.8	21.36	13.6	31.14	18.0	51.50	62.8	46.25	62.3	24.79	75.7
Jun 29	22.55	10.4	21.40	10.9	31.16	21.9	51.56	64.9	46.14	69.6	24.76	82.3
Jul 29	22.24	14.5	21.15	8.6	30.90	25.0	51.27	65.8	45.71	74.7	24.07	86.6
Ago 28	21.74	16.2	20.71	7.0	30.45	26.7	50.74	65.2	45.07	76.3	22.96	87.4
Sep 27	21.22	15.1	20.25	6.6	29.98	26.5	50.19	63.0	44.41	74.0	21.81	84.3
Oct 27	20.90	11.1	19.97	7.7	29.70	24.3	49.87	59.9	43.97	68.0	21.11	78.2
Nov 26	20.96	4.6	20.08	10.5	29.79	20.1	50.01	57.3	43.96	59.3	21.24	71.0
Dic 26	21.47	57.0*	20.62	14.9	30.31	14.5	50.66	56.4	44.45	49.8	22.27	65.2
Ene 25	22.29	50.2*	21.46	19.7	31.13	8.9	51.67	57.5	45.33	41.8	23.95	62.6

N°	591		593		1417		592		1418		594	
Nombre	γ Serpentis		ε Coronae Bor.		48 Librae		π Scorpi		144 G.Lupi		δ Scorpi	
Mag. SP	3.85	F5	4.15	K0	4.88	B3p	2.89	B2	4.99	G5	2.32	B0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	15h57m	+15°37'	15h58m	+26°50'	15h58m	-14°18'	15h59m	-26°08'	16h00m	-41°46'	16h01m	-22°39'
Dic 31	2s90	9°0	7s00	22°2	55s08	53°5	38s40	55°3	23s55	40°7	6s20	21°9
Ene 30	3.76	2.5	7.87	15.0	55.97	57.1	39.37	57.6	24.67	41.1	7.13	24.5
Mar 01	4.66	59.0*	8.82	11.8	56.90	60.3	40.37	60.5	25.86	43.6	8.11	27.5
Mar 31	5.45	59.6*	9.65	13.3	57.72	62.1	41.26	63.2	26.92	47.2	8.98	29.9
Abr 30	6.04	3.3	10.25	18.5	58.37	62.5	41.96	65.3	27.75	51.4	9.66	31.5
May 30	6.35	8.7	10.55	25.4	58.75	62.0	42.38	66.9	28.25	55.7	10.08	32.4
Jun 29	6.36	14.0	10.51	32.1	58.83	61.0	42.47	67.8	28.33	59.1	10.17	32.8
Jul 29	6.07	17.9	10.16	36.9	58.60	59.8	42.22	67.9	28.01	61.1	9.93	32.5
Ago 28	5.59	19.6	9.60	38.8	58.16	58.5	41.74	67.1	27.41	60.9	9.47	31.6
Sep 27	5.07	18.7	9.02	37.3	57.67	57.4	41.22	65.4	26.77	58.6	8.96	30.0
Oct 27	4.75	15.0	8.63	32.4	57.38	57.0	40.91	63.4	26.38	54.7	8.65	28.5
Nov 26	4.80	8.9	8.63	24.8	57.48	57.8	41.02	62.2	26.50	50.6	8.75	28.0
Dic 26	5.29	1.5	9.10	16.2	58.03	60.3	41.61	62.4	27.18	48.1	9.33	28.7
Ene 25	6.10	54.8*	9.93	8.7	58.89	63.7	42.53	64.3	28.26	48.0	10.22	31.1

N°	597		596		599		1421		1423		600	
Nombre	β Scorpi* p.		δ Normae		θ Lupi		K Herculis* p.		τ Coronae Bor.		K Normae	
Mag. SP	2.62	B1	4.72	A3p	4.23	B3	5.00	G5	4.76	K0	4.94	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	16h06m	-19°50'	16h07m	-45°12'	16h07m	-36°50'	16h08m	+17°00'	16h09m	+36°27'	16h14m	-54°39'
Dic 31	11s61	18°8	24s67	16°2	26s86	3°0	39s35	44°6	25s97	24°6	30s30	34°6
Ene 30	12.52	21.7	25.84	16.0	27.91	3.9	40.18	38.0	26.86	16.8	31.66	33.1
Mar 01	13.48	24.6	27.09	18.1	29.02	6.2	41.08	34.6	27.87	13.5	33.14	34.4
Mar 31	14.34	26.7	28.22	21.6	30.03	9.4	41.89	35.2	28.78	15.5	34.52	38.1
Abr 30	15.03	27.8	29.12	26.1	30.83	12.8	42.50	39.2	29.44	21.7	35.62	43.5
May 30	15.45	28.2	29.67	30.8	31.33	16.1	42.85	44.9	29.76	29.8	36.28	49.5
Jun 29	15.55	28.1	29.77	34.8	31.43	18.8	42.88	50.6	29.70	37.6	36.40	55.0
Jul 29	15.33	27.5	29.44	37.3	31.16	20.3	42.61	55.0	29.28	43.2	35.98	58.7
Ago 28	14.88	26.5	28.81	37.5	30.62	20.1	42.12	57.0	28.64	45.4	35.18	59.6
Sep 27	14.37	25.2	28.11	35.2	30.02	18.0	41.58	56.3	27.94	43.6	34.30	57.2
Oct 27	14.06	24.1	27.67	31.0	29.64	14.8	41.22	52.7	27.45	38.0	33.72	52.3
Nov 26	14.14	23.5	27.76	26.4	29.74	11.7	41.23	46.7	27.37	29.5	33.76	46.3
Dic 26	14.69	25.2	28.45	23.2	30.36	9.9	41.68	39.3	27.79	19.9	34.53	41.4
Ene 25	15.56	27.9	29.57	22.4	31.36	10.2	42.46	32.5	28.63	11.8	35.82	39.2



**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	603		602		605		604		1424		607	
Nombre	δ Ophiuchi		δ Triang. Aust.		ε Ophiuchi		γ <sup>2</sup> Normae		δ <sup>1</sup> Apodis*		σ Scorpi	
Mag. SP	2.74	M0	3.85	G0	3.24	K0	4.02	K0	4.68	M3	2.89	B1
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	16h15m	-3°43'	16h16m	-63°42'	16h19m	-4°43'	16h20m	-50°10'	16h22m	-78°43'	16h21m	-25°37'
Dic 31	1s48	34°8	37s22	49°8	s42	21°4	48s81	59°5	17s32	19°9	58s71	16°2
Ene 30	2.31	39.4	38.92	47.1	1.24	25.9	50.04	58.3	20.81	15.5	59.63	18.1
Mar 01	3.20	42.6	40.81	48.0	2.14	29.0	51.40	59.6	24.87	15.4	60.62	20.4
Mar 31	4.02	43.5	42.58	51.9	2.96	29.9	52.66	62.9	28.74	19.3	61.54	22.6
Abr 30	4.67	42.2	43.98	58.0	3.62	28.7	53.69	67.6	31.77	26.3	62.29	24.2
May 30	5.07	39.7	44.80	65.2	4.04	26.4	54.32	72.9	33.43	35.0	62.78	25.4
Jun 29	5.17	36.9	44.90	72.0	4.15	23.7	54.47	77.7	33.42	43.6	62.93	26.2
Jul 29	4.97	34.5	44.30	76.8	3.95	21.4	54.13	81.0	31.82	49.9	62.74	26.5
Ago 28	4.54	32.9	43.21	78.2	3.53	19.8	53.43	81.8	29.14	52.4	62.27	25.9
Sep 27	4.05	32.5	42.01	75.8	3.04	19.3	52.64	79.7	26.23	50.1	61.73	24.5
Oct 27	3.72	33.5	41.21	70.1	2.70	20.1	52.10	75.3	24.16	43.6	61.37	22.8
Nov 26	3.76	36.1	41.20	62.9	2.74	22.6	52.13	70.0	23.81	34.9	61.42	21.6
Dic 26	4.23	40.3	42.12	56.6	3.20	26.5	52.81	65.7	25.48	26.7	61.93	21.6
Ene 25	5.02	44.8	43.73	53.3	3.99	30.9	53.99	63.9	28.77	21.5	62.81	23.2

N°	609		1427		613		610		616		618	
Nombre	γ Herculi		σ Serpentis		ω Herculis		ζ Triang. Aust.		α Scorpi A* (Antares)		β Herculis	
Mag. SP	3.75	F0	4.82	F0	4.57	A0p	4.91	G0	0.9-1.8	M0	2.77	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	16h22m	+19°07'	16h22m	+0°59'	16h26m	+14°00'	16h29m	-70°06'	16h30m	-26°27'	16h30m	+21°27'
Dic 31	29s15	21°9	43s64	59°0	s56	13°9	51s69	30°1	12s21	28°4	46s18	41°3
Ene 30	29.95	15.1	44.45	53.9	1.35	7.5	53.78	26.3	13.12	30.0	46.98	34.2
Mar 01	30.85	11.5	45.33	50.7	2.24	4.0	56.19	26.2	14.11	32.2	47.88	30.5
Mar 31	31.68	12.2	46.14	50.2	3.06	4.3	58.49	29.7	15.05	34.1	48.72	31.3
Abr 30	32.34	16.4	46.80	52.2	3.72	7.9	60.36	35.9	15.83	35.7	49.40	35.7
May 30	32.72	22.5	47.21	55.5	4.12	13.3	61.47	43.6	16.34	37.0	49.80	42.1
Jun 29	32.78	28.7	47.32	59.1	4.21	18.8	61.62	51.2	16.52	37.9	49.87	48.6
Jul 29	32.52	33.4	47.12	62.1	3.98	23.1	60.86	56.8	16.34	38.3	49.62	53.7
Ago 28	32.03	35.7	46.69	63.9	3.51	25.4	59.42	59.1	15.88	37.9	49.12	56.2
Sep 27	31.47	35.1	46.19	64.2	2.97	25.1	57.80	57.1	15.33	36.6	48.54	55.7
Oct 27	31.06	31.5	45.84	62.6	2.59	22.1	56.64	51.2	14.95	34.9	48.10	52.0
Nov 26	31.02	25.3	45.85	59.3	2.56	16.6	56.47	43.3	14.97	33.5	48.03	45.6
Dic 26	31.43	17.7	46.29	54.4	2.96	9.8	57.49	36.0	15.46	33.3	48.40	37.7
Ene 25	32.18	10.7	47.06	49.3	3.71	3.2	59.47	31.5	16.32	34.6	49.15	30.4

N°	1431		611		620		622		624		626	
Nombre	N Scorpii		γ Apodis		τ Scorpii		ζ Ophiuchi		Bradley 2114 (Ophiuchi)		η Herculis	
Mag. SP	4.23	B3	3.89	K0	2.82	B0	2.56	B0	4.96	K0	3.53	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	16h32m	-34°43'	16h35m	-78°55'	16h36m	-28°14'	16h37m	-10°35'	16h42m	-17°45'	16h43m	+38°53'
Dic 31	13s86	45°3	26s18	12°2	41s43	23°9	52s32	28°9	19s36	53°5	19s47	49°9
Ene 30	14.83	45.8	29.62	7.3	42.34	25.1	53.13	32.4	20.19	56.0	20.29	41.6
Mar 01	15.91	47.4	33.73	6.6	43.35	27.0	54.03	35.2	21.12	58.3	21.30	37.5
Mar 31	16.93	49.7	37.73	9.8	44.31	28.9	54.89	36.2	22.01	59.6	22.27	38.9
Abr 30	17.78	52.3	40.95	16.4	45.11	30.6	55.61	35.6	22.77	59.9	23.04	44.8
May 30	18.35	55.0	42.81	24.9	45.66	32.0	56.09	34.1	23.29	59.5	23.47	53.1
Jun 29	18.54	57.3	42.97	33.5	45.86	33.3	56.27	32.2	23.49	58.9	23.50	61.6
Jul 29	18.34	58.8	41.48	40.1	45.69	33.9	56.11	30.6	23.34	58.1	23.14	68.1
Ago 28	17.83	58.9	38.81	43.0	45.23	33.7	55.70	29.3	22.92	57.3	22.48	71.3
Sep 27	17.23	57.5	35.80	41.3	44.66	32.5	55.19	28.6	22.40	56.5	21.72	70.4
Oct 27	16.80	54.8	33.56	35.2	44.26	30.6	54.82	28.7	22.01	55.8	21.11	65.5
Nov 26	16.81	52.0	33.02	26.5	44.26	29.0	54.81	30.0	22.00	55.9	20.90	57.3
Dic 26	17.33	50.3	34.53	18.1	44.74	28.4	55.23	32.7	22.42	57.2	21.20	47.6
Ene 25	18.26	50.3	37.75	12.4	45.60	29.2	56.00	36.1	23.21	59.5	21.96	38.9

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	625		1435		1438		628		1439		1442		
Nombre	α Triang. Aust.		η Arae		20 Ophiuchi		ε Scorpii		μ <sup>1</sup> Scorpii		ι Ophiuchi		
Mag. SP	1.92	K2	3.76	K5	4.65	F5	2.29	K0	3.08	var.	B3p	4.38	B8
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	
m d	16h50m	-69°02'	16h50m	-59°03'	16h50m	-10°48'	16h51m	-34°18'	16h52m	-38°03'	16h54m	+10°08'	
Dic 31	1s78	47°2	54s11	36°3	32s97	13°9	s18	48°8	44s89	58°4	36s96	42°2	
Ene 30	3.67	42.7	55.50	33.0	33.76	17.3	1.11	48.8	45.86	57.8	37.69	36.2	
Mar 01	5.94	41.8	57.12	32.6	34.65	19.8	2.17	50.0	46.96	58.7	38.56	32.7	
Mar 31	8.19	44.3	58.73	34.9	35.52	20.7	3.20	51.7	48.04	60.5	39.40	32.7	
Abr 30	10.09	49.7	60.10	39.5	36.27	20.0	4.08	53.8	48.98	62.9	40.11	35.8	
May 30	11.31	56.9	61.01	45.5	36.79	18.4	4.70	56.1	49.64	65.7	40.60	40.8	
Jun 29	11.63	64.4	61.31	51.6	36.99	16.5	4.95	58.3	49.90	68.6	40.77	46.0	
Jul 29	11.03	70.4	60.96	56.5	36.87	14.8	4.79	59.9	49.75	70.7	40.61	50.4	
Ago 28	9.73	73.2	60.11	58.7	36.47	13.6	4.31	60.4	49.24	71.5	40.18	52.9	
Sep 27	8.17	72.0	59.07	57.5	35.95	13.0	3.69	59.3	48.59	70.4	39.64	53.1	
Oct 27	6.96	66.8	58.26	53.0	35.56	13.1	3.23	57.0	48.10	67.8	39.22	50.8	
Nov 26	6.65	59.3	58.10	46.7	35.51	14.3	3.17	54.4	48.03	64.5	39.12	46.3	
Dic 26	7.47	51.8	58.74	40.6	35.90	16.9	3.63	52.5	48.50	61.9	39.44	40.2	
Ene 25	9.24	46.6	60.03	36.7	36.64	20.1	4.50	52.2	49.41	60.9	40.13	34.1	

N°	633		631		632		634		1445		635	
Nombre	κ Ophiuchi		ζ Arae		ε <sup>1</sup> Arae		ε Herculis		30 Ophiuchi		60 Herculis	
Mag. SP	3.20	K0	3.13	K5	4.06	K2	3.92	A0	4.82	K0	4.91	A3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	16h58m	+9°21'	16h59m	-56°00'	17h00m	-53°10'	17h00m	+30°54'	17h01m	-4°14'	17h05m	+12°43'
Dic 31	16s59	21°7	41s34	22°8	36s86	34°8	46s38	27°4	44s43	24°7	58s37	27°1
Ene 30	17.32	15.9	42.60	19.6	38.05	31.9	47.12	19.4	45.17	28.9	59.08	20.8
Mar 01	18.17	12.4	44.09	19.0	39.45	31.4	48.04	15.1	46.04	31.7	59.93	17.1
Mar 31	19.02	12.3	45.59	21.0	40.85	33.3	48.96	15.8	46.89	32.2	60.78	17.2
Abr 30	19.74	15.4	46.89	24.9	42.08	37.0	49.73	20.8	47.64	30.6	61.52	20.6
May 30	20.23	20.2	47.78	30.3	42.93	41.9	50.22	28.4	48.17	27.8	62.04	25.9
Jun 29	20.41	25.4	48.11	36.0	43.26	47.2	50.34	36.4	48.40	24.7	62.23	31.7
Jul 29	20.27	29.7	47.85	40.6	43.03	51.4	50.09	42.8	48.29	22.1	62.09	36.4
Ago 28	19.84	32.2	47.09	42.9	42.34	53.5	49.55	46.3	47.90	20.5	61.67	39.2
Sep 27	19.30	32.5	46.14	42.0	41.46	52.6	48.87	46.2	47.38	20.0	61.11	39.5
Oct 27	18.87	30.3	45.38	37.9	40.76	48.8	48.31	42.3	46.97	20.7	60.66	37.2
Nov 26	18.76	26.0	45.20	32.1	40.59	43.4	48.10	35.3	46.88	23.0	60.52	32.4
Dic 26	19.08	20.0	45.76	26.4	41.12	38.1	48.36	26.4	47.22	26.6	60.81	26.1
Ene 25	19.75	14.1	46.94	22.6	42.23	34.7	49.04	18.2	47.91	30.7	61.46	19.7

N°	638		641		643		1454		644		645	
Nombre	η Scorpii		δ Herculis*		π Herculis		Piazzi 17 <sup>h</sup> 68 (Herculis)		θ Ophiuchi		β Arae	
Mag. SP	3.33	F2	3.14	A2	3.16	K5	5.00	M0	3.27	B3	2.85	K2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	17h13m	-43°15'	17h15m	+24°49'	17h15m	+36°47'	17h20m	+18°02'	17h22m	-25°00'	17h26m	-55°32'
Dic 31	4s75	9°5	33s23	29°1	28s96	41°9	52s64	41°8	48s20	34°6	22s18	17°2
Ene 30	5.72	7.7	33.92	21.6	29.68	33.3	53.31	34.9	48.98	35.3	23.33	13.3
Mar 01	6.89	7.5	34.79	17.2	30.62	28.6	54.16	30.8	49.92	36.3	24.77	11.7
Mar 31	8.07	8.7	35.68	17.5	31.60	29.1	55.03	30.9	50.88	37.0	26.26	12.4
Abr 30	9.12	11.1	36.46	21.9	32.43	34.4	55.80	34.7	51.75	37.3	27.62	15.4
May 30	9.89	14.4	36.99	28.8	32.97	42.5	56.34	40.8	52.42	37.5	28.63	20.1
Jun 29	10.24	18.1	37.18	36.2	33.12	51.1	56.57	47.4	52.75	37.9	29.09	25.6
Jul 29	10.12	21.1	37.00	42.3	32.86	58.3	56.44	53.0	52.70	38.3	28.94	30.4
Ago 28	9.59	22.7	36.52	45.9	32.27	62.4	56.01	56.3	52.31	38.4	28.26	33.4
Sep 27	8.88	22.2	35.90	46.3	31.52	62.6	55.43	56.8	51.75	37.9	27.32	33.3
Oct 27	8.30	19.5	35.36	43.2	30.87	58.8	54.93	54.3	51.28	36.9	26.50	30.1
Nov 26	8.15	15.6	35.15	37.0	30.57	51.5	54.73	49.1	51.14	35.9	26.20	24.6
Dic 26	8.57	11.9	35.38	29.0	30.76	42.1	54.96	42.0	51.46	35.4	26.62	18.7
Ene 25	9.48	9.7	36.01	21.2	31.41	33.3	55.57	35.0	52.19	35.9	27.68	14.3

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	1457		1459		647		646		649		1460	
Nombre	44 Ophiuchi		σ Ophiuchi		27 H.Ophiuchi		45 Ophiuchi		υ Scorpii		λ Herculis	
Mag. SP	4.17	F0	4.34	K0	4.54	F0	4.29	F5	2.69	B3	4.41	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	17h27m	-24°11'	17h27m	+ 4°07'	17h27m	- 5°05'	17h28m	-29°52'	17h31m	-37°18'	17h31m	+26°06'
Dic 31	9s55	4"0	9s15	51"0	18s91	45"5	10s77	32"9	38s49	10"5	15s07	7"2
Ene 30	10.32	4.7	9.82	45.9	19.59	49.2	11.57	32.8	39.34	9.1	15.71	59.4*
Mar 01	11.24	5.7	10.64	42.7	20.43	51.8	12.55	33.2	40.39	8.8	16.57	54.8*
Mar 31	12.20	6.3	11.50	42.5	21.30	52.1	13.55	33.8	41.48	9.3	17.47	54.9*
Abr 30	13.08	6.4	12.27	45.1	22.09	50.3	14.48	34.4	42.49	10.5	18.28	59.2*
May 30	13.75	6.5	12.85	49.4	22.69	47.4	15.18	35.4	43.26	12.5	18.86	6.3
Jun 29	14.09	6.7	13.13	54.0	22.98	44.3	15.54	36.6	43.66	15.0	19.09	14.0
Jul 29	14.05	6.9	13.06	57.9	22.93	41.7	15.50	37.7	43.62	17.3	18.95	20.5
Ago 28	13.67	7.0	12.69	60.4	22.57	40.0	15.10	38.4	43.18	18.7	18.48	24.6
Sep 27	13.11	6.6	12.16	61.0	22.06	39.4	14.52	38.1	42.54	18.5	17.85	25.3
Oct 27	12.64	5.7	11.70	59.6	21.61	40.1	14.01	36.7	41.98	16.7	17.28	22.5
Nov 26	12.49	4.8	11.53	56.3	21.46	42.1	13.86	35.0	41.79	13.8	17.02	16.5
Dic 26	12.80	4.5	11.78	51.4	21.72	45.3	14.17	33.6	42.11	11.1	17.19	8.5
Ene 25	13.51	5.1	12.39	46.4	22.35	49.0	14.91	33.2	42.90	9.3	17.77	.6

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N°	648		651		652		656		654		658	
Nombre	δ Arae		α Arae		λ Scorpii		α Ophiuchi		ϑ Scorpii		ξ Serpentis	
Mag. SP	3.62	B8	2.95	B3p	1.63	B2	2.08	A5	1.87	F0	3.54	A5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	17h32m	-60°41'	17h32m	-49°52'	17h34m	-37°06'	17h35m	+12°33'	17h38m	-43°00'	17h38m	-15°24'
Dic 31	15s40	25"5	50s24	57"9	29s10	36"0	31s74	7"9	14s71	9"6	19s52	15"1
Ene 30	16.67	20.7	51.25	54.6	29.94	34.6	32.37	1.7	15.61	7.1	20.21	17.1
Mar 01	18.29	18.5	52.51	53.2	30.98	34.2	33.19	57.9*	16.73	6.1	21.07	18.7
Mar 31	20.00	19.0	53.84	53.6	32.07	34.6	34.05	57.7*	17.91	6.4	21.98	18.9
Abr 30	21.57	22.1	55.06	55.9	33.09	35.8	34.84	1.0	19.01	7.9	22.82	18.0
May 30	22.73	27.3	55.99	59.7	33.87	37.7	35.43	6.5	19.86	10.6	23.48	16.5
Jun 29	23.26	33.5	56.45	64.3	34.27	40.1	35.71	12.5	20.30	14.0	23.83	15.1
Jul 29	23.09	39.1	56.36	68.4	34.24	42.4	35.63	17.5	20.27	17.1	23.82	14.0
Ago 28	22.30	42.6	55.80	71.0	33.81	43.8	35.25	20.7	19.80	19.2	23.47	13.3
Sep 27	21.19	42.9	54.99	71.1	33.17	43.7	34.70	21.4	19.09	19.3	22.95	12.9
Oct 27	20.21	39.5	54.27	68.4	32.60	41.9	34.20	19.5	18.47	17.2	22.48	12.8
Nov 26	19.81	33.5	54.00	63.8	32.41	39.1	33.99	15.1	18.23	13.6	22.31	13.2
Dic 26	20.22	26.8	54.36	58.8	32.72	36.4	34.19	9.0	18.54	9.7	22.56	14.5
Ene 25	21.38	21.5	55.29	55.0	33.49	34.6	34.78	2.7	19.36	6.9	23.20	16.3

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N°	660		1463		665		661		667		1464	
Nombre	κ Scorpii		58 Ophiuchi		β Ophiuchi		η Pavonis		μ Herculis		χ Sagittarii	
Mag. SP	2.41	B2	4.87	F5	2.77	K0	3.62	K0	3.42	G5	4.2-4.8	F5-G0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	17h43m	-39°02'	17h44m	-21°41'	17h44m	+ 4°33'	17h46m	-64°43'	17h46m	+27°42'	17h48m	-27°49'
Dic 31	22s77	"4	12s18	12"5	6s42	49"7	59s22	32"9	57s23	51"8	22s34	58"3
Ene 30	23.61	58.5*	12.89	13.4	7.04	44.7	60.56	27.2	57.83	43.8	23.07	58.1
Mar 01	24.66	57.6*	13.78	14.2	7.84	41.5	62.35	24.0	58.67	38.9	24.00	58.2
Mar 31	25.78	57.8*	14.72	14.3	8.70	41.3	64.30	23.9	59.58	38.6	24.98	58.2
Abr 30	26.83	58.8*	15.60	13.9	9.50	44.0	66.12	26.7	60.42	42.9	25.92	58.2
May 30	27.65	.8	16.30	13.3	10.12	48.5	67.50	31.9	61.03	50.0	26.67	58.4
Jun 29	28.10	3.4	16.68	12.8	10.44	53.4	68.17	38.5	61.31	58.0	27.08	59.1
Jul 29	28.09	6.1	16.69	12.7	10.41	57.5	68.02	44.7	61.19	64.8	27.10	59.9
Ago 28	27.66	7.8	16.34	12.7	10.06	60.1	67.15	49.0	60.74	69.3	26.75	60.6
Sep 27	27.01	8.0	15.80	12.5	9.53	60.9	65.87	49.8	60.09	70.3	26.18	60.6
Oct 27	26.41	6.2	15.31	12.0	9.05	59.6	64.68	46.6	59.49	67.7	25.65	59.7
Nov 26	26.18	3.2	15.12	11.5	8.85	56.4	64.11	40.4	59.17	61.7	25.45	58.3
Dic 26	26.46	.1	15.37	11.5	9.04	51.7	64.45	33.1	59.29	53.6	25.69	57.2
Ene 25	27.23	57.8*	16.02	12.2	9.61	46.6	65.66	26.9	59.83	45.5	26.36	56.8

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	666		668		669		672		674		673	
Nombre	ι <sup>1</sup> Scorpii		γ Ophiuchi		G Scorpii		δ Herculis		ξ Herculis		ν Ophiuchi	
Mag. SP	3.03	F5p	3.75	A0	3.21	K2	3.86	K0	3.70	K0	3.34	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	17h48m	-40°07'	17h48m	+2°42'	17h50m	-37°02'	17h56m	+37°15'	17h58m	+29°14'	17h59m	-9°46'
Dic 31	29s14	43°7'	32s21	15°9'	44s11	39°4'	40s84	"6	15s33	53°0'	44s13	22°1'
Ene 30	29.97	41.5	32.83	11.2	44.91	37.6	41.42	51.8*	15.91	44.9	44.75	24.8
Mar 01	31.02	40.4	33.63	8.1	45.92	36.8	42.30	46.2*	16.73	39.8	45.55	26.6
Mar 31	32.16	40.3	34.48	8.0	47.01	36.6	43.28	45.8*	17.65	39.4	46.43	26.6
Abr 30	33.23	41.3	35.29	10.5	48.05	37.3	44.20	50.3*	18.52	43.6	47.28	24.9
May 30	34.08	43.3	35.92	14.7	48.87	38.8	44.87	58.2*	19.17	50.8	47.97	22.3
Jun 29	34.55	46.1	36.26	19.3	49.33	41.0	45.15	7.3	19.48	59.1	48.37	19.7
Jul 29	34.55	48.9	36.24	23.2	49.35	43.4	45.01	15.3	19.39	66.4	48.40	17.6
Ago 28	34.13	50.9	35.91	25.7	48.95	45.0	44.49	20.6	18.95	71.2	48.10	16.4
Sep 27	33.47	51.2	35.39	26.4	48.32	45.3	43.75	22.1	18.30	72.7	47.59	16.0
Oct 27	32.85	49.5	34.90	25.3	47.73	43.9	43.03	19.5	17.68	70.4	47.10	16.3
Nov 26	32.60	46.4	34.69	22.3	47.49	41.2	42.61	13.1	17.32	64.6	46.88	17.6
Dic 26	32.87	43.0	34.88	17.9	47.74	38.4	42.65	4.2	17.40	56.5	47.06	19.7
Ene 25	33.62	40.5	35.44	13.2	48.46	36.3	43.16	55.2*	17.90	48.3	47.62	22.3

N°	1469		677		679		1471		680		681	
Nombre	93 Herculis		67 Ophiuchi		γ Sagittarii		δ Arae		72 Ophiuchi		O Herculis	
Mag. SP	4.67	K0	3.97	B5p	2.99	K0	3.66	B1p	3.73	A3	3.83	A0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	18h00m	+16°45'	18h01m	+2°55'	18h06m	-30°25'	18h07m	-50°05'	18h07m	+9°34'	18h08m	+28°45'
Dic 31	37s50	7°3'	17s30	59°1'	38s12	15°8'	37s77	14°4'	57s42	4°0'	2s12	57°7'
Ene 30	38.07	.6	17.89	54.4	38.82	14.8	38.65	10.2	57.97	58.4*	2.66	49.7
Mar 01	38.85	56.4*	18.66	51.4	39.73	14.2	39.85	7.5	58.73	54.7*	3.46	44.4
Mar 31	39.72	56.1*	19.52	51.2	40.74	13.7	41.17	6.6	59.59	54.5*	4.38	43.9
Abr 30	40.55	59.6*	20.34	53.8	41.72	13.4	42.46	7.6	60.42	57.6*	5.26	47.9
May 30	41.19	5.6	21.00	58.2	42.53	13.7	43.51	10.5	61.08	2.8	5.94	55.0
Jun 29	41.53	12.3	21.37	62.9	43.01	14.6	44.11	14.7	61.46	8.6	6.28	63.3
Jul 29	41.51	18.2	21.39	66.9	43.08	15.9	44.17	19.1	61.47	13.6	6.22	70.7
Ago 28	41.15	22.2	21.08	69.6	42.76	17.1	43.70	22.5	61.15	17.0	5.80	75.7
Sep 27	40.59	23.4	20.56	70.4	42.18	17.5	42.90	23.6	60.62	18.1	5.16	77.4
Oct 27	40.04	21.6	20.07	69.3	41.62	16.7	42.12	21.8	60.10	16.8	4.53	75.4
Nov 26	39.76	17.1	19.82	66.5	41.36	15.2	41.72	17.7	59.83	13.2	4.15	69.9
Dic 26	39.87	10.7	19.97	62.1	41.55	13.6	41.92	12.6	59.95	7.9	4.20	62.0
Ene 25	40.38	4.0	20.50	57.5	42.18	12.3	42.71	8.0	60.44	2.2	4.67	53.8

N°	1473		682		683		1477		1476		687	
Nombre	ε Telescopii		μ Sagittarii		η Sagittarii*		κ Lyrae		74 Ophiuchi		δ Sagittarii	
Mag. SP	4.53	K0	3.86	B8p	3.11	M3	4.33	K0	4.86	G5	2.70	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	18h12m	-45°56'	18h14m	-21°03'	18h18m	-36°45'	18h20m	+36°04'	18h21m	+3°23'	18h21m	-29°49'
Dic 31	10s94	56°2'	32s01	10°0'	29s84	17°6'	17s99	20°3'	30s51	6°9'	49s07	11°5'
Ene 30	11.75	52.5	32.63	10.5	30.54	15.3	18.50	11.5	31.03	2.3	49.72	10.3
Mar 01	12.85	50.1	33.46	10.8	31.49	13.7	19.31	5.6	31.77	59.3*	50.60	9.5
Mar 31	14.07	49.1	34.39	10.3	32.57	12.7	20.28	4.7	32.62	59.2*	51.59	8.6
Abr 30	15.28	49.7	35.31	9.2	33.63	12.5	21.22	8.8	33.47	1.9	52.59	7.8
May 30	16.27	51.9	36.08	7.9	34.53	13.4	21.95	16.4	34.17	6.4	53.43	7.7
Jun 29	16.86	55.4	36.55	7.1	35.07	15.3	22.32	25.4	34.59	11.4	53.95	8.3
Jul 29	16.93	59.2	36.64	6.8	35.18	17.6	22.26	33.7	34.66	15.7	54.06	9.5
Ago 28	16.52	62.1	36.35	6.9	34.85	19.6	21.80	39.5	34.38	18.5	53.77	10.7
Sep 27	15.80	63.2	35.83	7.0	34.23	20.5	21.09	41.8	33.88	19.5	53.21	11.3
Oct 27	15.08	61.8	35.31	6.9	33.61	19.7	20.37	39.9	33.37	18.6	52.64	10.8
Nov 26	14.71	58.3	35.05	6.6	33.29	17.4	19.91	34.2	33.08	15.8	52.35	9.5
Dic 26	14.89	53.9	35.20	6.5	33.45	14.6	19.87	25.7	33.18	11.6	52.49	8.0
Ene 25	15.61	49.9	35.76	7.0	34.07	12.1	20.30	16.8	33.64	7.0	53.06	6.6

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	688		686		690		689		691		692	
Nombre	η Serpentis		ξ Pavonis*		109 Herculis		ε Sagittarii		α Telescopii		λ Sagittarii	
Mag. SP	3.26	K0	4.36	K2	3.84	K0	1.85	A0	3.51	B3	2.81	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	18h21m	-2°53'	18h24m	-61°29'	18h24m	+21°46'	18h25m	-34°22'	18h27m	-45°57'	18h28m	-25°24'
Dic 31	58s50	35"1	24s01	4"2	14s41	40"0	1s52	32"5	55s46	29"8	45s88	42"8
Ene 30	59.04	38.7	25.03	57.9*	14.91	32.8	2.18	30.5	56.20	25.8	46.48	42.3
Mar 01	59.78	41.1	26.52	53.6*	15.66	27.9	3.10	29.0	57.26	22.9	47.32	41.8
Mar 31	60.64	41.1	28.25	51.8*	16.53	27.2	4.14	27.9	58.48	21.3	48.27	40.9
Abr 30	61.49	38.7	29.97	52.8*	17.40	30.7	5.18	27.3	59.70	21.4	49.23	39.7
May 30	62.20	35.0	31.38	56.5*	18.11	37.2	6.07	27.7	60.74	23.2	50.05	38.8
Jun 29	62.63	31.1	32.20	2.1	18.51	44.7	6.62	29.1	61.38	26.4	50.58	38.6
Jul 29	62.71	27.9	32.30	8.2	18.53	51.5	6.75	31.0	61.52	30.2	50.71	39.0
Ago 28	62.44	25.9	31.68	13.0	18.19	56.3	6.45	32.9	61.15	33.5	50.44	39.8
Sep 27	61.94	25.2	30.59	15.0	17.62	58.1	5.86	33.7	60.44	35.0	49.91	40.3
Oct 27	61.43	26.0	29.47	13.3	17.03	56.6	5.26	33.2	59.71	34.0	49.36	40.1
Nov 26	61.16	28.1	28.80	8.2	16.67	52.0	4.93	31.3	59.29	30.7	49.06	39.4
Dic 26	61.26	31.3	28.90	1.4	16.70	45.1	5.06	28.9	59.40	26.3	49.19	38.7
Ene 25	61.74	34.9	29.79	54.7*	17.13	37.8	5.65	26.7	60.06	22.1	49.71	38.0

N°	696		697		1482		699		1486		698	
Nombre	γ Scuti		δ Coronae Aust.		α Scuti		α Lyrae (Vega)		δ Scuti		ζ Pavonis	
Mag. SP	4.70	A3	4.64	G5	3.85	K0	0.03	A0	4.72	F0	4.01	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	18h29m	-14°33'	18h34m	-42°18'	18h35m	-8°13'	18h37m	+38°47'	18h42m	-9°02'	18h44m	-71°24'
Dic 31	55s85	17"9	25s14	1"1	54s42	57"0	21s61	52"7	58s67	15"5	30s24	48"0
Ene 30	56.40	19.4	25.82	57.6*	54.93	59.5	22.06	43.6	59.17	17.8	31.47	40.0
Mar 01	57.17	20.3	26.81	54.9*	55.67	61.1	22.86	37.4	59.89	19.2	33.51	34.1
Mar 31	58.06	19.7	27.95	53.2*	56.53	60.7	23.85	36.0	60.74	18.7	35.99	31.1
Abr 30	58.96	17.9	29.11	52.8*	57.41	58.5	24.83	39.9	61.63	16.4	38.51	31.7
May 30	59.73	15.5	30.11	54.0*	58.16	55.3	25.62	47.5	62.40	13.2	40.62	35.8
Jun 29	60.22	13.4	30.75	56.5*	58.65	52.1	26.04	56.8	62.91	10.0	41.89	42.2
Jul 29	60.34	12.0	30.91	59.7*	58.78	49.6	26.02	65.6	63.06	7.6	42.09	49.6
Ago 28	60.09	11.3	30.59	2.6	58.55	48.2	25.57	72.0	62.84	6.2	41.21	55.8
Sep 27	59.60	11.2	29.94	4.1	58.06	47.8	24.85	74.9	62.37	5.8	39.57	58.8
Oct 27	59.08	11.5	29.25	3.4	57.55	48.3	24.08	73.5	61.85	6.3	37.78	57.5
Nov 26	58.80	12.1	28.85	.7	57.26	49.7	23.55	68.1	61.54	7.6	36.55	52.0
Dic 26	58.90	13.2	28.94	57.0*	57.33	51.9	23.45	59.7	61.60	9.6	36.40	44.0
Ene 25	59.39	14.6	29.54	53.2*	57.79	54.4	23.82	50.6	62.04	11.9	37.44	35.7

N°	702		1487		703		1488		1491		1489	
Nombre	ε Scuti		φ Sagittarii		110 Herculis		B.D. +26° 3349 (Lyrae)		111 Herculis		β Scuti	
Mag. SP	4.90	G5	3.17	B8	4.19	F5	4.83	K0	4.36	A3	4.22	G0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	18h44m	-8°15'	18h46m	-26°58'	18h46m	+20°33'	18h46m	+26°40'	18h47m	+18°11'	18h47m	-4°43'
Dic 31	13s27	35"6	27s57	29"6	12s61	40"3	35s12	42"5	35s06	54"3	51s39	53"4
Ene 30	13.76	38.1	28.12	28.5	13.04	33.2	35.54	34.7	35.49	47.7	51.86	56.4
Mar 01	14.48	39.5	28.92	27.4	13.74	28.4	36.25	29.2	36.18	43.1	52.56	58.3
Mar 31	15.33	39.0	29.87	26.0	14.60	27.4	37.13	28.0	37.03	42.3	53.40	57.9
Abr 30	16.21	36.7	30.86	24.4	15.48	30.7	38.04	31.5	37.91	45.5	54.28	55.4
May 30	16.98	33.4	31.73	23.4	16.23	36.9	38.81	38.2	38.66	51.6	55.05	51.7
Jun 29	17.50	30.1	32.31	23.2	16.69	44.4	39.27	46.4	39.13	58.8	55.56	47.8
Jul 29	17.65	27.5	32.50	23.8	16.78	51.3	39.33	54.1	39.23	65.5	55.71	44.6
Ago 28	17.43	26.0	32.27	24.9	16.49	56.3	39.01	59.7	38.95	70.2	55.50	42.6
Sep 27	16.96	25.6	31.76	25.7	15.95	58.5	38.43	62.3	38.42	72.4	55.03	42.0
Oct 27	16.44	26.1	31.19	25.8	15.36	57.5	37.79	61.2	37.85	71.4	54.51	42.5
Nov 26	16.13	27.5	30.85	25.0	14.96	53.4	37.36	56.7	37.47	67.6	54.20	44.3
Dic 26	16.19	29.6	30.91	23.9	14.94	46.9	37.30	49.6	37.44	61.5	54.24	47.0
Ene 25	16.61	32.0	31.39	22.8	15.30	39.9	37.66	41.8	37.81	54.8	54.65	49.9

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	705		704		706		709		710		708	
Nombre	β Lyrae		λ Pavonis		σ Sagittarii		ϣ Serpentis* p.		ξ <sup>2</sup> Sagittarii		λ Telescopii	
Mag. SP	3.3-4.3	B8p/B2p	3.4-4.3	B2	2.02	B3	4.61	A5	3.51	K0	5.03	B9
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	18h50m	+33°22'	18h53m	-62°10'	18h56m	-26°16'	18h56m	+4°13'	18h58m	-21°05'	18h59m	-52°55'
Dic 31	32s66	49°0	23s49	11°0	3s73	41°2	51s45	22°9	29s81	13°5	28s94	8°3
Ene 30	33.06	40.5	24.35	4.0	4.24	40.1	51.88	18.4	30.30	13.5	29.62	2.6
Mar 01	33.78	34.4	25.75	58.5*	5.02	39.0	52.55	15.5	31.03	13.0	30.71	57.9*
Mar 31	34.71	32.9	27.46	55.4*	5.95	37.4	53.37	15.4	31.93	11.6	32.05	54.9*
Abr 30	35.66	36.3	29.24	55.2*	6.94	35.6	54.24	18.2	32.88	9.6	33.47	54.1*
May 30	36.46	43.4	30.78	58.0*	7.82	34.2	55.01	23.0	33.73	7.6	34.72	55.7*
Jun 29	36.93	52.2	31.77	3.2	8.43	33.8	55.52	28.3	34.32	6.2	35.56	59.4*
Jul 29	36.98	60.7	32.03	9.4	8.64	34.2	55.68	33.0	34.53	5.8	35.83	4.3
Ago 28	36.62	67.0	31.53	14.8	8.44	35.3	55.48	36.2	34.35	6.1	35.50	8.8
Sep 27	35.98	70.0	30.47	17.8	7.94	36.2	55.01	37.5	33.87	6.6	34.72	11.5
Oct 27	35.28	69.1	29.29	17.1	7.37	36.4	54.48	36.9	33.32	7.0	33.83	11.3
Nov 26	34.78	64.3	28.47	12.7	7.01	35.9	54.14	34.3	32.98	7.0	33.22	7.9
Dic 26	34.67	56.6	28.39	6.0	7.05	34.9	54.13	30.3	33.01	6.9	33.18	2.6
Ene 25	35.00	48.1	29.12	58.8*	7.49	33.8	54.50	25.8	33.42	6.8	33.76	56.7*

N°	713		712		716		717		1496		718	
Nombre	γ Lyrae		ε Aquilae		ζ Aquilae		λ Aquilae		τ Sagittarii		α Coronae Aust	
Mag. SP	3.24	A0p	4.02	K0	2.99	A0	3.44	B9	3.32	K0	4.11	A2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	18h59m	+32°42'	19h00m	+15°05'	19h05m	+13°53'	19h06m	-4°51'	19h07m	-27°38'	19h10m	-37°52'
Dic 31	24s89	36°2	12s16	18°7	59s88	7°5	55s85	37°9	44s53	56°6	20s65	54°8
Ene 30	25.26	27.8	12.56	12.5	60.26	1.6	56.27	40.7	45.01	55.2	21.17	51.5
Mar 01	25.97	21.6	13.22	8.2	60.91	57.4*	56.93	42.4	45.76	53.6	22.00	48.5
Mar 31	26.87	20.0	14.05	7.5	61.73	56.7*	57.75	41.9	46.69	51.7	23.03	45.8
Abr 30	27.83	23.2	14.92	10.5	62.61	59.7*	58.64	39.3	47.69	49.6	24.15	44.0
May 30	28.64	30.2	15.70	16.3	63.39	5.3	59.44	35.4	48.61	48.2	25.16	43.7
Jun 29	29.14	39.0	16.20	23.1	63.91	12.0	60.00	31.3	49.25	47.8	25.88	44.9
Jul 29	29.22	47.5	16.35	29.4	64.07	18.3	60.20	28.0	49.50	48.5	26.16	47.3
Ago 28	28.89	53.9	16.11	34.0	63.86	22.8	60.04	26.0	49.32	49.8	25.96	50.1
Sep 27	28.27	57.1	15.62	36.1	63.37	24.9	59.59	25.4	48.83	51.0	25.41	52.1
Oct 27	27.58	56.5	15.05	35.5	62.81	24.3	59.07	26.0	48.25	51.4	24.75	52.4
Nov 26	27.07	51.9	14.66	32.0	62.42	21.0	58.72	27.6	47.87	50.9	24.30	50.8
Dic 26	26.94	44.5	14.62	26.5	62.37	15.7	58.71	30.2	47.87	49.7	24.28	48.0
Ene 25	27.24	36.0	14.95	20.4	62.69	9.8	59.07	33.0	48.28	48.2	24.72	44.6

N°	720		724		722		727		1502		728	
Nombre	π Sagittarii		ϣ Lyrae		43 Sagittarii		υ Sagittarii		β <sup>1</sup> Sagittarii		α Sagittarii	
Mag. SP	2.89	F2	4.36	K0	4.96	K0	4.61	B8p, F2p	4.01	B8	3.97	B8
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	19h10m	-21°00'	19h16m	+38°09'	19h18m	-18°55'	19h22m	-15°55'	19h23m	-44°25'	19h24m	-40°35'
Dic 31	31s70	2°0	48s15	35°7	23s19	38°9	27s79	41°7	33s42	56°5	46s36	21°7
Ene 30	32.14	1.8	48.46	26.8	23.61	39.0	28.19	42.3	33.92	51.9	46.84	17.8
Mar 01	32.85	1.1	49.13	19.9	24.29	38.5	28.85	42.2	34.79	47.6	47.66	14.0
Mar 31	33.73	59.5*	50.07	17.6	25.15	36.9	29.68	40.8	35.89	44.2	48.70	10.8
Abr 30	34.68	57.2*	51.08	20.5	26.09	34.4	30.61	38.1	37.11	42.1	49.85	8.6
May 30	35.56	55.0*	51.96	27.5	26.96	31.8	31.47	35.1	38.24	42.1	50.93	8.1
Jun 29	36.17	53.5*	52.52	36.7	27.59	29.8	32.10	32.6	39.06	44.0	51.71	9.5
Jul 29	36.42	52.9*	52.64	45.9	27.86	28.9	32.37	31.1	39.40	47.5	52.05	12.3
Ago 28	36.26	53.3*	52.31	53.2	27.72	28.9	32.25	30.7	39.22	51.2	51.88	15.5
Sep 27	35.80	53.9*	51.66	57.2	27.28	29.5	31.82	31.1	38.62	54.0	51.33	18.1
Oct 27	35.25	54.4*	50.90	57.1	26.74	30.1	31.29	31.7	37.88	54.6	50.64	18.7
Nov 26	34.89	54.6*	50.31	52.8	26.36	30.5	30.91	32.4	37.34	52.7	50.14	17.2
Dic 26	34.88	54.5*	50.08	45.3	26.33	30.7	30.87	33.1	37.25	48.8	50.06	13.9
Ene 25	35.26	54.2*	50.31	36.4	26.68	30.8	31.20	33.7	37.66	44.1	50.45	9.9

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	730		1508		732		1510		1511		735	
Nombre	δ Aquilae		α Vulpeculae		β Cygni* p		8 Cygni		μ Aquilae		ι Telescopi	
Mag. SP	3.36	F0	4.44	M0	3.24	K0,A0	4.74	B3	4.45	K0	4.90	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	19h26m	+ 3°08'	19h29m	+24°41'	19h31m	+27°59'	19h32m	+34°29'	19h34m	+ 7°24'	19h36m	-48°04'
Dic 31	8s74	36"1	14s11	39"4	14s03	24"4	14s44	2"0	42s98	33"5	9s73	9"2
Ene 30	9.09	32.0	14.40	32.0	14.31	16.7	14.70	53.5*	43.29	28.8	10.21	3.9
Mar 01	9.69	29.3	15.00	26.5	14.91	10.7	15.31	46.9*	43.86	25.5	11.07	58.8*
Mar 31	10.48	29.3	15.82	24.8	15.74	8.8	16.19	44.5*	44.64	25.1	12.22	54.7*
Abr 30	11.36	32.2	16.74	27.5	16.68	11.5	17.17	47.0*	45.52	28.0	13.51	52.3*
May 30	12.18	37.0	17.58	33.8	17.54	17.9	18.06	53.7*	46.35	33.1	14.72	52.2*
Jun 29	12.77	42.4	18.16	41.7	18.13	26.1	18.66	2.5	46.95	39.1	15.63	54.4*
Jul 29	13.01	47.2	18.37	49.6	18.33	34.4	18.85	11.5	47.21	44.6	16.03	58.4*
Ago 28	12.88	50.5	18.17	55.7	18.12	41.0	18.61	18.7	47.09	48.5	15.87	2.8
Sep 27	12.45	51.9	17.66	59.1	17.59	44.6	18.02	22.9	46.67	50.4	15.25	6.1
Oct 27	11.93	51.4	17.05	59.1	16.95	44.7	17.32	23.2	46.14	50.1	14.46	7.0
Nov 26	11.55	49.1	16.56	55.6	16.44	41.2	16.75	19.5	45.74	47.6	13.84	5.1
Dic 26	11.47	45.6	16.40	49.4	16.25	34.8	16.51	12.6	45.63	43.5	13.68	.8
Ene 25	11.76	41.5	16.62	42.2	16.46	27.1	16.69	4.2	45.88	38.8	14.05	55.4*

N°	736		737		1513		740		741		1517	
Nombre	52 Sagittarii*		K Aquilae		β Sagittae		15 Cygni		γ Aquilae		56 Sagittarii	
Mag. SP	4.60	B9	4.95	B0	4.37	K0	4.89	K0	2.72	K2	4.86	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	19h37m	-24°51'	19h37m	- 6°59'	19h41m	+17°30'	19h44m	+37°23'	19h46m	+10°38'	19h47m	-19°43'
Dic 31	29s32	9"9	34s95	46"0	37s42	33"1	43s85	21"4	52s18	52"3	6s72	39"7
Ene 30	29.69	8.7	35.28	48.1	37.69	26.9	44.05	12.7	52.44	47.2	7.04	39.4
Mar 01	30.35	7.0	35.87	49.3	38.25	22.2	44.64	5.7	52.99	43.4	7.65	38.4
Mar 31	31.21	4.6	36.65	48.4	39.03	20.9	45.52	2.8	53.75	42.8	8.47	36.2
Abr 30	32.19	1.8	37.55	45.5	39.92	23.7	46.54	5.1	54.63	45.5	9.41	33.2
May 30	33.13	59.4*	38.40	41.5	40.77	29.4	47.47	11.6	55.47	50.9	10.32	30.1
Jun 29	33.84	58.0*	39.04	37.4	41.38	36.6	48.11	20.5	56.10	57.3	11.02	27.9
Jul 29	34.17	58.0*	39.33	34.3	41.64	43.6	48.34	29.9	56.39	63.4	11.37	26.9
Ago 28	34.08	59.0*	39.24	32.4	41.50	49.1	48.11	37.6	56.29	68.0	11.31	27.1
Sep 27	33.65	.3	38.84	32.0	41.06	52.0	47.52	42.3	55.88	70.3	10.91	28.0
Oct 27	33.09	1.2	38.33	32.6	40.49	52.1	46.79	43.1	55.34	70.2	10.37	28.9
Nov 26	32.67	1.3	37.94	34.0	40.04	49.2	46.17	39.7	54.92	67.7	9.96	29.5
Dic 26	32.58	.6	37.86	36.1	39.88	43.9	45.88	32.8	54.78	63.3	9.85	29.6
Ene 25	32.89	59.4*	38.12	38.2	40.09	37.8	46.01	24.3	54.98	58.2	10.11	29.4

N°	743		745		746		1520		749		1521	
Nombre	δ Sagittae		α Aquilae (Altair)		η Aquilae		ι Sagittarii		β Aquilae		η Cygni	
Mag. SP	3.82	M0,A0	0.77	A5	3.5-4.3	G0p	4.13	K0	3.71	K0	3.89	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	19h47m	+18°34'	19h51m	+ 8°54'	19h53m	+ 1°02'	19h56m	-41°49'	19h55m	+ 6°26'	19h56m	+35°07'
Dic 31	57s50	10"1	24s58	20"0	7s67	30"1	8s58	57"1	56s67	31"4	46s86	17"9
Ene 30	57.74	3.8	24.85	15.3	7.93	26.7	8.94	52.6	56.92	27.0	47.03	9.5
Mar 01	58.29	58.9*	25.39	11.8	8.47	24.4	9.65	48.0	57.44	23.9	47.57	2.6
Mar 31	59.06	57.5*	26.15	11.4	9.22	24.6	10.65	43.7	58.19	23.5	48.40	59.7*
Abr 30	59.96	.1	27.03	14.3	10.10	27.6	11.81	40.5	59.06	26.3	49.40	1.7
May 30	60.81	5.9	27.88	19.6	10.95	32.3	12.94	39.1	59.92	31.4	50.33	8.0
Jun 29	61.44	13.2	28.51	25.9	11.60	37.6	13.82	40.0	60.57	37.3	51.01	16.7
Jul 29	61.72	20.4	28.81	31.7	11.93	42.2	14.27	42.7	60.89	42.8	51.28	25.9
Ago 28	61.60	26.1	28.73	36.1	11.86	45.3	14.21	46.4	60.82	46.7	51.10	33.6
Sep 27	61.16	29.2	28.33	38.2	11.49	46.7	13.71	49.6	60.44	48.7	50.57	38.5
Oct 27	60.59	29.4	27.81	38.1	10.98	46.3	13.01	51.1	59.92	48.4	49.88	39.5
Nov 26	60.13	26.6	27.39	35.8	10.57	44.4	12.44	50.1	59.50	46.2	49.27	36.5
Dic 26	59.95	21.4	27.25	31.7	10.44	41.3	12.25	47.0	59.35	42.4	48.97	30.0
Ene 25	60.13	15.1	27.45	26.9	10.64	37.8	12.52	42.6	59.54	38.0	49.06	21.8

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	752		751		748		1523		753		755	
Nombre	γ Sagittae		δ <sup>1</sup> Sagittarii		ε Pavonis		15 Vulpeculae		62 Sagittarii		ξ Telescopi	
Mag. SP	3.47	K5	4.37	B3	3.96	A0	4.64	A5	4.58	M3	4.94	M0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	19h59m	+19°31'	20h00m	-35°14'	20h02m	-72°52'	20h01m	+27°47'	20h03m	-27°40'	20h08m	-52°50'
Dic 31	19s59	50°6	34s20	22°1	1s34	27°6	37s55	35°0	26s84	18°7	21s50	32°0
Ene 30	19.80	44.3	34.52	18.8	1.87	18.5	37.73	27.5	27.14	16.8	21.84	25.7
Mar 01	20.31	39.3	35.17	15.1	3.42	9.9	38.24	21.4	27.73	14.2	22.64	19.2
Mar 31	21.07	37.7	36.07	11.2	5.70	3.6	39.03	19.0	28.57	11.0	23.80	13.7
Abr 30	21.97	40.1	37.14	7.8	8.37	.6	39.97	21.2	29.56	7.6	25.18	10.2
May 30	22.84	45.9	38.19	5.8	10.93	1.6	40.87	27.2	30.54	4.8	26.55	9.4
Jun 29	23.49	53.3	39.02	5.6	12.85	6.3	41.54	35.4	31.32	3.5	27.63	11.4
Jul 29	23.80	60.7	39.46	7.2	13.73	13.4	41.84	43.8	31.74	3.7	28.19	15.8
Ago 28	23.71	66.6	39.42	9.9	13.39	20.9	41.72	50.8	31.72	5.2	28.14	21.1
Sep 27	23.29	70.1	38.99	12.6	11.98	26.5	41.26	55.1	31.33	7.1	27.54	25.5
Oct 27	22.73	70.5	38.36	14.0	10.02	28.2	40.64	56.0	30.77	8.5	26.66	27.5
Nov 26	22.25	67.9	37.85	13.7	8.25	25.2	40.11	53.2	30.30	8.7	25.89	26.0
Dic 26	22.04	62.7	37.68	11.6	7.36	18.1	39.85	47.3	30.14	7.7	25.56	21.5
Ene 25	22.19	56.4	37.92	8.4	7.65	9.0	39.96	40.0	30.36	5.9	25.79	15.3

N°	754		1525		756		1526		1527		761	
Nombre	δ Pavonis		28 Cygni		δ Aquilae		ρ Aquilae		α <sup>1</sup> Capricorni		α <sup>2</sup> Capricorni	
Mag. SP	3.56	G5	4.93	B2p	3.23	A0	4.95	A0	4.24	G0p	3.56	G5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	20h09m	-66°08'	20h09m	+36°52'	20h11m	- 0°46'	20h14m	+15°14'	20h18m	-12°27'	20h18m	-12°30'
Dic 31	57s36	50°7	53s83	54°5	58s13	49°0	52s28	25°5	21s67	57°0	46s10	8°5
Ene 30	57.78	42.4	53.95	46.1	58.34	52.0	52.45	19.9	21.89	57.8	46.32	9.4
Mar 01	58.92	34.5	54.45	38.9	58.83	53.9	52.92	15.5	22.38	57.7	46.81	9.2
Mar 31	60.61	28.2	55.27	35.6	59.55	53.4	53.64	14.2	23.11	55.8	47.54	7.3
Abr 30	62.60	24.9	56.28	37.3	60.42	50.4	54.52	16.7	24.00	52.4	48.44	3.9
May 30	64.55	25.2	57.25	43.3	61.30	45.7	55.40	22.1	24.92	48.3	49.35	59.8*
Jun 29	66.06	29.0	57.97	52.0	61.99	40.5	56.09	29.1	25.66	44.6	50.09	56.1*
Jul 29	66.82	35.3	58.28	61.4	62.37	36.0	56.45	36.0	26.07	42.1	50.51	53.6*
Ago 28	66.67	42.3	58.14	69.6	62.36	33.1	56.42	41.5	26.09	41.0	50.53	52.5*
Sep 27	65.72	47.8	57.63	74.9	62.02	31.8	56.05	44.7	25.77	41.2	50.21	52.7*
Oct 27	64.36	49.9	56.93	76.4	61.53	32.2	55.52	45.1	25.27	42.2	49.71	53.7*
Nov 26	63.13	47.6	56.29	73.8	61.10	34.0	55.05	42.9	24.84	43.5	49.28	55.0*
Dic 26	62.52	41.5	55.94	67.5	60.94	36.8	54.83	38.4	24.67	44.7	49.11	56.2*
Ene 25	62.78	33.4	55.98	59.3	61.09	39.7	54.95	32.9	24.82	45.5	49.26	57.0*

N°	762		764		1534		1533		768		769	
Nombre	β Capricorni		α Pavonis		41 Cygni		69 Aquilae		ε Delphini		α Indi	
Mag. SP	3.08	G0,A0	1.94	B3	4.01	F5p	4.91	K0	4.03	B5	3.11	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	20h21m	-14°44'	20h26m	-56°41'	20h29m	+30°24'	20h30m	- 2°50'	20h33m	+11°21'	20h38m	-47°14'
Dic 31	44s05	17°7	38s86	33°0	55s07	57°2	19s41	23°2	49s69	2°2	27s77	43°2
Ene 30	44.26	18.1	39.11	26.0	55.15	49.7	19.57	25.7	49.82	57.4*	27.96	37.7
Mar 01	44.75	17.6	39.88	18.7	55.57	43.2	20.01	27.1	50.23	53.6*	28.56	31.5
Mar 31	45.48	15.4	41.08	12.3	56.31	40.2	20.70	26.3	50.91	52.7*	29.52	25.6
Abr 30	46.38	11.9	42.55	8.1	57.26	41.7	21.56	23.1	51.77	55.2*	30.72	20.9
May 30	47.31	7.9	44.05	6.9	58.21	47.3	22.46	18.4	52.66	.4	31.98	18.6
Jun 29	48.06	4.4	45.27	8.9	58.95	55.5	23.19	13.3	53.39	7.0	33.04	19.1
Jul 29	48.49	2.2	45.96	13.6	59.34	64.3	23.62	9.1	53.81	13.4	33.67	22.2
Ago 28	48.52	1.6	45.97	19.5	59.30	72.0	23.67	6.3	53.84	18.5	33.75	26.8
Sep 27	48.20	2.1	45.36	24.7	58.89	77.1	23.37	5.3	53.52	21.4	33.32	31.4
Oct 27	47.71	3.2	44.40	27.3	58.29	78.8	22.89	5.8	53.03	21.9	32.58	34.1
Nov 26	47.27	4.3	43.51	26.2	57.71	76.7	22.46	7.5	52.57	19.9	31.88	33.9
Dic 26	47.09	5.3	43.04	21.6	57.38	71.2	22.26	9.9	52.33	16.0	31.51	30.7
Ene 25	47.24	5.7	43.17	14.7	57.39	63.9	22.37	12.4	52.40	11.3	31.61	25.4



**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	1539		774		778		776		775		779	
Nombre	29 Vulpeculae		α Delphini		δ Delphini		η Indi		β Pavonis		ψ Capricorni	
Mag. SP	4.82	A0	3.77	B8	4.43	A5	4.51	F0	3.42	A5	4.14	F8
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	20h39m	+21°15'	20h40m	+15°57'	20h44m	+15°07'	20h44m	-51°52'	20h46m	-66°09'	20h46m	-25°13'
Dic 31	5s78	1°7	14s17	40°6	3s62	28°4	58s25	26°4	4s92	21°5	51s40	22°0
Ene 30	5.87	55.5*	14.27	35.1	3.71	23.1	58.41	20.2	5.04	13.2	51.55	20.5
Mar 01	6.26	50.2*	14.66	30.6	4.09	18.7	59.02	13.2	5.88	4.4	52.00	17.7
Mar 31	6.94	48.0*	15.33	29.1	4.75	17.3	60.03	6.7	7.35	56.8*	52.72	14.0
Abr 30	7.83	50.0*	16.20	31.3	5.61	19.5	61.33	1.8	9.23	51.8*	53.65	9.6
May 30	8.75	55.4*	17.10	36.6	6.52	24.8	62.70	59.5*	11.20	50.4*	54.64	5.8
Jun 29	9.50	2.8	17.85	43.6	7.27	31.7	63.86	.5	12.84	53.0*	55.49	3.3
Jul 29	9.92	10.6	18.28	50.7	7.71	38.7	64.56	4.2	13.80	58.6*	56.02	2.7
Ago 28	9.94	17.1	18.32	56.5	7.76	44.4	64.66	9.5	13.88	5.7	56.13	3.8
Sep 27	9.61	21.4	18.00	60.1	7.46	47.9	64.20	14.6	13.10	12.0	55.84	5.9
Oct 27	9.08	22.6	17.50	61.0	6.96	48.8	63.39	17.7	11.79	15.4	55.33	7.8
Nov 26	8.57	20.7	17.02	59.1	6.49	46.9	62.59	17.4	10.46	14.4	54.84	8.9
Dic 26	8.28	16.1	16.75	54.9	6.22	42.9	62.14	13.8	9.63	9.1	54.59	8.6
Ene 25	8.30	10.0	16.79	49.5	6.25	37.6	62.19	7.7	9.58	1.0	54.68	7.2

N°	780		1541		781		1543		1546		1547	
Nombre	ε Cygni		γ Delphini* f		ε Aquarii		3 Aquarii		σ Capricorni		μ Aquari	
Mag. SP	2.46	K0	4.27	G5	3.77	A0	4.42	M0	4.11	M0	4.73	A3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	20h46m	+34°01'	20h47m	+16°10'	20h48m	- 9°26'	20h48m	- 4°58'	20h52m	-26°52'	20h53m	- 8°55'
Dic 31	43s74	23°6	15s36	28°4	22s44	45°8	25s08	39°9	35s32	9°3	20s98	56°7
Ene 30	43.75	16.0	15.44	23.0	22.56	46.9	25.20	41.9	35.45	7.4	21.09	57.9
Mar 01	44.13	9.0	15.81	18.4	22.96	47.1	25.59	42.9	35.87	4.3	21.47	58.2
Mar 31	44.85	5.4	16.46	16.8	23.61	45.4	26.23	41.7	36.59	.2	22.11	56.4
Abr 30	45.81	6.4	17.33	19.0	24.48	41.7	27.08	38.3	37.52	55.7*	22.97	52.8
May 30	46.81	11.8	18.24	24.2	25.39	37.1	27.99	33.6	38.53	51.8*	23.89	48.1
Jun 29	47.61	20.0	19.00	31.2	26.18	32.7	28.77	28.6	39.40	49.4*	24.68	43.6
Jul 29	48.06	29.2	19.44	38.3	26.67	29.4	29.25	24.6	39.96	49.0*	25.18	40.2
Ago 28	48.06	37.5	19.50	44.2	26.77	27.7	29.34	22.2	40.09	50.3*	25.30	38.4
Sep 27	47.67	43.3	19.20	47.9	26.52	27.6	29.09	21.4	39.81	52.7*	25.05	38.2
Oct 27	47.06	45.7	18.71	48.8	26.05	28.6	28.63	22.0	39.30	54.8*	24.60	39.1
Nov 26	46.45	44.1	18.23	47.0	25.61	30.1	28.19	23.6	38.80	55.9*	24.16	40.7
Dic 26	46.06	38.9	17.95	42.9	25.38	31.7	27.96	25.8	38.53	55.5*	23.92	42.4
Ene 25	46.00	31.5	17.96	37.5	25.45	33.0	28.02	27.8	38.59	53.7*	23.97	43.7

N°	785		1550		1552		791		794		1555	
Nombre	β Indi		γ Microscopii		δ Capricorni		α Capricorni		ν Aquarii		γ Equulei	
Mag. SP	3.65	K0	4.67	G5	4.07	A0	4.50	M0	4.51	K0	4.69	F0p
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	20h55m	-58°24'	21h02m	-32°12'	21h06m	-17°10'	21h07m	-24°57'	21h10m	-11°19'	21h10m	+10°11'
Dic 31	47s70	17°5	4s69	21°7	40s32	46°5	52s84	9°8	17s85	1°9	58s25	13°4
Ene 30	47.79	10.3	4.79	18.9	40.41	46.3	52.92	8.2	17.91	2.6	58.27	9.1
Mar 01	48.42	2.3	5.20	14.8	40.75	44.9	53.29	5.4	18.25	2.3	58.58	5.6
Mar 31	49.53	54.9*	5.92	9.9	41.39	41.9	53.95	1.3	18.86	.1	59.17	4.7
Abr 30	51.00	49.5*	6.89	4.9	42.25	37.7	54.85	56.6*	19.70	56.2*	60.00	7.0
May 30	52.58	47.3*	7.94	1.1	43.20	33.1	55.85	52.3*	20.63	51.4*	60.91	12.1
Jun 29	53.93	48.6*	8.87	59.1*	44.05	29.3	56.73	49.3*	21.45	46.9*	61.70	18.5
Jul 29	54.76	53.0*	9.47	59.4*	44.60	27.1	57.32	48.4*	22.00	43.7*	62.22	24.9
Ago 28	54.91	59.2*	9.64	1.7	44.77	26.8	57.49	49.4*	22.17	42.3*	62.36	30.0
Sep 27	54.39	5.2	9.37	4.8	44.55	27.8	57.26	51.6*	21.97	42.5*	62.14	33.1
Oct 27	53.43	8.7	8.84	7.4	44.10	29.5	56.78	53.8*	21.53	43.7*	61.70	33.8
Nov 26	52.44	8.5	8.30	8.5	43.64	31.0	56.29	55.2*	21.09	45.3*	61.24	32.3
Dic 26	51.82	4.4	7.98	7.6	43.37	31.8	56.00	55.2*	20.82	46.8*	60.95	28.9
Ene 25	51.78	57.4*	8.01	4.9	43.39	31.7	56.01	53.8*	20.83	47.6*	60.92	24.7

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	797		800		1558		1559		801		802	
Nombre	ζ Cygni		α Equulei		σ Cygni		υ Cygni		ε Microscopii		θ <sup>1</sup> Microscopii	
Mag. SP	3.20	K0	3.92	F8,A3	4.23	A0p	4.43	B3p	4.71	A0	4.82	A2p
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	21h13m	+30°17'	21h16m	+5°18'	21h17m	+39°27'	21h18m	+34°57'	21h18m	-32°07'	21h21m	-40°45'
Dic 31	29s10	4"6	28s25	16"0	55s21	14"5	26s84	21"8	43s02	3"4	34s73	15"9
Ene 30	29.04	57.7*	28.27	12.5	55.08	6.8	26.75	14.5	43.07	.5	34.75	11.6
Mar 01	29.32	51.1*	28.56	9.8	55.35	59.1*	27.01	7.4	43.42	56.3*	35.12	5.9
Mar 31	29.96	47.5*	29.14	9.6	56.02	54.4*	27.65	3.1	44.09	51.1*	35.84	59.6*
Abr 30	30.86	48.3*	29.95	12.4	56.99	54.3*	28.58	3.4	45.02	45.8*	36.86	53.8*
May 30	31.84	53.1*	30.86	17.4	58.05	58.8*	29.60	8.0	46.08	41.5*	38.01	49.8*
Jun 29	32.69	.8	31.67	23.5	58.97	6.7	30.48	15.8	47.03	39.2*	39.06	48.3*
Jul 29	33.21	9.6	32.20	29.2	59.52	16.2	31.03	25.0	47.68	39.3*	39.78	49.7*
Ago 28	33.32	17.6	32.37	33.5	59.62	25.4	31.15	33.6	47.89	41.4*	40.02	53.3*
Sep 27	33.04	23.5	32.17	35.9	59.29	32.4	30.85	40.1	47.68	44.7*	39.77	57.7*
Oct 27	32.51	26.1	31.75	36.2	58.68	36.0	30.29	43.3	47.17	47.7*	39.20	1.3
Nov 26	31.94	25.1	31.30	34.6	58.02	35.5	29.68	42.6	46.63	49.1*	38.57	2.6
Dic 26	31.53	20.7	31.01	31.7	57.51	30.9	29.22	38.2	46.28	48.4*	38.15	1.0
Ene 25	31.42	14.0	30.98	28.2	57.32	23.5	29.06	31.2	46.26	45.8*	38.09	57.0*

N°	804		1561		805		806		1565		808	
Nombre	1 Pegasi		ι Capricorni		γ Pavonis		ζ Capricorni		2 Pegasi		β Aquarii	
Mag. SP	4.08	K0	4.28	K0	4.22	F8	3.74	G5p	4.57	K5	2.91	G0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	21h22m	+19°51'	21h22m	-16°46'	21h27m	-65°18'	21h27m	-22°21'	21h30m	+23°41'	21h32m	-5°30'
Dic 31	41s11	50"0	57s93	40"0	28s44	28"6	24s20	14"3	32s10	59"5	14s43	42"9
Ene 30	41.07	44.5	57.96	39.8	28.27	20.6	24.22	13.2	32.03	53.6	14.43	44.6
Mar 01	41.33	39.5	58.26	38.4	28.79	11.3	24.52	10.7	32.26	48.0	14.68	45.2
Mar 31	41.91	37.2	58.85	35.3	29.96	2.5	25.11	6.7	32.82	45.1	15.23	43.8
Abr 30	42.75	38.7	59.69	30.8	31.64	55.8*	25.97	1.8	33.66	46.1	16.02	40.1
May 30	43.68	43.6	60.64	26.0	33.53	52.7*	26.94	57.0*	34.62	50.8	16.94	35.0
Jun 29	44.51	50.6	61.50	21.9	35.24	53.6*	27.84	53.4*	35.47	58.0	17.78	29.8
Jul 29	45.06	58.3	62.10	19.5	36.40	58.3*	28.47	51.8*	36.04	66.1	18.37	25.5
Ago 28	45.22	65.0	62.31	19.0	36.73	5.2	28.70	52.3*	36.22	73.3	18.59	23.0
Sep 27	45.01	69.5	62.13	20.0	36.21	12.2	28.53	54.2*	36.02	78.5	18.45	22.3
Oct 27	44.55	71.4	61.71	21.8	35.06	16.8	28.09	56.5*	35.56	80.9	18.05	23.0
Nov 26	44.06	70.2	61.25	23.5	33.74	17.3	27.61	58.2*	35.05	80.0	17.62	24.7
Dic 26	43.71	66.5	60.95	24.5	32.76	13.3	27.29	58.7*	34.67	76.2	17.32	26.7
Ene 25	43.62	61.1	60.93	24.4	32.43	5.6	27.25	57.7*	34.54	70.5	17.27	28.5

N°	1569		812		810		815		814		819	
Nombre	ξ Aquarii		γ Capricorni		ν Octantis		ε Pegasi		ι Piscis Aust.		δ Capricorni	
Mag. SP	4.69	A5	3.68	F0p	3.76	K0	2.39	K0	4.34	A0	2.87	A5
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	21h38m	-7°47'	21h40m	-16°36'	21h42m	-77°19'	21h44m	+9°56'	21h45m	-32°57'	21h47m	-16°04'
Dic 31	26s47	38"6	48s43	8"5	48s58	59"4	49s43	15"6	42s78	58"6	45s29	1"5
Ene 30	26.46	39.9	48.42	8.3	47.79	50.3	49.37	11.7	42.73	55.8	45.26	1.5
Mar 01	26.70	40.0	48.66	6.8	48.40	39.8	49.57	8.4	42.98	51.2	45.48	.0
Mar 31	27.23	38.2	49.20	3.6	50.28	30.0	50.08	7.4	43.57	45.5	46.00	56.8*
Abr 30	28.02	34.3	50.01	58.9*	53.17	22.8	50.85	9.6	44.45	39.6	46.80	52.1*
May 30	28.94	29.2	50.96	53.8*	56.51	19.8	51.77	14.5	45.51	34.6	47.74	47.0*
Jun 29	29.80	24.1	51.84	49.5*	59.58	21.3	52.62	20.9	46.50	31.8	48.63	42.5*
Jul 29	30.41	20.1	52.48	46.8*	61.71	26.9	53.22	27.3	47.22	31.6	49.28	39.8*
Ago 28	30.65	18.0	52.74	46.2*	62.37	35.0	53.46	32.6	47.53	33.8	49.56	39.0*
Sep 27	30.52	17.6	52.62	47.2*	61.41	43.1	53.33	35.8	47.39	37.4	49.46	40.0*
Oct 27	30.14	18.6	52.22	49.2*	59.18	48.5	52.95	36.8	46.93	40.9	49.08	42.0*
Nov 26	29.70	20.4	51.77	51.0*	56.46	49.2	52.51	35.6	46.38	42.9	48.63	44.0*
Dic 26	29.39	22.2	51.45	52.2*	54.21	44.6	52.17	32.6	45.98	42.6	48.30	45.2*
Ene 25	29.33	23.6	51.38	52.2*	53.13	36.0	52.06	28.7	45.87	40.1	48.21	45.4*

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	822		824		825		827		1581		828	
Nombre	γ Gruis		δ Indi		ε Indi		α Aquarii		λ Gruis		ι Aquarii	
Mag. SP	3.01	B8	4.40	F0	4.69	K5	2.96	G0	4.46	K2	4.27	B8
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	21h54m	-37°18'	21h58m	-54°55'	22h04m	-56°44'	22h06m	- 0°15'	22h06m	-39°28'	22h07m	-13°48'
Dic 31	42s38	14"2	46s82	54"7	19s82	1"2	27s12	16"1	53s32	52"1	8s26	19"5
Ene 30	42.29	10.7	46.59	48.6	19.59	55.0*	27.03	18.5	53.17	48.4	8.17	19.8
Mar 01	42.51	5.4	46.83	40.5	19.86	46.8*	27.17	19.9	53.35	42.7	8.32	18.7
Mar 31	43.09	59.0*	47.56	31.9	20.63	38.2*	27.62	19.2	53.90	35.8	8.78	15.7
Abr 30	44.00	52.5*	48.72	24.5	21.87	30.8*	28.35	15.9	54.79	28.9	9.53	11.1
May 30	45.09	47.4*	50.13	19.7	23.37	26.2*	29.25	10.8	55.89	23.5	10.46	5.7
Jun 29	46.14	44.7*	51.49	18.6	24.82	25.4*	30.13	5.0	56.98	20.8	11.36	.8
Jul 29	46.91	45.0*	52.50	21.2	25.91	28.4*	30.79	59.8*	57.80	21.1	12.04	57.4*
Ago 28	47.26	47.9*	52.94	26.7	26.42	34.3*	31.10	56.2*	58.20	24.2	12.38	56.1*
Sep 27	47.14	52.2*	52.74	33.3	26.25	41.3*	31.04	54.6*	58.11	28.9	12.33	56.8*
Oct 27	46.66	56.2*	52.03	38.6	25.55	47.0*	30.72	54.7*	57.64	33.4	11.99	58.6*
Nov 26	46.08	58.4*	51.14	40.6	24.64	49.4*	30.30	56.3*	57.04	35.9	11.56	.7
Dic 26	45.63	57.9*	50.41	38.6	23.90	47.5*	29.96	58.6*	56.55	35.5	11.21	2.3
Ene 25	45.47	54.8*	50.08	33.0	23.57	41.8*	29.82	1.0	56.33	32.2	11.07	2.8

N°	831		829		832		835		834		1583	
Nombre	ι Pegasi		α Gruis		μ Piscis Aust		π Pegasi		σ Pegasi		ι H.Lacertae	
Mag. SP	3.76	F5	1.74	B5	4.50	A2	4.29	F5	3.53	A2	4.49	K2
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	22h07m	+25°24'	22h09m	-46°53'	22h09m	-32°55'	22h10m	+33°14'	22h10m	+ 6°15'	22h14m	+39°47'
Dic 31	37s09	46"0	2s31	56"4	8s12	31"0	33s99	48"4	51s42	52"3	26s32	4"6
Ene 30	36.92	40.5	2.11	51.5	8.00	28.3	33.76	42.2	51.30	49.1	26.02	58.0*
Mar 01	37.03	34.8	2.29	44.6	8.16	23.7	33.84	35.4	51.43	46.5	26.07	50.5*
Mar 31	37.50	31.4	2.88	36.8	8.67	17.7	34.32	30.8	51.86	46.1	26.56	45.0*
Abr 30	38.29	31.7	3.86	29.5	9.50	11.3	35.15	30.2	52.60	48.6	27.44	43.6*
May 30	39.25	35.8	5.07	24.1	10.53	5.7	36.16	33.8	53.50	53.5	28.52	46.7*
Jun 29	40.17	42.6	6.27	22.0	11.55	2.3	37.12	40.7	54.38	59.7	29.54	53.5*
Jul 29	40.84	50.7	7.18	23.3	12.33	1.7	37.83	49.3	55.04	65.7	30.29	2.5
Ago 28	41.14	58.3	7.61	27.6	12.71	3.7	38.13	57.9	55.36	70.4	30.61	11.8
Sep 27	41.04	64.1	7.50	33.3	12.64	7.4	38.03	64.8	55.31	73.2	30.49	19.7
Oct 27	40.67	67.2	6.96	38.4	12.23	11.4	37.61	69.0	54.99	73.9	30.03	24.6
Nov 26	40.18	67.1	6.25	40.9	11.70	13.9	37.06	69.5	54.58	72.7	29.42	25.8
Dic 26	39.75	64.0	5.66	39.9	11.27	14.1	36.57	66.5	54.23	70.1	28.86	22.8
Ene 25	39.53	58.7	5.39	35.6	11.08	11.8	36.29	60.6	54.07	66.9	28.51	16.6

N°	840		841		842		1585		846		1591	
Nombre	σ Aquarii		α Tucanae		γ Aquarii		π Aquarii		δ <sup>1</sup> Gruis		σ Aquarii	
Mag. SP	4.16	K0	2.86	K2	3.84	A0	4.66	B1p	3.97	G5	4.82	A0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	22h17m	- 7°43'	22h19m	-60°11'	22h22m	- 1°19'	22h25m	+ 1°26'	22h30m	-43°25'	22h31m	-10°36'
Dic 31	31s22	1"3	21s89	47"4	19s76	11"3	56s60	44"0	2s20	49"2	20s16	37"0
Ene 30	31.10	2.6	21.47	40.9	19.63	13.5	56.46	41.5	1.95	45.2	20.01	37.8
Mar 01	31.22	2.6	21.59	32.1	19.73	14.6	56.54	39.9	2.03	38.8	20.08	37.3
Mar 31	31.64	.6	22.28	22.7	20.13	13.7	56.93	40.3	2.50	31.1	20.47	34.7
Abr 30	32.36	56.5*	23.50	14.5	20.84	10.3	57.63	43.3	3.37	23.5	21.16	30.2
May 30	33.27	51.1*	25.05	9.1	21.73	5.2	58.52	48.4	4.50	17.5	22.06	24.6
Jun 29	34.16	45.7*	26.60	7.7	22.62	59.4*	59.41	54.3	5.65	14.4	22.97	19.2
Jul 29	34.85	41.4*	27.81	10.5	23.31	54.3*	60.11	59.8	6.57	14.7	23.70	15.2
Ago 28	35.21	39.0*	28.39	16.4	23.67	50.7*	60.47	63.8	7.06	18.3	24.09	13.3
Sep 27	35.19	38.6*	28.24	23.7	23.66	49.3*	60.47	65.8	7.04	23.6	24.11	13.4
Oct 27	34.88	39.8*	27.48	29.8	23.37	49.6*	60.19	65.8	6.60	28.9	23.83	15.0
Nov 26	34.47	41.7*	26.43	32.6	22.97	51.2*	59.79	64.4	5.97	32.0	23.43	17.1
Dic 26	34.12	43.7*	25.48	30.8	22.62	53.4*	59.44	62.1	5.40	31.9	23.07	19.0
Ene 25	33.96	45.0*	24.96	24.8	22.45	55.6*	59.25	59.5	5.08	28.4	22.88	20.0

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	1592		850		852		854		855		856	
Nombre	β Piscis Aust.		η Aquarii		10 Lacertae		ε Piscis Aust.		ζ Pegasi		β Gruis	
Mag. SP	4.29	A0	4.02	B8	4.88	Oe5	4.17	B8	3.40	B8	2.11	var. M3
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	22h32m	-32°16'	22h36m	-0°02'	22h39m	+39°07'	22h41m	-26°58'	22h42m	+10°54'	22h43m	-46°49'
Dic 31	14s42	47°6	1s64	54°5	51s03	23°5	22s37	33°9	6s93	7°7	25s99	5°7
Ene 30	14.22	45.2	1.48	56.8	50.68	17.5	22.18	32.4	6.73	4.2	25.66	1.4
Mar 01	14.30	40.8	1.54	58.1	50.64	10.2	22.22	28.9	6.76	1.0	25.67	54.6*
Mar 31	14.72	34.6	1.90	57.4	51.04	4.6	22.59	23.5	7.10	59.8*	26.11	46.3*
Abr 30	15.49	27.8	2.58	54.2	51.85	2.7	23.31	17.1	7.78	1.5	26.97	38.2*
May 30	16.49	21.8	3.46	49.1	52.90	5.2	24.26	10.9	8.67	6.0	28.12	31.8*
Jun 29	17.51	17.8	4.36	43.2	53.96	11.4	25.25	6.4	9.57	12.2	29.33	28.5*
Jul 29	18.34	16.6	5.08	37.9	54.77	20.0	26.06	4.3	10.30	18.7	30.33	29.0*
Ago 28	18.79	18.3	5.47	34.1	55.20	29.2	26.52	5.1	10.71	24.2	30.89	32.9*
Sep 27	18.80	22.1	5.50	32.4	55.18	37.2	26.56	8.0	10.75	27.9	30.92	38.7*
Oct 27	18.45	26.3	5.24	32.5	54.81	42.6	26.26	11.8	10.50	29.3	30.48	44.5*
Nov 26	17.94	29.3	4.86	34.0	54.25	44.3	25.80	14.8	10.11	28.6	29.81	48.1*
Dic 26	17.48	30.0	4.50	36.3	53.69	42.1	25.38	16.0	9.73	26.2	29.17	48.2*
Ene 25	17.24	28.1	4.30	38.6	53.29	36.5	25.13	14.9	9.50	22.7	28.78	44.5*

N°	857		924		859		860		861		862	
Nombre	η Pegasi		β Octantis		λ Pegasi		ε Gruis		τ Aquarii		μ Pegasi	
Mag. SP	2.94	G0	4.15	F0	3.95	K0	3.49	A2	4.01	K5	3.48	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	22h43m	+30°17'	22h47m	-81°18'	22h47m	+23°38'	22h49m	-51°15'	22h50m	-13°31'	22h50m	+24°40'
Dic 31	37s09	37°7	13s85	57°7	9s84	17°1	19s60	1°6	16s92	23°9	38s27	27°6
Ene 30	36.80	32.4	11.39	49.6	9.59	12.3	19.20	56.8*	16.73	24.3	38.00	22.8
Mar 01	36.78	26.3	10.76	38.9	9.58	7.2	19.18	49.4*	16.75	23.3	37.98	17.5
Mar 31	37.14	21.9	12.09	27.7	9.92	3.8	19.60	40.5*	17.07	20.1	38.31	13.9
Abr 30	37.88	21.0	15.18	18.5	10.62	3.8	20.50	32.0*	17.73	15.2	39.00	13.7
May 30	38.85	24.1	19.44	12.9	11.55	7.3	21.73	25.4*	18.61	9.3	39.94	17.1
Jun 29	39.84	30.4	23.92	12.1	12.50	13.6	23.03	22.3*	19.54	3.9	40.89	23.3
Jul 29	40.62	38.4	27.59	16.0	13.26	21.1	24.11	23.2*	20.31	.1	41.67	30.9
Ago 28	41.04	46.6	29.53	23.6	13.68	28.5	24.73	27.6*	20.76	58.5*	42.11	38.4
Sep 27	41.06	53.4	29.18	32.6	13.73	34.3	24.77	34.1*	20.84	59.1*	42.16	44.3
Oct 27	40.75	57.7	26.64	40.0	13.46	37.6	24.30	40.4*	20.60	1.2	41.90	47.9
Nov 26	40.28	58.7	22.76	43.1	13.03	38.1	23.55	44.2*	20.21	3.7	41.47	48.5
Dic 26	39.81	56.4	18.82	40.7	12.60	35.7	22.81	44.1*	19.83	5.6	41.04	46.2
Ene 25	39.48	51.4	16.01	33.3	12.31	31.3	22.34	39.9*	19.60	6.3	40.74	41.7

N°	864		866		867		868		870		1602	
Nombre	λ Aquarii		δ Aquarii		α Piscis Aust. (Fomalhaut)		ζ Gruis		β Pegasi		β Piscium	
Mag. SP	3.74	M0	3.27	A2	1.16	A3	4.12	G5	2.42	var. M0	4.53	B5p
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	22h53m	-7°30'	22h55m	-15°45'	22h58m	-29°33'	23h01m	-52°41'	23h04m	+28°09'	23h04m	+3°53'
Dic 31	17s76	33°2	20s53	4°4	22s06	14°6	38s07	11°9	24s82	27°6	32s69	31°8
Ene 30	17.56	34.5	20.32	4.6	21.81	12.9	37.59	7.3	24.50	22.8	32.47	29.2
Mar 01	17.60	34.4	20.33	3.1	21.81	8.9	37.50	59.7*	24.43	17.1	32.44	27.3
Mar 31	17.89	32.4	20.64	59.5*	22.13	3.0	37.87	50.6*	24.72	13.0	32.71	27.3
Abr 30	18.52	28.2	21.29	54.2*	22.81	56.2*	38.73	41.6*	25.40	12.1	33.33	29.9
May 30	19.39	22.6	22.17	48.3*	23.76	49.6*	39.96	34.8*	26.34	15.0	34.18	34.8
Jun 29	20.31	16.9	23.11	42.9*	24.77	44.9*	41.28	31.4*	27.33	20.9	35.09	40.7
Jul 29	21.07	12.4	23.89	39.3*	25.63	43.0*	42.42	32.0*	28.14	28.6	35.86	46.5
Ago 28	21.52	9.8	24.36	38.0*	26.14	44.0*	43.10	36.4*	28.63	36.5	36.33	51.0
Sep 27	21.60	9.3	24.45	39.1*	26.24	47.4*	43.19	43.1*	28.73	43.0	36.45	53.5
Oct 27	21.38	10.6	24.22	41.5*	25.97	51.7*	42.74	49.8*	28.50	47.2	36.26	53.9
Nov 26	21.01	12.7	23.82	44.2*	25.51	55.2*	41.98	54.0*	28.08	48.5	35.91	52.8
Dic 26	20.64	14.8	23.44	46.1*	25.06	56.6*	41.20	54.2*	27.62	46.6	35.54	50.5
Ene 25	20.41	16.2	23.19	46.5*	24.76	55.4*	40.65	50.1*	27.28	42.1	35.28	47.9

**Lugares aparentes de estrellas, 2012**  
para las 0<sup>h</sup> de Tiempo Universal

N°	871		1603		873		1605		1607		1608	
Nombre	α Pegasi		55 Pegasi		88 Aquarii		ι Gruis		φ Aquarii		ψ <sup>1</sup> Aquarii	
Mag. SP	2.49	A0	4.52	M0	3.66	K0	3.90	K0	4.22	M0	4.21	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	23h05m	+15°16'	23h07m	+9°28'	23h10m	-21°06'	23h11m	-45°10'	23h15m	-5°58'	23h16m	-9°00'
Dic 31	24s98	42"2	40s01	56"4	8s52	7"2	5s30	41"9	s11	40"1	34s69	57"9
Ene 30	24.73	38.4	39.77	53.2	8.27	6.8	4.90	38.4	59.87*	41.5	34.45	59.0
Mar 01	24.68	34.7	39.72	50.4	8.22	4.4	4.79	32.0	59.82*	41.8	34.40	58.7
Mar 31	24.96	32.6	39.99	49.4	8.49	59.9*	5.09	23.8	.06	40.0	34.64	56.3
Abr 30	25.59	33.6	40.60	51.1	9.11	53.8*	5.83	15.2	.65	36.0	35.22	51.9
May 30	26.47	37.5	41.46	55.6	9.99	47.4*	6.90	8.1	1.49	30.4	36.07	46.1
Jun 29	27.40	43.6	42.38	61.6	10.95	42.0*	8.08	3.9	2.40	24.6	36.99	40.3
Jul 29	28.18	50.4	43.16	67.9	11.78	38.9*	9.11	3.4	3.20	19.8	37.79	35.7
Ago 28	28.65	56.5	43.63	73.2	12.30	38.4*	9.76	6.7	3.70	16.8	38.31	33.3
Sep 27	28.76	61.0	43.76	76.7	12.44	40.3*	9.90	12.4	3.85	16.1	38.46	33.1
Oct 27	28.57	63.2	43.57	78.0	12.23	43.6*	9.57	18.6	3.69	17.2	38.30	34.7
Nov 26	28.20	63.1	43.22	77.4	11.84	46.9*	8.96	22.9	3.35	19.4	37.96	37.1
Dic 26	27.81	60.9	42.85	75.1	11.43	48.8*	8.33	23.9	2.98	21.6	37.59	39.3
Ene 25	27.52	57.3	42.57	72.0	11.14	48.7*	7.87	21.0	2.71	23.3	37.32	40.6

N°	878		877		879		1609		880		1612	
Nombre	γ Piscium		γ Tucanae		γ Sculptoris		ψ <sup>3</sup> Aquarii		τ Pegasi		98 Aquarii	
Mag. SP	3.69	K0	3.99	F2	4.41	K0	4.98	A0	4.60	A5	3.97	K0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	23h17m	+3°21'	23h18m	-58°10'	23h19m	-32°27'	23h19m	-9°32'	23h21m	+23°48'	23h23m	-20°01'
Dic 31	50s84	19"0	10s32	2"1	31s54	44"6	38s60	20"0	17s50	55"3	39s41	47"5
Ene 30	50.59	16.5	9.67	57.1*	31.22	42.9	38.35	21.1	17.18	51.1	39.14	47.3
Mar 01	50.53	14.8	9.43	49.0*	31.13	38.6	38.28	20.7	17.07	46.2	39.05	45.1
Mar 31	50.77	14.9	9.73	39.2*	31.37	32.2	38.51	18.2	17.30	42.7	39.27	40.8
Abr 30	51.36	17.5	10.60	29.6*	32.00	24.7	39.09	13.7	17.92	42.2	39.85	34.8
May 30	52.20	22.4	11.92	22.3*	32.93	17.7	39.92	7.9	18.82	45.2	40.70	28.3
Jun 29	53.12	28.3	13.40	18.6*	33.96	12.6	40.85	2.1	19.79	50.9	41.66	22.7
Jul 29	53.91	34.0	14.71	19.4*	34.87	10.6	41.65	57.5*	20.62	58.1	42.50	19.2
Ago 28	54.42	38.5	15.53	24.2*	35.45	11.8	42.18	55.1*	21.15	65.3	43.05	18.4
Sep 27	54.58	40.9	15.70	31.5*	35.62	15.6	42.34	55.0*	21.31	71.3	43.23	20.2
Oct 27	54.43	41.2	15.23	38.9*	35.40	20.6	42.18	56.7*	21.14	74.9	43.06	23.5
Nov 26	54.10	40.0	14.35	43.6*	34.95	24.6	41.84	59.2*	20.77	75.9	42.70	26.9
Dic 26	53.74	37.8	13.40	44.1*	34.46	26.4	41.47	1.4	20.35	74.2	42.29	29.0
Ene 25	53.47	35.3	12.66	39.9*	34.10	25.1	41.19	2.7	20.00	70.3	41.98	29.2

N°	881		884		1614		885		886		1617	
Nombre	υ Pegasi		κ Piscium		δ Piscium		70 Pegasi		β Sculptoris		ι Phoenicis	
Mag. SP	4.41	G0	4.94	A2p	4.28	G5	4.55	K0	4.37	B9	4.71	A2p
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	23h26m	+23°28'	23h27m	+1°19'	23h28m	+6°27'	23h29m	+12°50'	23h33m	-37°44'	23h35m	-42°32'
Dic 31	2s40	46"1	36s44	42"3	38s23	9"1	49s38	6"2	40s05	54"2	46s38	43"6
Ene 30	2.08	42.0	36.18	40.1	37.96	6.4	49.09	2.9	39.65	52.0	45.93	40.9
Mar 01	1.96	37.2	36.09	38.7	37.86	4.2	48.98	59.7*	39.49	47.0	45.74	35.1
Mar 31	2.17	33.8	36.29	39.1	38.06	3.7	49.18	58.1*	39.68	39.7	45.92	27.2
Abr 30	2.78	33.3	36.85	42.0	38.61	5.8	49.74	59.2*	40.28	31.5	46.54	18.5
May 30	3.67	36.2	37.68	47.0	39.44	10.3	50.58	3.1	41.22	24.0	47.52	10.8
Jun 29	4.64	41.9	38.59	52.9	40.36	16.2	51.51	8.9	42.30	18.9	48.65	5.8
Jul 29	5.48	49.0	39.40	58.5	41.17	22.2	52.33	15.4	43.27	17.0	49.69	4.5
Ago 28	6.02	56.2	39.93	62.6	41.70	27.1	52.87	21.2	43.93	18.8	50.39	6.9
Sep 27	6.20	62.0	40.11	64.7	41.88	30.0	53.06	25.3	44.15	23.5	50.62	12.2
Oct 27	6.05	65.7	39.98	64.7	41.76	30.9	52.94	27.2	43.95	29.2	50.40	18.5
Nov 26	5.69	66.7	39.67	63.2	41.45	30.0	52.62	27.0	43.48	33.9	49.87	23.5
Dic 26	5.27	65.1	39.31	61.0	41.08	27.9	52.24	25.1	42.94	35.8	49.27	25.3
Ene 25	4.92	61.2	39.02	58.7	40.78	25.2	51.93	21.9	42.50	34.3	48.78	23.3

**Lugares aparentes de estrellas, 2012  
para las 0<sup>h</sup> de Tiempo Universal**

N°	889		892		1620		894		896		1629	
Nombre	11 G.Phoenicis		ι Piscium		λ Piscium		ω <sup>2</sup> Aquarii		δ Sculptoris		ψ Pegasi	
Mag. SP	4.74	A2	4.13	F8	4.50	A5	4.49	A0	4.57	A0	4.66	M0
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	23h38m	-45°25'	23h40m	+ 5°41'	23h42m	+ 1°51'	23h43m	-14°28'	23h49m	-28°03'	23h58m	+25°13'
Dic 31	32s78	22"4	37s79	55"3	43s21	11"4	24s21	22"9	36s44	35"0	26s24	2"4
Ene 30	32.29	19.5	37.50	52.7	42.93	9.2	23.92	23.5	36.09	34.2	25.85	58.8*
Mar 01	32.07	13.3	37.38	50.6	42.79	7.7	23.78	22.3	35.91	30.9	25.63	54.1*
Mar 31	32.24	5.0	37.54	50.2	42.95	8.0	23.93	19.0	36.03	25.2	25.74	50.3*
Abr 30	32.87	56.0*	38.07	52.4	43.47	10.8	24.45	13.7	36.55	17.9	26.26	49.2*
May 30	33.87	48.2*	38.89	56.9	44.27	15.7	25.26	7.4	37.39	10.6	27.11	51.4*
Jun 29	35.05	43.2*	39.80	62.7	45.18	21.6	26.19	1.4	38.38	4.8	28.09	56.4*
Jul 29	36.12	42.1*	40.63	68.6	46.00	27.2	27.04	57.2*	39.30	1.7	28.99	3.2
Ago 28	36.86	44.9*	41.19	73.3	46.57	31.4	27.63	55.4*	39.95	1.9	29.63	10.3
Sep 27	37.10	50.6*	41.42	76.1	46.80	33.5	27.87	56.1*	40.21	5.0	29.92	16.3
Oct 27	36.87	57.2*	41.33	76.8	46.72	33.6	27.77	58.7*	40.10	9.7	29.87	20.5
Nov 26	36.31	2.3	41.04	75.8	46.43	32.2	27.45	1.9	39.73	14.1	29.58	22.1
Dic 26	35.66	4.1	40.68	73.7	46.07	30.0	27.07	4.3	39.28	16.6	29.17	21.1
Ene 25	35.13	1.9	40.37	71.1	45.76	27.7	26.75	5.3	38.89	16.4	28.77	17.7

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N°	900		902		903	
Nombre	27 Piscium*		ω Piscium		ε Tucanae	
Mag. SP	4.86	K0	4.01	F5	4.50	B9
Oh UT	A.R.	Dec.	A.R.	Dec.	A.R.	Dec.
m d	23h59m	- 3°28'	23h59m	+ 6°56'	0h00m	-65°30'
Dic 31	20s97	58"8	59s53	13"7	34s51	31"0
Ene 30	20.66	60.6	59.21	11.2	33.40	26.6
Mar 01	20.49	61.2	59.03	9.0	32.74	18.3
Mar 31	20.59	59.9	59.13	8.4	32.73	7.9
Abr 30	21.06	56.2	59.61	10.3	33.48	57.3*
May 30	21.84	50.9	60.40	14.6	34.88	48.7*
Jun 29	22.74	44.9	61.31	20.3	36.62	44.0*
Jul 29	23.59	39.6	62.16	26.2	38.30	44.1*
Ago 28	24.20	36.1	62.77	31.1	39.52	48.8*
Sep 27	24.48	35.0	63.05	34.1	39.97	56.6*
Oct 27	24.44	35.8	63.02	35.1	39.58	5.1
Nov 26	24.18	37.9	62.77	34.3	38.54	11.3
Dic 26	23.82	40.3	62.42	32.3	37.22	13.0
Ene 25	23.49	42.2	62.08	29.7	36.03	9.5

REFRACCION ASTRONOMICA NORMAL (R<sub>0</sub>)  
para 760 mm. del Barómetro y 0° del Termómetro centígrado

Distancia cenital aparente	Refracción	Variación por 10'	Distancia cenital aparente	Refracción	Variación por 10'	Distancia cenital aparente	Refracción	Variación por 10'	Distancia cenital aparente	Refracción	Variación por 10'
0°	"	"	45° 0'	1' 0.04	"	68° 0'	2' 27.8	"	83° 0'	7' 39.3	"
1	1.05	0.175	45 30	1 1.09	0.35	68 20	2 30.3	1.23	83 10	7 49.3	1.00
2	2.10	0.175	46 0	1 2.17	0.36	68 40	2 32.8	1.26	83 20	7 59.7	1.04
3	3.15	0.175	46 30	1 3.26	0.36	69 0	2 35.4	1.30	83 30	8 10.6	1.09
4	4.20	0.175	47 0	1 4.37	0.37	69 20	2 38.1	1.35	83 40	8 21.9	1.13
		0.175			0.38			1.40			1.18
5	5.25	0.177	47 30	1 5.51	0.39	69 40	2 40.9	1.45	83 50	8 33.8	1.23
6	6.31	0.178	48 0	1 6.67	0.39	70 0	2 43.8	1.50	84 0	8 46.1	1.29
7	7.38	0.178	48 30	1 7.84	0.40	70 20	2 46.8	1.55	84 10	8 59.0	1.35
8	8.45	0.178	49 0	1 9.04	0.41	70 40	2 49.8	1.60	84 20	9 12.5	1.42
9	9.52	0.180	49 30	1 10.27	0.42	71 0	2 53.0	1.65	84 30	9 26.7	1.49
		0.180			0.43			1.70			1.56
10	10.60	0.182	50 0	1 10.51	0.43	71 20	2 56.2	1.75	84 40	9 41.6	1.63
11	11.68	0.183	50 30	1 12.80	0.44	71 40	2 59.6	1.80	84 50	9 57.2	1.72
12	12.77	0.185	51 0	1 14.10	0.45	72 0	3 3.1	1.86	85 0	10 13.5	1.82
13	13.87	0.187	51 30	1 15.42	0.46	72 20	3 6.7	1.92	85 10	10 30.7	1.91
14	14.98	0.188	52 0	1 16.79	0.47	72 40	3 10.5	2.00	85 20	10 48.9	2.01
		0.188			0.49			2.08			2.12
15	16.10	0.190	52 30	1 18.18	0.50	73 0	3 14.3	2.18	85 30	11 8.0	2.25
16	17.23	0.192	53 0	1 19.60	0.51	73 20	3 18.4	2.27	85 40	11 28.1	2.38
17	18.37	0.195	53 30	1 21.06	0.52	73 40	3 22.6	2.36	85 50	11 49.3	2.53
18	19.53	0.200	54 0	1 22.56	0.54	74 0	3 26.9	2.45	86 0	12 11.8	2.68
19	20.69	0.202	54 30	1 24.08	0.55	74 20	3 31.4	2.55	86 10	12 35.6	2.85
		0.202			0.56			2.65			3.03
20	21.87	0.205	55 0	1 25.64	0.58	74 40	3 36.1	2.76	86 20	13 0.9	3.23
21	23.07	0.208	55 30	1 27.26	0.59	75 0	3 41.0	2.88	86 30	13 27.7	3.45
22	24.28	0.211	56 0	1 28.89	0.61	75 20	3 46.1	3.01	86 40	13 56.2	3.69
23	25.51	0.215	56 30	1 30.58	0.62	75 40	3 51.4	3.15	86 50	14 26.5	3.95
24	26.75	0.219	57 0	1 32.31	0.64	76 0	3 57.0	3.30	87 0	14 58.8	4.24
		0.219			0.66			3.46			4.55
25	28.02	0.223	57 30	1 34.09	0.68	76 20	4 2.8	3.63	87 10	15 33.3	4.90
26	29.31	0.227	58 0	1 35.92	0.70	76 40	4 8.9	3.81	87 20	16 10.2	5.28
27	30.61	0.231	58 30	1 37.79	0.72	77 0	4 15.2	4.02	87 30	16 49.7	5.70
28	31.95	0.235	59 0	1 39.73	0.75	77 20	4 21.9	4.25	87 40	17 32.1	6.18
29	33.31	0.240	59 30	1 41.72	0.77	77 40	4 28.9	4.50	87 50	18 17.6	6.69
		0.240			0.80			4.77			7.27
30	34.69	0.245	60 0	1 43.76	0.83	78 0	4 36.3	5.07	88 0	19 6.6	7.92
31	36.10	0.250	60 30	1 45.87	0.85	78 20	4 44.0	5.40	88 10	19 59.4	8.44
32	37.54	0.256	61 0	1 48.04	0.88	78 40	4 52.2	5.75	88 20	20 56.4	8.82
33	39.01	0.262	61 30	1 50.29	0.91	79 0	5 0.8	6.15	88 30	21 58.2	9.22
34	40.52	0.269	62 0	1 52.60	0.95	79 20	5 9.9	6.58	88 40	23 5.1	9.64
		0.269			0.98			7.03			10.10
35	42.06	0.277	62 30	1 54.99	1.02	79 40	5 19.6	7.53	89 0	24 17.8	10.56
36	43.64	0.285	63 0	1 57.47	1.06	80 0	5 29.8	8.10	89 10	25 37.0	11.06
37	45.26	0.293	63 30	2 0.02	1.10	80 20	5 40.6	8.70	89 20	26 19.2	11.60
38	46.92	0.302	64 0	2 2.67	1.15	80 40	5 52.2	9.42	89 30	27 3.3	12.16
39	48.64	0.311	64 30	2 5.41	1.20	81 0	6 4.5	10.20	89 40	27 49.4	12.76
		0.311			1.24			11.00			13.38
40	50.40	0.320	65 0	2 8.25		81 20	6 17.7		89 50	28 37.6	
41	52.21	0.330	65 30	2 11.19		81 40	6 31.7		89 55	29 28.1	
42	54.07	0.340	66 0	2 14.26		82 0	6 46.8			30 20.9	
43	56.00	0.340	66 30	2 17.44		82 20	7 3.0			31 16.2	
44	57.98	0.352	67 0	2 20.74		82 40	7 20.4			32 14.2	
		0.352									
45	60.04	0.365	67 30	2 24.19		83 0	7 39.3			33 15.0	
46	62.17		68 0	2 27.78		83 20	7 59.7			34 18.8	
47	64.37		68 30	2 31.51		83 40	8 21.9			35 25.7	

CORRECCIONES DE LAS REFRACCIONES NORMALES

FACTOR A								FACTOR B			
t	A variación por 0°.1 -0.00045	t	A variación por 0°.1 -0.00038	t	A variación por 0°.1 -0.00033	t	A variación por 0°.1 -0.00029	Baró- metro	B variación por mm. +0.0013	Baró- metro	B variación por mm. +0.0013
<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>mm.</b>		<b>mm.</b>	
-30	+0.1291	-10	+0.0398	+10	-0.0369	+30	-0.1035	630	-0.1711	710	-0.0658
29	0.1243	9	0.0357	11	0.0405	31	0.1066	634	0.1658	714	0.0605
28	0.1195	8	0.0316	12	0.0440	32	0.1097	638	0.1605	718	0.0553
27	0.1148	7	0.0275	13	0.0475	33	0.1127	642	0.1533	722	0.0500
26	0.1101	6	0.0235	14	0.0510	34	0.1158	646	0.1500	726	0.0447
-25	+0.1054	- 5	+0.0195	+15	-0.0545	+35	-0.1188	650	-0.1447	730	-0.0395
24	0.1008	4	0.0155	16	0.0579	36	0.1218	654	0.1395	734	0.0342
23	0.0962	3	0.0116	17	0.0613	37	0.1248	658	0.1342	738	0.0289
22	0.0917	2	0.0077	18	0.0647	38	0.1277	662	0.1289	742	0.0237
21	0.0872	- 1	+0.0038	19	0.0680	39	0.1307	666	0.1237	746	0.0184
-20	+0.0827	0	0.0000	+20	-0.0714	+40	-0.1336	670	-0.1184	750	-0.0132
19	0.0782	+ 1	-0.0038	21	0.0747	41	0.1365	674	0.1132	754	0.0079
18	0.0738	2	0.0076	22	0.0780	42	0.1394	678	0.1079	758	-0.0026
17	0.0694	3	0.0114	23	0.0812	43	0.1422	682	0.1026	762	+0.0026
16	0.0651	4	0.0151	24	0.0845	44	0.1451	686	0.0974	766	0.0079
-15	+0.0608	+ 5	-0.0188	+25	-0.0877	+45	-0.1479	690	-0.0921	770	+0.0132
14	0.0565	6	0.0225	26	0.0909	46	0.1507	694	0.0868	774	0.0184
13	0.0523	7	0.0261	27	0.0941	47	0.1535	698	0.0816	778	0.0237
12	0.0481	8	0.0298	28	0.0972	48	0.1563	702	0.0763	782	0.0289
11	0.0439	9	0.0334	29	0.1004	49	0.1591	706	0.0711	786	0.0342
10	0.0398	10	0.0369	30	0.1035	50	0.1618	710	0.0658	790	0.0395

  

FACTOR α										FACTOR β			
Para zenitales > 45° < 81°										Refracción corregida de temperatura	β		
z	α	z	α	z	α	z	α	z	α				
45°	1.000	55°	1.002	63°	1.004	68°	1.007	72°	1.011	76°	1.020	6'	1.004
46	1.001	56	1.003	64	1.005	69	1.008	73	1.013	77	1.023	8	1.008
49	1.001	59	1.003	65	1.005	70	1.009	74	1.015	78	1.026	10	1.012
50	1.002	60	1.004	66	1.006	71	1.010	75	1.017	79	1.031	12	1.017
55	1.002	63	1.004	67	1.007	72	1.011	76	1.020	80	1.037	14	1.023
Para zenitales > 81°										16	1.029	Para zenitales > 60°	
										18	1.035		
										20	1.041		
										22	1.048		
										24	1.055		
81°	1.046	1.046	1.045	1.045	1.045	1.044	1.044	1.044	1.043	26	1.062		
82	1.057	1.056	1.056	1.055	1.054	1.054	1.053	1.053	1.052	28	1.069		
83	1.071	1.071	1.070	1.069	1.068	1.067	1.067	1.066	1.065	30	1.076		
84	1.091	1.090	1.088	1.087	1.086	1.085	1.084	1.083	1.082	32	1.083		
85	1.120	1.118	1.116	1.114	1.112	1.111	1.109	1.108	1.107	34	1.091		
86	1.162	1.158	1.155	1.152	1.149	1.147	1.144	1.142	1.140	36	1.098		
87	1.226	1.220	1.215	1.210	1.206	1.202	1.198	1.194	1.191	38	1.106		
88	1.327	1.317	1.307	1.299	1.291	1.284	1.278	1.271	1.266	40	1.114		
89	1.499	1.479	1.460	1.444	1.429	1.416	1.403	1.392	1.381	42	1.121		
										44	1.129		

$$(\text{Refracción})'' = R''_0 (1 + A\alpha) (1 + B\beta)$$



**enero 2012**

do	lu	ma	mi	ju	vi	sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

**febrero 2012**

do	lu	ma	mi	ju	vi	sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

**marzo 2012**

do	lu	ma	mi	ju	vi	sa
			1	2	3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

**abril 2012**

do	lu	ma	mi	ju	vi	sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

**mayo 2012**

do	lu	ma	mi	ju	vi	sa
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

**junio 2012**

do	lu	ma	mi	ju	vi	sa
				1	2	
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

**julio 2012**

do	lu	ma	mi	ju	vi	sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

**agosto 2012**

do	lu	ma	mi	ju	vi	sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

**septiembre 2012**

do	lu	ma	mi	ju	vi	sa
					1	
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

**octubre 2012**

do	lu	ma	mi	ju	vi	sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

**noviembre 2012**

do	lu	ma	mi	ju	vi	sa
			1	2	3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

**diciembre 2012**

do	lu	ma	mi	ju	vi	sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

**enero 2013**

do	lu	ma	mi	ju	vi	sa
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

**febrero 2013**

do	lu	ma	mi	ju	vi	sa
				1	2	
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

**marzo 2013**

do	lu	ma	mi	ju	vi	sa
			1	2		
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

**abril 2013**

do	lu	ma	mi	ju	vi	sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

**mayo 2013**

do	lu	ma	mi	ju	vi	sa
	1	2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

**junio 2013**

do	lu	ma	mi	ju	vi	sa
				1		
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

**julio 2013**

do	lu	ma	mi	ju	vi	sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

**agosto 2013**

do	lu	ma	mi	ju	vi	sa
			1	2	3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

**septiembre 2013**

do	lu	ma	mi	ju	vi	sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

**octubre 2013**

do	lu	ma	mi	ju	vi	sa
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

**noviembre 2013**

do	lu	ma	mi	ju	vi	sa
			1	2		
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

**diciembre 2013**

do	lu	ma	mi	ju	vi	sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			