

# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Hotka

Date of Observation 6/5/05

Satellite Name and  
Element Set Satellite ID Helios 1B (France)

Date of Element Set Used 6/2/05

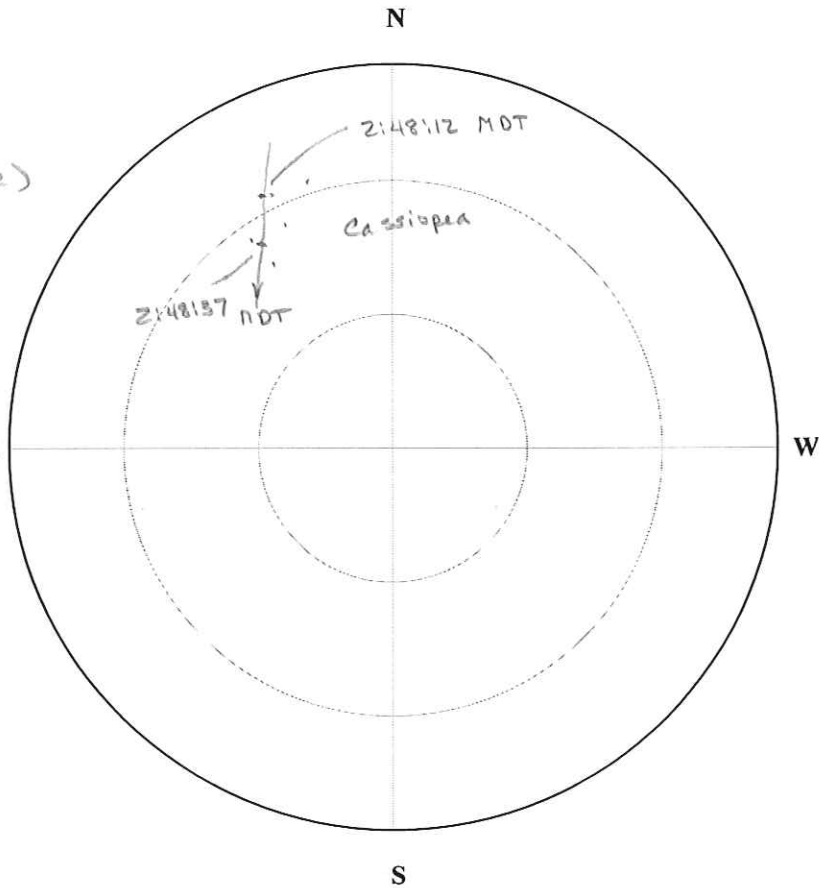
Location of Observer  
Latitude 39.9° N  
(use decimal degrees only)

Longitude 105.1° W  
(use decimal degrees only, east is negative) E

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope – specify aperture \_\_\_\_\_

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the timezone and daylight/standard time references, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 14

Observation Objective (subject to change - check only one task per observation)

Active Payload (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_

Manned Spaceflight (2)  
 STS \_\_\_\_\_  
 ISS \_\_\_\_\_  
 Other \_\_\_\_\_

Multinational (4)  
 Russia \_\_\_\_\_  
 China \_\_\_\_\_  
 Japan \_\_\_\_\_  
 Brazil \_\_\_\_\_  
 Other 14 France

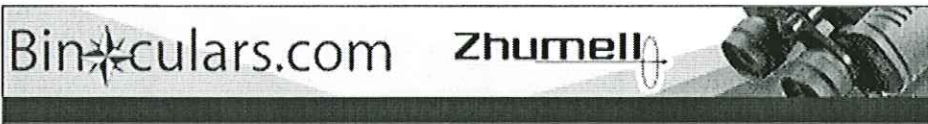
Rocket Bodies (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_

Iridium Flares (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_ (one during daylight or civil twilight hours)

Multipass (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_

Formation (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_

Aged Elsets (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_



## Visible Pass Details

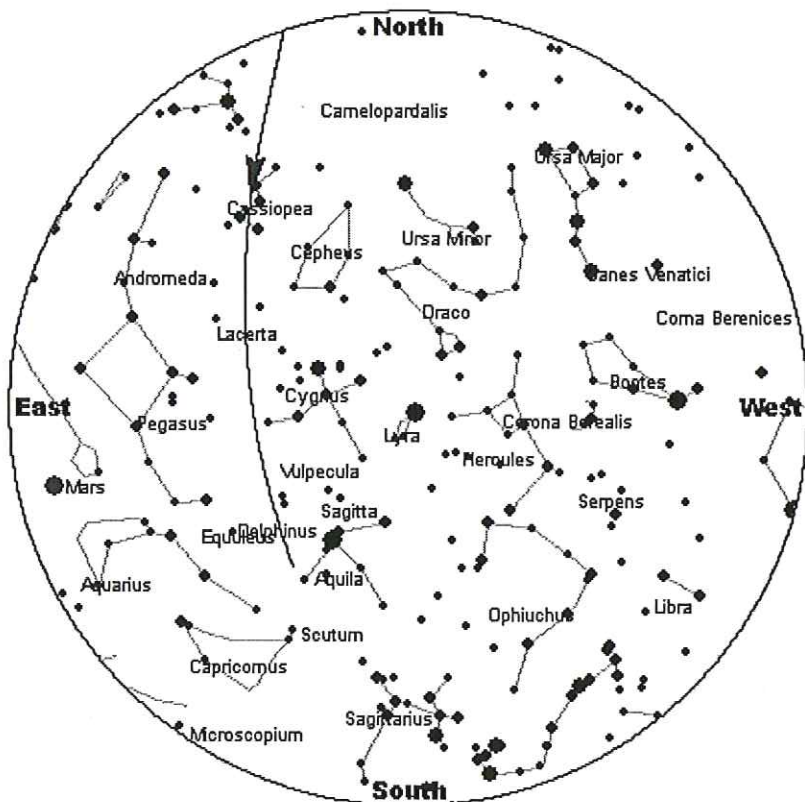
[| Home](#) | [| Info.](#) | [| Orbit](#) | [| Help](#) |

### Ground Track

**NEW!** Click here for a view of the ground track during the pass, centred on your location.

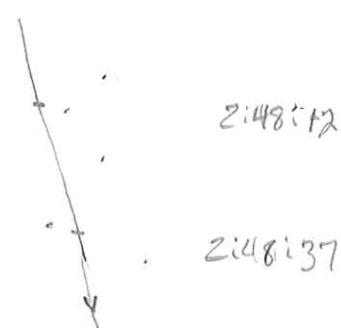
### Whole Sky Chart

This chart show the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



Mag 3.3

2145:53 10° NNE  
 2150:15 55° E  
 2151:11 45° SE



*use binoculars then last if stumbling for Radio*

### Pass Details

Date: Sunday, 05 June, 2005  
 Satellite: **Helios 1B**  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 637 x 640 km, 98.2° (Epoch 02 Jun)  
 Sun altitude at time of maximum pass altitude: -22.3°

Event	Time	Altitude	Azimuth	Distance (km)
Rises above horizon	02:43:38	0°	17° (NNE)	2,947

# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Notka

Date of Observation 6/5/05

Satellite Name and  
Element Set Satellite ID AQUA

Date of Element Set Used 6/2/05

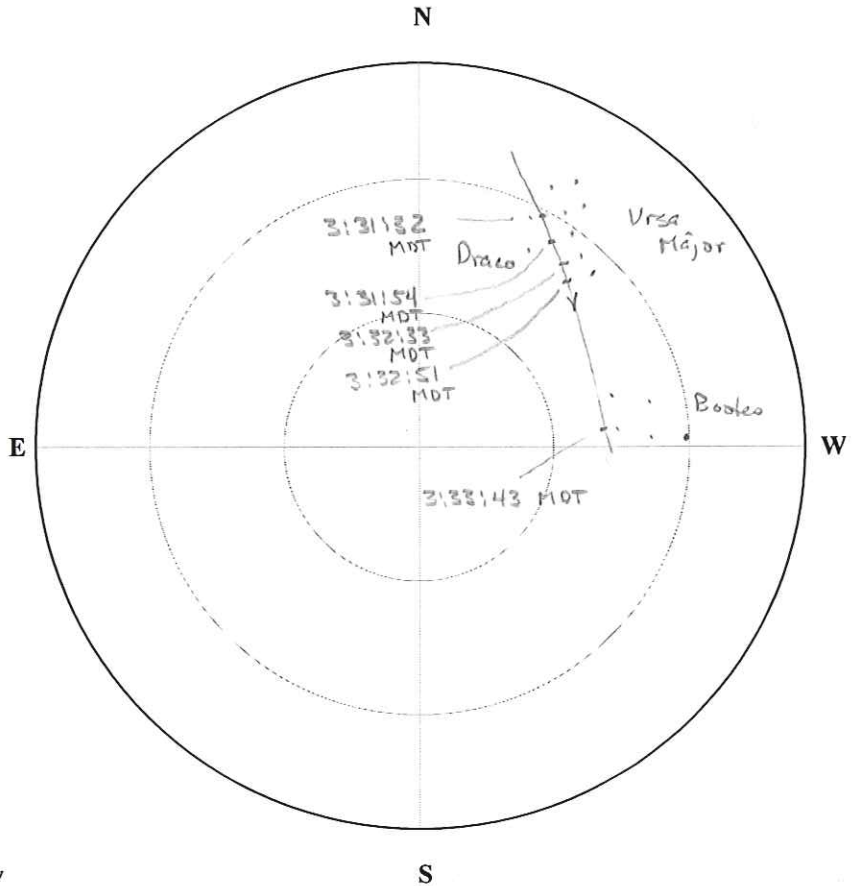
Location of Observer  
Latitude 39.9°N  
(use decimal degrees only)

Longitude 105.1°W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope – specify aperture \_\_\_\_\_

Comments Faint.



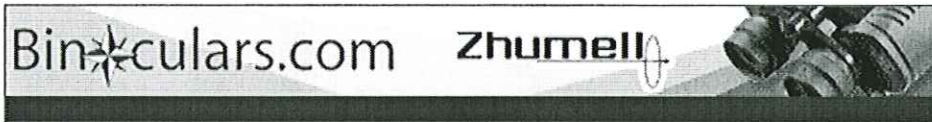
Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the timezone and daylight/standard time references, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 15

Observation Objective (subject to change - check only one task per observation)

Active Payload (4)	1 _____	Manned Spaceflight (2)	1 _____	Multinational (4)	1 _____
	2 <u>15</u>	STS	2 _____	Russia	2 _____
	3 _____	ISS	3 _____	China	3 _____
	4 _____	Other	4 _____	Japan	4 _____
				Brazil	5 _____
				Other	6 _____
Rocket Bodies (4)	1 _____	Iridium Flares (4)	1 _____		
	2 _____		2 _____		
	3 _____		3 _____		
	4 _____		4 _____ (one during daylight or civil twilight hours)		
Multipass (2)	1 a _____ b _____	Formation (2)	1 a _____ b _____	Aged Elsets (2)	1 a _____ b _____
	2 a _____ b _____		2 a _____ b _____		2 a _____ b _____



## Visible Pass Details

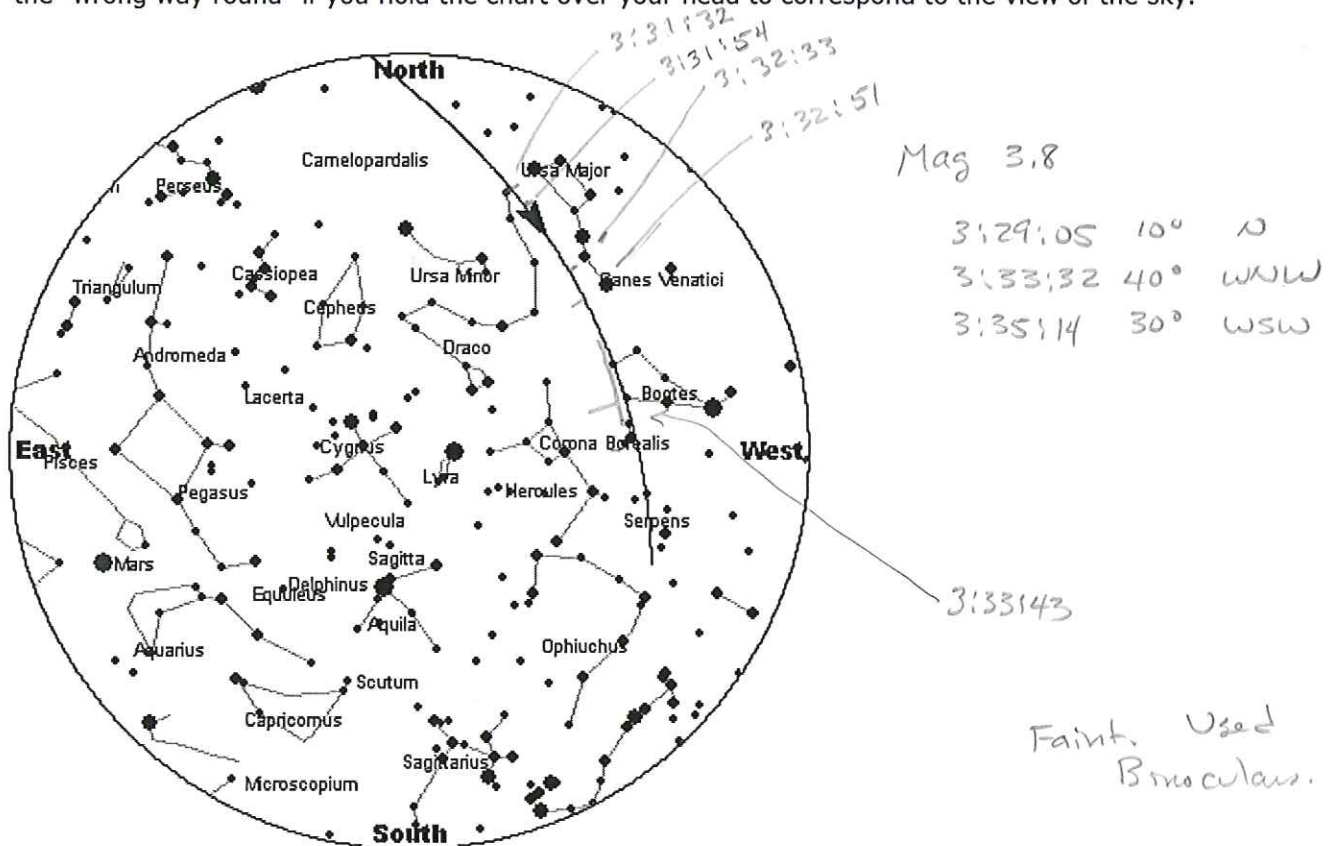
| Home | Info. | Orbit | Help |

### Ground Track

**NEW!** Click here for a view of the ground track during the pass, centred on your location.

### Whole Sky Chart

This chart show the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



### Pass Details

Date: Sunday, 05 June, 2005  
 Satellite: **AQUA**  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 701 x 703 km, 98.2° (Epoch 02 Jun)  
 Sun altitude at time of maximum pass altitude: -17.9°

Event	Time	Altitude	Azimuth	Distance (km)
Rises above horizon	03:26:44	0°	5° (N')	3,096

# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Hotka

Date of Observation 6/5/05

Satellite Name and  
Element Set Satellite ID Grace 1 & 2

Date of Element Set Used 6/1/05

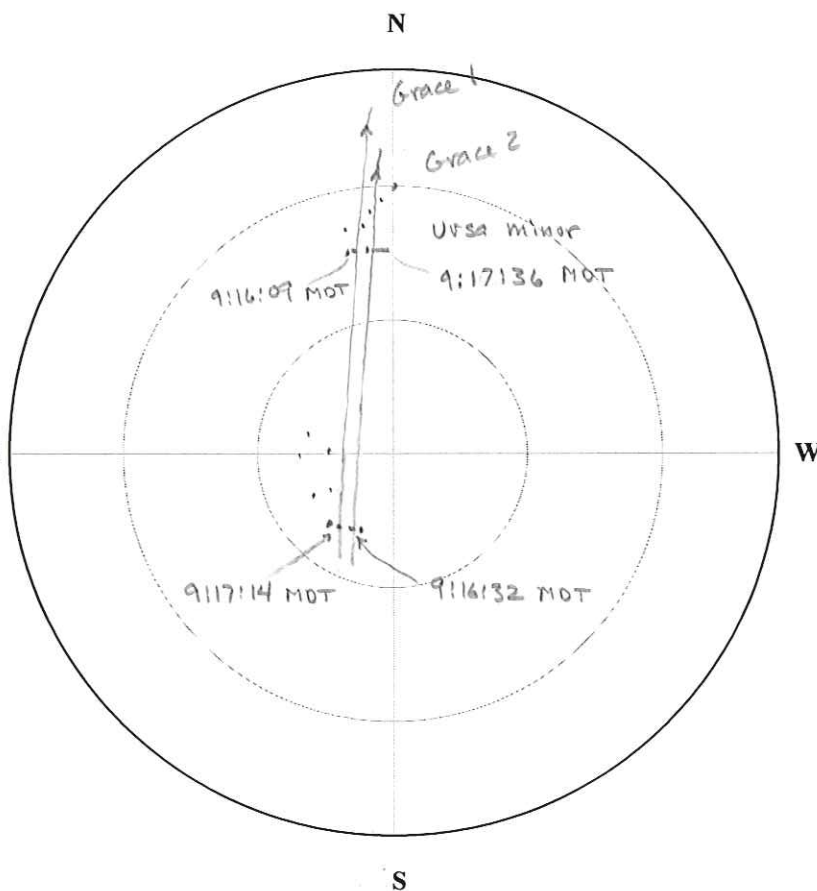
Location of Observer  
Latitude 39.9°N  
(use decimal degrees only)

Longitude 105.1°W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope – specify aperture \_\_\_\_\_

Comments Moved Really Fast



Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the timezone and daylight/standard time references, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 16

Observation Objective (subject to change - check only one task per observation)

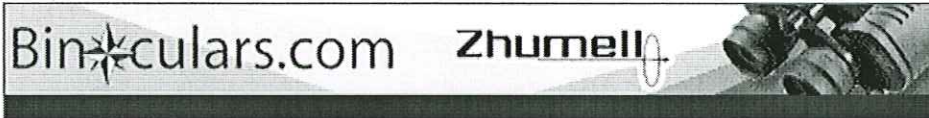
Active Payload (4)	1 _____	Manned Spaceflight (2)	STS _____	Multinational (4)	Russia _____
	2 _____		ISS _____		China _____
	3 _____		Other _____		Japan _____
	4 _____				Brazil _____
					Other _____
Rocket Bodies (4)	1 _____	Iridium Flares (4)	1 _____		
	2 _____		2 _____		
	3 _____		3 _____		
	4 _____		4 _____ (one during daylight or civil twilight hours)		

Multipass (2)	1 a _____ b _____	Formation (2)	1 a <u>16</u> b <u>16</u>	Aged Elsets (2)	1 a _____ b _____
	2 a _____ b _____		2 a _____ b _____		2 a _____ b _____

Ads by Gooc

Sunday Night

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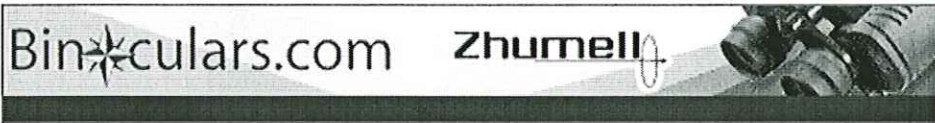
**Hubble Pic**  
 Over 450 hi  
 Hubble tele  
 on one CD.  
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Search Period Start: 12:00 Sunday, 05 June, 2005  
 Search Period End: 01:00 Monday, 06 June, 2005  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Limiting magnitude: 4.5

**NEW!** Click on the time of max. altitude to get a star chart and other pass details.

Satellite		Starts			Max. Altitude			Ends		
Name	Mag	Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
Cosmos 1703	4.1	20:47:48	10°	S	20:52:01	79°	WNW	20:56:02	10°	N
MOS 1 Rocket	4.4	20:51:49	10°	SSE	20:56:01	49°	ENE	21:00:27	10°	N
Okean O Rocket	4.0	20:54:00	10°	S	20:58:14	44°	W	21:02:35	10°	NNW
Cosmos 1674	3.8	21:00:58	10°	S	21:04:58	86°	E	21:08:59	10°	N

Cosmos 1441 Rocket	4.0	21:06:54	10°	SSE	21:10:36	44°	E	21:14:19	10°	NNE
Cosmos 1500 Rocket	4.5	21:08:47	10°	N	21:13:20	85°	WSW	21:17:48	10°	S
Cosmos 1833 Rocket	3.5	21:09:49	10°	NNW	21:15:24	64°	ENE	21:20:50	11°	SE
GRACE-1	3.7	21:13:03	10°	S	21:16:32	79°	E	21:19:59	10°	N
GRACE-2	3.7	21:13:26	10°	S	21:16:54	80°	E	21:20:22	10°	N
Envisat	3.9	21:41:50	17°	ESE	21:45:09	33°	ENE	21:49:45	10°	N
Spot 4 Rocket	4.2	21:58:16	13°	S	22:02:50	65°	WSW	22:08:01	10°	NNW
Cosmos 1005 Rocket	3.5	22:02:03	10°	NNW	22:05:36	74°	W	22:07:34	25°	S
Cosmos 1271	4.4	22:02:53	10°	SSW	22:06:21	53°	W	22:09:56	10°	N
Meteor 1-4 Rocket	3.9	22:04:30	10°	NNW	22:08:11	61°	W	22:10:30	22°	S
Cosmos 1378	3.9	22:05:32	14°	SSW	22:09:02	77°	WNW	22:13:04	10°	N
Cosmos 2369 Rocket	4.4	22:06:09	10°	SW	22:11:39	48°	WNW	22:17:10	10°	NNE
Cosmos 2369	3.9	22:19:22	10°	SSW	22:25:03	83°	ESE	22:30:42	10°	NNE
Cosmos 1300	3.8	22:23:42	10°	N	22:27:48	87°	ENE	22:29:16	40°	S
Zi Yuan 2	4.1	22:24:45	35°	S	22:26:05	65°	W	22:29:41	10°	NNW
Terra	4.3	22:26:57	31°	ESE	22:28:33	41°	ENE	22:33:00	10°	N
SL-16 Debris	4.3	22:36:49	26°	S	22:39:52	72°	ESE	22:45:15	10°	NNE
Cosmos 1315 Rocket	3.7	22:38:14	52°	SSE	22:38:58	64°	E	22:42:58	10°	NNE
Cosmos 2227 Rocket	3.8	22:47:06	10°	NNW	22:52:40	52°	ENE	22:54:34	37°	ESE
Cosmos 1726	4.3	23:16:10	10°	N	23:19:40	50°	NE	23:19:40	50°	NE
Sich 1 Rocket	4.3	23:17:09	10°	N	23:21:37	88°	NE	23:21:51	82°	SSE
Envisat	4.4	23:22:26	22°	SW	23:24:29	29°	W	23:28:57	10°	NW
ADEOS Rocket	4.2	23:23:03	42°	SSW	23:25:04	66°	W	23:31:35	10°	NNW
Resurs 1-4 Rocket	3.6	23:27:42	46°	SSW	23:28:55	58°	WSW	23:34:13	10°	NNW
Cosmos 2221	4.0	23:28:31	72°	ENE	23:28:31	72°	ENE	23:32:41	10°	NNE
Cosmos 1536	4.3	23:54:55	61°	NW	23:54:55	61°	NW	23:58:40	10°	N
Cosmos 1975	4.4	00:04:28	58°	NNW	00:04:28	58°	NNW	00:07:56	10°	N
Cosmos 2297 Rocket	3.7	00:28:57	10°	NNW	00:34:33	60°	ENE	00:35:09	56°	E
Cosmos 2322 Rocket	4.4	00:37:22	33°	E	00:37:22	33°	E	00:41:47	10°	NE



## Visible Pass Details

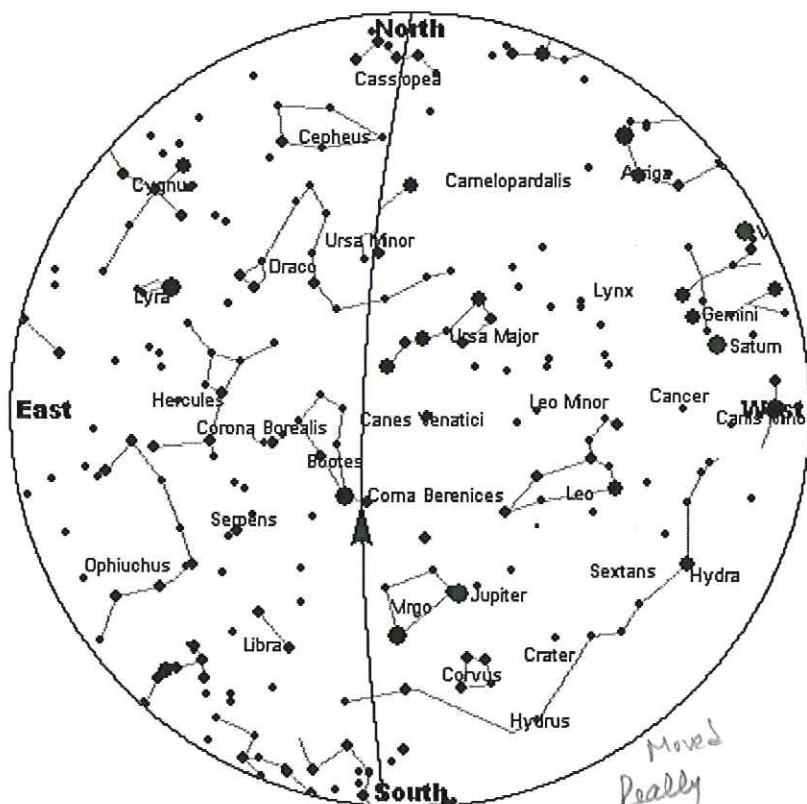
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### Ground Track

**NEW!** Click here for a view of the ground track during the pass, centred on your location.

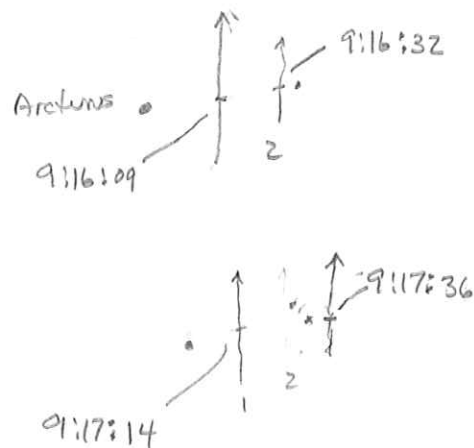
### Whole Sky Chart

This chart shows the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



#1 Mag 3.7  
 21:13:03 10° S  
 21:16:32 79° E  
 21:19:59 10° N

#2 Mag 3.7  
 21:13:26 10° S  
 21:16:54 80° E  
 21:20:22 10° N



*Moved Really Fast used Binocs*

### Pass Details

Date: Sunday, 05 June, 2005  
 Satellite: **GRACE-1**  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 456 x 484 km, 89.0° (Epoch 01 Jun)  
 Sun altitude at time of maximum pass altitude: -8.8°

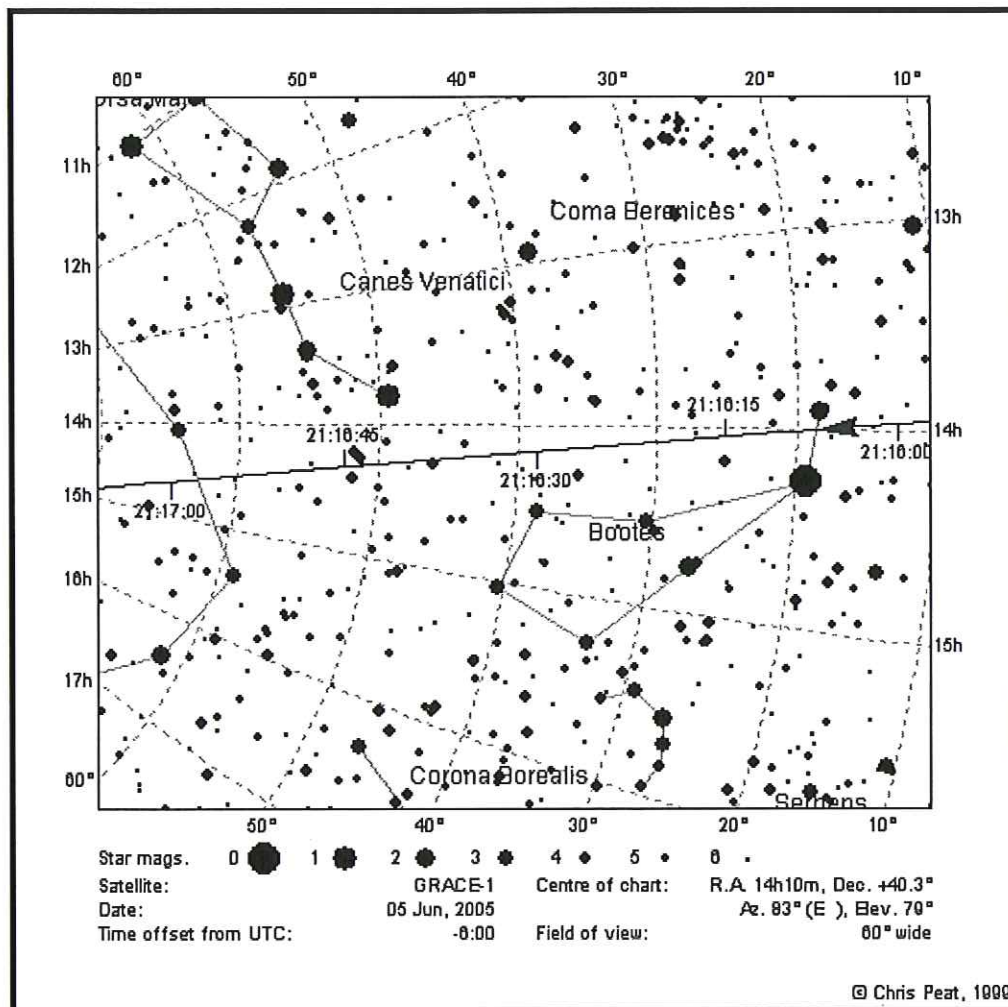
Event	Time	Altitude	Azimuth	Distance (km)
Reaches 10° altitude	21:13:03	10°	174° (S)	1,600



Leaves shadow	21:11:28	2°	175° ( S )	2,273
Maximum altitude	21:16:32	79°	83° ( E )	471
Drops below 10° altitude	21:19:59	10°	1° ( N )	1,608
Sets	21:22:03	0°	1° ( N )	2,482

**Detailed Star Chart**

Ads by Goood



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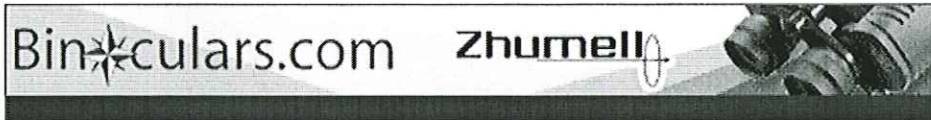
**Hubble Pic**  
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Change chart size  (500 to 1600 pixels)

Click anywhere within the inner chart to zoom in on that region.  
Click in the border region to get a new chart at the same resolution, but with the centre point moved in that direction.  
The chart is oriented such that the local zenith is towards the top.  
Click here for more info and help on using the charts.

Developed and maintained by Chris Peat, Heavens-Above GmbH  
**Please** read the updated FAQ before sending e-mail.

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## Visible Pass Details

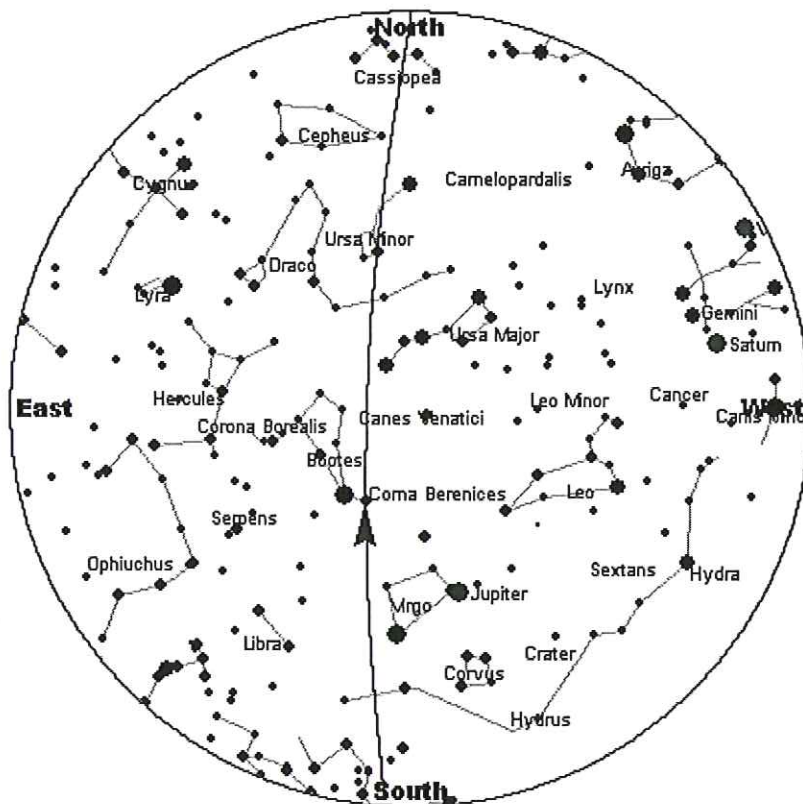
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### Ground Track

**NEW!** [Click here](#) for a view of the ground track during the pass, centred on your location.

### Whole Sky Chart

This chart shows the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



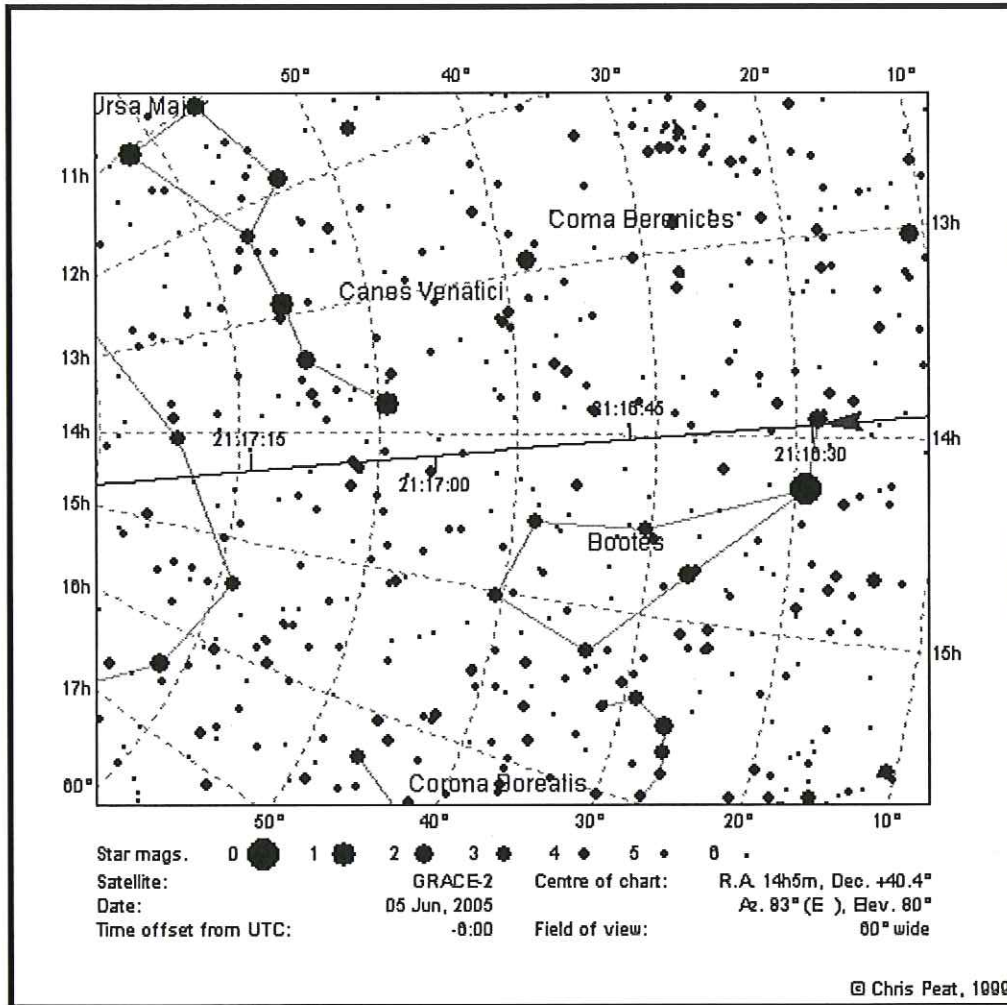
### Pass Details

Date: Sunday, 05 June, 2005  
 Satellite: **GRACE-2**  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 455 x 485 km, 89.0° (Epoch 01 Jun)  
 Sun altitude at time of maximum pass altitude: -8.8°

Event	Time	Altitude	Azimuth	Distance (km)
Reaches 10° altitude	21:13:26	10°	175° (S )	1,599

Leaves shadow	21:11:51	2°	175° ( S )	2,270
Maximum altitude	21:16:54	80°	83° ( E )	469
Drops below 10° altitude	21:20:22	10°	1° ( N )	1,606
Sets	21:22:25	0°	1° ( N )	2,480

**Detailed Star Chart**



Change chart size  (500 to 1600 pixels)

Click anywhere within the inner chart to zoom in on that region.  
 Click in the border region to get a new chart at the same resolution, but with the centre point moved in that direction.  
 The chart is oriented such that the local zenith is towards the top.  
 Click here for more info and help on using the charts.

Ads by Goood

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Developed and maintained by Chris Peat, Heavens-Above GmbH  
**Please** read the updated FAQ before sending e-mail.

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# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mila Hotler

Date of Observation 6/5/05

Satellite Name and  
Element Set Satellite ID Zi Yuan 2 (China)

Date of Element Set Used 6/2/05

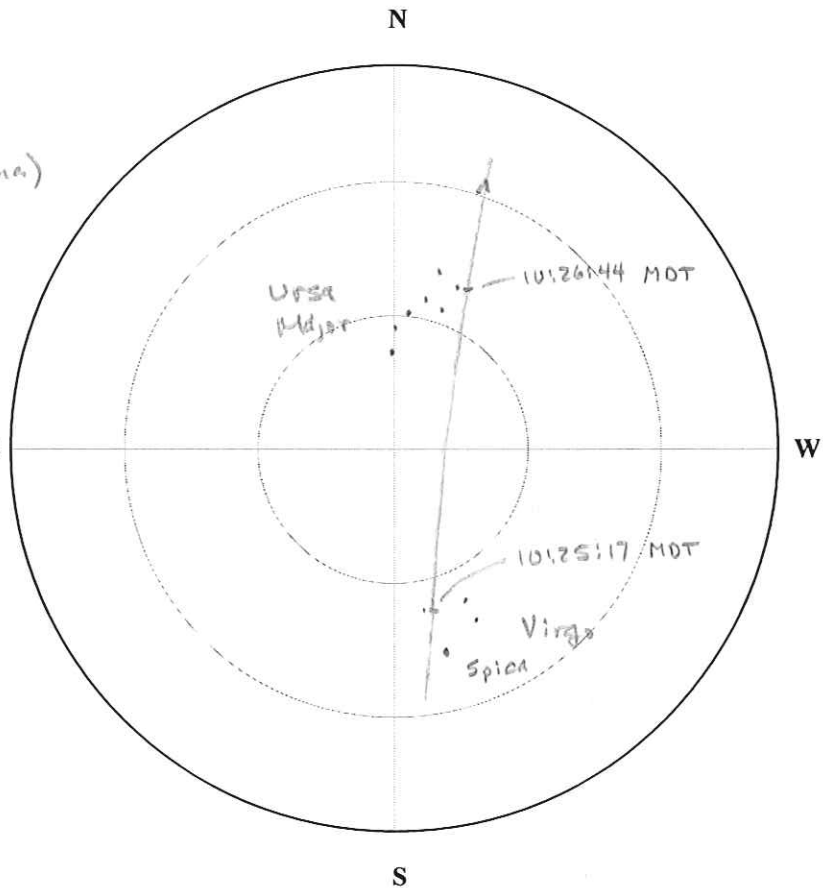
Location of Observer  
Latitude 39.9° N  
(use decimal degrees only)

Longitude 105.1° W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope – specify aperture \_\_\_\_\_

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



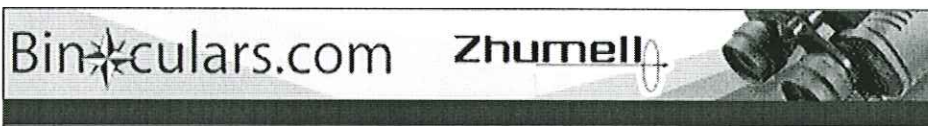
Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the timezone and daylight/standard time references, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 17

Observation Objective (subject to change - check only one task per observation)

Active Payload (4) 1 _____ 2 _____ 3 _____ 4 _____	Manned Spaceflight (2) STS _____ ISS _____ Other _____	Multinational (4) Russia _____ China <u>17</u> Japan _____ Brazil _____ Other _____
Rocket Bodies (4) 1 _____ 2 _____ 3 _____ 4 _____	Iridium Flares (4) 1 _____ 2 _____ 3 _____ 4 _____ (one during daylight or civil twilight hours)	
Multipass (2) 1 a _____ b _____ 2 a _____ b _____	Formation (2) 1 a _____ b _____ 2 a _____ b _____	Aged Elsets (2) 1 a _____ b _____ 2 a _____ b _____



## Visible Pass Details

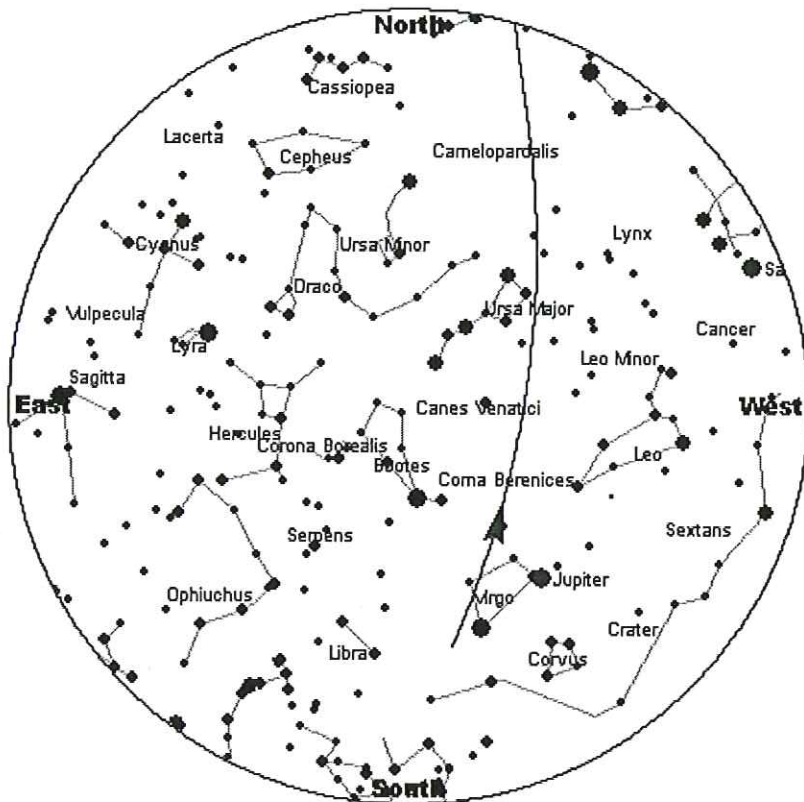
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### Ground Track

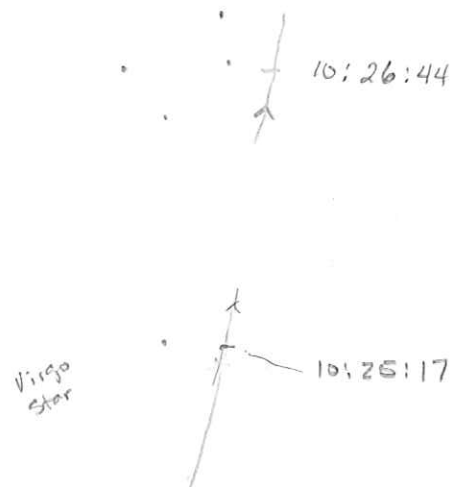
**NEW!** Click here for a view of the ground track during the pass, centred on your location.

### Whole Sky Chart

This chart shows the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



Mag 4.1    22:24:45    35° S  
 22:26:05    65° W  
 22:29:41    10° NWW



### Pass Details

Date: Sunday, 05 June, 2005  
 Satellite: **Zi Yuan 2**  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 485 x 490 km, 97.2° (Epoch 02 Jun)  
 Sun altitude at time of maximum pass altitude: -18.0°

Event	Time	Altitude	Azimuth	Distance (km)
Leaves shadow	22:24:45	35°	190° ( S )	798

# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Hotler

Date of Observation 6/5/05

Satellite Name and  
Element Set Satellite ID Terra

Date of Element Set Used 6/2/05

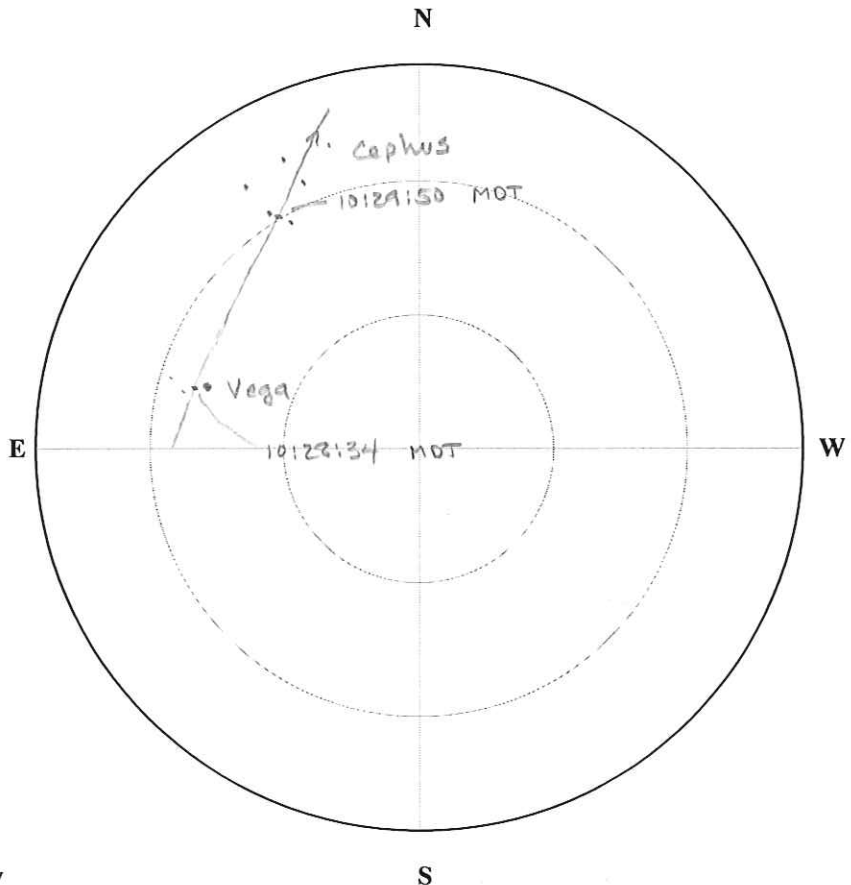
Location of Observer  
Latitude 39.9°N  
(use decimal degrees only)

Longitude 105.1°W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope – specify aperture \_\_\_\_\_

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the timezone and daylight/standard time references, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 18

Observation Objective (subject to change - check only one task per observation)

Active Payload (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 18  
 4 \_\_\_\_\_

Manned Spaceflight (2)  
 STS \_\_\_\_\_  
 ISS \_\_\_\_\_  
 Other \_\_\_\_\_

Multinational (4)  
 Russia \_\_\_\_\_  
 China \_\_\_\_\_  
 Japan \_\_\_\_\_  
 Brazil \_\_\_\_\_  
 Other \_\_\_\_\_

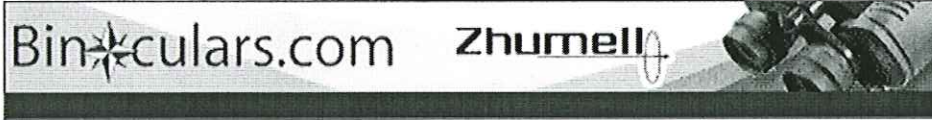
Rocket Bodies (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_

Iridium Flares (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_ (one during daylight or civil twilight hours)

Multipass (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_

Formation (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_

Aged Elsets (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_



## Visible Pass Details

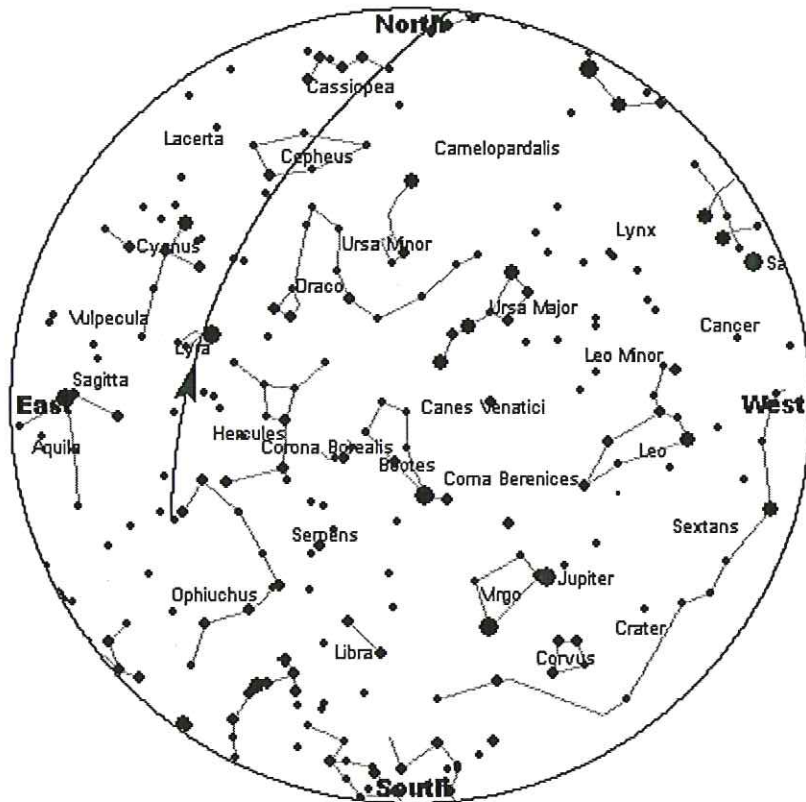
[| Home](#) | [| Info.](#) | [| Orbit](#) | [| Help](#) |

### Ground Track

**NEW!** Click here for a view of the ground track during the pass, centred on your location.

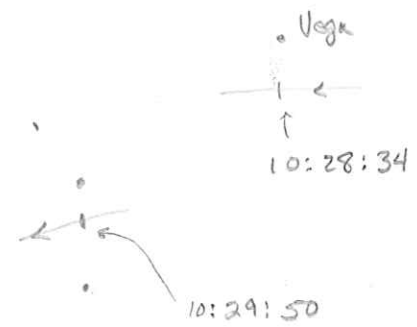
### Whole Sky Chart

This chart shows the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



Mag 4.3

22:26:57 31° ESE  
 22:28:33 41° ENE  
 22:33:00 10° N



### Pass Details

Date: Sunday, 05 June, 2005  
 Satellite: **Terra**  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 701 x 703 km, 98.2° (Epoch 02 Jun)  
 Sun altitude at time of maximum pass altitude: -18.3°

Event	Time	Altitude	Azimuth	Distance (km)
Leaves shadow	22:26:57	31°	114° (ESE)	1,231

# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Hotka

Date of Observation 6/13/05

Satellite Name and  
Element Set Satellite ID Sich 1 - Ukrainian

Date of Element Set Used 6/10/05

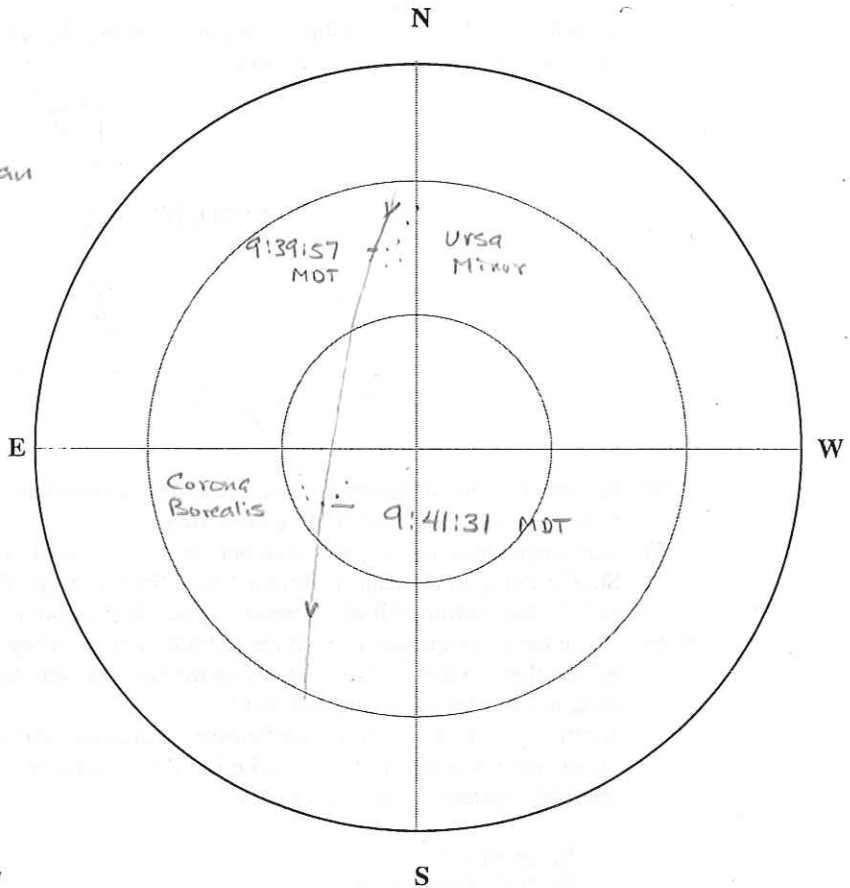
Location of Observer  
Latitude 39.9°N  
(use decimal degrees only)

Longitude 105.1°W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope - specify aperture \_\_\_\_\_

Comments Went right OVER CROWN  
star (α) of Crown Cool.



Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the *timezone and daylight/standard time references*, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 19

Observation Objective (subject to change - check only one task per observation)

Active Payload (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_

Manned Spaceflight (2)  
 STS \_\_\_\_\_  
 ISS \_\_\_\_\_  
 Other \_\_\_\_\_

Multinational (4)  
 Russia \_\_\_\_\_  
 China \_\_\_\_\_  
 Japan \_\_\_\_\_  
 Brazil \_\_\_\_\_  
 Other  Ukraine

Rocket Bodies (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_

Iridium Flares (4) 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_  
 4 \_\_\_\_\_ (one during daylight or civil twilight hours)

Multipass (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_

Formation (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_

Aged Elsets (2) 1 a \_\_\_\_\_ b \_\_\_\_\_  
 2 a \_\_\_\_\_ b \_\_\_\_\_





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## Sich 1 - Visible Passes

| Home | Info

Search Period Start: 12:00 Sunday, 12 June, 2005  
 Search Period End: 12:00 Wednesday, 22 June, 2005  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 608 x 643 km, 82.5° (Epoch 10 Jun)

**NEW!** Click on the date to get a star chart and other pass details.

Mon. →

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
12 Jun	5.1	21:17:43	10	N	21:21:43	35	ENE	21:25:20	12	SE
12 Jun	6.7	22:56:31	10	NW	22:59:24	18	W	23:02:17	10	SW
13 Jun	4.3	21:36:49	10	N	21:41:10	73	E	21:44:57	13	SSE
14 Jun	5.0	21:56:16	10	NNW	22:00:30	54	W	22:04:37	11	S
15 Jun	6.2	22:16:05	10	NNW	22:19:44	27	W	22:23:22	10	SSW
16 Jun	4.8	20:57:08	10	N	21:01:19	46	E	21:05:30	10	SSE
16 Jun	7.1	22:36:41	10	NW	22:38:51	14	W	22:41:02	10	WSW
17 Jun	4.4	21:16:22	10	N	21:20:50	84	SW	21:25:04	10	S
18 Jun	5.6	21:35:56	10	NNW	21:40:01	41	W	21:44:06	10	SSW
19 Jun	6.7	21:55:57	10	NW	21:59:12	21	W	22:02:28	10	SW
20 Jun	7.5	22:17:31	10	WNW	22:18:17	10	W	22:19:03	10	W
21 Jun	4.8	20:55:56	10	NNW	21:00:15	65	W	21:04:34	10	S

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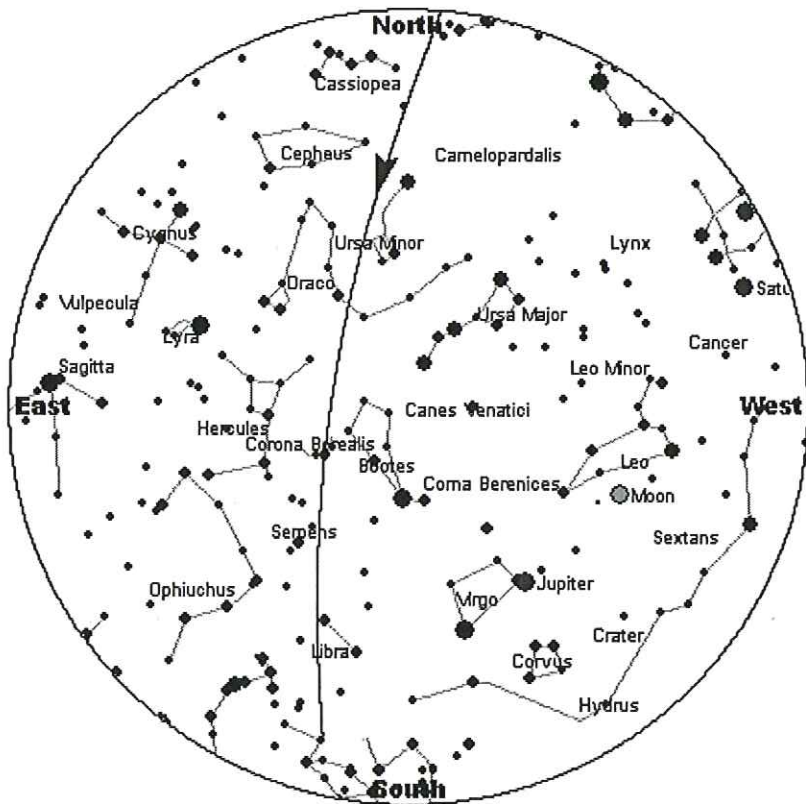
## Visible Pass Details

### Ground Track

**NEW!** Click here for a view of the ground track during the pass, centred on your location.

### Whole Sky Chart

This chart show the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



Mag 4.3  
 21:36:49 100° W  
 21:41:10 73° E  
 21:44:57 13° SSC

W 9:39:57  
 9:41:31

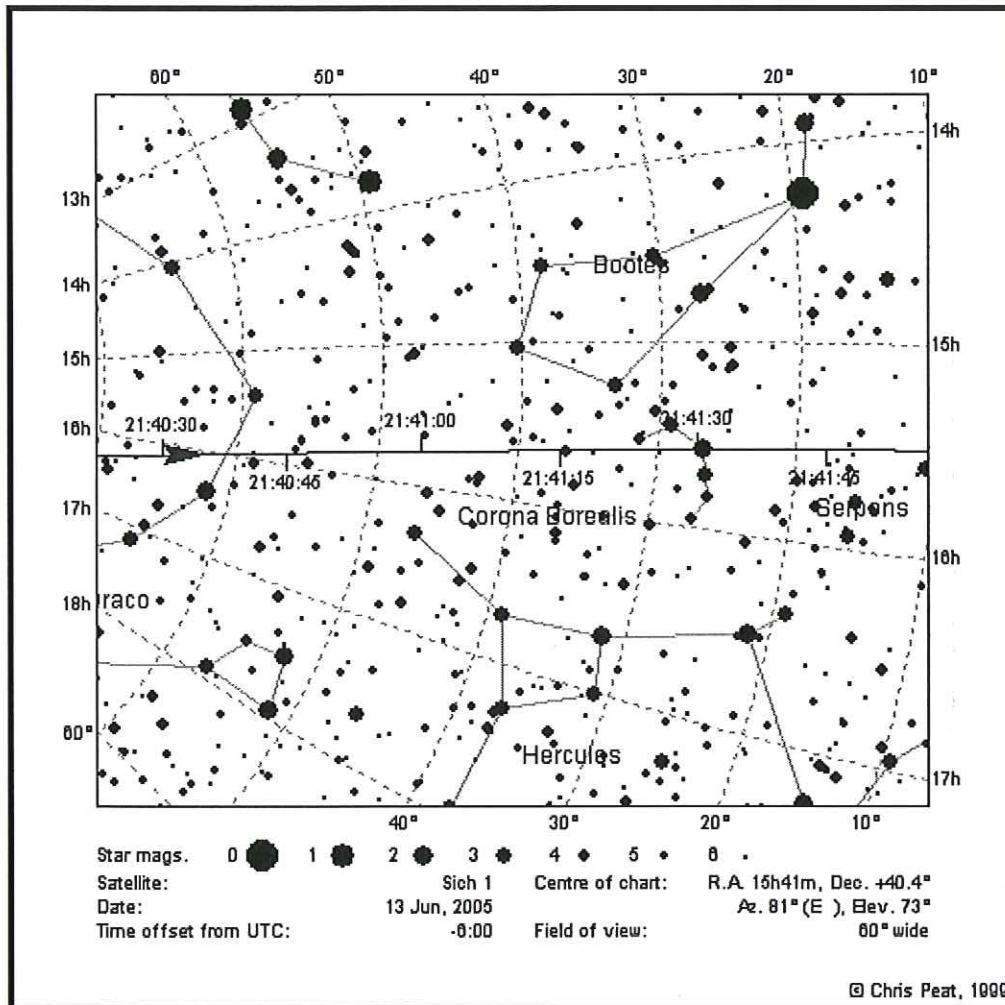
### Pass Details

Date: Monday, 13 June, 2005  
 Satellite: Sich 1  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 608 x 643 km, 82.5° (Epoch 10 Jun)  
 Sun altitude at time of maximum pass altitude: -11.6°

Event	Time	Altitude	Azimuth	Distance (km)

Rises above horizon	21:34:36	0°	354° (N )	2,876
Reaches 10° altitude	21:36:49	10°	356° (N )	1,971
Maximum altitude	21:41:10	73°	81° (E )	640
Enters shadow	21:44:57	13°	166° (SSE)	1,745

### Detailed Star Chart



Change chart size  (500 to 1600 pixels)

Click anywhere within the inner chart to zoom in on that region.  
 Click in the border region to get a new chart at the same resolution, but with the centre point moved in that direction.  
 The chart is oriented such that the local zenith is towards the top.  
 Click here for more info and help on using the charts.

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# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Hottel

Date of Observation 6/14/05

Satellite Name and  
Element Set Satellite ID ISS

Date of Element Set Used 6/11/05

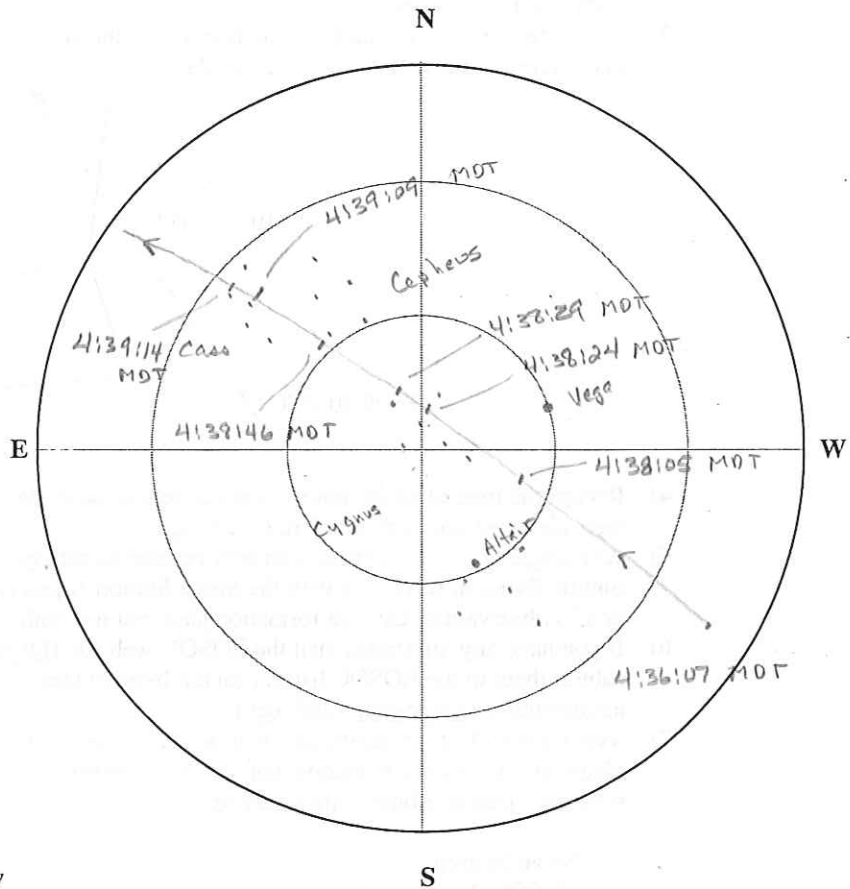
Location of Observer  
Latitude 39.9° N  
(use decimal degrees only)

Longitude 105.1° W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope - specify aperture \_\_\_\_\_

Comments Really Bright. Saw it  
when it first popped out of  
shadow.



Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

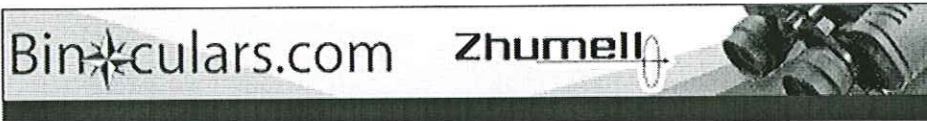
**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the *timezone and daylight/standard time references*, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 20

Observation Objective (subject to change - check only one task per observation)

Active Payload (4)	1 _____	Manned Spaceflight (2)	STS _____	Multinational (4)	Russia _____
	2 _____		ISS <input checked="" type="checkbox"/>		China _____
	3 _____		Other _____		Japan _____
	4 _____				Brazil _____
					Other _____
Rocket Bodies (4)	1 _____	Iridium Flares (4)	1 _____		
	2 _____		2 _____		
	3 _____		3 _____		
	4 _____		4 _____ (one during daylight or civil twilight hours)		

Multipass (2)	1 a _____ b _____	Formation (2)	1 a _____ b _____	Aged Elsets (2)	1 a _____ b _____
	2 a _____ b _____		2 a _____ b _____		2 a _____ b _____



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## ISS - Visible Passes

[| Home](#) | [| Info.](#) | [| Orbit](#) | [| Prev.](#) | [| Next](#) | [| Help](#) |

Search Period Start: 12:00 Monday, 06 June, 2005  
 Search Period End: 12:00 Thursday, 16 June, 2005  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 348 x 355 km, 51.6° (Epoch 05 Jun)

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**NEW!** Click on the date to get a star chart and other pass details.

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
11 Jun	1.1	04:53:40	10	S	04:56:06	23	SE	04:58:33	10	ENE
13 Jun	0.8	04:11:13	17	S	04:12:44	26	SE	04:15:16	10	ENE
14 Jun	-0.8	04:36:05	14	SW	04:38:30	80	NW	04:41:27	10	NE
15 Jun	0.5	03:29:17	29	SE	03:29:17	29	SE	03:31:50	10	ENE
16 Jun	-0.7	03:53:57	37	WSW	03:54:55	71	NW	03:57:52	10	NE

Observation  
#20  
Tue →

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## Visible Pass Details

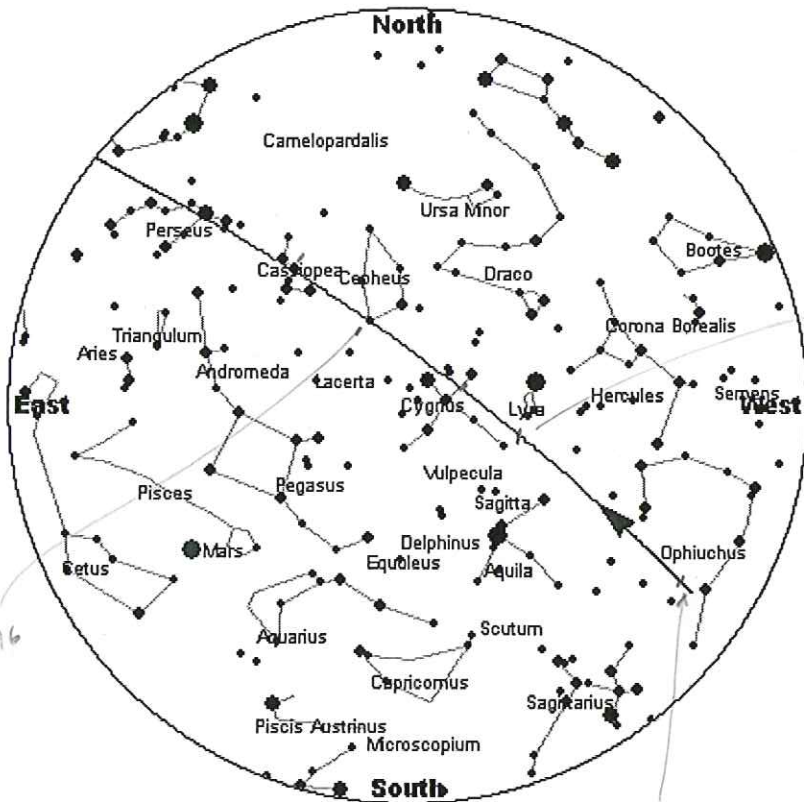
Observation #20

### Ground Track

**NEW!** Click here for a view of the ground track during the pass, centred on your location.

### Whole Sky Chart

This chart shows the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



Mag -0.9  
4:36:05 14° SW  
4:38:30 80° NW  
4:39:05 4:41:27 10° NE

4:38:29  
4:38:24

4:39:14  
4:39:09

4:36:07

4:38:46

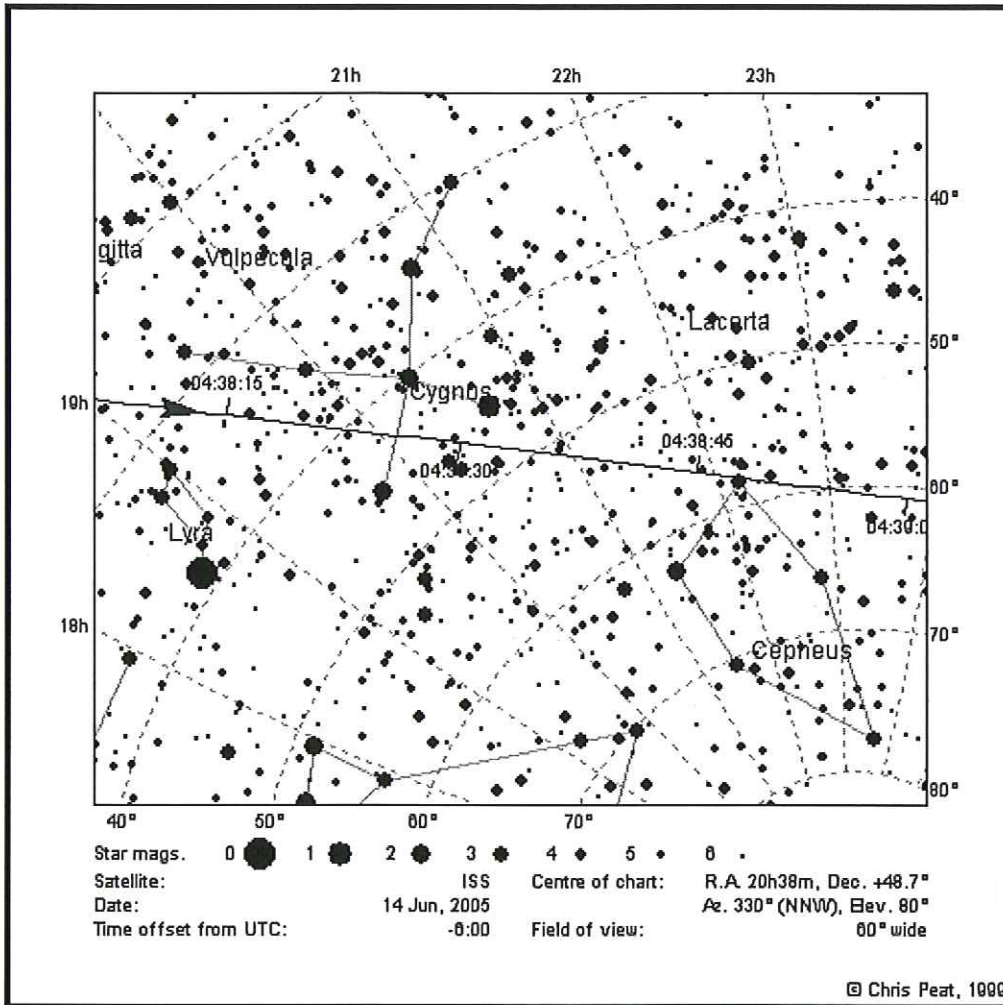
### Pass Details

Date: Tuesday, 14 June, 2005  
Satellite: ISS  
Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
Local Time: Mountain Daylight Time (GMT - 6:00)  
Orbit: 348 x 354 km, 51.6° (Epoch 11 Jun)  
Sun altitude at time of maximum pass altitude: -9.0°

Event	Time	Altitude	Azimuth	Distance (km)

Leaves shadow	04:36:07	14°	236° (SW )	1,106
Maximum altitude	04:38:33	80°	330° (NNW)	363
Drops below 10° altitude	04:41:30	10°	51° (NE )	1,327
Sets	04:43:31	0°	52° (NE )	2,170

**Detailed Star Chart**



Change chart size  (500 to 1600 pixels)

Click anywhere within the inner chart to zoom in on that region.  
 Click in the border region to get a new chart at the same resolution, but with the centre point moved in that direction.  
 The chart is oriented such that the local zenith is towards the top.  
 Click here for more info and help on using the charts.

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# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Hotka

Date of Observation 6/14/05

Satellite Name and  
Element Set Satellite ID Ikonos 2

Date of Element Set Used 6/6/05

Location of Observer  
Latitude 39.9° N  
(use decimal degrees only)

Longitude 105.1° W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

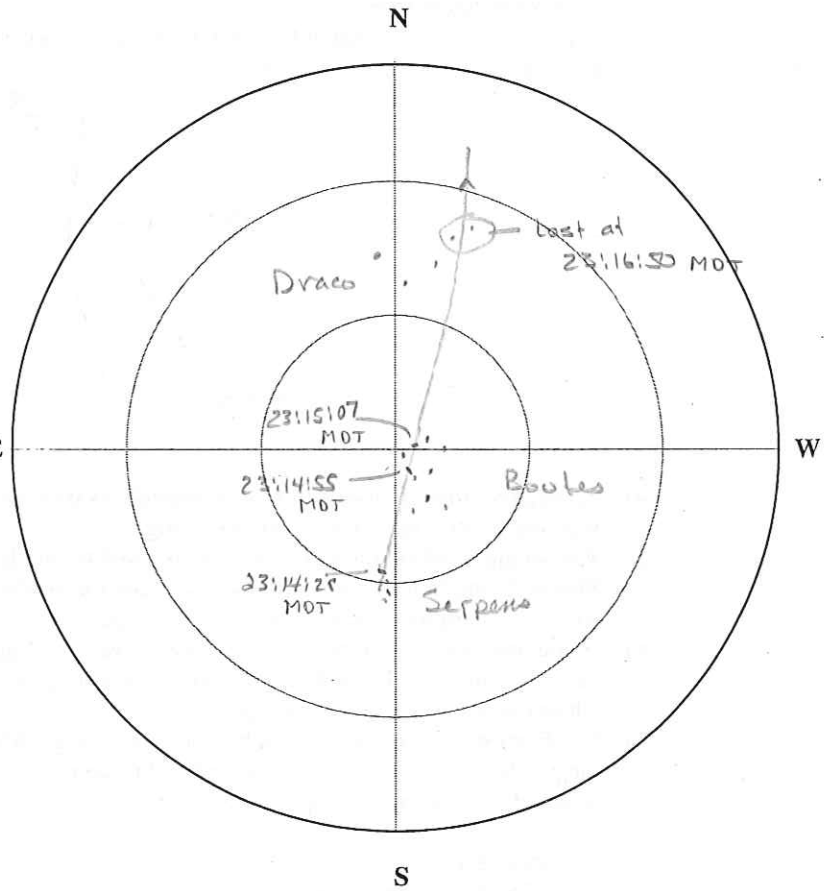
Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope - specify aperture \_\_\_\_\_

Comments Very faint. Lost it around Draco stars when trying to see how close it was getting to stars

Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the *timezone* and *daylight/standard time references*, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 21



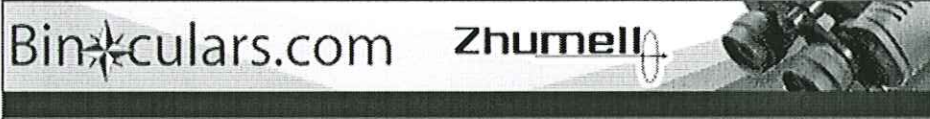
Observation Objective (subject to change - check only one task per observation)

- |                                       |                        |                   |
|---------------------------------------|------------------------|-------------------|
| Active Payload (4)                    | Manned Spaceflight (2) | Multinational (4) |
| 1 _____                               | STS _____              | Russia _____      |
| 2 _____                               | ISS _____              | China _____       |
| 3 _____                               | Other _____            | Japan _____       |
| 4 <input checked="" type="checkbox"/> |                        | Brazil _____      |
|                                       |                        | Other _____       |

- |                   |   |
|-------------------|---|
| Rocket Bodies (4) | Iridium Flares (4)                                    |
| 1 _____           | 1 _____   |
| 2 _____           | 2 _____   |
| 3 _____           | 3 _____   |
| 4 _____           | 4 _____ (one during daylight or civil twilight hours) |

- |                   |                   |                   |
|-------------------|-------------------|-------------------|
| Multipass (2)     | Formation (2)     | Aged Elsets (2)   |
| 1 a _____ b _____ | 1 a _____ b _____ | 1 a _____ b _____ |
| 2 a _____ b _____ | 2 a _____ b _____ | 2 a _____ b _____ |





**IKONOS-2 - Visible Passes**

| Home | Info. | Orbit | Prev. | Next | Help |

Search Period Start: 12:00 Tuesday, 07 June, 2005  
 Search Period End: 12:00 Friday, 17 June, 2005  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 678 x 680 km, 98.1° (Epoch 06 Jun)

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**NEW!** Click on the date to get a star chart and other pass details.

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
07 Jun	5.7	22:20:21	23	ESE	22:21:56	29	ENE	22:25:55	10	N
07 Jun	6.0	23:58:44	26	WSW	23:59:08	27	W	00:03:04	10	NW
<b>08 Jun</b>	4.6	22:56:09	50	SE	22:57:12	67	ENE	23:01:48	10	N
09 Jun	7.0	00:34:33	11	W	00:34:54	11	W	00:36:22	10	WNW
09 Jun	6.5	21:53:35	12	E	21:55:47	16	ENE	21:58:39	10	NNE
09 Jun	5.0	23:31:58	47	SW	23:32:37	51	W	23:37:09	10	NNW
10 Jun	5.4	22:29:24	28	ESE	22:30:54	35	ENE	22:35:07	10	N
11 Jun	6.3	00:07:47	21	WSW	00:08:14	22	W	00:11:49	10	NW
<b>11 Jun</b>	4.4	23:05:13	56	SSE	23:06:13	84	ENE	23:10:51	10	N
12 Jun	6.2	22:02:39	15	E	22:04:42	20	ENE	22:08:03	10	NNE
12 Jun	5.4	23:41:02	38	WSW	23:41:41	40	W	23:46:04	10	NNW
13 Jun	5.1	22:38:28	34	ESE	22:39:52	44	ENE	22:44:17	10	N
14 Jun	6.6	00:16:52	17	W	00:17:20	18	W	00:20:27	10	NW
14 Jun	6.8	21:37:20	10	ENE	21:38:38	11	ENE	21:39:56	10	NE
<b>14 Jun</b>	4.5	23:14:18	56	S	23:15:17	79	W	23:19:53	10	NNW
15 Jun	6.0	22:11:44	19	ESE	22:13:39	24	ENE	22:17:22	10	NNE
15 Jun	5.7	23:50:07	31	WSW	23:50:45	32	W	23:54:56	10	NNW
16 Jun	4.8	22:47:34	40	SE	22:48:52	55	ENE	22:53:24	10	N
17 Jun	6.8	00:25:57	14	W	00:26:28	14	W	00:28:55	10	WNW

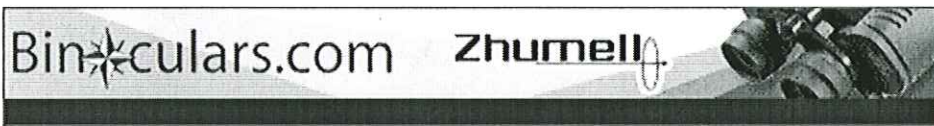
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## Visible Pass Details

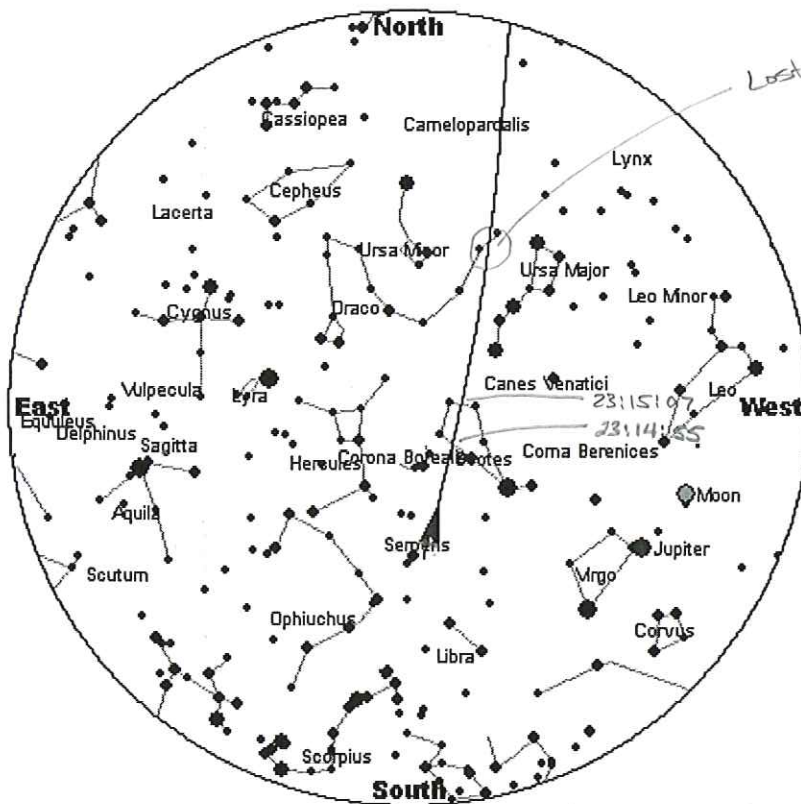
| Home | Info. | Orbit | Help |

### Ground Track

**NEW!** Click here for a view of the ground track during the pass, centred on your location.

### Whole Sky Chart

This chart show the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



Mag 4.5

23:14:18 56° S  
 23:15:17 79° W  
 23:19:53 10° NNE

23:14:29

Serpens

### Pass Details

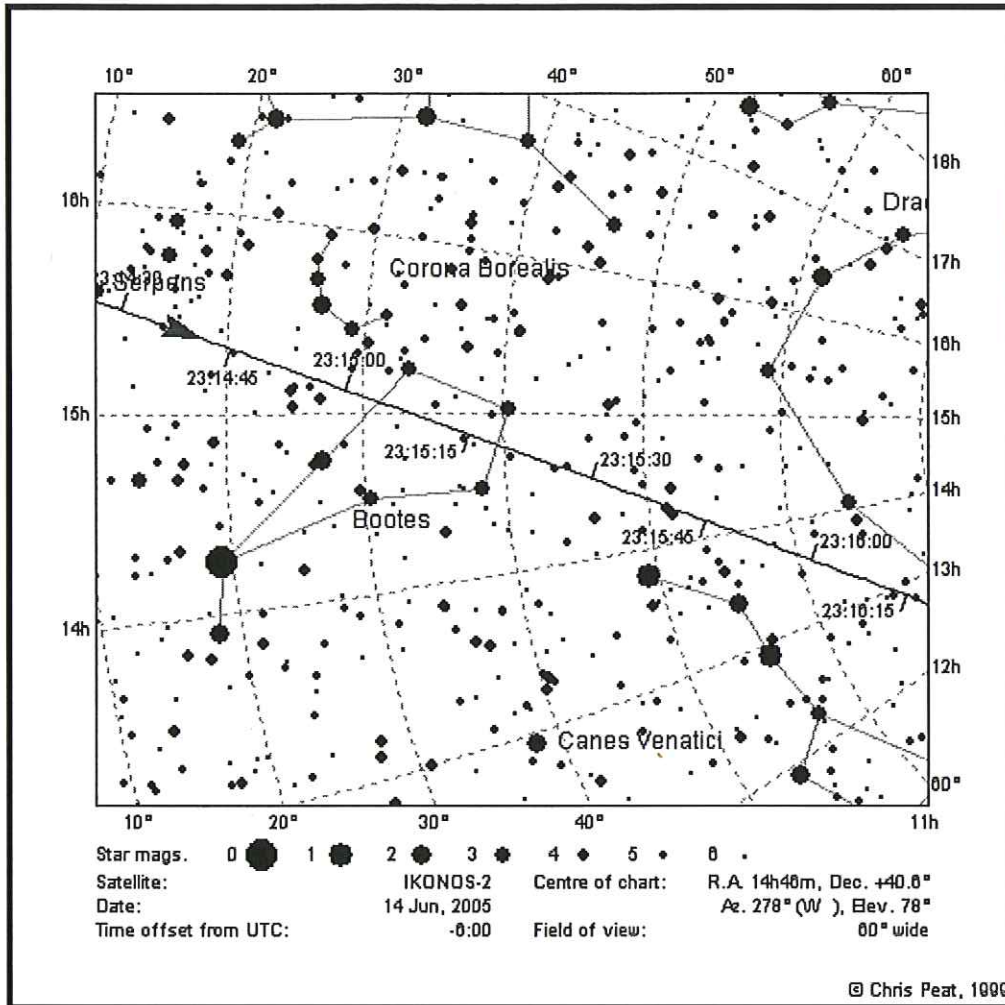
Date: Tuesday, 14 June, 2005  
 Satellite: IKONOS-2  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 678 x 680 km, 98.1° (Epoch 06 Jun)  
 Sun altitude at time of maximum pass altitude: -22.2°

Very Faint. Lost it around Draco stars when trying to see how close binocs were to stars

Event	Time	Altitude	Azimuth	Distance (km)
Leaves shadow	23:14:18	56°	185° (S)	802

Maximum altitude	23:15:20	78°	278° (W )	697
Drops below 10° altitude	23:19:53	10°	345° (NNW)	2,126
Sets	23:22:07	0°	346° (NNW)	3,041

**Detailed Star Chart**



Change chart size  (500 to 1600 pixels)

Click anywhere within the inner chart to zoom in on that region.  
 Click in the border region to get a new chart at the same resolution, but with the centre point moved in that direction.  
 The chart is oriented such that the local zenith is towards the top.  
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Hosted by  DLR/GSOC

# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Hottel

Date of Observation 6/14/05

Satellite Name and  
Element Set Satellite ID Envisat

Date of Element Set Used 6/11/05

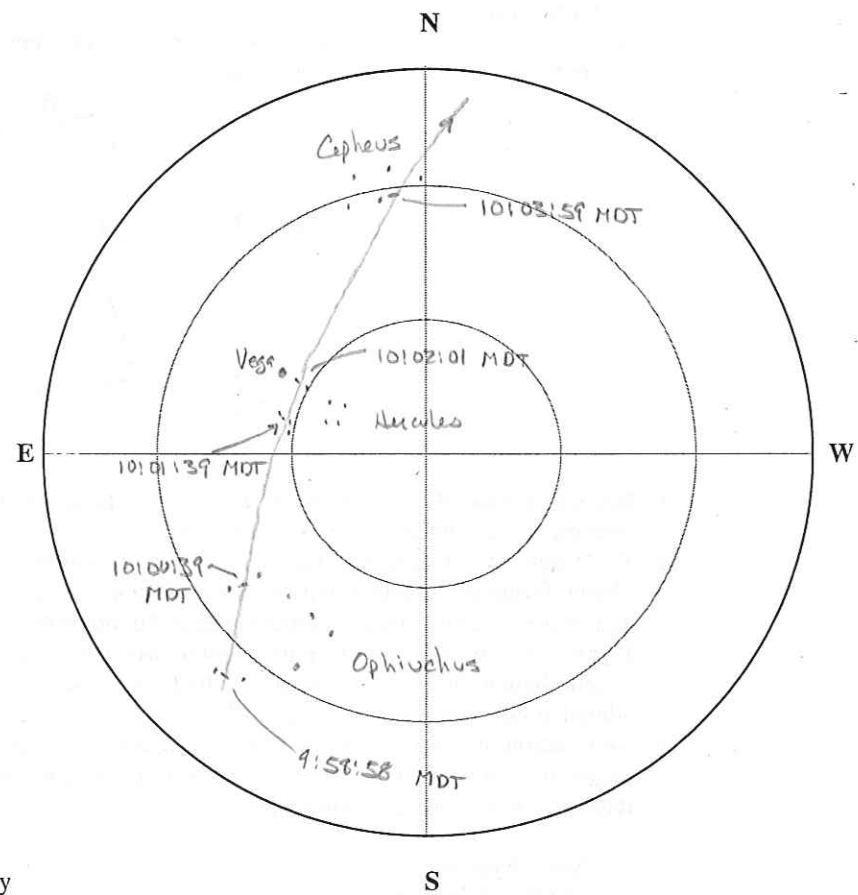
Location of Observer  
Latitude 39.9°N  
(use decimal degrees only)

Longitude 105.1°W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope - specify aperture \_\_\_\_\_

Comments Started out bright but then needed binocs to follow 1st Pass.



Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the *timezone and daylight/standard time references*, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 22

Observation Objective (subject to change - check only one task per observation)

- |   |   |  |
|---|---|--|
| Active Payload (4) 1 _____<br>2 _____<br>3 _____<br>4 _____ | Manned Spaceflight (2)<br>STS _____<br>ISS _____<br>Other _____   | Multinational (4)<br>Russia _____<br>China _____<br>Japan _____<br>Brazil _____<br>Other _____ |
| Rocket Bodies (4) 1 _____<br>2 _____<br>3 _____<br>4 _____  | Iridium Flares (4) 1 _____<br>2 _____<br>3 _____<br>4 _____ (one during daylight or civil twilight hours) |  |

Multipass (2) 1 a 22 b \_\_\_\_\_ 2 a \_\_\_\_\_ b \_\_\_\_\_  
 Formation (2) 1 a \_\_\_\_\_ b \_\_\_\_\_ 2 a \_\_\_\_\_ b \_\_\_\_\_  
 Aged Elsets (2) 1 a \_\_\_\_\_ b \_\_\_\_\_ 2 a \_\_\_\_\_ b \_\_\_\_\_

# Astronomical League Earth Orbiting Satellite Observers Club Observation Report Form, Version 1.3

Observers Name Mike Hotler

Date of Observation 6/14/05

Satellite Name and  
Element Set Satellite ID Envisat

Date of Element Set Used 6/11/05

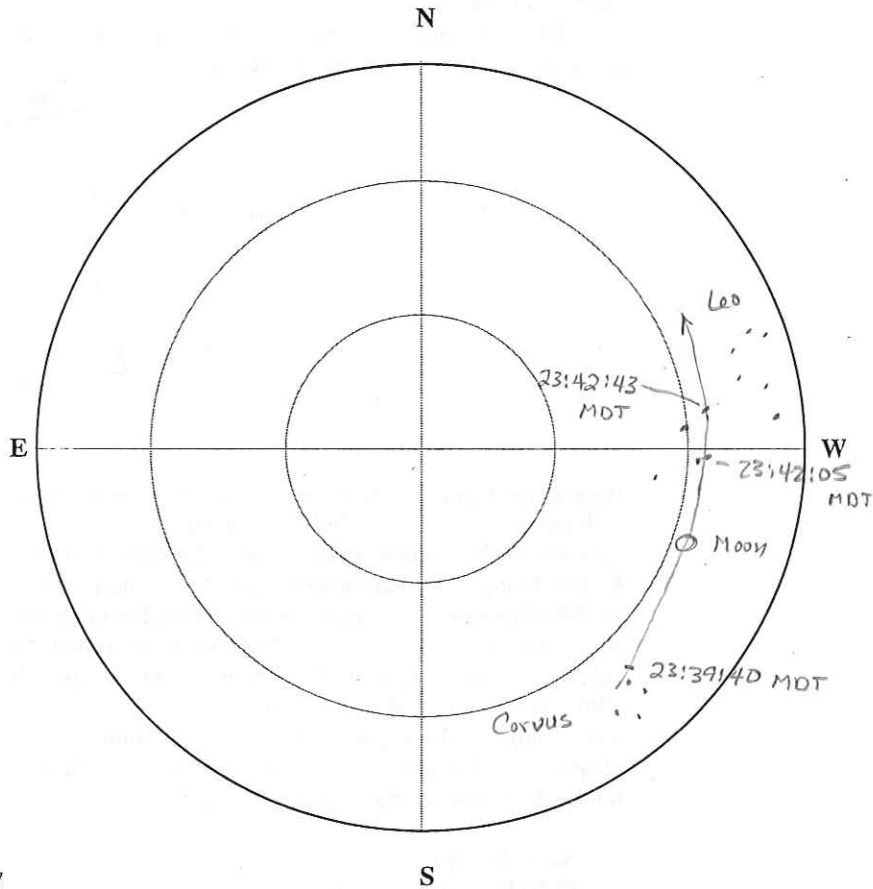
Location of Observer  
Latitude 39.9°N  
(use decimal degrees only)

Longitude 105.1°W  
(use decimal degrees only, east is negative)

Elevation 5000 ft  
(specify feet or meters)

Instrument Used (check one)  
 Unaided Eye  
 Binoculars  
 Telescope - specify aperture \_\_\_\_\_

Comments Very faint. Went behind  
Moon.  
2nd Pass



Draw or sketch the path of the satellite across the sky relative to bright stars. The outer ring represents the horizon.

**IMPORTANT** - Place time "hacks" on at least two locations on the satellite track, including the *timezone* and *daylight/standard time references*, for example 01:20:50 UTC, 19:30:40 EST, 23:10:59 PDT, etc.).

Observation Number (1-28) 23

Observation Objective (subject to change - check only one task per observation)

Active Payload (4)	1 _____	Manned Spaceflight (2)	STS _____	Multinational (4)	Russia _____
	2 _____		ISS _____		China _____
	3 _____		Other _____		Japan _____
	4 _____				Brazil _____
					Other _____
Rocket Bodies (4)	1 _____	Iridium Flares (4)	1 _____		
	2 _____		2 _____		
	3 _____		3 _____		
	4 _____		4 _____ (one during daylight or civil twilight hours)		

Multipass (2)	1 a _____ b <u>23</u>	Formation (2)	1 a _____ b _____	Aged Elsets (2)	1 a _____ b _____
	2 a _____ b _____		2 a _____ b _____		2 a _____ b _____



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Results

## Envisat - Visible Passes

| Home | Info

Search Period Start: 12:00 Sunday, 12 June, 2005  
 Search Period End: 12:00 Wednesday, 22 June, 2005  
 Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
 Local Time: Mountain Daylight Time (GMT - 6:00)  
 Orbit: 783 x 785 km, 98.5° (Epoch 11 Jun)

**NEW!** Click on the date to get a star chart and other pass details.

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
12 Jun	4.4	21:21:33	10	ESE	21:25:29	23	ENE	21:29:26	10	NNE
12 Jun	3.7	23:02:08	27	SSW	23:04:32	44	W	23:09:29	10	NNW
13 Jun	2.9	22:30:30	29	SSE	22:33:21	86	NW	22:38:27	10	NNW
14 Jun	3.4	21:58:52	20	SE	22:02:07	47	ENE	22:07:04	10	N
14 Jun	4.9	23:39:28	15	SW	23:41:42	20	W	23:45:26	10	NW
15 Jun	4.3	21:27:15	11	ESE	21:31:08	25	ENE	21:35:17	10	NNE
15 Jun	3.9	23:07:51	25	SSW	23:10:15	39	W	23:15:06	10	NNW
16 Jun	5.0	20:57:51	10	E	21:00:17	13	ENE	21:02:44	10	NNE
16 Jun	3.0	22:36:13	29	S	22:38:59	78	W	22:44:09	10	NNW
17 Jun	3.2	22:04:36	22	SE	22:07:48	54	ENE	22:12:50	10	N
17 Jun	5.1	23:45:12	14	WSW	23:47:28	17	W	23:50:52	10	NW
18 Jun	4.1	21:32:59	13	ESE	21:36:47	28	ENE	21:41:09	10	N
18 Jun	4.1	23:13:35	23	SW	23:16:00	34	W	23:20:42	10	NNW
19 Jun	4.8	21:03:02	10	E	21:05:55	15	ENE	21:08:48	10	NNE
19 Jun	3.1	22:41:58	28	S	22:44:41	69	WSW	22:49:51	10	NNW
20 Jun	3.1	22:10:22	23	SE	22:13:30	61	ENE	22:18:36	10	N
20 Jun	5.2	23:50:58	12	WSW	23:53:15	15	W	23:56:14	10	NW
21 Jun	4.0	21:38:45	14	SE	21:42:28	31	ENE	21:47:00	10	N
21 Jun	4.3	23:19:21	21	SW	23:21:46	30	W	23:26:18	10	NW

→  
Tue →



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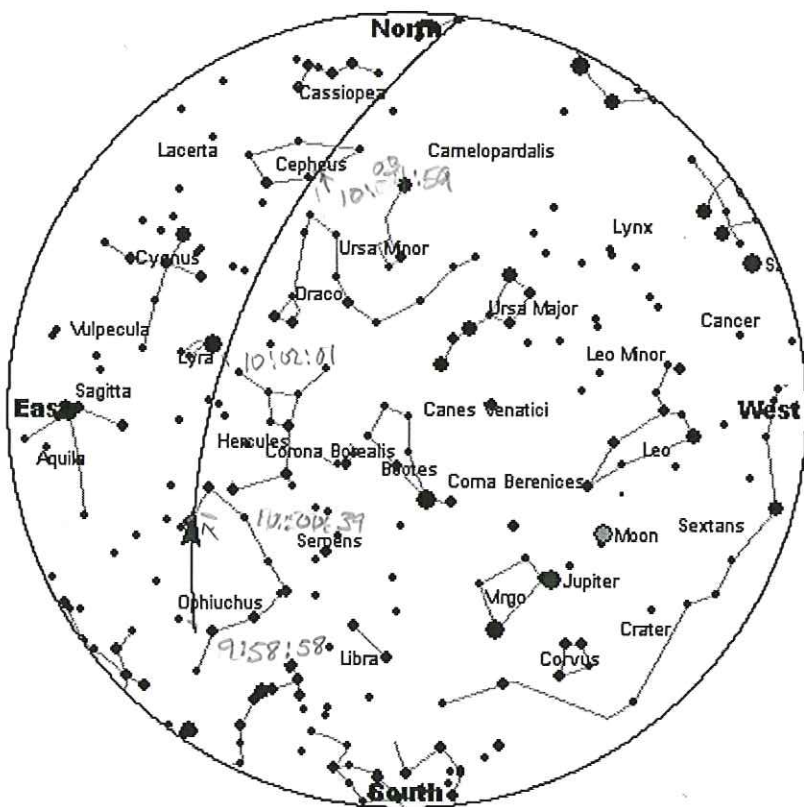
## Visible Pass Details

### Ground Track

**NEW!** Click here for a view of the ground track during the pass, centred on your location.

### Whole Sky Chart

This chart show the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



1st Pass

Mag 3.4

21:58:52  
22:02:07  
22:07:04

20° SE  
47° ENE  
10° N

10:01:39

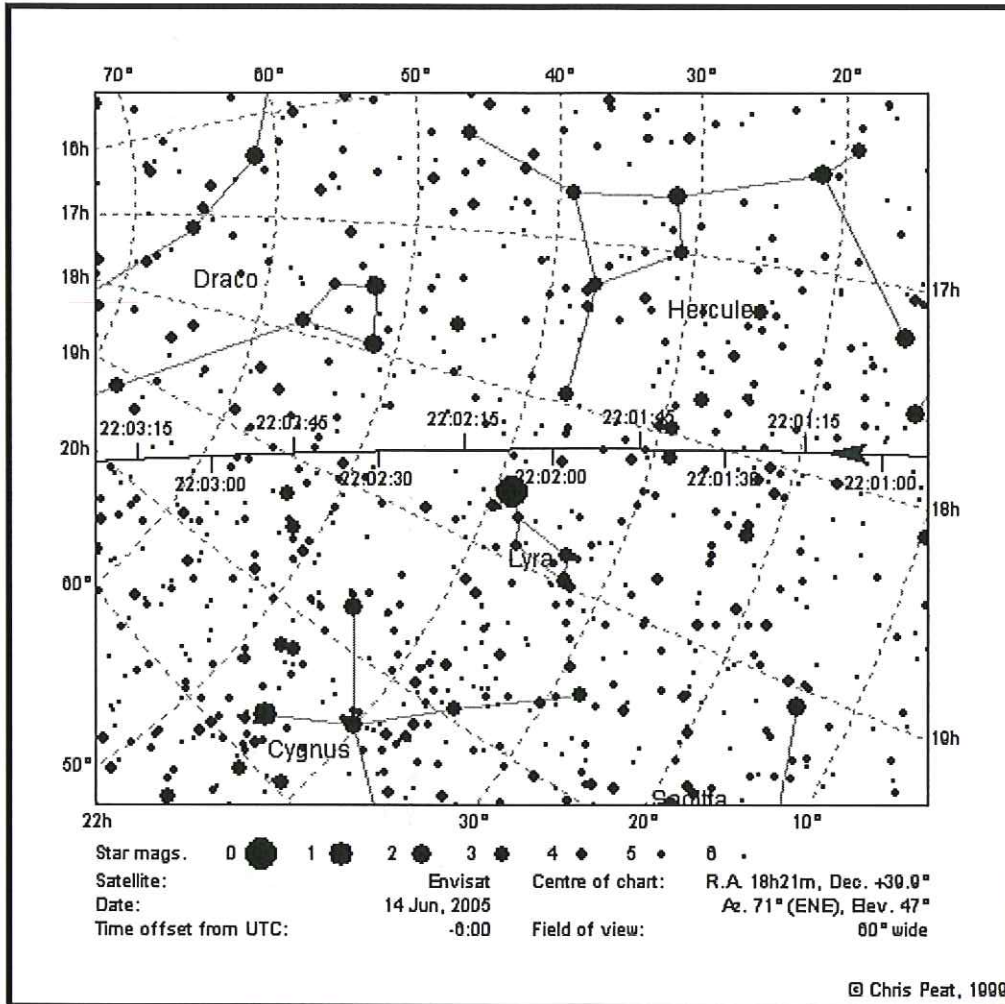
### Pass Details

Date: Tuesday, 14 June, 2005  
Satellite: Envisat  
Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
Local Time: Mountain Daylight Time (GMT - 6:00)  
Orbit: 783 x 785 km, 98.5° (Epoch 11 Jun)  
Sun altitude at time of maximum pass altitude: -14.3°

Event	Time	Altitude	Azimuth	Distance (km)

Leaves shadow	21:58:52	20°	136° (SE)	1,723
Maximum altitude	22:02:07	47°	71° (ENE)	1,026
Drops below 10° altitude	22:07:04	10°	359° (N)	2,351
Sets	22:09:27	0°	353° (N)	3,279

**Detailed Star Chart**



Change chart size  (500 to 1600 pixels)

Click anywhere within the inner chart to zoom in on that region.  
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 The chart is oriented such that the local zenith is towards the top.  
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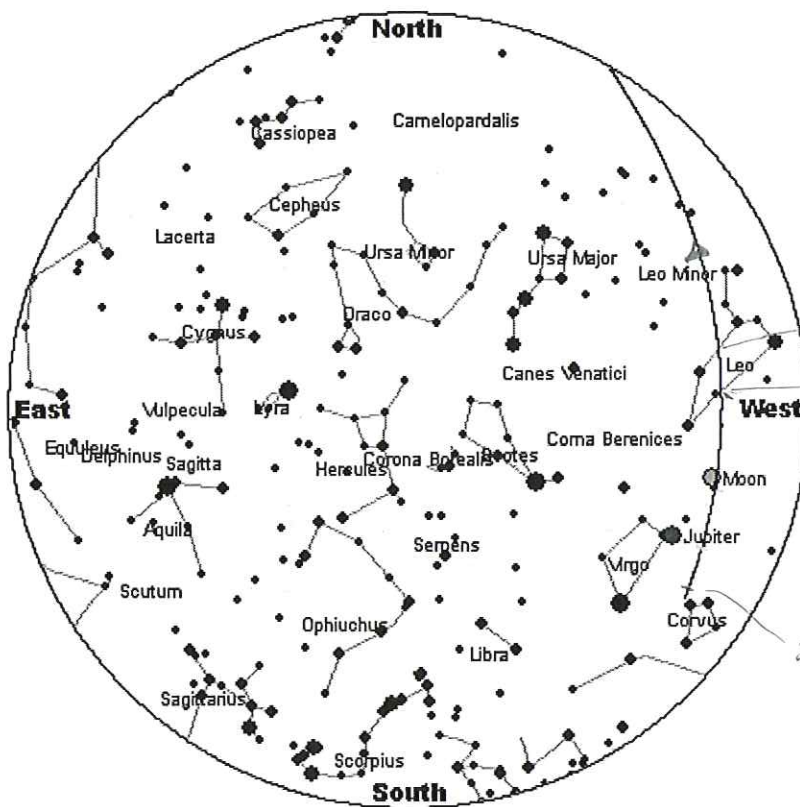
## Visible Pass Details

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### Whole Sky Chart

This chart shows the path of the satellite across the sky. Please note that East and West are **NOT** the "wrong way round" if you hold the chart over your head to correspond to the view of the sky.



*2nd Pass*

*Mag 4.9*

*23:39:28 15° SW  
23:41:42 20° W  
23:45:26 10° NW*

*23:42:43*

*23:42:05*

*23:39:40*

*Very Faint*

*Right near moon*

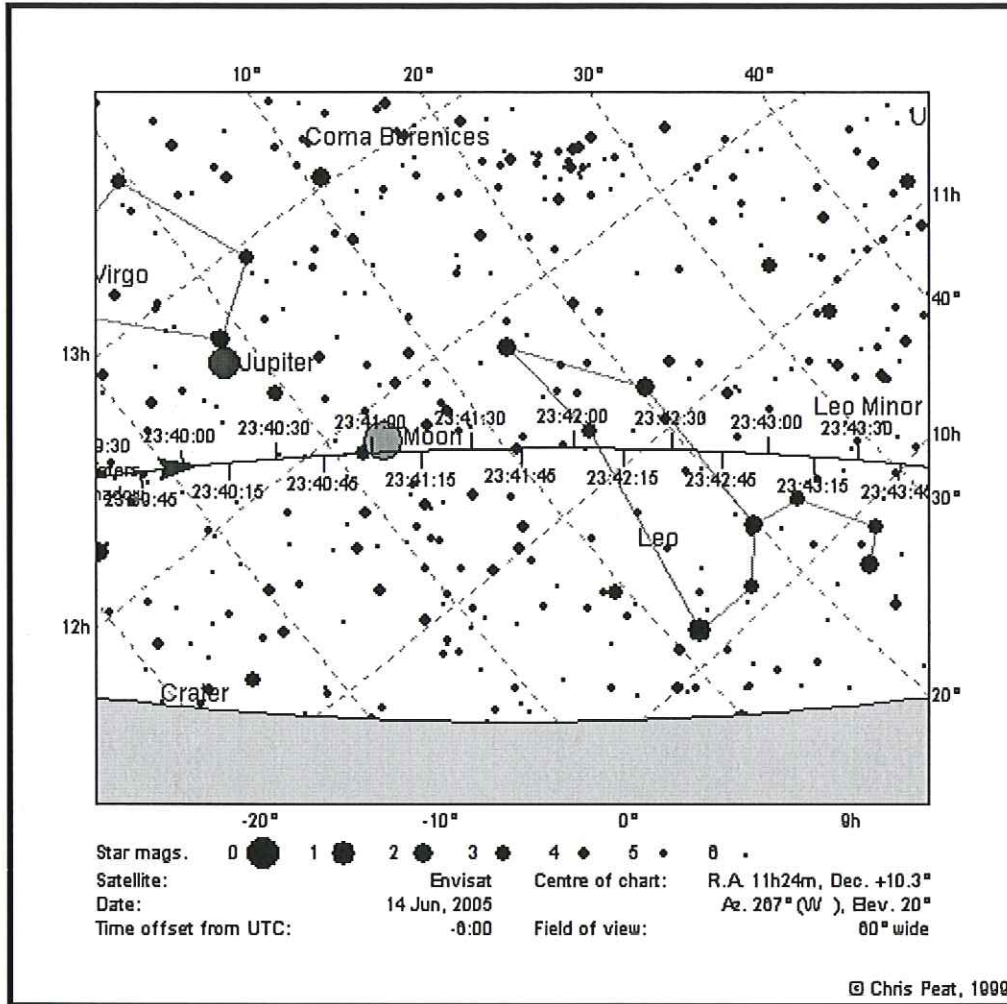
### Pass Details

Date: Tuesday, 14 June, 2005  
Satellite: Envisat  
Observer's Location: Broomfield ( 39.9210°N, 105.0860°W)  
Local Time: Mountain Daylight Time (GMT - 6:00)  
Orbit: 783 x 785 km, 98.5° (Epoch 11 Jun)  
Sun altitude at time of maximum pass altitude: -24.1°

Event	Time	Altitude	Azimuth	Distance (km)

Leaves shadow	23:39:28	15°	235° (SW )	1,986
Maximum altitude	23:41:42	20°	267° (W )	1,758
Drops below 10° altitude	23:45:26	10°	313° (NW )	2,349
Sets	23:48:23	0°	331° (NNW)	3,278

**Detailed Star Chart**



Change chart size  (500 to 1600 pixels)

Click anywhere within the inner chart to zoom in on that region.  
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