La Station spatiale internationale
le 14 mai 2010
9 images de 10 secondes
Canon 300D, 20mm f/4.0

Robert Saint-Jean

Comment observer l'ISS et autres satellites artificiels

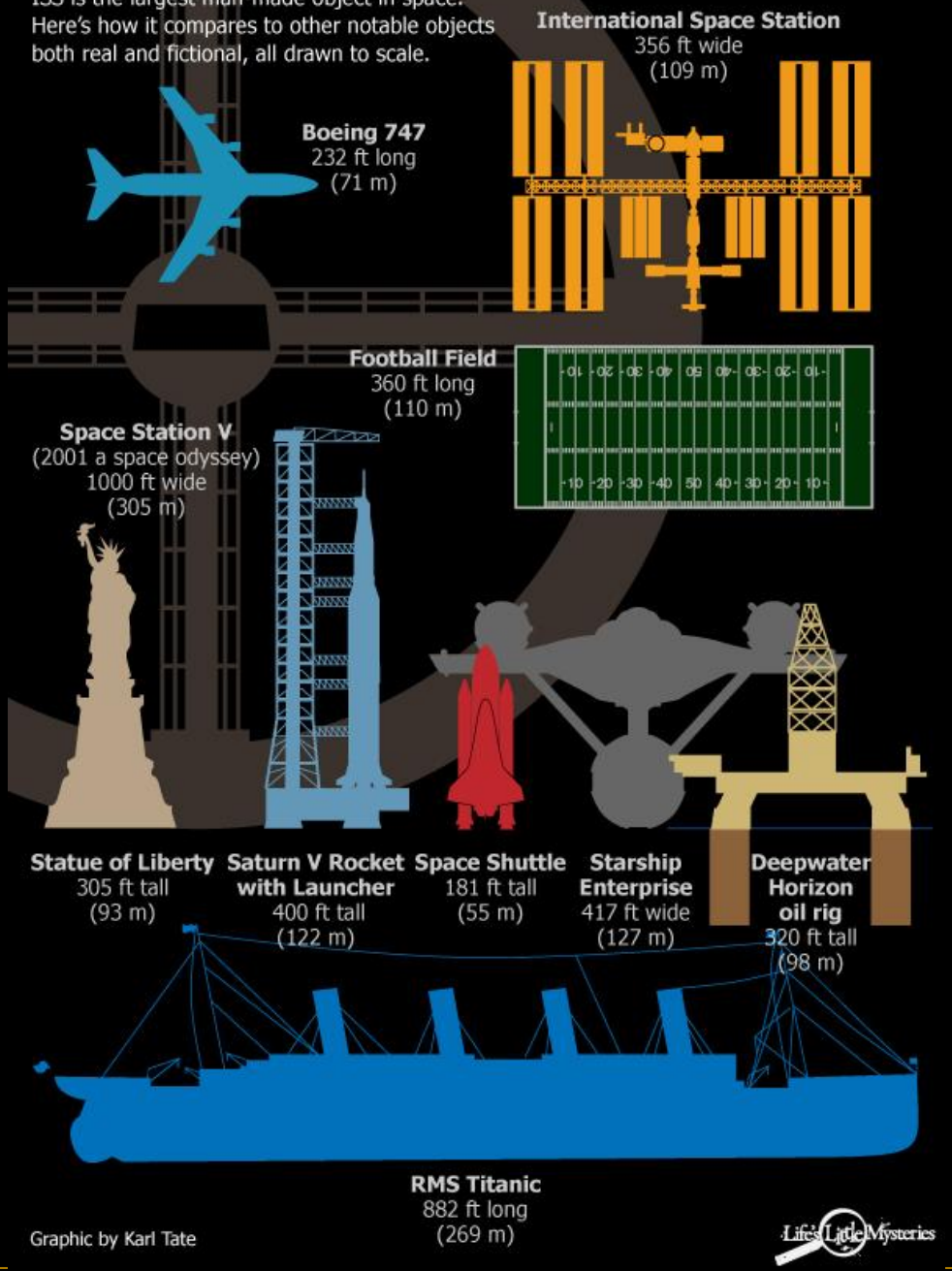
Credit: Mark Humpage

Qu'est-ce que l'ISS?

- L'International Space Station (ISS) et un projet coopératif international en orbite autour de la Terre.
- Il y a 6 astronautes en permanence à bord de l'ISS
- C'est gros, TRÈS GROS.

How Big is the International Space Station?

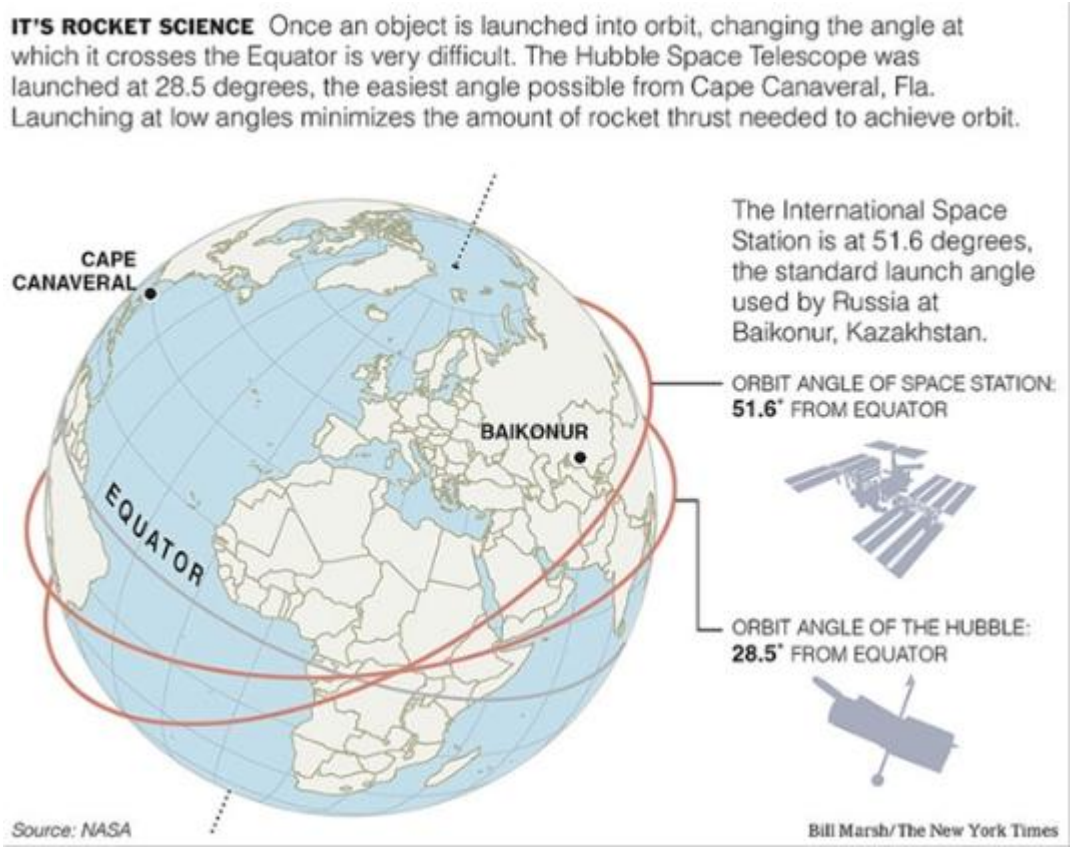
ISS is the largest man-made object in space. Here's how it compares to other notable objects both real and fictional, all drawn to scale.

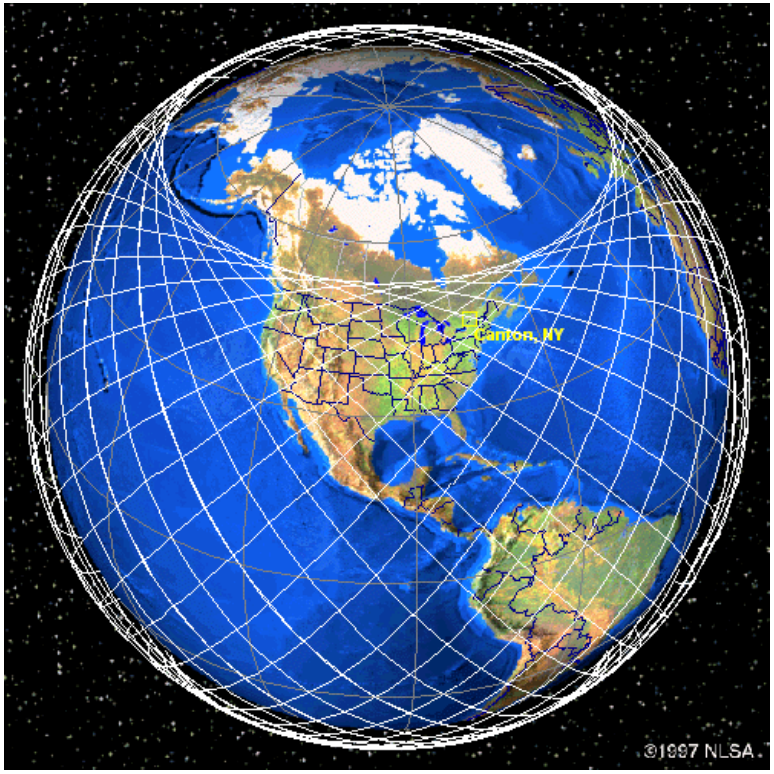


Graphic by Karl Tate

Life's Little Mysteries

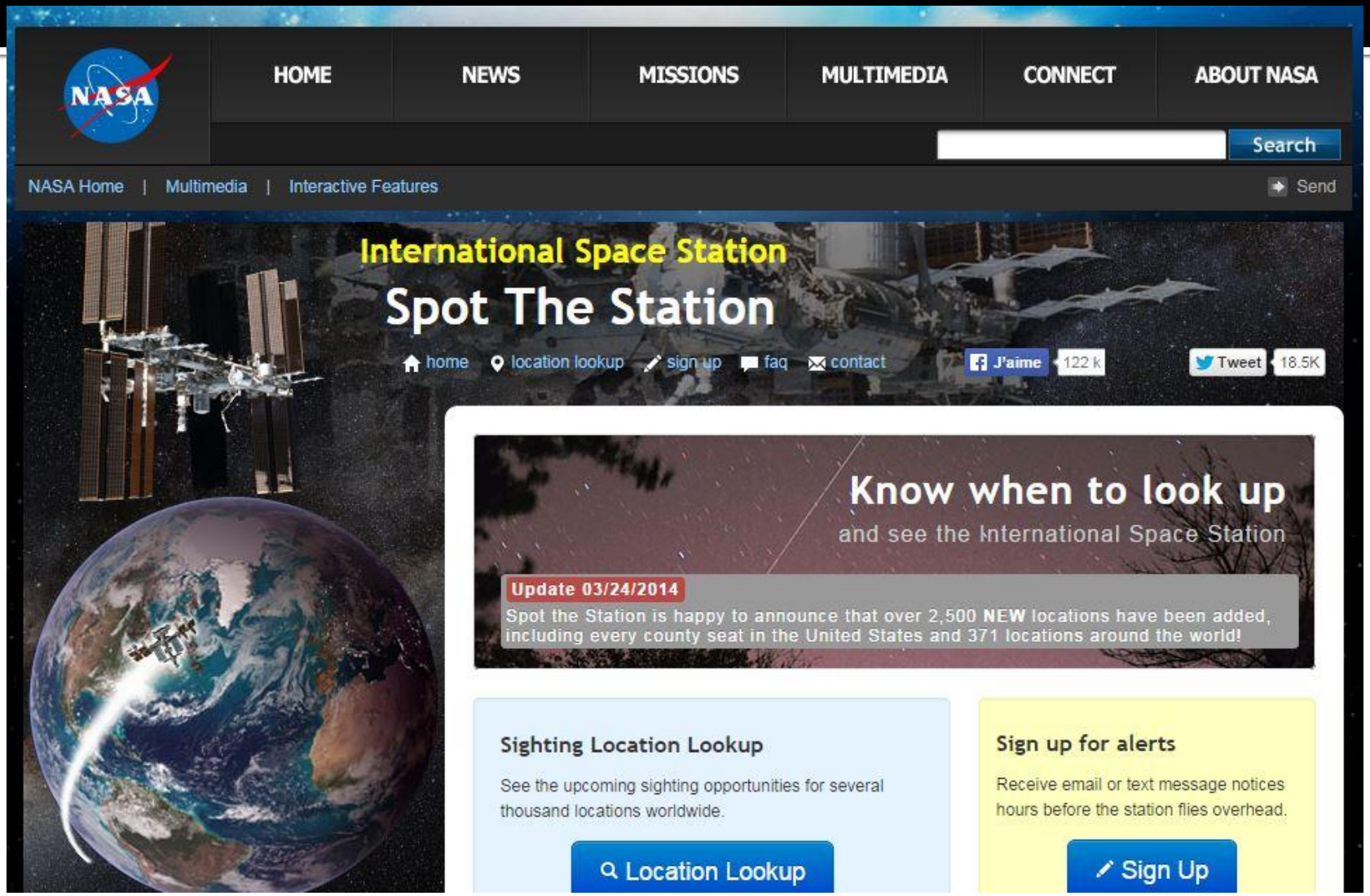
L'orbite de l'ISS





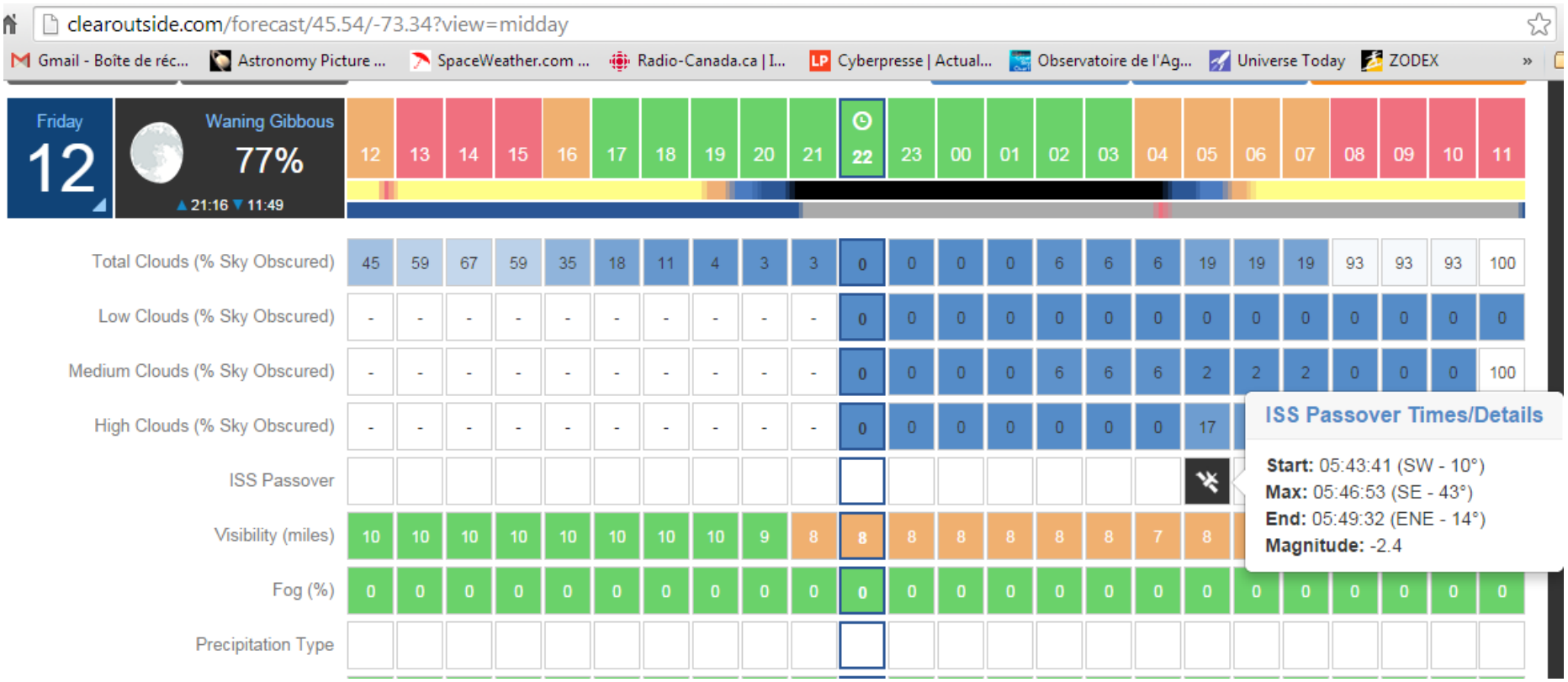
Altitude entre 330 et 435 km
Répétition de l'orbite: 3 jours
Durée de l'orbite: 91-93 minutes

Comment localiser l'ISS



http://spotthestation.nasa.gov/

Comment localiser l'ISS (1)



http://clearoutside.com/forecast

Comment localiser l'ISS (2)

ISS - Visible Passes

http://www.heavens-above.com/

Search period start: 12 September 2014 00:00
Search period end: 22 September 2014 00:00
Orbit: 413 x 418 km, 51.6° (Epoch: 12 September)

Passes to include: visible only all

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

Date	Brightness (mag)	Start			Highest point			End			Pass type
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.	
12 Sep	-0.4	04:58:30	10°	SSE	04:59:28	11°	SE	05:00:25	10°	ESE	visible
13 Sep	-2.3	05:43:41	10°	SW	05:46:51	43°	SE	05:50:02	10°	ENE	visible
14 Sep	-1.6	04:56:35	19°	S	04:58:05	27°	SE	05:00:56	10°	E	visible
15 Sep	-0.8	04:09:52	16°	ESE	04:09:52	16°	ESE	04:11:31	10°	E	visible
15 Sep	-3.3	05:42:45	13°	WSW	05:45:40	81°	NNW	05:49:00	10°	ENE	visible
16 Sep	-3.1	04:55:55	45°	SSW	04:56:43	64°	SSE	05:00:02	10°	ENE	visible
17 Sep	-1.3	04:09:01	27°	E	04:09:01	27°	E	04:10:56	10°	ENE	visible
17 Sep	-2.6	05:41:53	14°	W	05:44:30	43°	NNW	05:47:42	10°	NE	visible
18 Sep	-3.1	04:54:53	51°	WNW	04:55:23	60°	NNW	04:58:41	10°	ENE	visible
19 Sep	-1.3	04:07:49	30°	ENE	04:07:49	30°	ENE	04:09:38	10°	ENE	visible
19 Sep	-1.9	05:40:40	12°	WNW	05:43:17	30°	N	05:46:18	10°	NE	visible
20 Sep	-2.3	04:53:32	34°	NW	04:54:03	36°	NNW	04:57:10	10°	NE	visible
21 Sep	-1.0	04:06:22	25°	NE	04:06:22	25°	NE	04:08:02	10°	NE	visible
21 Sep	-1.6	05:39:13	11°	WNW	05:42:00	27°	N	05:44:54	10°	ENE	visible

D'un point de vue situé au sol

Comment localiser l'ISS (2)

Click on the chart to zoom in on that part of the sky

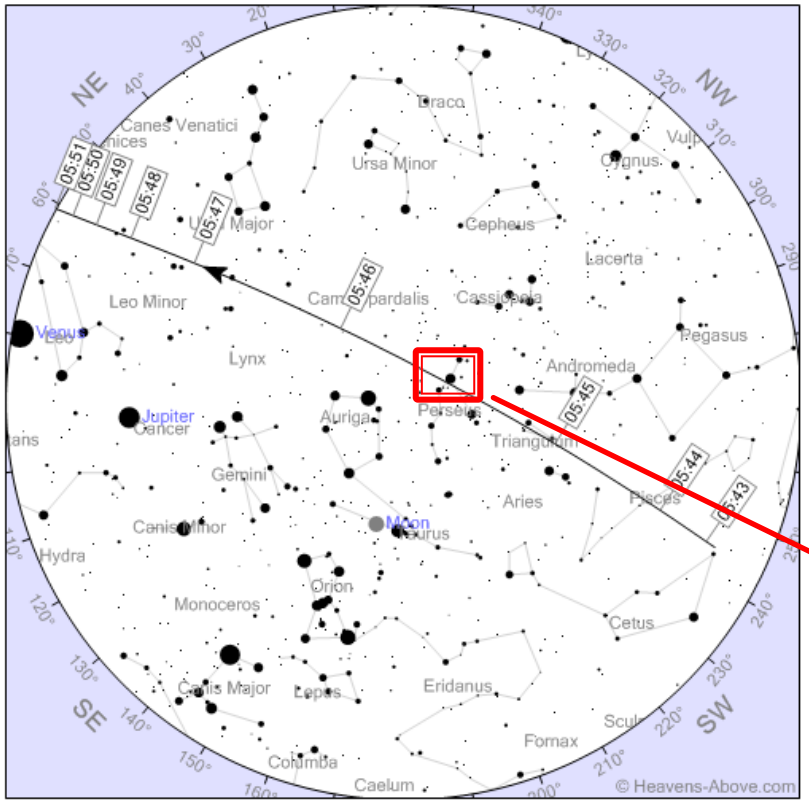
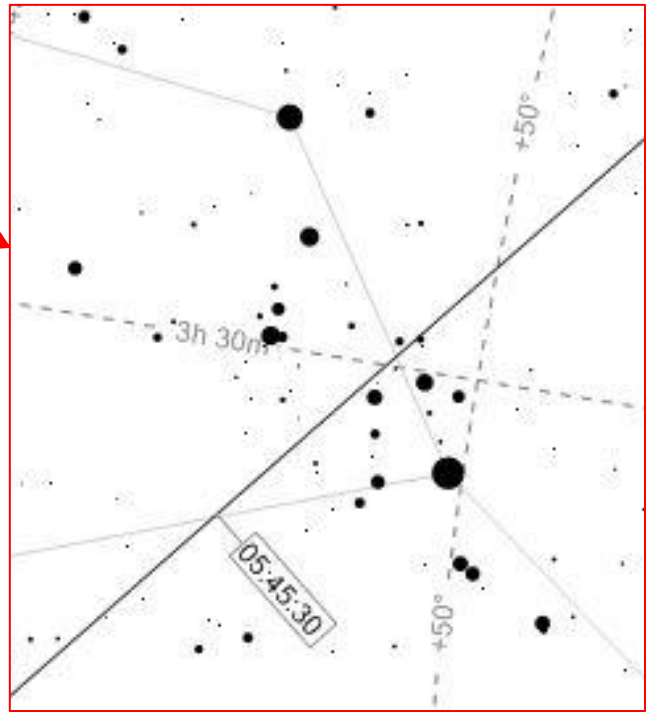


Chart size 500 (500 - 1600)

Date: 15 September 2014
Orbit: 413 x 418 km, 51.6° (Epoch: 12 September)

Event	Time	Altitude	Azimuth	Distance (km)	Brightness	Sun altitude
Exits shadow	05:42:43	13°	244° (WSW)	1,315	-1.4	-9.3°
Maximum altitude	05:45:38	81°	332° (NNW)	422	-3.3	-8.8°
Drops below altitude 10°	05:48:58	10°	60° (ENE)	1,487	1.0	-8.2°
Sets	05:51:04	0°	62° (ENE)	2,351	2.3	-7.9°

User: rstjean
Location: Saint-Bruno-de-Montarville
(45.5397°N, 73.3394°W)
Time: 23:00:43
(UTC-04:00)
Language: English



http://www.heavens-above.com/

Comment localiser l'ISS (3)

Saturday 13 September 2014

Time (24-hour clock)	Object (Link)	Event
5h47m51s	ISS →Ground track →Star chart	Appears 5h43m02s -1.0mag az:224.2° SW h:2.1° at Meridian 5h47m10s -3.1mag az:180.0° S h:35.8° Culmination 5h47m51s -2.8mag az:146.7° SSE h:41.3° distance: 609.1km height above Earth: 417.7km elevation of Sun: -5° Disappears 5h53m10s 3.9mag az: 68.3° ENE horizon
5h49m03.29s	ISS	Close to Jupiter. Separation=1.401° Position Angle=169.7°, Position ar Angular diameter=34.6" size=109.0m x 73.0m x 27.5m Satellite at Azimuth= 97.4° E Altitude= 28.5° Distance=799.8 km Ma In a clock-face concept, the satellite will seem to move toward 7:52 Angular Velocity=24.6'/s Centerline, closest point →Map: Longitude= 68°58'28"W Latitude=+47°36 Azimuth=151.3° SSE Path direction= 61.4° ENE ground speed=8.194 km/s Sun elevation=-4° Elongation from Sun=38° Orbit source: NASA predicted orbit
22h09m28s	ISS	Orbit maneuver rocket burn (CalSky takes this burn into account for pass predictions)

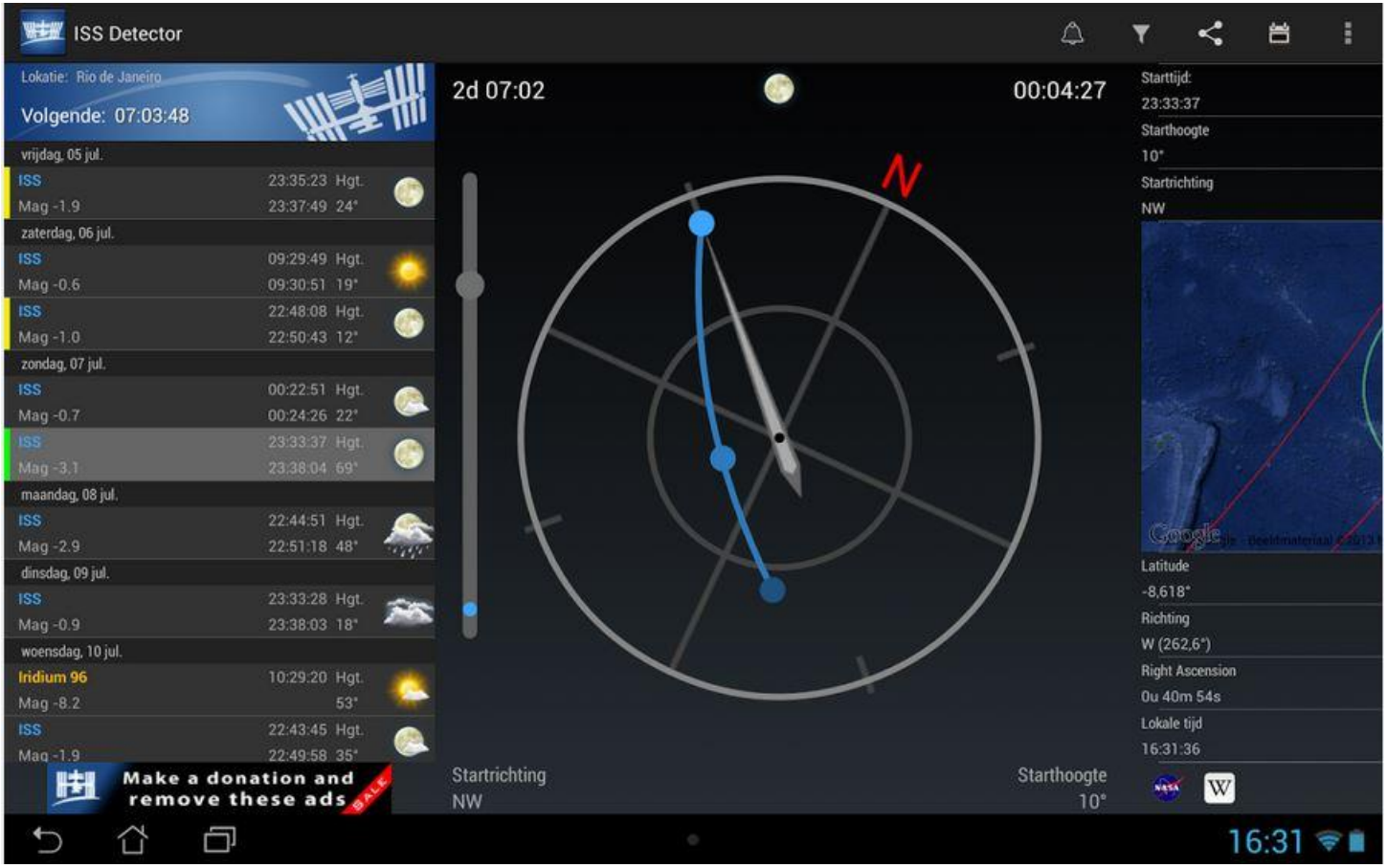
Sunday 14 September 2014

Time (24-hour clock)	Object (Link)	Event
4h59m06s	ISS →Ground track →Star chart	Appears 4h56m27s -1.8mag az:199.5° SSW h:11.4° at Meridian 4h57m47s -2.3mag az:180.0° S h:20.5° Culmination 4h59m06s -2.2mag az:142.0° SE h:26.8° distance: 834.4km height above Earth: 417.4km elevation of Sun: -13° Disappears 5h04m14s 3.9mag az: 70.5° ENE horizon

http://www.calsky.com/

Comment localiser l'ISS (4)

ISSDetector

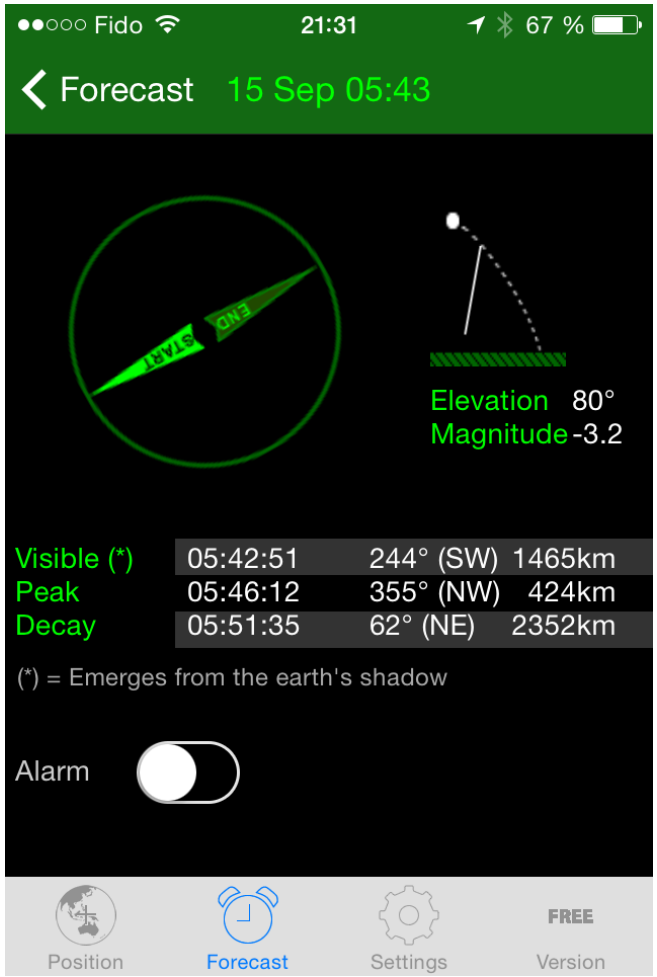


Version gratuite pour **Android**

Version « Pro » $3

https://play.google.com/store/apps/details?id=com.runar.issdetector

Comment localiser l'ISS (5)



ISSSpotter

Pour
i Phone
i Pad

Comment localiser l'ISS (6)

Visible passes

search

You find a list of the next sighting opportunities for your location below. The green bars indicate the brightness of the ISS on its pass.
The list contains *all visible passes of the ISS during the next ten days*. Please select a pass to get more details.

Sun, Sept. 14, 2014

Begin	Dur.
4:56:37 AM EDT	4:16

Mon, Sept. 15, 2014

Begin	Dur.
4:10:10 AM EDT	1:33
5:43:04 AM EDT	6:12

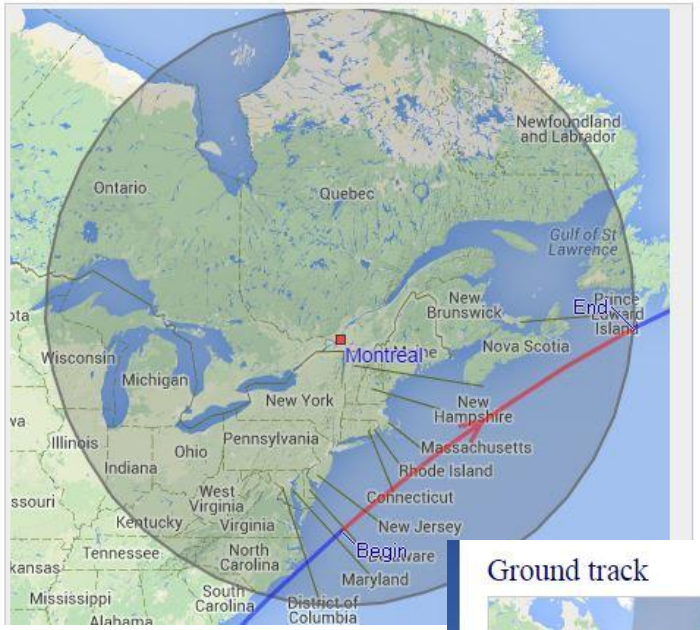
Tue, Sept. 16, 2014

Begin	Dur.
4:56:28 AM EDT	4:04

Wed, Sept. 17, 2014

Begin	Dur.
4:09:45 AM EDT	1:52
5:42:37 AM EDT	5:47

Thu, Sept. 18, 2014



D'un point de vue situé dans l'espace

http://iss.astroviewer.net/index.php

Ground track

Ground point
0.43° North
64.99° East

Time
21:06:31 UTC

Orbital speed
7663 m/s
27585 km/h

Altitude
416 km

miles km

This map shows the ground track of the International Space Station's next orbit. The crosshair marks its current position.

Comment localiser l'ISS (7)

http://spaceweather.com/flybys/

Le maître des maîtres…

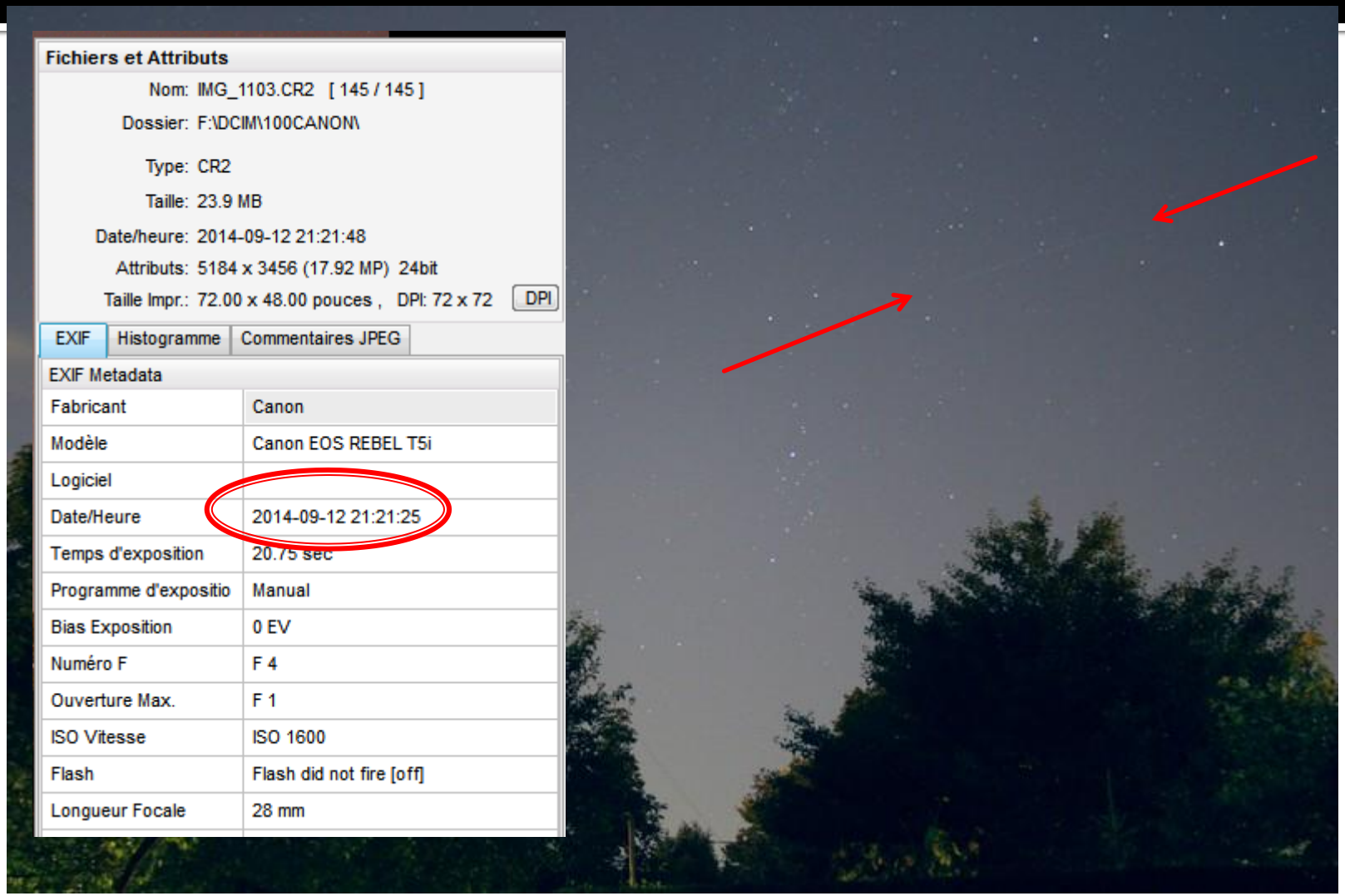
Thierry Legault

Atelier au NEAF 2011

- La référence en matière de photographie de satellite de toutes sortes.

http://legault.perso.sfr.fr/satellites_fr.html

Vous avez vu un satellite?



Vous avez vu un satellite?

http://www.heavens-above.com/

CZ-4 R/B	3.7	20:17:44	10°	NNE	20:22:26	73°	ESE	20:27:12	10°	S
Meteor 2-8 Rocket	4.5	20:18:19	10°	SSE	20:24:10	52°	E	20:30:01	10°	NNE
Cosmos 1500 Rocket	4.4	20:18:35	10°	NNW	20:22:58	53°	W	20:27:18	10°	S
FengYun 1-2 T	4.6	20:18:37	10°	S	20:24:02	65°	WSW	20:29:32	10°	NNW
Cosmos 1741 Rocket	4.3	20:19:13	10°	S	20:24:11	44°	ESE	20:29:09	10°	NNE
Cosmos 1023 Rocket	5.0	20:19:28	10°	SSE	20:24:04	35°	ESE	20:28:39	10°	NE
Cosmos 2221	3.6	20:21:53	20°	ESE	20:23:17	24°	E	20:26:43	10°	NE
Cosmos 1953	3.4	20:23:22	21°	ESE	20:24:40	25°	E	20:28:00	10°	NNE
Cosmos 2278 Rocket	4.9	20:21:51	10°	W	20:25:45	19°	NW	20:29:39	10°	N
Cosmos 2228 Rocket	4.0	20:24:53	19°	SE	20:26:57	28°	E	20:30:43	10°	NNE
deb Ariane	4.8	20:27:57	24°	E	20:28:51	26°	ENE	20:32:00	10°	N
COSMOS 2441	4.4	20:26:26	10°	SSE	20:31:13	67°	ENE	20:36:05	10°	N
ATLAS 5 CENTAUR R/B	3.9	20:27:18	10°	SSE	20:27:42	12°	SSE	20:27:42	12°	SSE
Cosmos 2084 Rocket	4.4	20:29:32	10°	S	20:32:42	25°	SE	20:32:42	25°	SE
Meteor 1-28 Rocket	4.6	20:30:12	10°	NE	20:32:36	22°	ENE	20:32:36	22°	ENE
Cosmos 1154 Rocket	1.6	20:33:01	10°	SSW	20:35:27	74°	W	20:37:53	10°	N
Meteor 1-22 Rocket	4.1	20:33:21	10°	S	20:38:31	57°	E	20:43:52	10°	NNE
Cosmos 1939 Rocket	4.1	20:37:27	24°	E	20:38:04	25°	ENE	20:41:26	10°	NNE
Cosmos 1340 Rocket	4.2	20:38:59	21°	ENE	20:38:59	21°	ENE	20:41:08	10°	NE
DELTA 2 DEB (DPAF)	4.2	20:35:48	10°	SSE	20:40:20	85°	WSW	20:44:53	10°	NNW

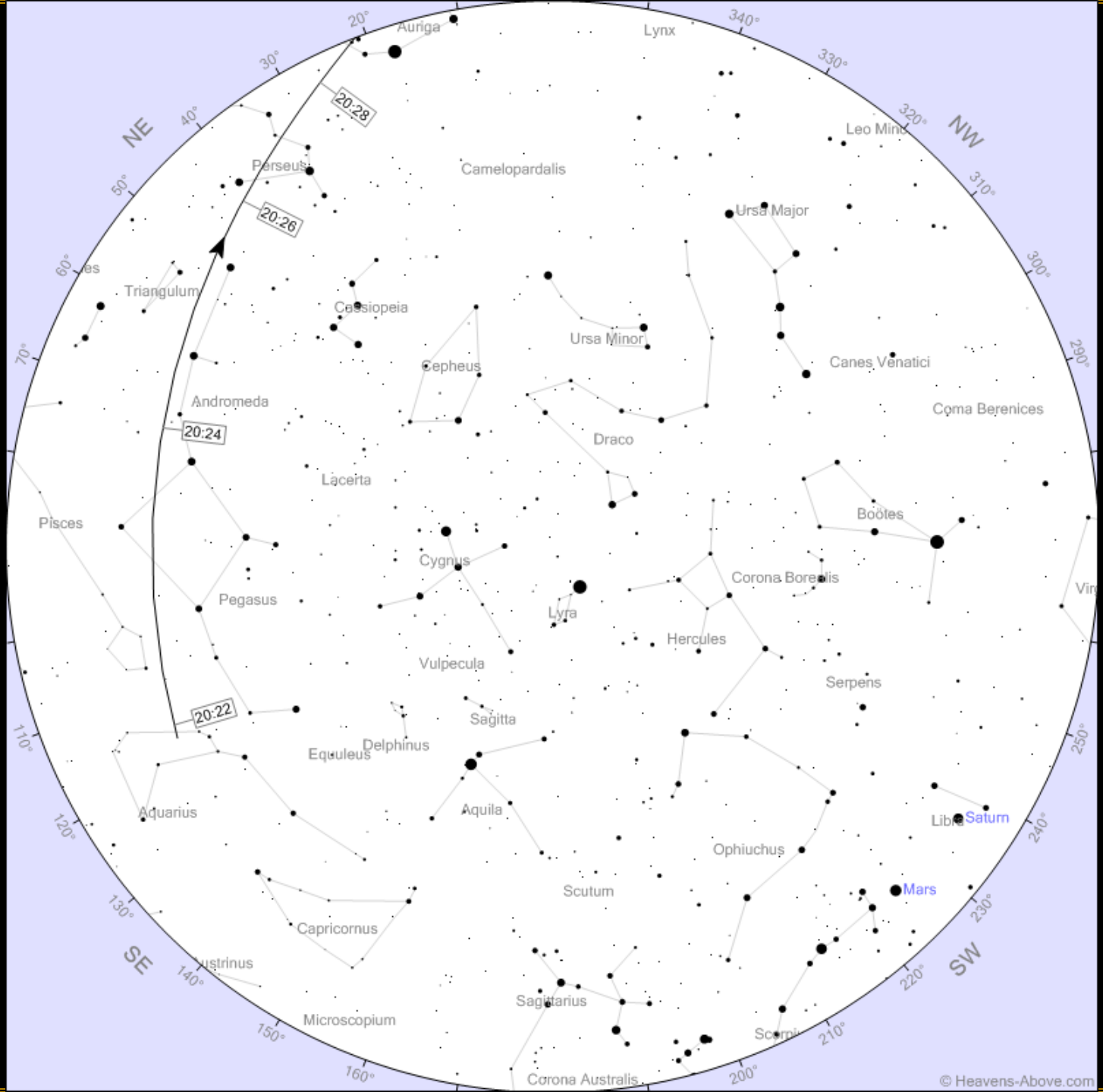
Vous avez vu un satellite?

http://www.heavens-above.com/

Chart size 800 (500 - 1600)

Date: 12 September 2014
Orbit: 597 x 624 km, 82.5° (Epoch: 11 September)

Event	Time	Altitude	Azimuth	Distance (km)	Brightness	Sun altitude
Exits shadow	20:21:53	20°	116° (ESE)	1,409	3.8	-13.0°
Maximum altitude	20:23:17	24°	88° (E)	1,277	3.6	-13.3°
Drops below altitude 10°	20:26:43	10°	35° (NE)	1,953	5.0	-13.8°
Sets	20:29:15	0°	22° (NNE)	2,858	6.0	-14.3°



http://www.heavens-above.com/