Jet Propulsion Laboratory
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May 30, 2007
9110-07-17 DG: DM

TO: Distribution

FROM: David Morris

SUBJECT: Minutes for the Joint Users Resource Allocation Planning Committee Meeting held May 17, 2007.

NEXT JURAP MEETING:
Thursday, June 21, 2007
JPL Bldg. 126, Room 200 1:00 p.m.

Attendees:

A. Andujo	K. Fujii	R. Lopes	C. Scott	K. Zamora
N. Angold	J. Frautnick	D. Morris	P. Tay	
K. Baines	D. Garibek	C. Page	S. Waldherr	
R. Benson	J. Guinn	D. Presti	B. Williams	
R. Best	J. Hall	N. Sartwell	B. Yetter	

The Joint Users Resource Allocation Planning Committee meets monthly to review the status of Flight Projects, the requirements of other resource users, and to identify future requirements and outstanding conflicts. The previous meeting was held on April 19, 2007 at the Jet Propulsion Laboratory.

Introductory Remarks – D. Morris

Welcomed the attendees to the JURAP meeting and announced that this JURAP meeting would include a presentation from B. Yetter on the PHX launch and initial acquisition tracking plan, J. Guinn on PHX cruise and approach DSN tracking plan, R. Lopes and K. Baines on recent NHPC mission accomplishments, and D. Morris on PHX launch congestion and SELENE debrief. Other presentations include D. Garibek on DSN Downtime and RAPS Status.

SPECIAL PRESENTATIONS

For complete presentation detail, please refer to link: http://rapweb.jpl.nasa.gov/jurap.html

PHX Launch and Initial Acquisition Tracking Plan – Byron Yetter

- Launch Period
  - Opens August 3, 2007
  - Closes August 24, 2007
- Phoenix has two (1 sec) instantaneous Launch Windows each day during the Launch Period, the Launch Windows are roughly 40 minutes apart

PHX cruise DSN tracking plan – J. Guinn

Discussed the need to use 70m subnet for the approach phase of PHX mission which will be in weeks 13 - 22

PHX launch congestion – D. Morris

Phoenix Launch Day Congestion Issues:

- DSN Acquisition Aid Validation at DSS-24:
  - Implement on 34m BWG-1 Antennas: DSS-24, 34, & 54
  - Attempting to Verify and Validate Performance Using Terra.
- Congestion:
  - Phoenix Using DSS-16, 25, and 26 at Goldstone
    - AcqAid Test on DSS-24 is not requested by Phoenix
  - Ulysses needs either DSS-24 or 14
    - Can Ulysses use Kourou?
  - MRO and Odyssey MSPA on DSS-14
  - Dawn, Stereo-A and MEX/M01O want DSS-15

SELENE debrief – D. Morris for S. Waldherr

SELENE was transported to the launch site (Tanegashima, Kagoshima Prefect.) in March 2007

- LAUNCH DATE is 15 August, 2007
- DSN Mission Service Training Activity (MSTA) program is complete
- DSN Operations Readiness Test (ORTs) have started in May
  - JAXA SELENE Operations have been asked to participate
- Upcoming JPL/JAXA tests currently being negotiated
  - NASA Rehearsal
  - Dress Rehearsal
  - Data Flow Check (DFC)

NHPC's Observation of Jovian Volcanism on Io – R. Lopes

Actual presentation material will be part of a future paper. Please reference the following for information regarding the mission's recent accomplishments:
http://www.nasa.gov/mission_pages/newhorizons/news/jupiter_system.html

NHPC's Observation of Jovian Atmosphere – K. Baines

Actual presentation material will be part of a future paper. Please reference the following for information regarding the mission's recent accomplishments:
http://www.nasa.gov/mission_pages/newhorizons/news/jupiter_system.html

Resource Analysis Team

Downtime Status – D. Garibek

Changes to 2008 Downtime Schedule

- Two hour complex-wide downtime per complex every six months (day shift) for Network Infrastructure, this will be used to scan complex servers for vulnerabilities. The following have been proposed:
  - SPC 1011/12/2007 00:00 –11/12/2007 02:00
  - SPC 4011/12/2007 11:00 –11/12/2007 13:00
  - SPC 6011/12/2007 06:00 –11/12/2007 08:00
- One 8-hour complex-wide downtime at MDSCC has been secured for DOY 143 from 0605 –1405 and is to prepare complex for commercial power installation. An additional 10 hour complex-wide downtime is scheduled and being negotiated for DOY 170 from1915 –0515

Changes to 2008 Downtime Schedule

- There are proposed changes to the 2008 Commercial power installation task. Currently the task is proposed to occur in two 12-hour blocks on Monday and Tuesday, March - April 2008. It is being analyzed to occur in one 36-hour block on Saturday and Sunday

All DSN Missions/Users through the INCF/RAR, JURAP or Mid-Range Scheduling Process have agreed to all previous downtime proposals.

For a complete listing of Antenna Downtimes, visit the following link for the RAPSO website:
http://rapweb.jpl.nasa.gov/planning.htm

RAPS & Mid-Range Status – D. Garibek

RESOURCE NEGOTIATION STATUS

- 2007 WEEKS 23 -28 (THRU 07/15/2007) WERE RELEASED TO DSN SCHEDULING ON 05/17/2007.
- 2007 WEEKS 37 -38 (THRU 09/23/2007) ARE DUE TO BE RELEASED TO THE REMOTE USERS ON 05/21/2007.
- 2007 WEEKS 29 -36 (THRU 09/09/2007) HAVE REMAINING FACILITY AND EQUIPMENT CONFLICTS.

The Mid-Range Scheduling process has schedules 16 weeks ahead of real-time. Currently, there are 8 weeks of conflict-free schedules. Conflict Resolution is required for the following eight weeks: 07/16/2007 through 09/09/2007.

Ongoing Special Studies / Activities

- Phoenix additional 34M requirement special study
- DSS-63 2007 Downtime Extension Impact Study
- Downtime Planning -ongoing

Phoenix Mission Launch Details

Byron Yetter
Phoenix TMS Manager

17 May, 2007

JPL

Phoenix Launch Period and Window

- Launch Period
  - Opens August 3, 2007
  - Closes August 24, 2007

- Phoenix has two (1 sec) instantaneous Launch Windows each day during the Launch Period

- The Launch Windows are roughly 40 minutes apart

Phoenix Key Mission Events

Table 1 Key PHX Events and Milestones

Mission	Event	Date Start / Date End	
PHX	Launch	3 Aug 2007	24 Aug 2007
PHX	TCM 1	Launch+ 6 Days	August 2007
	TCM 2	Launch + 60 Days	Oct 2007 / Nov 2007
	TCM 3	Entry - 45 Days	April 2008
	TCM 4	Entry – 15 Days	May 2008
	TCM 5	Entry – 8 Days	May 2008
	TCM 6	Entry – 22 Days	May 2008 / June 2008
PHX	Cruise Phase	August 2007	April 2008
PHX	Approach Phase	March 2008	June 2008
PHX	Entry Descent Landing	25 May 2008	June 2008
PHX	Surface Operations Phase	May 2008	September 2008
PHX	Extended Mission Phase	Aug 2008	Nov 2008

Phoenix Launch Site and Launch Vehicle

- Cape Canaveral Air Force Station (CCAFS)
  - Space Launch Complex (Pad) 17-A
- Phoenix will be launched using a Delta II 7925 launch vehicle
- Same Launch Vehicle and configuration used to launch the MGS, MPF, Mars Odyssey, and MER-A

Phoenix Launch, Sep, & Station Rise Times

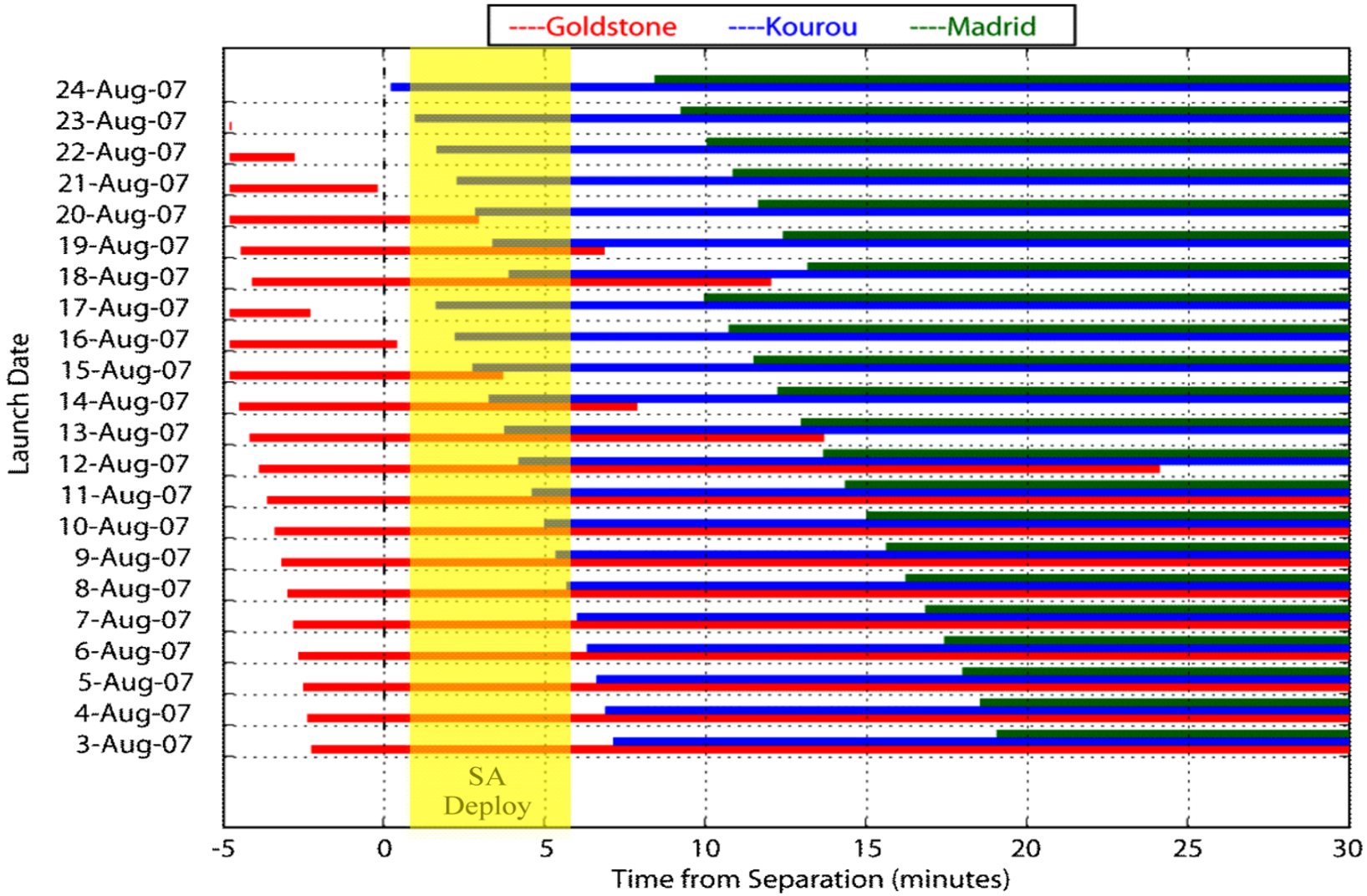
93 Degree Azimuth Opportunity

93az	Launch Time (UTC)	Third Engine CutOff (TECO) Time	S/C Sep Time (UTC)	Nominal S/C TXR On Time (UTC)	Eclipse Exit (UTC)	DSS 15 Rise (UTC)	DSS 15 Set (UTC)	DSS 45 Rise (UTC)	DSS 45 Set (UTC)	DSS 65 Rise (UTC)	DSS 65 Set (UTC)	Kourou Rise (UTC)	Kourou Set (UTC)
3-Aug-07	9:33:19	10:52:46	10:57:34	10:58:09	10:57:18	10:55:18	22:33:04	18:03:42	4:28:37	11:16:36	14:40:48	11:04:41	18:02:52
17-Aug-07	6:36:18	8:04:13	8:09:01	8:09:35	8:09:56	8:04:13	8:06:43	16:25:00	4:27:08	8:18:57	12:56:31	8:10:37	17:09:56
24-Aug-07	5:17:05	6:47:53	6:52:41	6:53:16	6:55:17	10:50:53	20:03:48	15:37:26	4:10:17	7:01:05	12:02:49	6:52:54	16:35:44
** 6 deg elevation mask for station rise/sets*													

99 Degree Azimuth Opportunity

99az	Launch Time (UTC)	Third Engine CutOff (TECO) Time	S/C Sep Time (UTC)	Nominal S/C TXR On Time (UTC)	Eclipse Exit (UTC)	DSS 15 Rise (UTC)	DSS 15 Set (UTC)	DSS 45 Rise (UTC)	DSS 45 Set (UTC)	DSS 65 Rise (UTC)	DSS 65 Set (UTC)	Kourou Rise (UTC)	Kourou Set (UTC)
3-Aug-07	10:10:14	11:27:42	11:32:30	11:33:05	11:32:10	11:30:58	22:32:34	18:04:04	4:28:10	11:57:19	14:34:36	11:41:24	18:00:57
17-Aug-07	7:17:10	8:42:54	8:47:42	8:48:17	8:48:31	8:42:54	8:51:52	16:25:07	4:26:49	9:00:54	12:52:32	8:50:26	17:08:33
24-Aug-07	5:59:50	7:28:21	7:33:09	7:33:44	7:35:36	7:28:21	7:29:39	15:37:27	4:09:59	7:44:33	11:58:57	7:34:24	16:34:24
** 6 deg elevation mask for station rise/sets*													

Launch Date vs. Post-Separation Ground Station Visibility, 93° Azimuth



DSN Station Support Request for Initial Acq by Launch Date

Launch Date	DSS-16 Acq Aid	DSS-24	DSS-15	DSS-66 26M	DSS-65	DSS-54	DSS-55
3-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
4-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
5-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
6-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
7-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
8-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
9-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
10-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
11-Aug-07	Acq Aid	Prime	Backup	Contingency	One 34M Backup		
12-Aug-07	Contingency	Backup	--	S-band	Prime	One 34M Backup	
13-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
14-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
15-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
16-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
17-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
18-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
19-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
20-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
21-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
22-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
23-Aug-07	--	--	--	S-band	Prime	One 34M Backup	
24-Aug-07	--	--	--	S-band	Prime	One 34M Backup	

DSN Station Support Request for Initial Acq by Launch Date

- 3 August – 12 August 2007 **(Goldstone Init ACQ – Prime)**
- DSS 16 215 0456-2200
  - PHX T/P LAUNCH SUPT 600 1056-2150
    - (X-Band ACQ AID)
- DSS 65 215 0456-2215
  - PHX T/P LAUNCH SUPT 600 1056-2200 (PRIME)
- DSS 26 215 0656-2215
  - PHX T/P LAUNCH SUPT 400 1056-2200 (BACKUP)

- Note: DSS-24 is being configured to support a DSN “ACQ AID” Engineering Demo

DSN Station Support Request for Initial Acq by Launch Date

- 13 August – 24 August 2007 **(Madrid Init ACQ – Prime)**

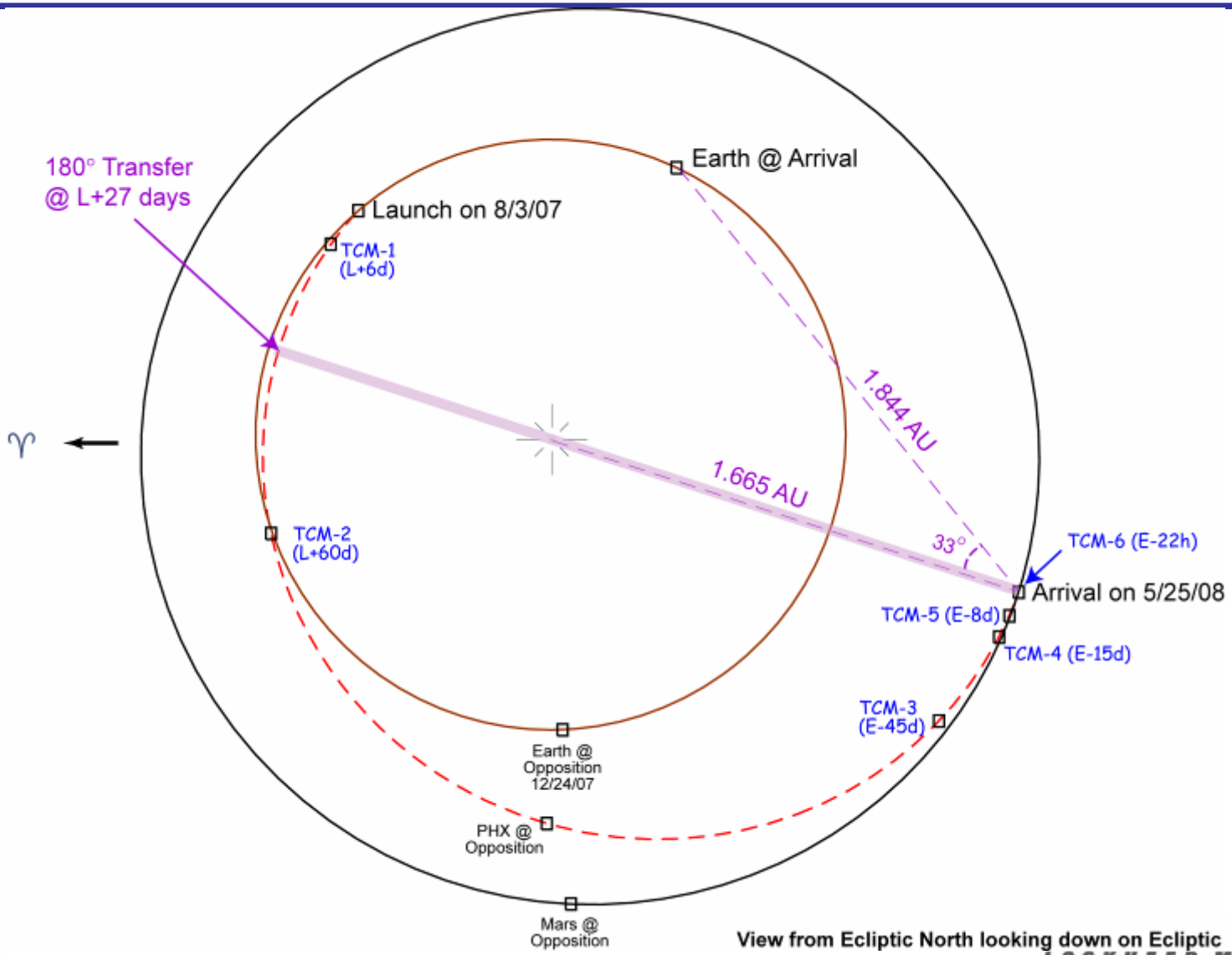
- Kourou (ESA) Initial ACQ Site
- DSS 66 (S-Band 3rd Stage ACQ AID

- DSS 65 215 PHX T/P LAUNCH SUPT (PRIME)
- DSS 55 or DSS 54 PHX T/P LAUNCH SUPT (BACKUP)

PHX Cruise DSN Tracking Plan

17 May, 2007

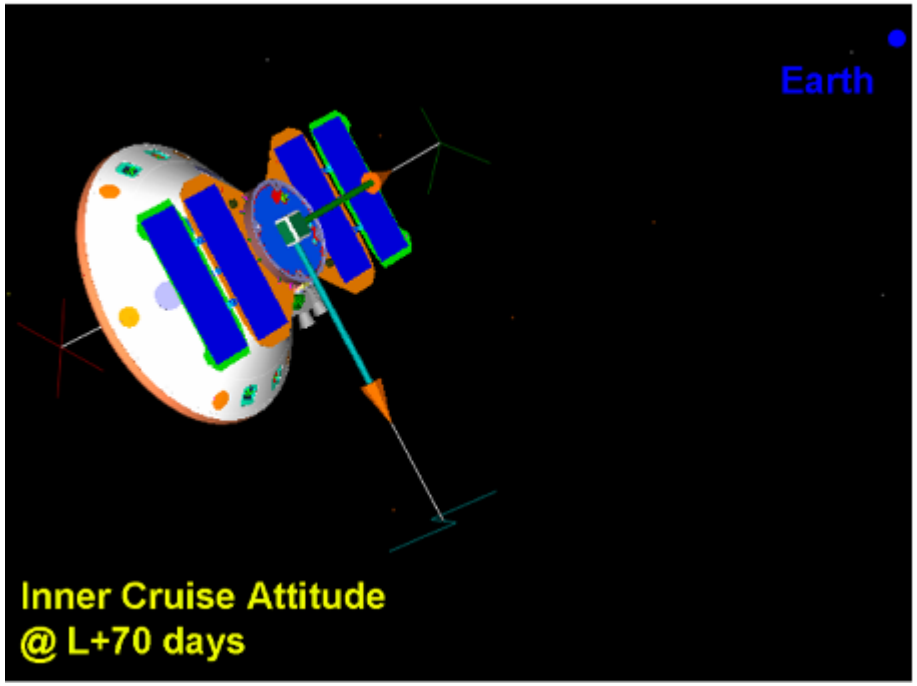
Interplanetary Trajectory (Open Launch)

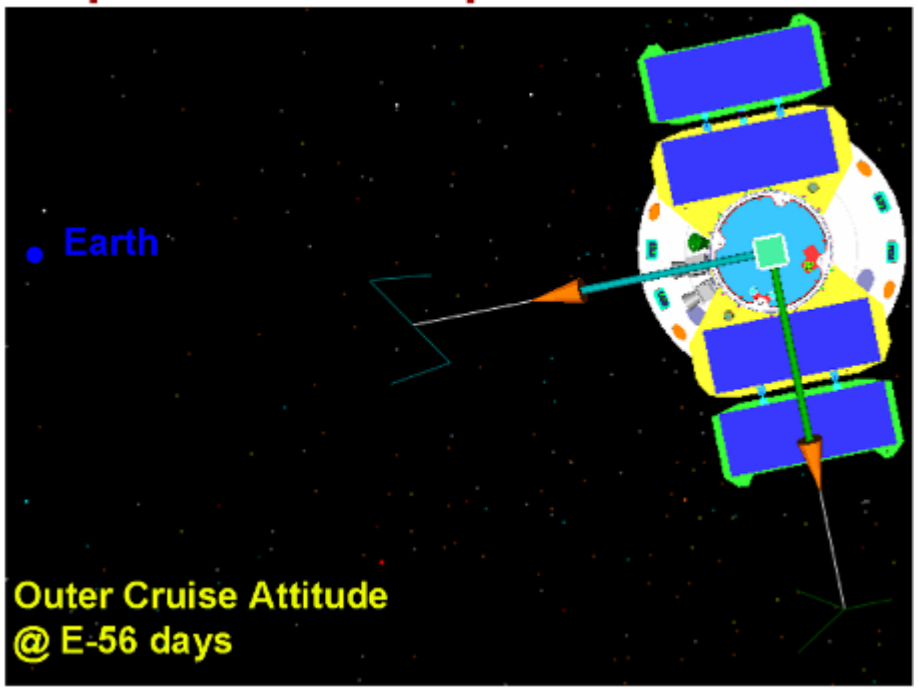


View from Ecliptic North looking down on Ecliptic

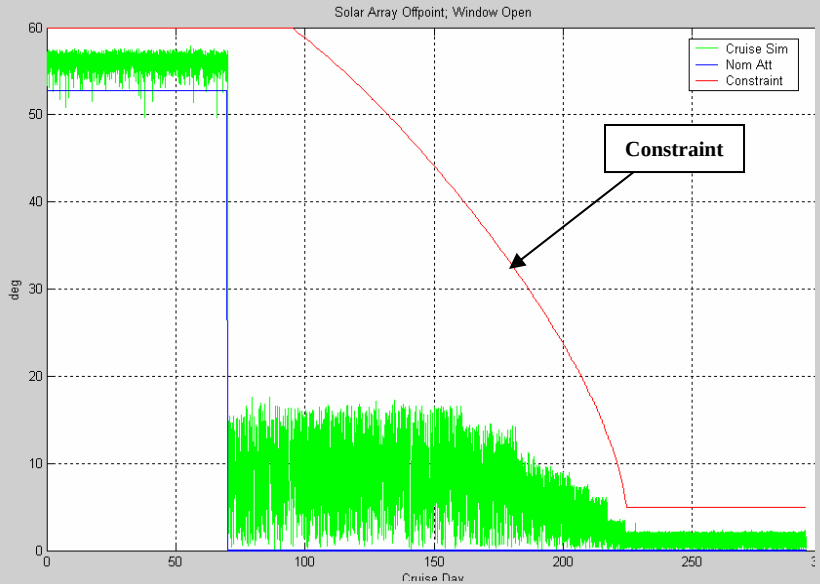
Inner and Outer Cruise Attitude

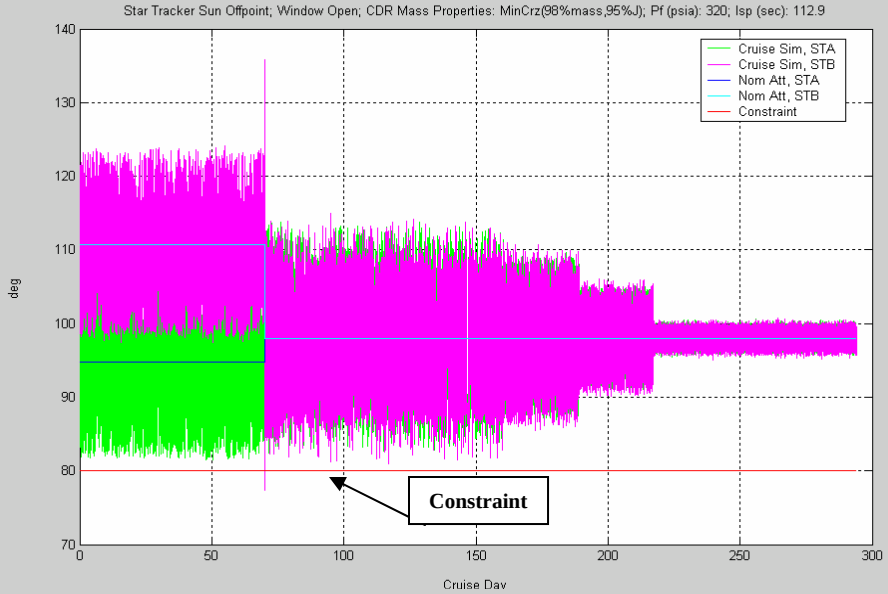
View from Sun, Ecliptic North is Up

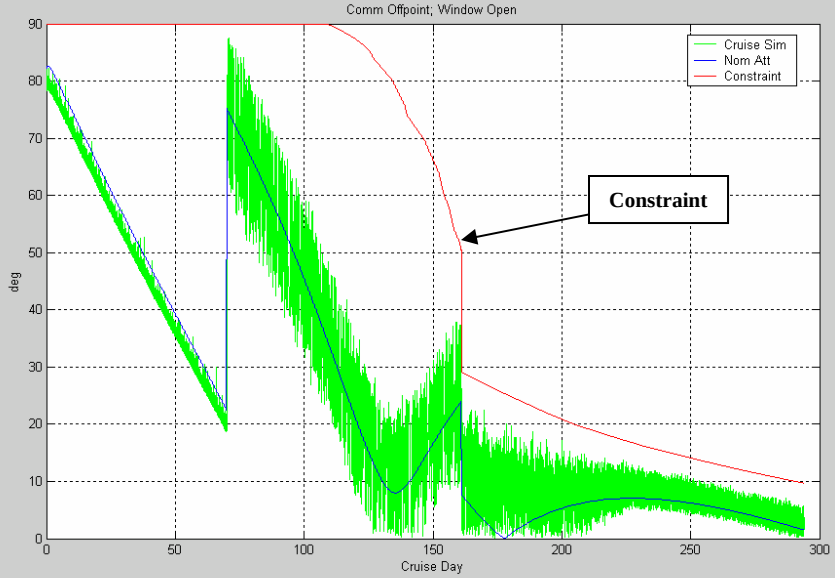


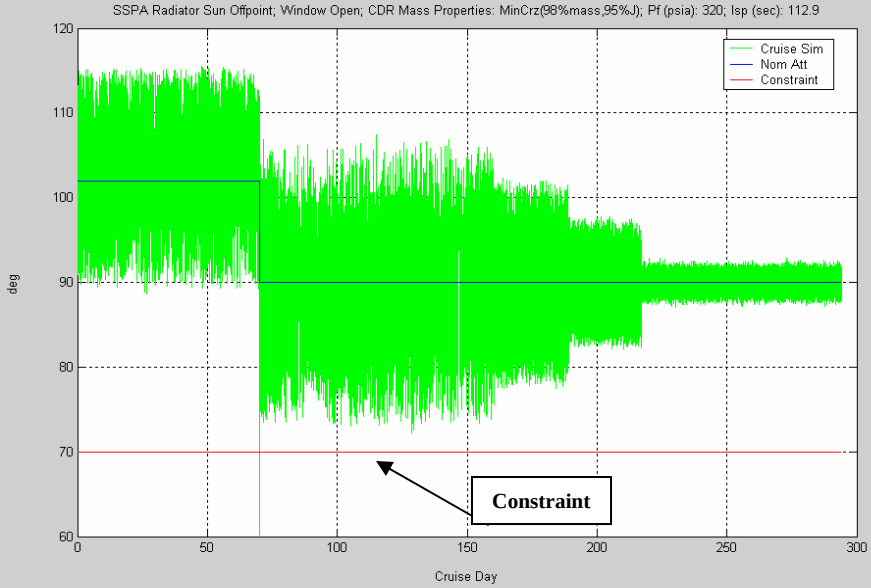


Cruise Pointing/Deadbanding

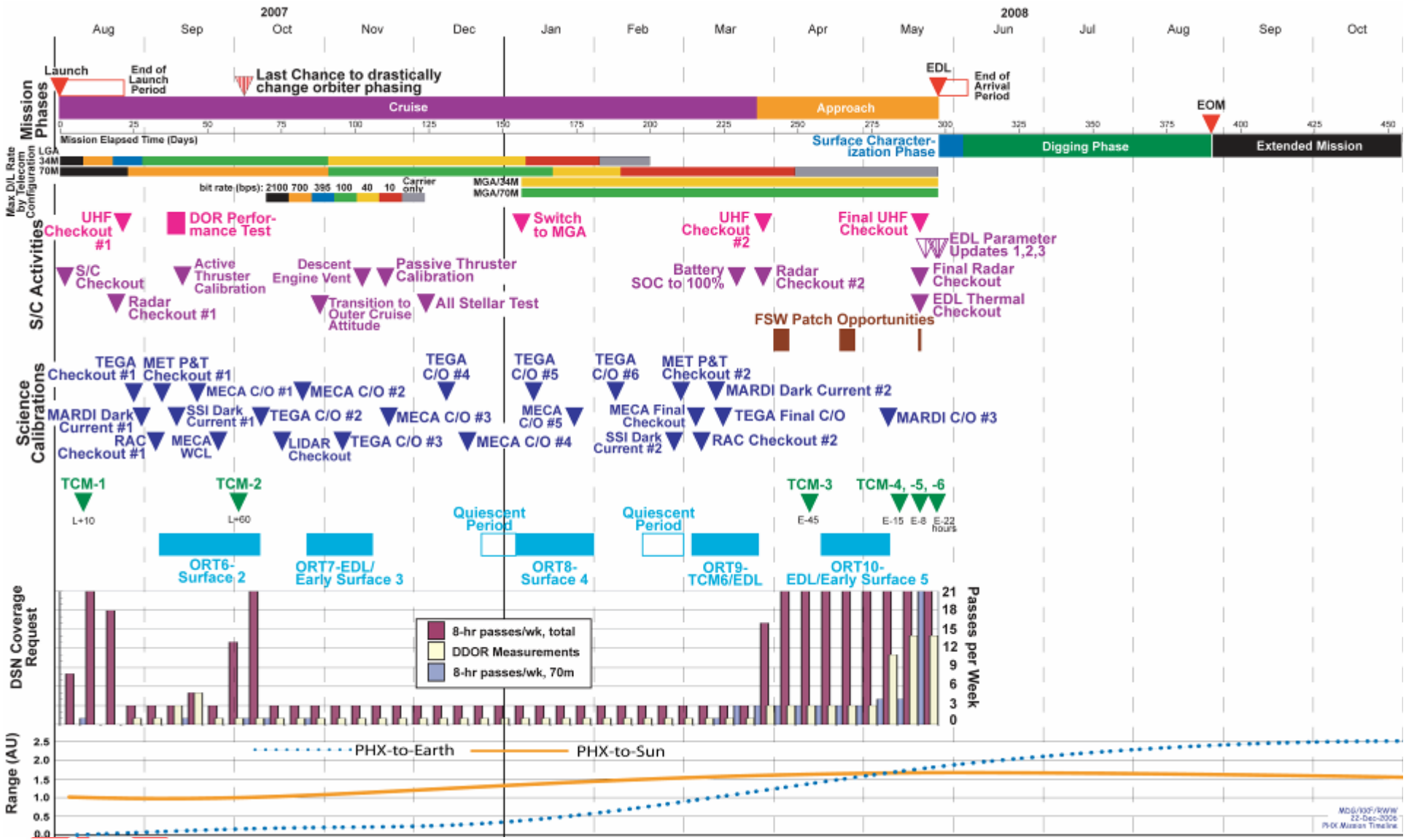


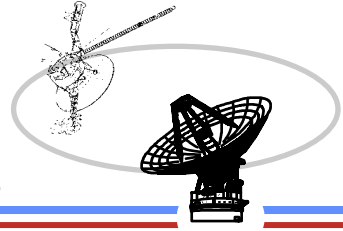






Cruise Timeline





Phoenix Launch Day Congestion in the DSN

David G. Morris

Phoenix Launch Day Congestion Issues:

- **DSN Acquisition Aid Validation at DSS-24:**
  - **Implement on 34m BWG-1 Antennas: DSS-24, 34, & 54**
  - **Attempting to Verify and Validate Performance Using Terra.**
- **Congestion:**
  - **Phoenix Using DSS-16, 25, and 26 at Goldstone**
    - **Acq Aid Test on DSS-24 is not requested by Phoenix**
  - **Ulysses needs either DSS-24 or 14**
    - **Can Ulysses use Kourou?**
  - **MRO and Odyssey MSPA on DSS-14**
  - **Dawn, Stereo-A and MEX/M01O want DSS-15**

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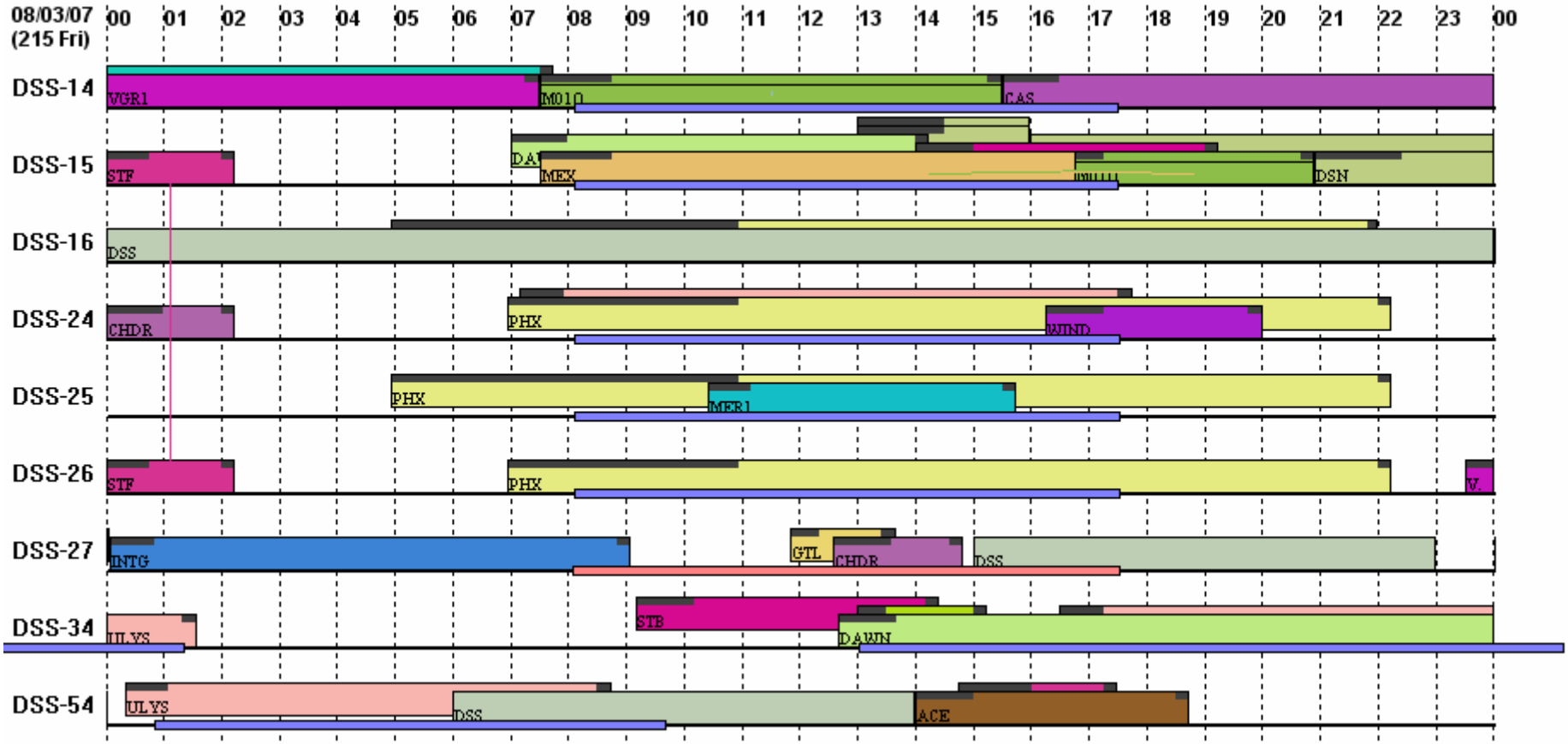
Resource Allocation Planning Service

August 3, 2007 DSN Congestion



Jet Propulsion Laboratory
California Institute of Technology

17 May April

SELENE JURAP Debrief Update

Steve Waldherr

Jet Propulsion Laboratory
California Institute of Technology

SELENE DSN Station Requirement Request (No changes from last JURAP)

- **L-4h to L+8h**
  - **2 Antennas of DSN (Launch Date Dependent)**
    - **MAD, 26m (DSS66) and 34m (DSS54)**
    - **GDS, 26m (DSS27) and 34m (DSS24)**
- **L+ 8h to L + 20 Days/Lunar Orbit Insertion (LOI) requested support**
    - **12 hours per day**
    - **8 hours each for 7 critical events periods during the 20 days**
- **L+20Days/LOI to L+38 Days requested support time**
    - **16 hours per day**
    - **8 hours each for 16 critical events periods during the 18 days**

- **Until the end of mission (L+ 13 Months)**
  - **Spacecraft Emergency Support**
  - **Lunar Eclipse:GDS(DSS24) or MAD(DSS54) depending on launch month**

JAXA Launch Hold Criteria Request

- Four DSN stations Green
  - Madrid
    - » DSS 66 26-meter (IAP station)
    - » DSS 54 34-meter (IAP station)
  - Goldstone
    - » DSS 24 34-meter
    - » DSS 27 34-meter HSB
- NOCC
  - TELEMETRY SLE Server 1
  - TELEMETRY SLE Server 2
- NAV
  - OSCAR or e-mail/FAX backup for file exchange

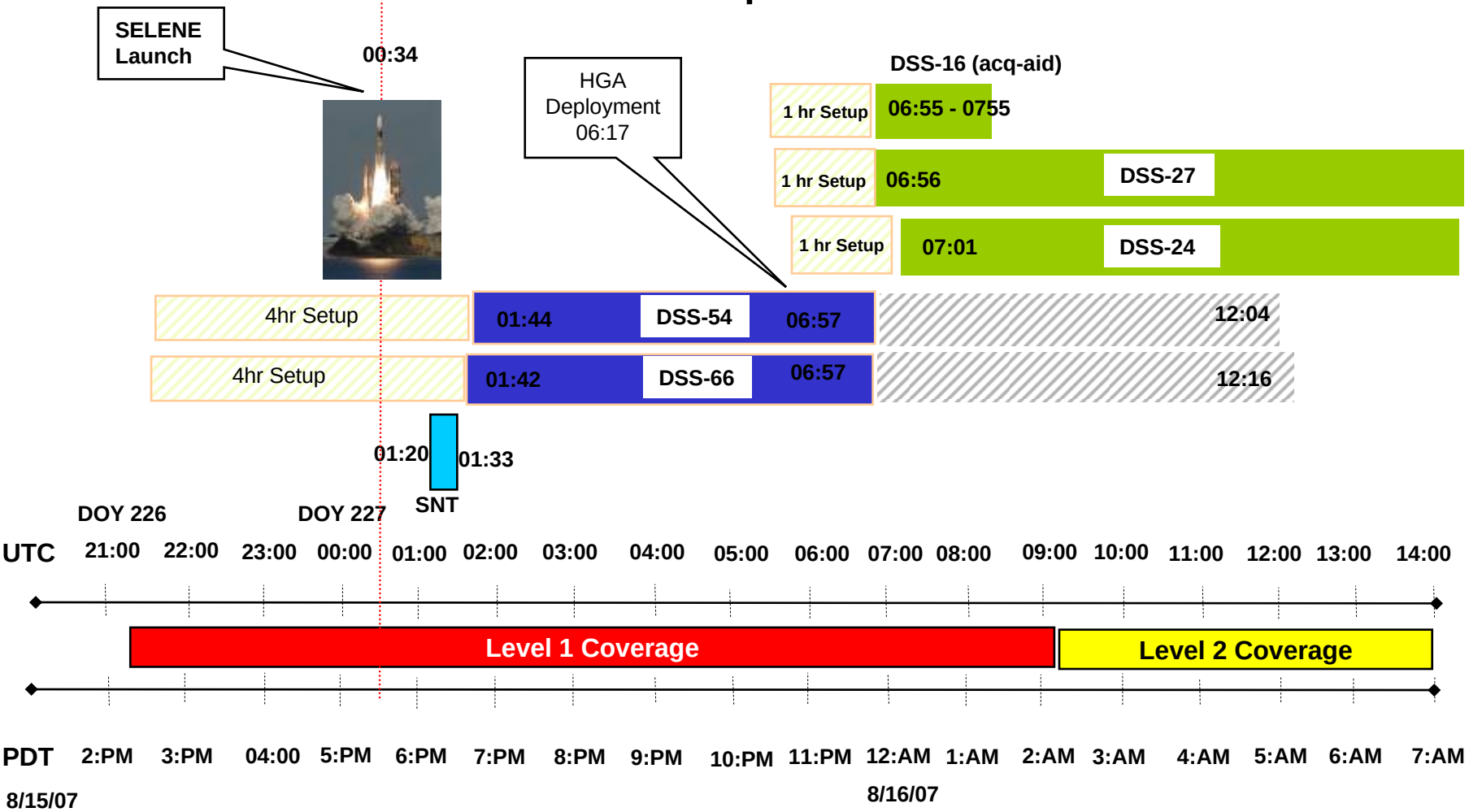
SELENE/JPL Status

- SELENE was transported to the launch site (Tanegashima, Kagoshima Prefect.) in March 2007.
- LAUNCH DATE is 15 August, 2007
- DSN Mission Service Training Activity (MSTA) program is complete.
- DSN Operations Readiness Test (ORTs) have started in May
  - JAXA SELENE Operations have been asked to participate
- Upcoming JPL/JAXA tests currently being negotiated
  - NASA Rehearsal
  - Dress Rehearsal
  - Data Flow Check (DFC)

SELENE Misc Operational Notes

- **The SELENE HII launch vehicle , once fueled can only stay fueled less than 24 hours.**
  - **HII launch vehicle start fueling is at L-9 hours.**
  - **If launch is scrubbed after HII fueling has started, there is a 5 day re-cycle time. This means a 5 day launch slip.**
  - **If launch is scrubbed prior to start of fueling, launch can slip 24 hours each time.**
- **Madrid is the Initial Acquisition Pass IAP station with DSS-66 and DSS-54 after JAXAs ground stations in Santiago Chile (SNT1)**
  - **Downlink black out during first 15 minutes of Madrid view due to spacecraft spin.**
  - **Critical commanding over Madrid**
  - **Several critical spacecraft events occur such has S/C Spin stop, sun acq, HGA deploy over the IAP Madrid pass.**
- **Goldstone acquires about 5 hours after the Madrid IAP, with DSS-24 and DSS-27**
  - **LGA RF switched to HGA over Goldstone**
- **JAXA also had a new requirement request during the 40 days of support**
  - **Canberra support during the JAXAs Usuda antenna keyholes (if able to negotiate station time and or if station time is available)**

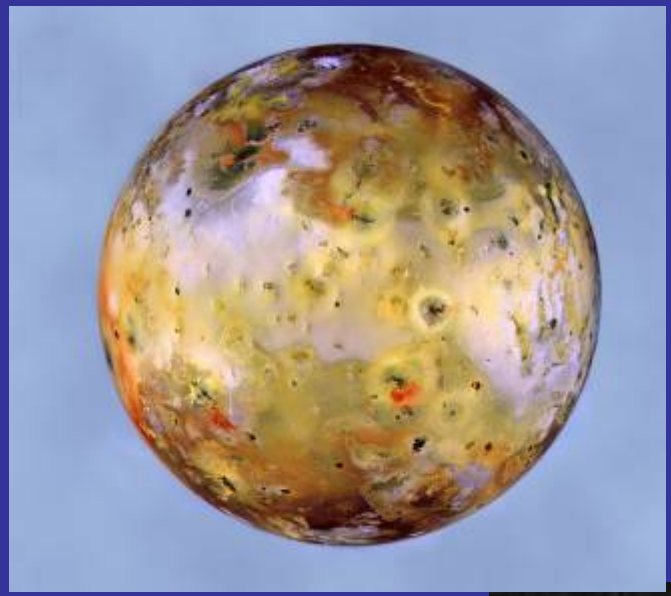
DSN Initial Acquisition Timeline



Note – tentative timeline based on 15 Aug, 07 launch

Slide Provided by the SELENE NOPE

Io: a world of many *active* volcanoes



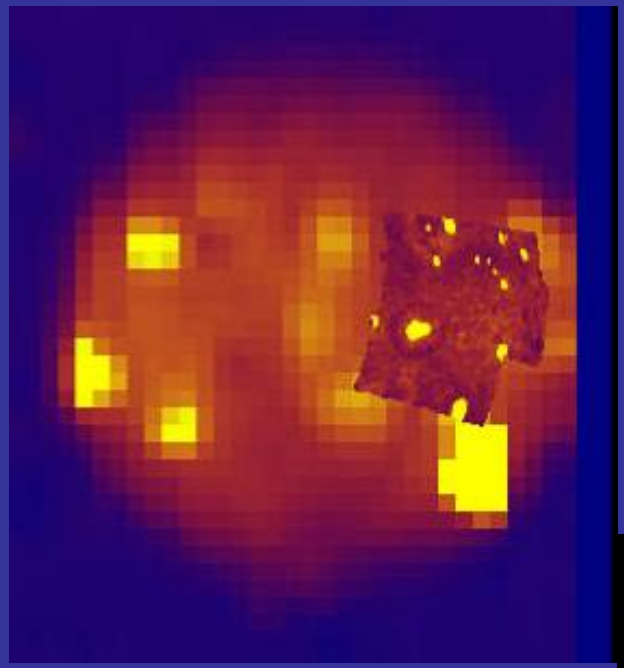
Galileo image

- Small body, ~ diameter of Earth's moon
- SO_2 is dominant volatile
- Most volcanically active body in Solar System
- Lava temperatures may be similar to ultramafic lavas on Earth (> 1800 K), but composition still unknown

Voyager: discovery of Pele and Loki plumes (Morabito et al., 1979)

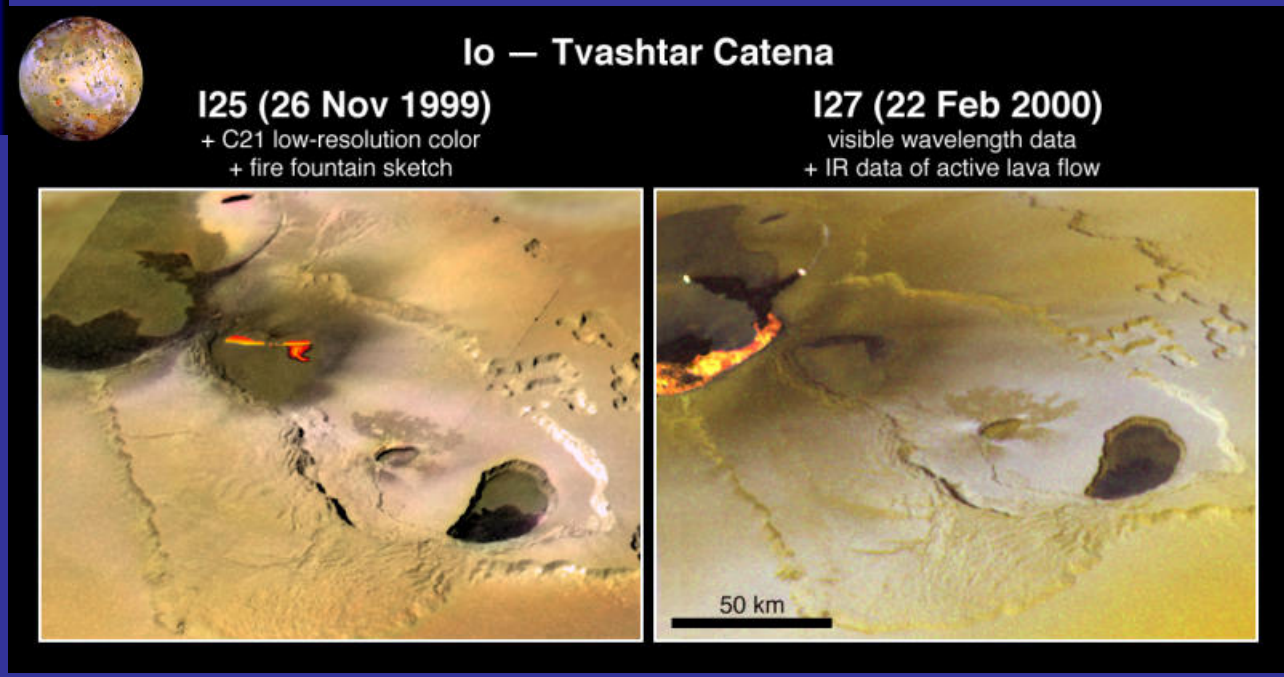
Sagan (1979) proposed sulfur volcanism at Ra Patera

The Galileo Era: 1975-2003

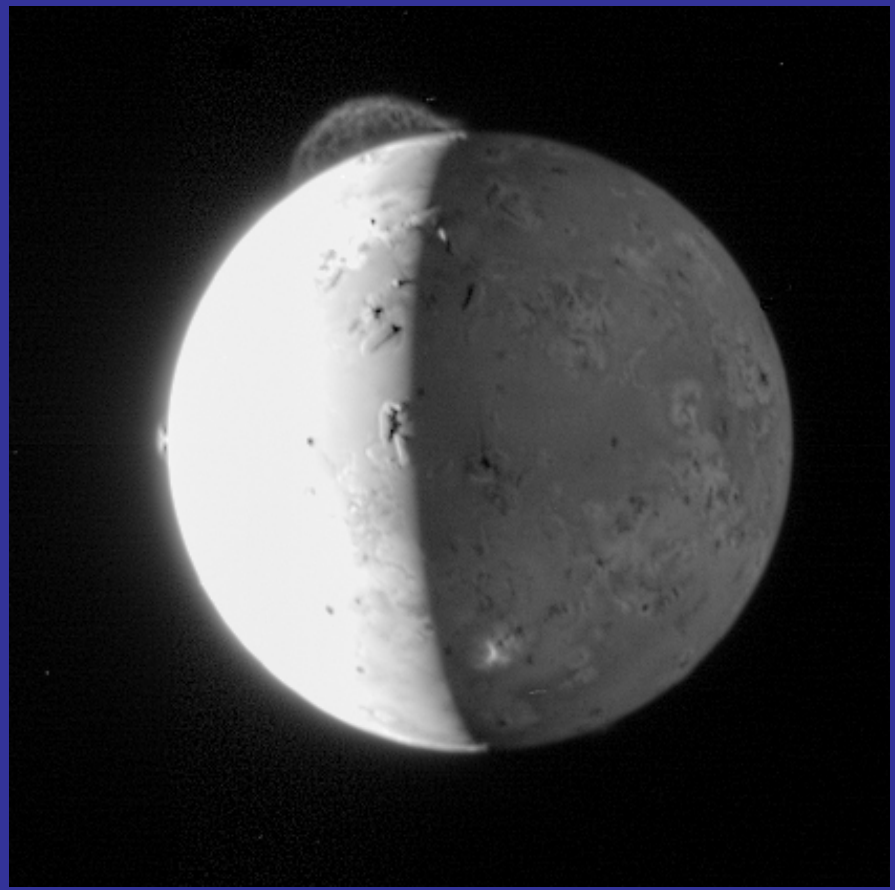


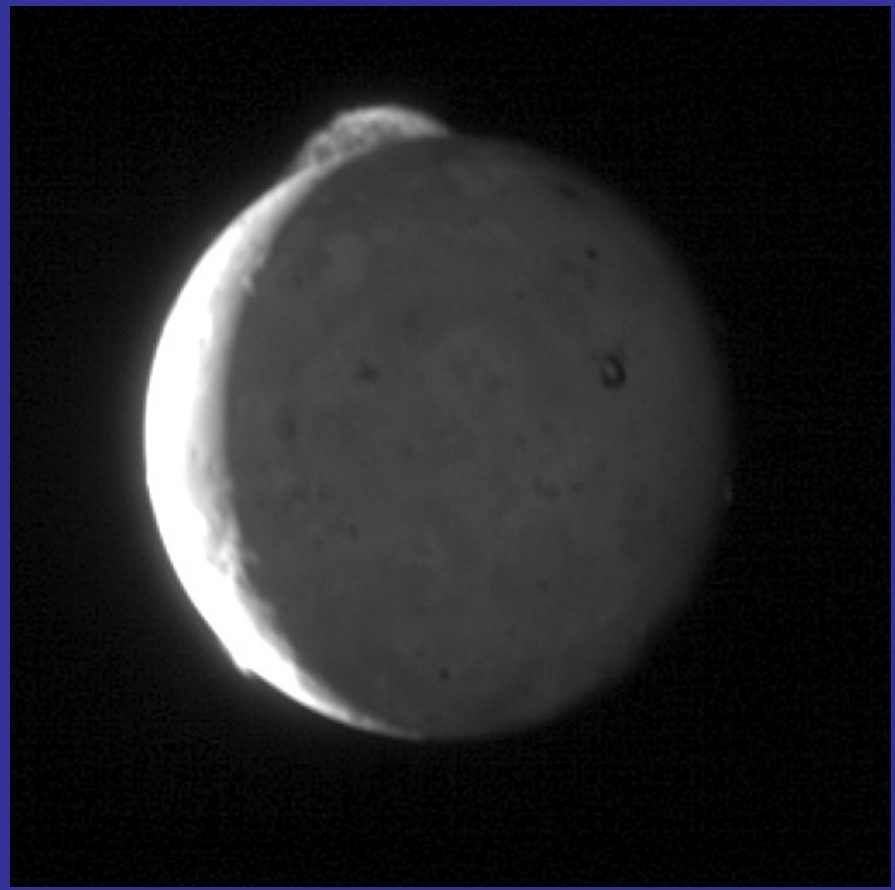
Galileo images and thermal IR data showed that many of Io's volcanoes are lava lakes

NIMS (1-5.2 μm) discovered numerous new hot spots, many persistent for years or decades



Tvashtar plume



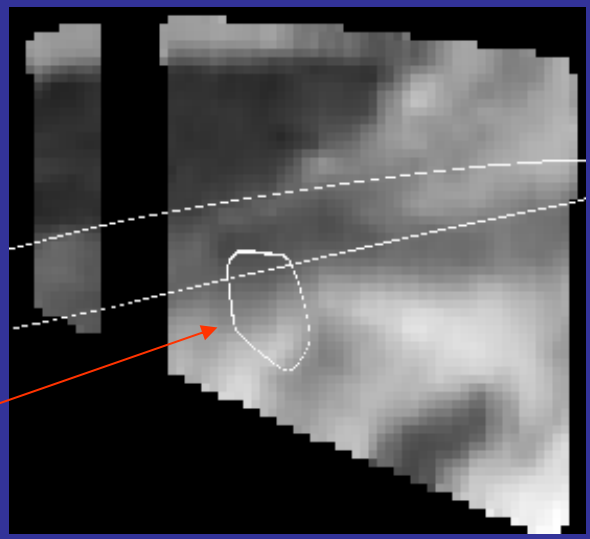



Io's Nightside
LORRI
MVIC
LEISA

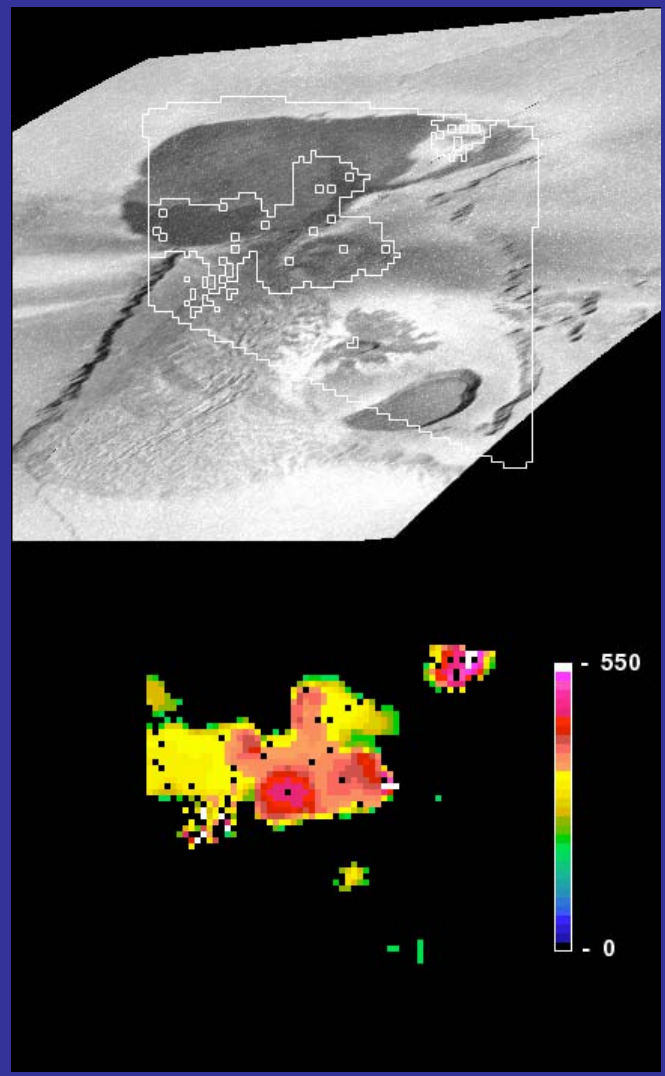
Position (error ellipses) of Tvashtar from hiresir04 and hires06 compared with NIMS map

from hires06

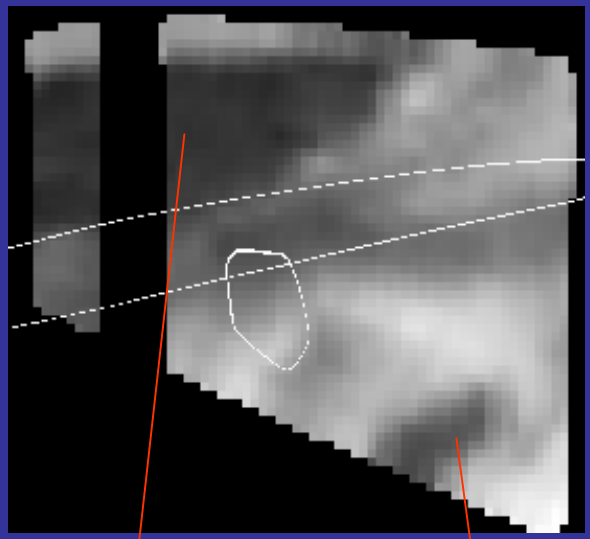
from hires04

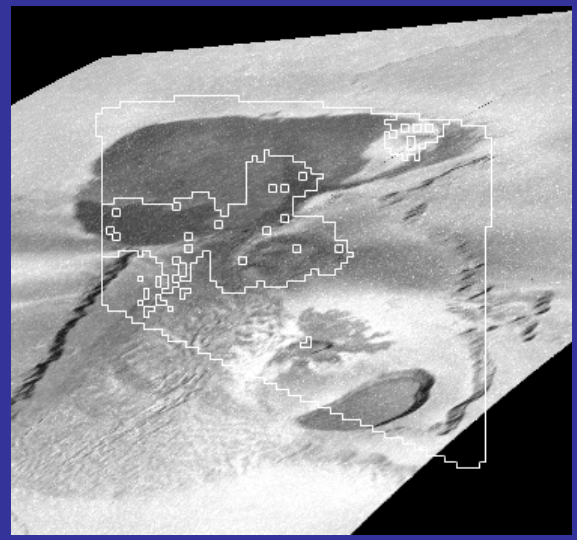


Ellipses superimposed on NIMS image at 1.035 microns
Center of the overlap area is about 62.3, 123.0
Both error ellipses place hot spot south of main caldera where NIMS detected thermal emission in I31

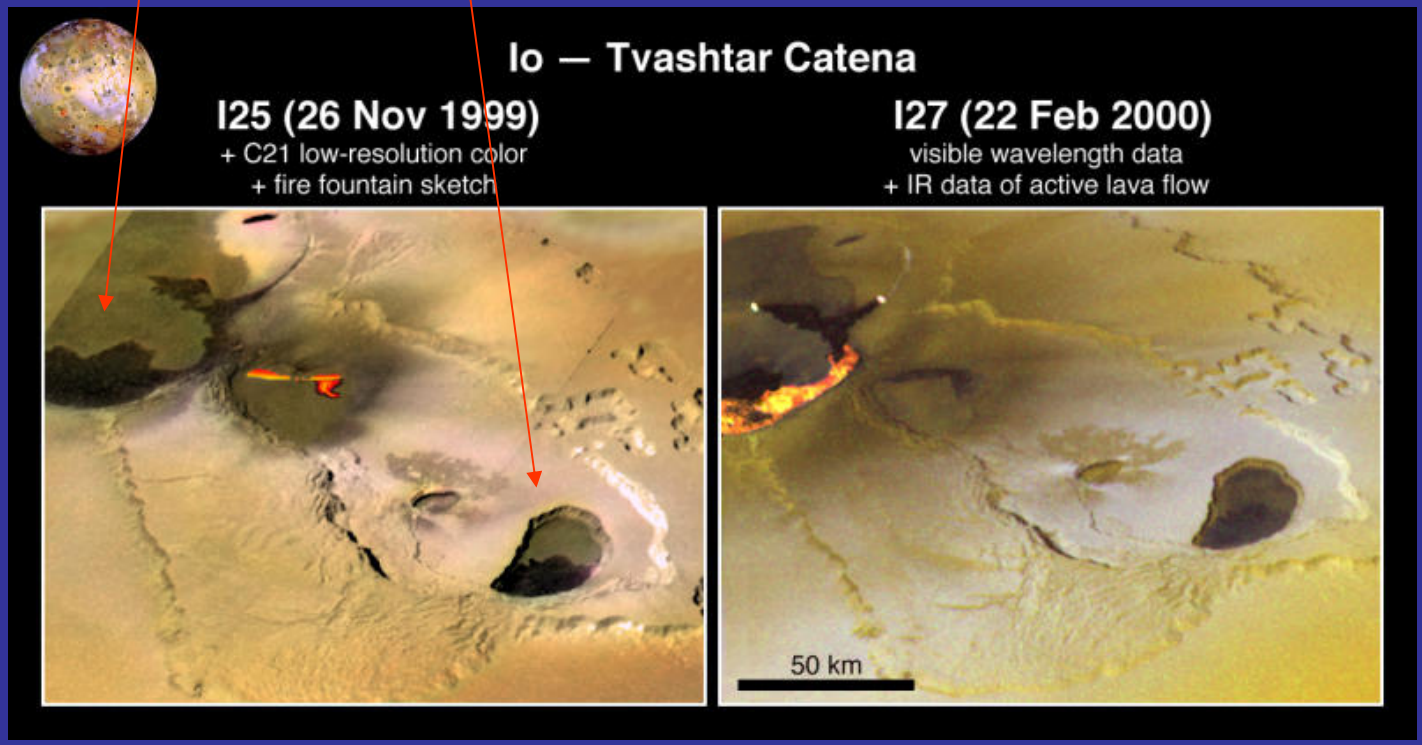


NIMS thermal map (I31) and SSI image (I32)

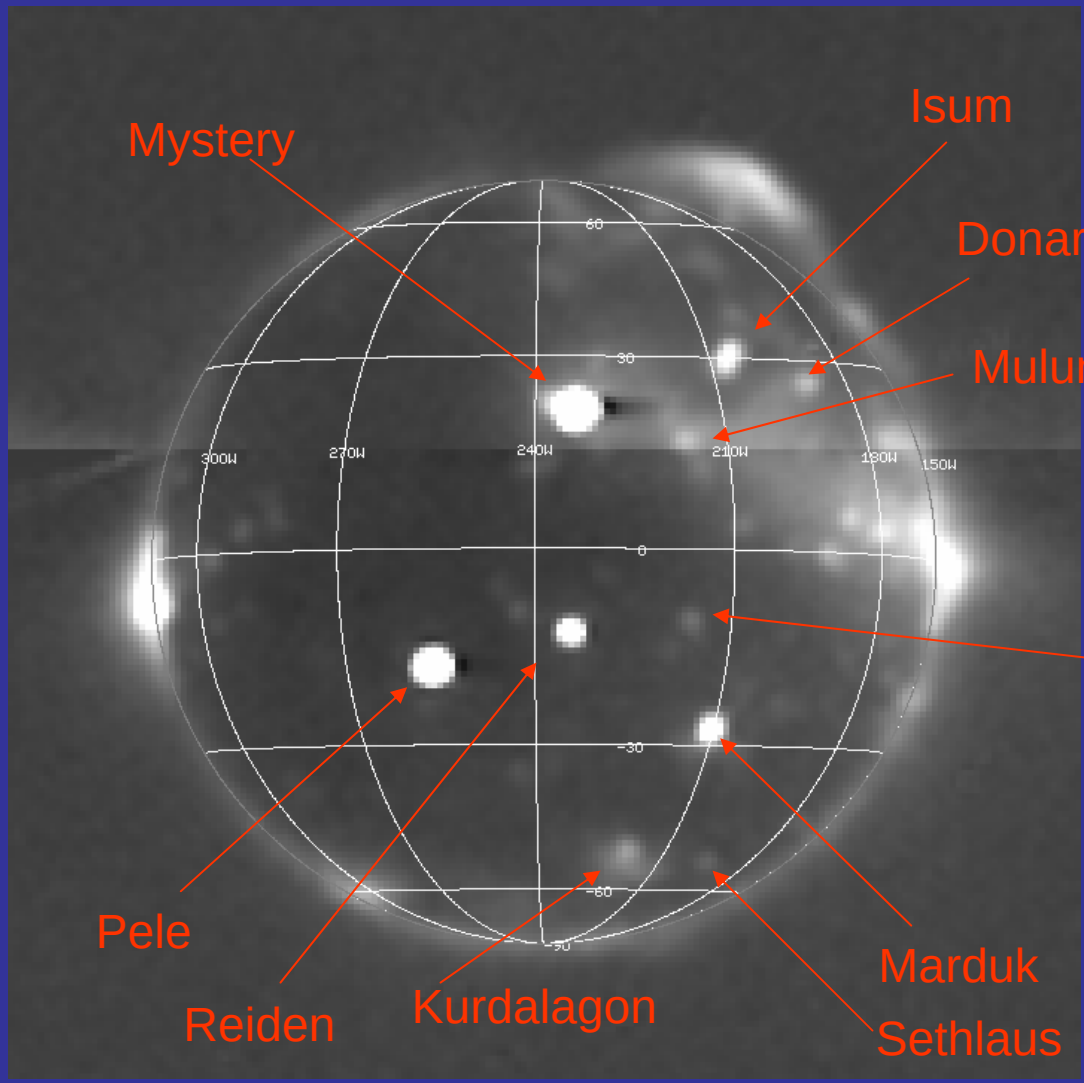




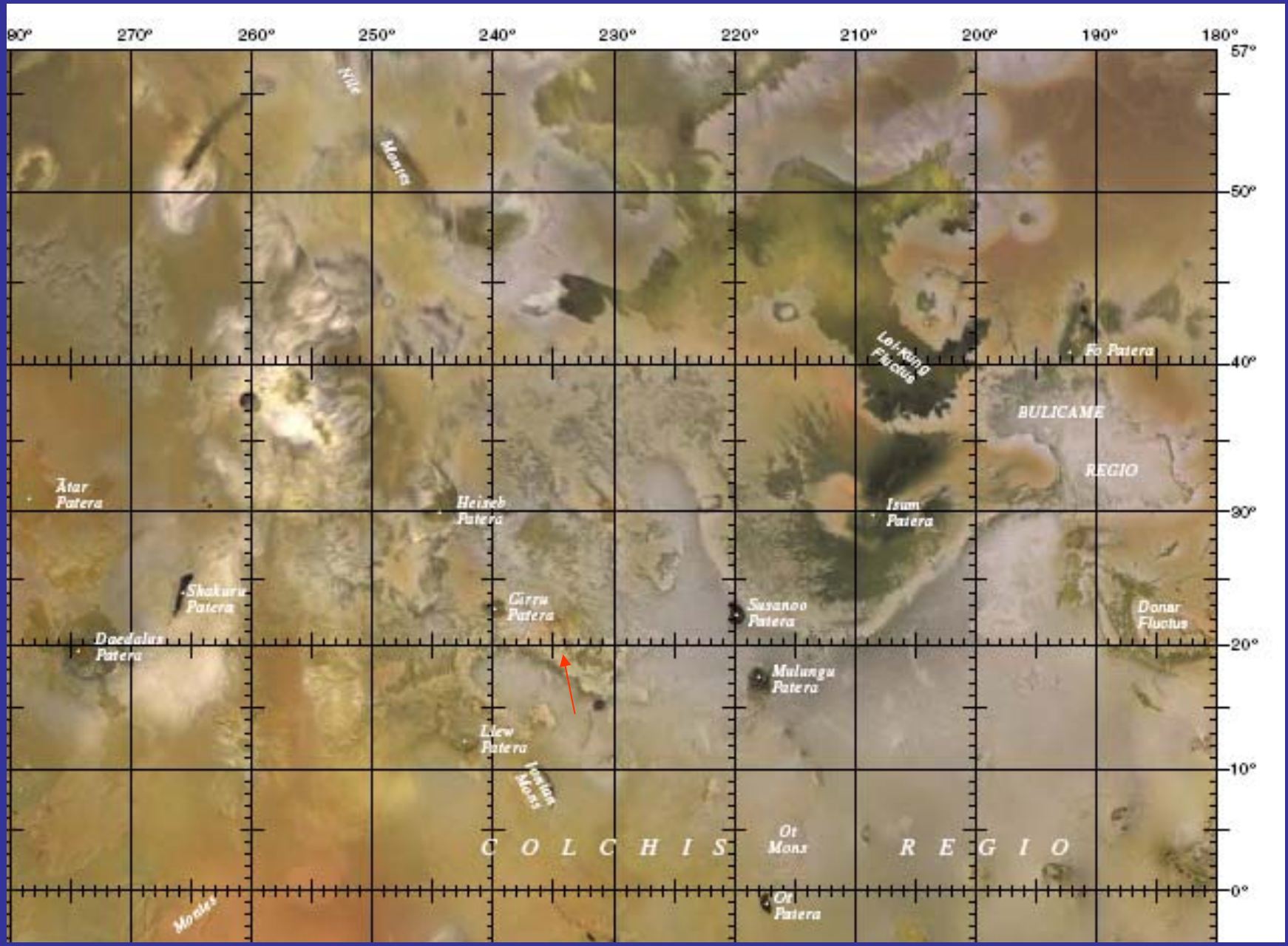
Best location appears to be Galileo I25 lava fountain site



Ieclipse04 (sub s/c point -2.1, 238.7 (LEISA image)

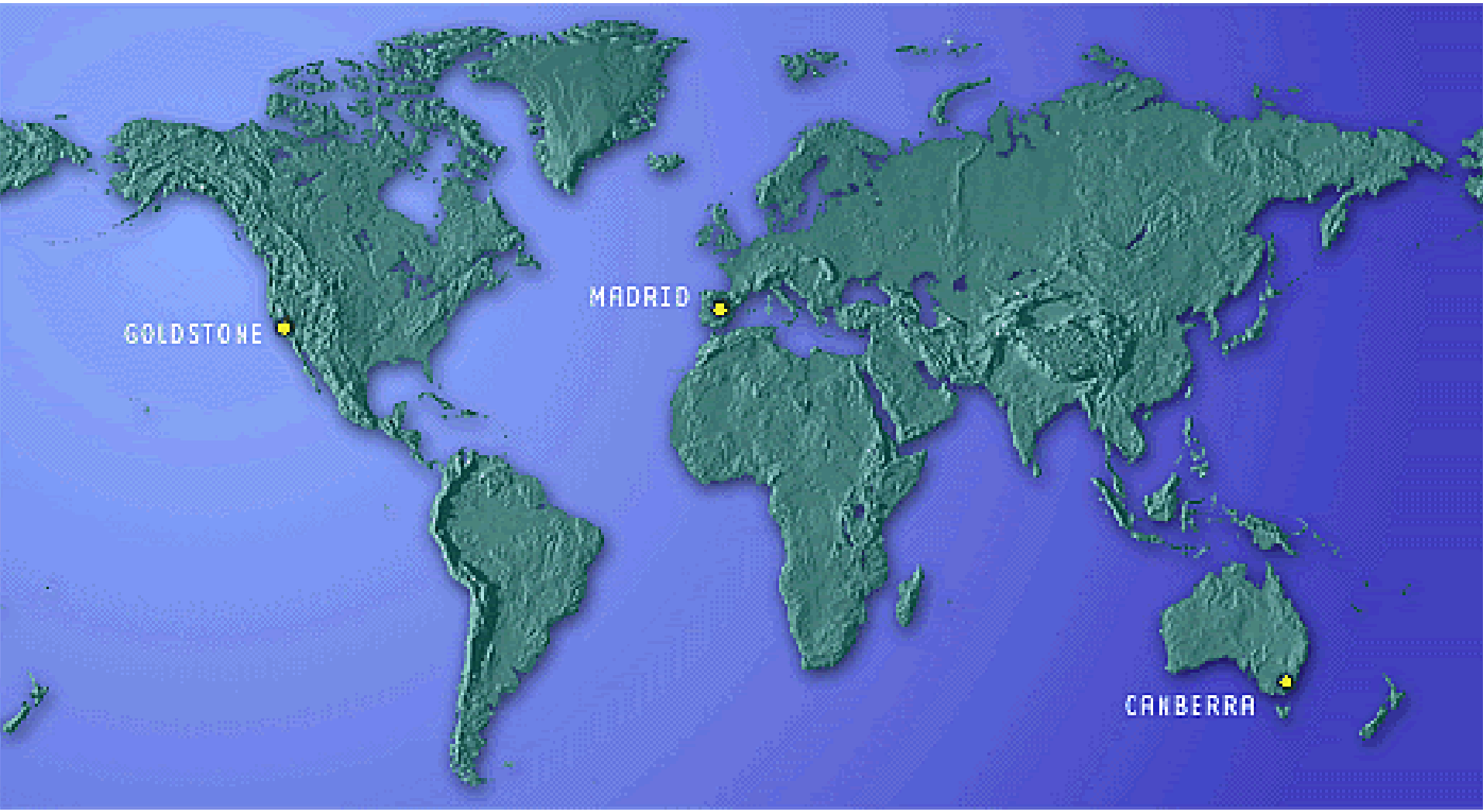


Location of mystery hot spot: +20, 234 W




Mystery
Volcano

DSN Antenna Downtime Status and Forecast



http://rapweb.jpl.nasa.gov/planning

Antenna Downtime Status and Forecast

Changes to 2007 Downtime Schedule

- Two hour complex-wide downtime per complex every six months (day shift) for Network Infrastructure, this will be used to scan complex servers for vulnerabilities. The following have been proposed:
  - SPC 10 11/12/2007 00:00 –11/12/2007 02:00
  - SPC 40 11/12/2007 11:00 –11/12/2007 13:00
  - SPC 60 11/12/2007 06:00 –11/12/2007 08:00

- One 8 hour complex-wide downtime at MDSCC has been secured for DOY 143 from 0605 – 1405 and is to prepare complex for commercial power installation. An additional 10 hour complex-wide downtime is scheduled and being negotiated for DOY 170 from 1915 – 0515

Changes to 2008 Downtime Schedule

- There are proposed changes to the 2008 Commercial power installation task. Currently the task is proposed to occur in two 12 hour blocks on Monday and Tuesday, March - April 2008. It is being analyzed to occur in one 36 hour block on Saturday and Sunday

All previous downtime proposals have been agreed to by all DSN Missions/Users through the INCF/RAR, JURAP or Mid-Range Scheduling Process

Antenna Downtime Status and Forecast

DSN Antenna Downtime Report

2007							
Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 46	Hydraulics	05/14/2007 00:00	05/19/2007 23:59	5	20 - 20	134	138
SPC 10	Pwr Dist Grp	05/17/2007 13:00	05/18/2007 05:00	1	20 - 20	137	137
SPC 10	Pwr Dist Grp	05/21/2007 15:15	05/22/2007 03:15	1	21 - 21	141	141
SPC 10	Pwr Dist Grp	05/26/2007 14:00	05/27/2007 02:00	1	21 - 21	146	146
DSS 66	Hydraulics Task	05/28/2007 00:00	06/01/2007 23:59	5	22 - 22	148	152
SPC 10	Pwr Dist Grp	06/02/2007 15:15	06/03/2007 07:15	1	22 - 22	153	153
SPC 10	Pwr Dist Grp	06/02/2007 15:15	06/03/2007 07:15	1	22 - 22	153	153
DSS 63	Hydrostatic Bearing Replacement	06/12/2007 00:00	09/16/2007 23:59	97	24 - 37	163	259
DSS 63	Depot Level Maintenance - NIB	06/12/2007 00:00	09/16/2007 23:59	97	24 - 37	163	259
DSS 63	Load Sensors Install - NIB	06/12/2007 00:00	09/16/2007 23:59	97	24 - 37	163	259
SPC 10	Pwr Dist Grp	06/13/2007 15:00	06/14/2007 03:00	1	24 - 24	164	164
DSS 45	Antenna Drive Cabinet Refurbishment	08/27/2007 00:00	10/01/2007 23:59	36	35 - 40	239	274
DSS 45	S-Band 200W U/L Install - NIB	08/27/2007 00:00	10/01/2007 23:59	36	35 - 40	239	274
DSS 45	Depot Level Maintenance - NIB	08/27/2007 00:00	10/01/2007 23:59	36	35 - 40	239	274
DSS 45	Antenna Controller Replacement	10/01/2007 00:00	11/19/2007 23:59	49	40 - 46	274	322
DSS 14	ACR S/W Install	10/08/2007 00:00	10/21/2007 23:59	13	41 - 42	281	293
DSS 14	Grouting - NIB	10/08/2007 00:00	10/14/2007 23:59	7	41 - 41	281	287
DSS 65	200W S-Band U/L	10/29/2007 00:00	12/10/2007 23:59	42	44 - 49	302	343
DSS 65	Depot Level Maintenance - NIB	10/29/2007 00:00	12/10/2007 23:59	42	44 - 49	302	343
SPC 10	Network Infrastructure	11/12/2007 00:00	11/12/2007 02:00	0	46 - 45	316	315
SPC 60	Network Infrastructure	11/12/2007 06:00	11/12/2007 08:00	0	46 - 45	316	315
SPC 40	Network Infrastructure	11/12/2007 11:00	11/12/2007 13:00	0	46 - 45	316	315

Antenna Downtime Status and Forecast

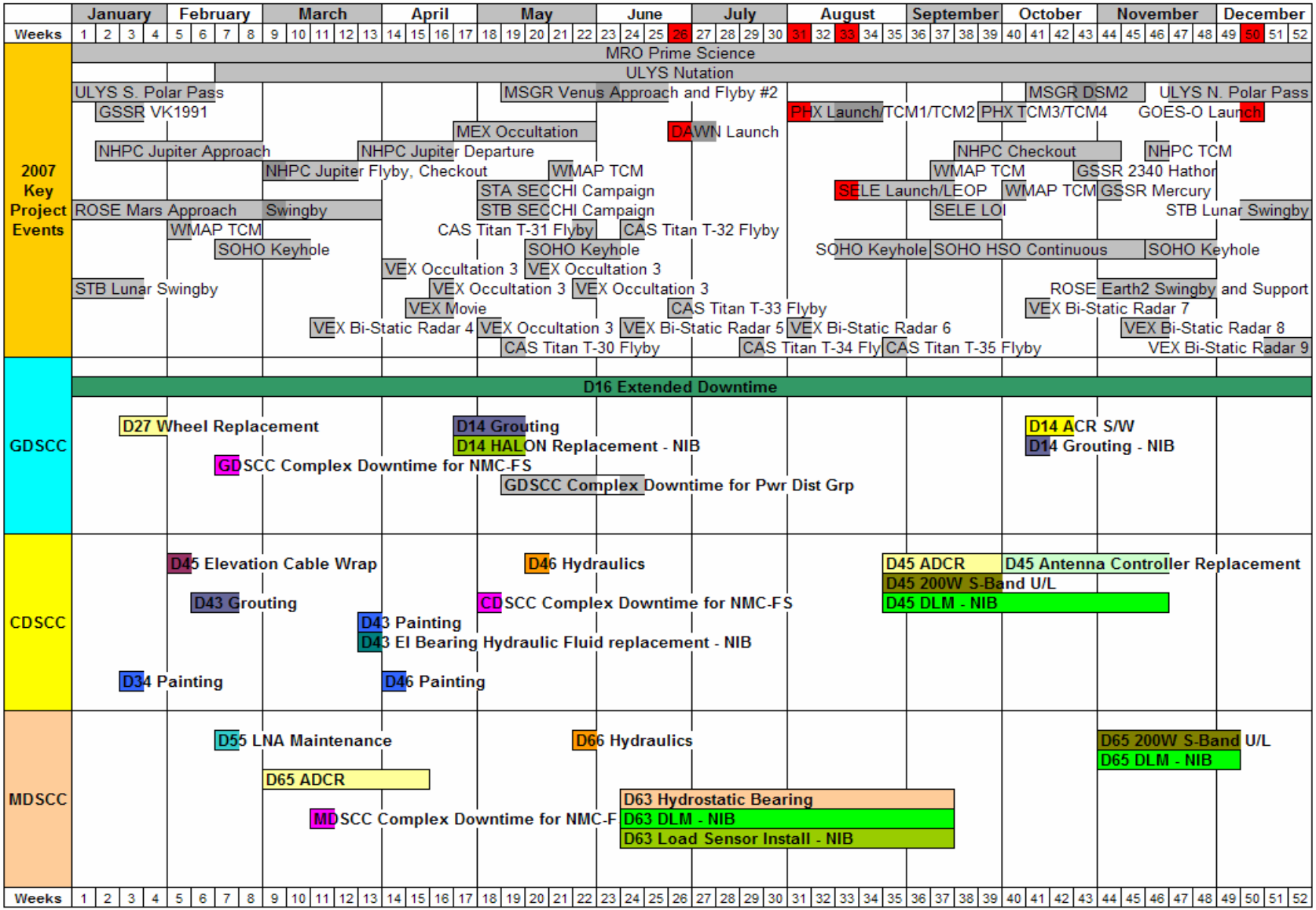
DSN Antenna Downtime Report

2008							
Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 54	X/X-Ka Band Install	02/04/2008 00:00	05/11/2008 23:59	98	06 - 19	035	132
DSS 54	AZ Track Refurbishment - NIB	02/04/2008 00:00	05/11/2008 23:59	98	06 - 19	035	132
DSS 54	AZ Data Gear Replacement - NIB	02/04/2008 00:00	05/11/2008 23:59	98	06 - 19	035	132
DSS 54	Q-Band Installation - NIB	02/04/2008 00:00	05/11/2008 23:59	98	06 - 19	035	132
DSS 54	Depot Level Maintenance - NIB	02/04/2008 00:00	05/11/2008 23:59	98	06 - 19	035	132
DSS 15	Life Extension	02/18/2008 00:00	05/11/2008 23:59	84	08 - 19	049	132
DSS 15	Depot Level Maintenance - NIB	02/18/2008 00:00	05/11/2008 23:59	84	08 - 19	049	132
SPC 60	Commercial Power Installation	03/23/2008 07:00	03/23/2008 19:00	1	12 - 12	083	082
SPC 60	Commercial Power Installation	03/24/2008 07:00	03/24/2008 19:00	1	13 - 13	084	083
SPC 60	Commercial Power Installation	03/30/2008 06:00	03/30/2008 18:00	1	13 - 13	090	089
SPC 60	Commercial Power Installation	03/31/2008 06:00	03/31/2008 18:00	1	14 - 14	091	090
SPC 60	Commercial Power Installation	04/06/2008 06:00	04/06/2008 18:00	1	14 - 14	097	096
SPC 60	Commercial Power Installation	04/07/2008 06:00	04/07/2008 18:00	1	15 - 15	098	097
DSS 34	Ka-Band Phase 2 Install	07/14/2008 00:00	09/29/2008 23:59	77	29 - 39	196	272
DSS 34	Depot Level Maintenance - NIB	07/14/2008 00:00	09/29/2008 23:59	77	29 - 39	196	272
DSS 43	Life Extension	09/29/2008 00:00	03/29/2009 23:59	182	40 - 13	273	088
DSS 43	Depot Level Maintenance – NIB	09/29/2008 00:00	03/29/2009 23:59	182	40 - 13	273	088

2009							
Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 63	Life Extension	03/30/2009 00:00	09/27/2009 23:59	182	14 - 39	089	270
DSS 24	Ka-Band Phase 2 Install	07/06/2009 00:00	09/21/2009 23:59	77	28 - 38	187	263
DSS 24	Depot Level Maintenance - NIB	07/06/2009 00:00	09/21/2009 23:59	77	28 - 38	187	263
DSS 14	Life Extension	09/28/2009 00:00	03/28/2010 23:59	182	40 - 12	271	087

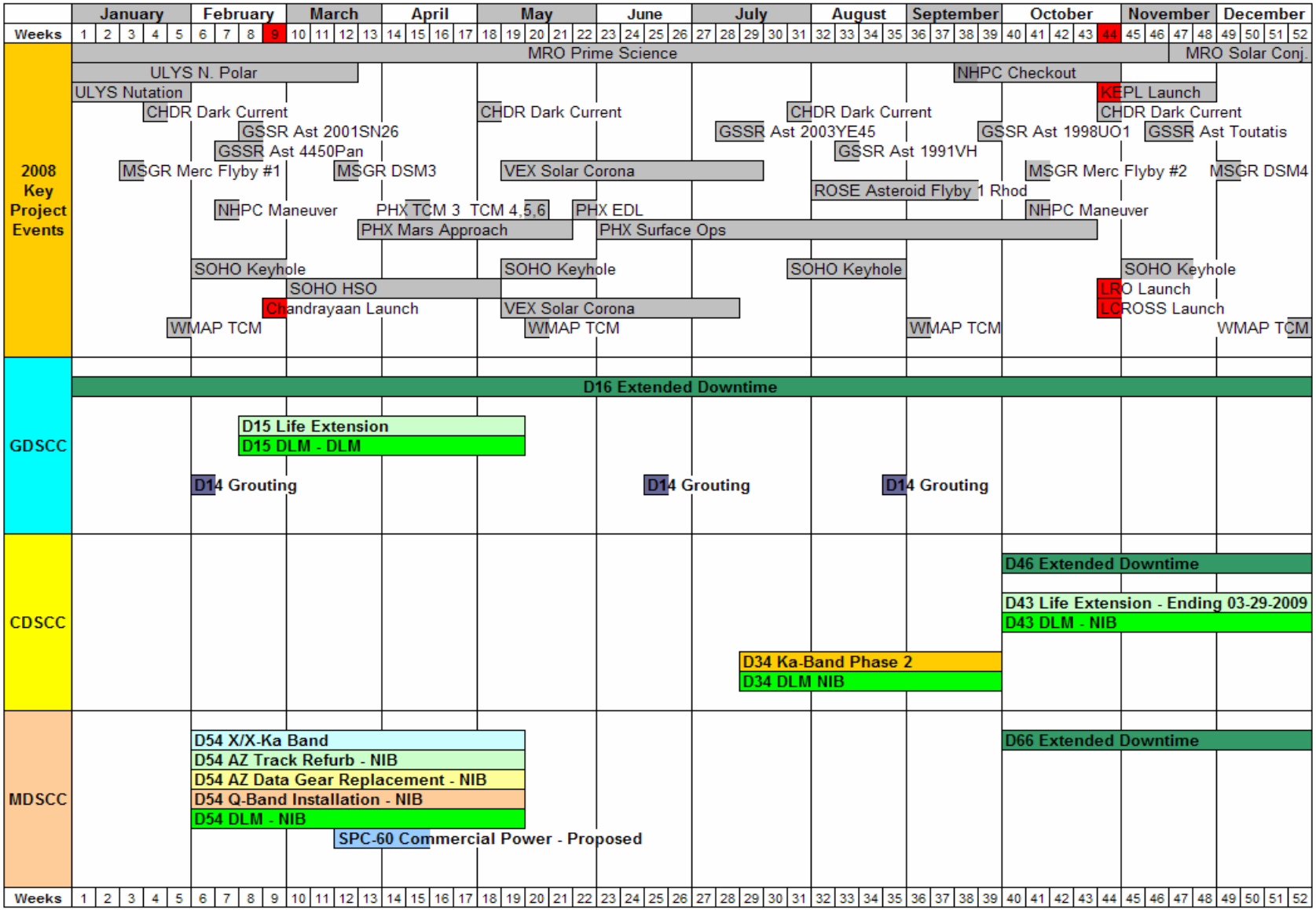
2010							
Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 54	Depot Level Maintenance - NIB	07/12/2010 00:00	09/27/2010 23:59	77	28 - 38	193	269
DSS 54	Ka-Band Phase 2 Install	07/12/2010 00:00	09/27/2010 23:59	77	28 - 38	193	269

Antenna Downtime Status and Forecast 2007



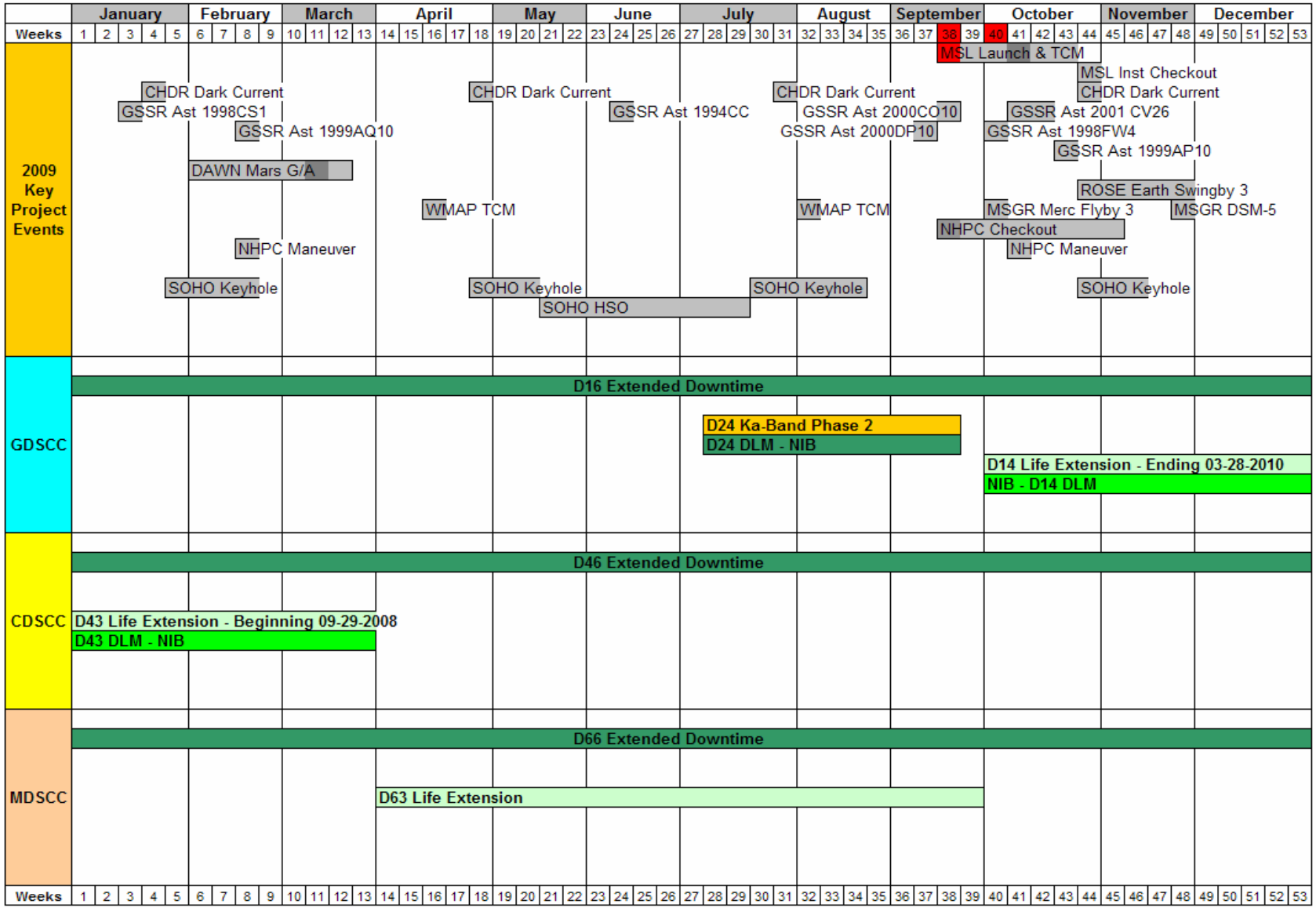
Revised: April 13, 2007

Antenna Downtime Status and Forecast 2008



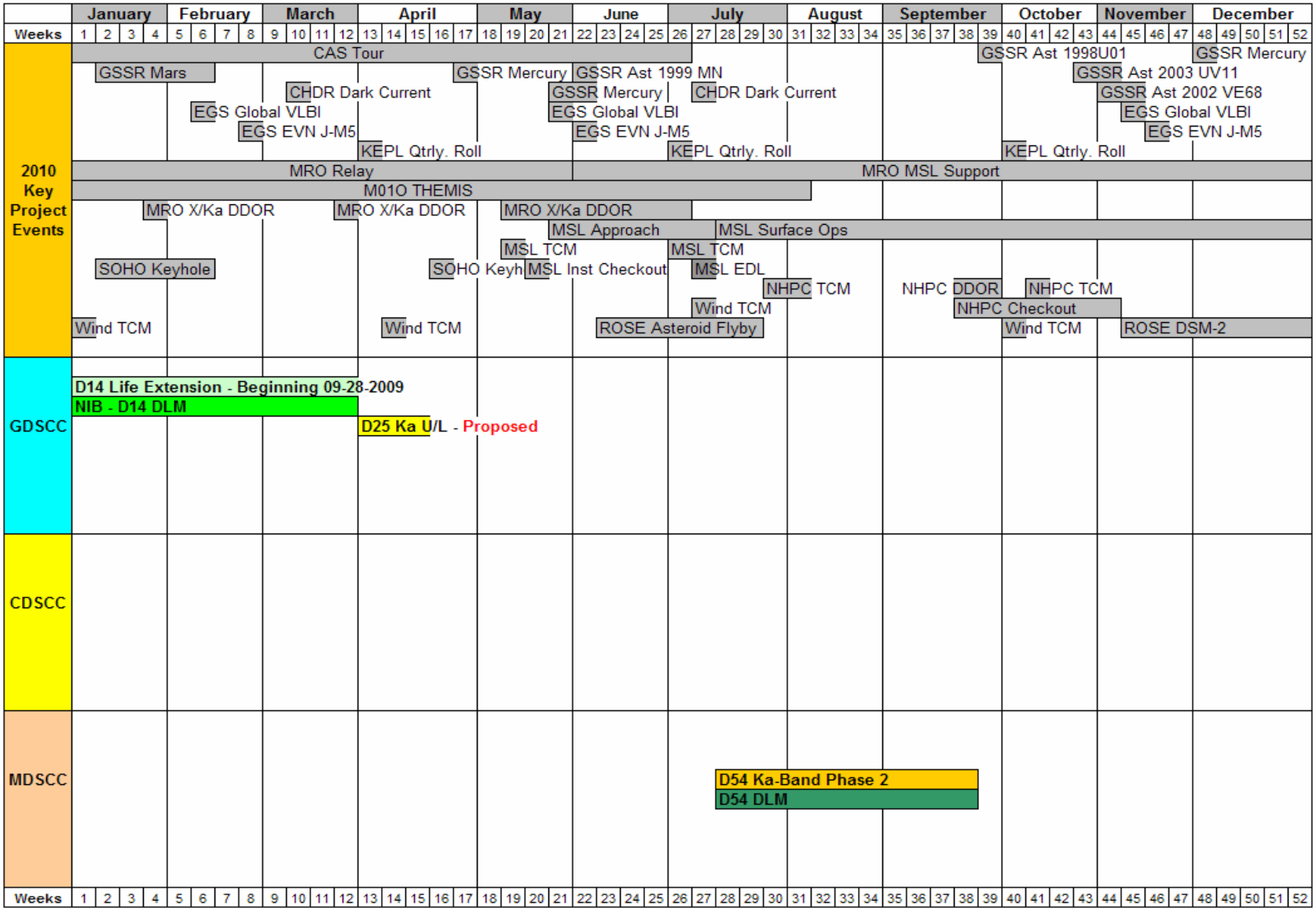
Revised: March 12, 2007

Antenna Downtime Status and Forecast 2009



Revised: March 26, 2007

Antenna Downtime Status and Forecast 2010



Revised: April 2, 2007

Antenna Downtime Status and Forecast

DSN Resource Implementation Planning Matrix By Subnet

Complex	Station	Subnet	S-Band		X-Band		Ka-Band		Ka
			Down	Up	Down	Up	Down	Up	Phase 2
10	DSS-16	26M	✔	✔	N/A	N/A	N/A	N/A	N/A
40	DSS-46	26M	✔	✔	N/A	N/A	N/A	N/A	N/A
60	DSS-66	26M	✔	✔	N/A	N/A	N/A	N/A	N/A
10	DSS-27	34HSB	✔	✔	N/A	N/A	N/A	N/A	N/A
10	DSS-24	34B1	✔	✔	✔	✔	N/A	N/A	09/21/09
40	DSS-34	34B1	✔	✔	✔	✔	✔	N/A	09/29/08
60	DSS-54	34B1	✔	✔	✔	✔	04/15/08	N/A	09/27/10
10	DSS-25	34B2	N/A	N/A	✔	✔	✔	08/01/10	N/A
10	DSS-26	34B2	N/A	N/A	✔	✔	✔	N/A	N/A
60	DSS-55	34B2	N/A	N/A	✔	✔	✔	N/A	N/A
10	DSS-15	34HEF	✔	N/A	✔	✔	N/A	N/A	N/A
40	DSS-45	34HEF	✔	12/19/07	✔	✔	N/A	N/A	N/A
60	DSS-65	34HEF	✔	12/19/07	✔	✔	N/A	N/A	N/A
10	DSS-14	70M	✔	✔	✔	✔	N/A	N/A	N/A
40	DSS-43	70M	✔	✔	✔	✔	N/A	N/A	N/A
60	DSS-63	70M	✔	✔	✔	✔	N/A	N/A	N/A

N/A = Capability Not Planned xx/xx/xx = Capability Date Recently Changed As of: 03/26/07

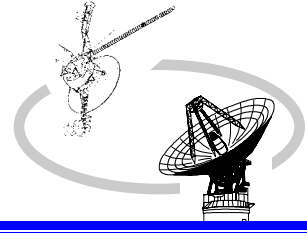
✔ ✔ ✔ = Capability Recently Exists ✔ = Capability Exists

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

Resource Analysis Team

May 17, 2007

Daniel Garibek



MID-RANGE SCHEDULING STATUS

- **RESOURCE NEGOTIATION STATUS**
  - 2007 WEEKS 23 - 28 (THRU 07/15/2007) WERE RELEASED TO DSN SCHEDULING ON 05/17/2007.
  - 2007 WEEKS 37 - 38 (THRU 09/23/2007) ARE DUE TO BE RELEASED TO THE REMOTE USERS ON 05/21/2007.
  - 2007 WEEKS 29 - 36 (THRU 09/09/2007) HAVE REMAINING FACILITY AND EQUIPMENT CONFLICTS.

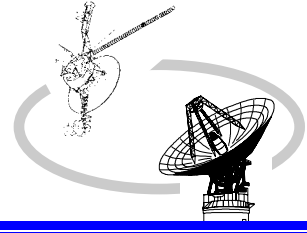
- The Mid-Range Scheduling process has schedules 16 weeks ahead of real-time. Currently, there are 8 weeks of conflict-free schedules. Conflict Resolution is required for the following eight weeks: 07/16/2007 through 09/09/2007.

Resource Allocation Planning Service (RAPS)

ON-GOING SPECIAL STUDIES/ACTIVITIES

- Phoenix additional 34M requirement special study
- DSS-63 2007 Downtime Extension Impact Study
- Downtime Planning - ongoing

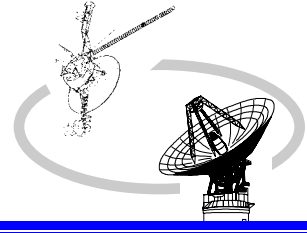
Resource Allocation Planning Service (RAPS)



– Ongoing / Approved Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
DSN Antenna Calibration	DSN	--	--	--
DSS Maintenance	DSS	--	--	--
DSN ZDD Calibration	DSN	11/01/04	--	--
European and Global VLBI Systems	EGS	--	--	--
Ground Based Radio Astronomy	GBRA	--	--	--
Reference Frame Calibration (Cat M&E and Clock Sync)	DSN	--	--	--
Space Geodesy	SGP	--	--	--
Voyager 2	VGR2	08/20/77	10/15/89	12/31/10
Voyager 1	VGR1	09/05/77	12/31/80	12/31/10
Goldstone Solar System Radar	GSSR	04/01/85	--	--
Ulysses	ULYS	10/06/90	09/11/95	03/30/08
Geotail	GTL	07/24/92	07/24/95	10/01/08
Wind	WIND	11/01/94	11/01/97	10/01/11
SOHO	SOHO	12/02/95	05/02/98	10/01/11
Polar	POLR	02/22/96	08/23/97	12/30/07
Mars Global Surveyor	MGS	11/07/96	02/01/01	01/28/07
Advanced Composition Explorer	ACE	08/25/97	02/01/01	10/01/13

Resource Allocation Planning Service (RAPS)



– Ongoing / Approved Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
Cassini	CAS	10/15/97	06/30/08	06/30/10
Chandra X-Ray Observatory	CHDR	07/23/99	07/24/09	07/24/14
Imager for Magnetopause-to-Aurora Global Exploration	IMAG	03/25/00	05/30/02	TBS
Cluster 2 - S/C #2 (Samba)	CLU2	07/16/00	02/15/03	09/30/10
Cluster 2 - S/C #3 (Rumba)	CLU3	07/16/00	02/15/03	09/30/10
Cluster 2 - S/C #1 (Salsa)	CLU1	08/09/00	02/15/03	09/30/10
Cluster 2 - S/C #4 (Tango)	CLU4	08/09/00	02/15/03	09/30/10
Mars Odyssey 2001	M01O	04/07/01	08/24/04	12/31/10
Wilkinson Microwave Anisotropy Probe	WMAP	06/30/01	10/01/03	09/30/10
Advanced Tracking and Observational Techniques (ATOT)	ATOT	02/01/02	12/31/08	- - -
International Gamma Ray Astrophysics Lab	INTG	10/17/02	12/18/04	12/16/10
Hayabusa (MUSES - C)	MUSC	05/09/03	06/09/10	06/10/10
Mars Express Orbiter	MEX	06/02/03	02/11/06	12/31/08
Spirit (Mars Exploration Rover - A)	MER2	06/10/03	04/06/04	09/30/08
Opportunity (Mars Exploration Rover - B)	MER1	07/07/03	04/27/04	09/30/08
Spitzer Space Telescope (SIRTF)	STF	08/25/03	05/31/09	05/31/14
Rosetta	ROSE	02/26/04	12/31/15	- - -

Resource Allocation Planning Service (RAPS)

– Ongoing / Approved Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
Messenger	MSGR	08/03/04	03/19/12	- - -
Mars Reconnaissance Orbiter	MRO	08/12/05	12/31/10	12/31/15
Venus Express	VEX	11/09/05	09/24/07	01/22/09
New Horizons	NHPC	01/19/06	04/17/16	TBD
Stereo Ahead	STA	10/26/06	01/22/09	01/22/12
Stereo Behind	STB	10/26/06	01/22/09	01/22/12
Dawn	DAWN	06/30/07	07/04/15	TBD
Phoenix	PHX	08/03/07	10/26/08	TBD
SELENE	SELE	08/15/07	09/26/07	TBD
Lunar Reconnaissance Orbiter	LRO	10/31/08	09/31/10	TBD
Lunar Crater Observation and Sensing Satellite (LCROSS)	?	10/31/08	01/31/09	TBD
Kepler	KEPL	11/01/08	12/31/12	TBD
Mars Science Laboratory 2009	MSL	09/15/09	03/04/12	TBD

Resource Allocation Planning Service (RAPS)

– Advanced / Planning Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
Chandrayaan - 1	?	03/01/08	03/01/10	TBD
Juno	JUNO	08/11/11	08/11/17	TBD
Mars Scout 2011 (TBS)	M11O	01/31/12	09/10/14	TBD
James Webb Space Telescope	JWST	06/01/13	07/31/16	TBD
Mars Orbiter 2013	M13O	11/28/13	08/21/16	TBD