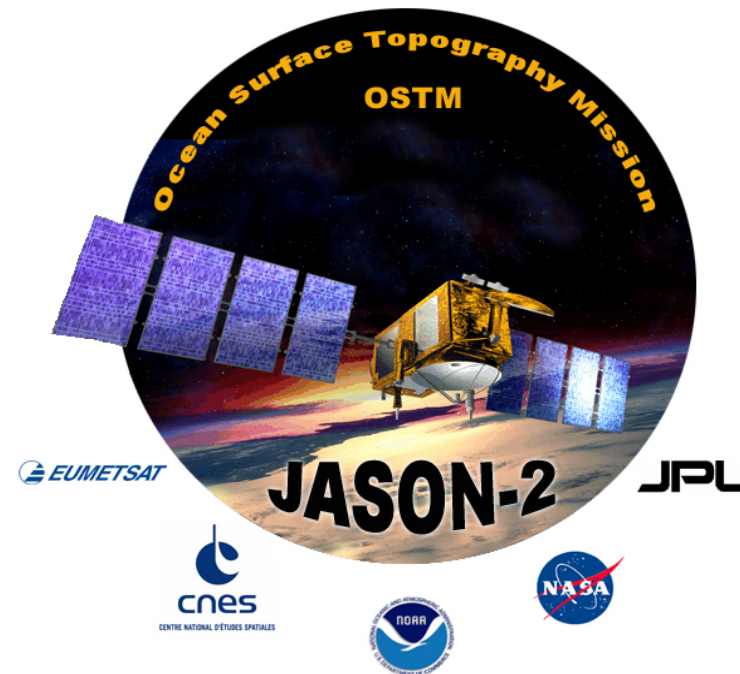




NOAA Status for OSTM/Jason-2



Laury Miller & John Lillibridge
NOAA Laboratory for Satellite Altimetry
Seattle OSTST Meeting - June 22, 2009



NOAA Ground Segment for OSTM

- **Satellite Command & Control**
 - Telecommand uploads; Telemetry downloads
 - Control of NOAA Stations at Wallops & Fairbanks
 - Remote control of European Earth Terminal at Usingen
- **Near Real-Time Data Production & Distribution**
 - Produce OGDRs from telemetry gathered at NOAA stations
 - Generate OGDR-BUFR for GTS & EUMETCAST distribution
 - Distribute NOAA OGDRs & EUMETSAT OGDRs
- **Data Archive & Access**
 - Archive Level-2 OGDR/IGDR/GDR datasets
 - Archive telemetry, auxiliary data & orbits at NODC/CLASS
 - Distribute Near Real-Time data via Data Distribution Server
 - Distribute all NRT & Offline data via CLASS



Satellite Operations Control Center (SOCC)



Passes Scheduled Nov 1, 2008 - Jun 15, 2009

- Station management

- USG

- 6-7 Passes per day

- WAL

- 3-4 Passes per day

- FBK

- 2-3 Passes per day

Station	Contacts	Failed Passes	Problem Passes
WAL	459	9	9
FBK	487	15	12
USG	1034	32	14
Total	1887	56	35

- Average Mass Memory

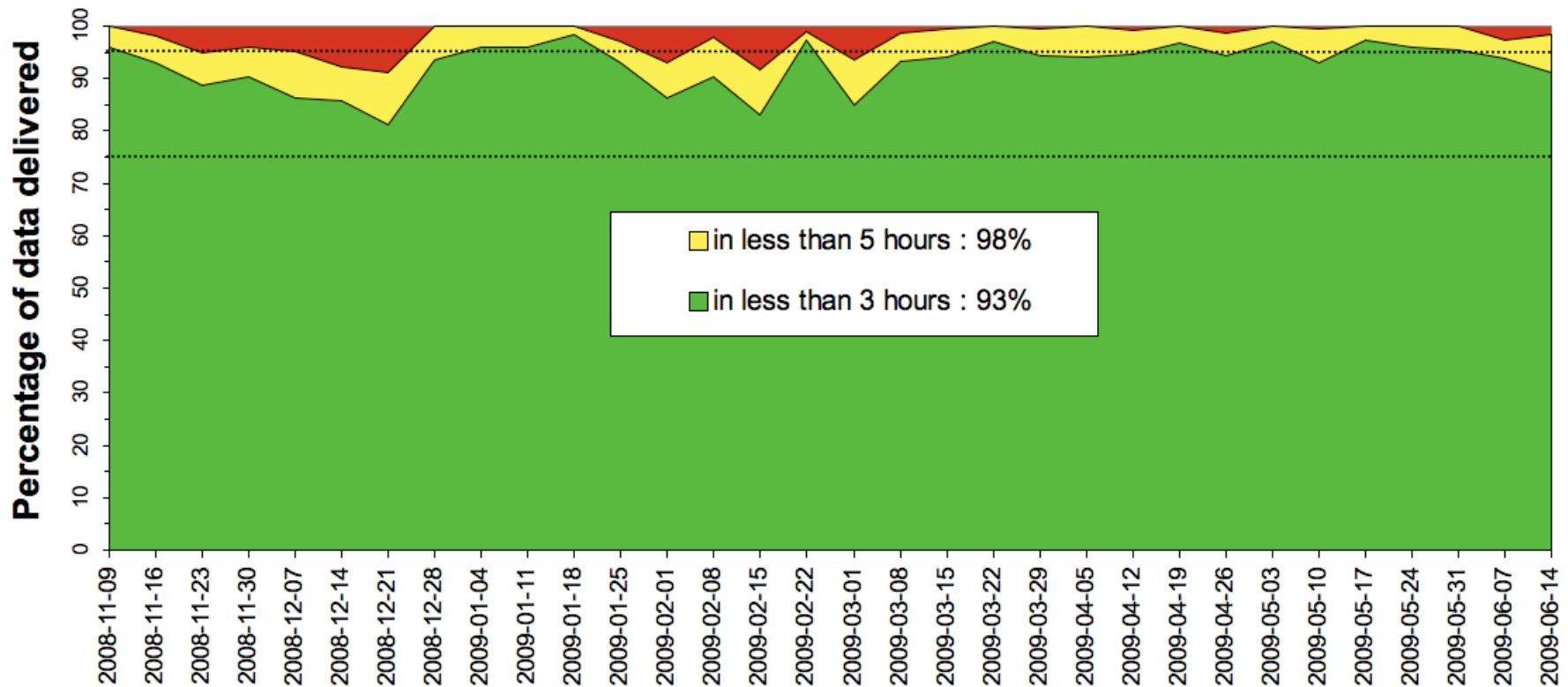
Read duration: 8.3 min

Average Dump File Percentages

Data Type	Avg %
HMTK-R	99.87
PLTM-1	99.87
PLTM-2	99.90

- Requirement: 75% of OGDR data within 3 hours; 95% within 5 hours
- Timeliness statistics since Nov-2008 Nice OSTST
- Public distribution of OGDRs began 15-Dec-2008

OGDR Weekly Timeliness Statistics: Nov-2008 to Jun-2009

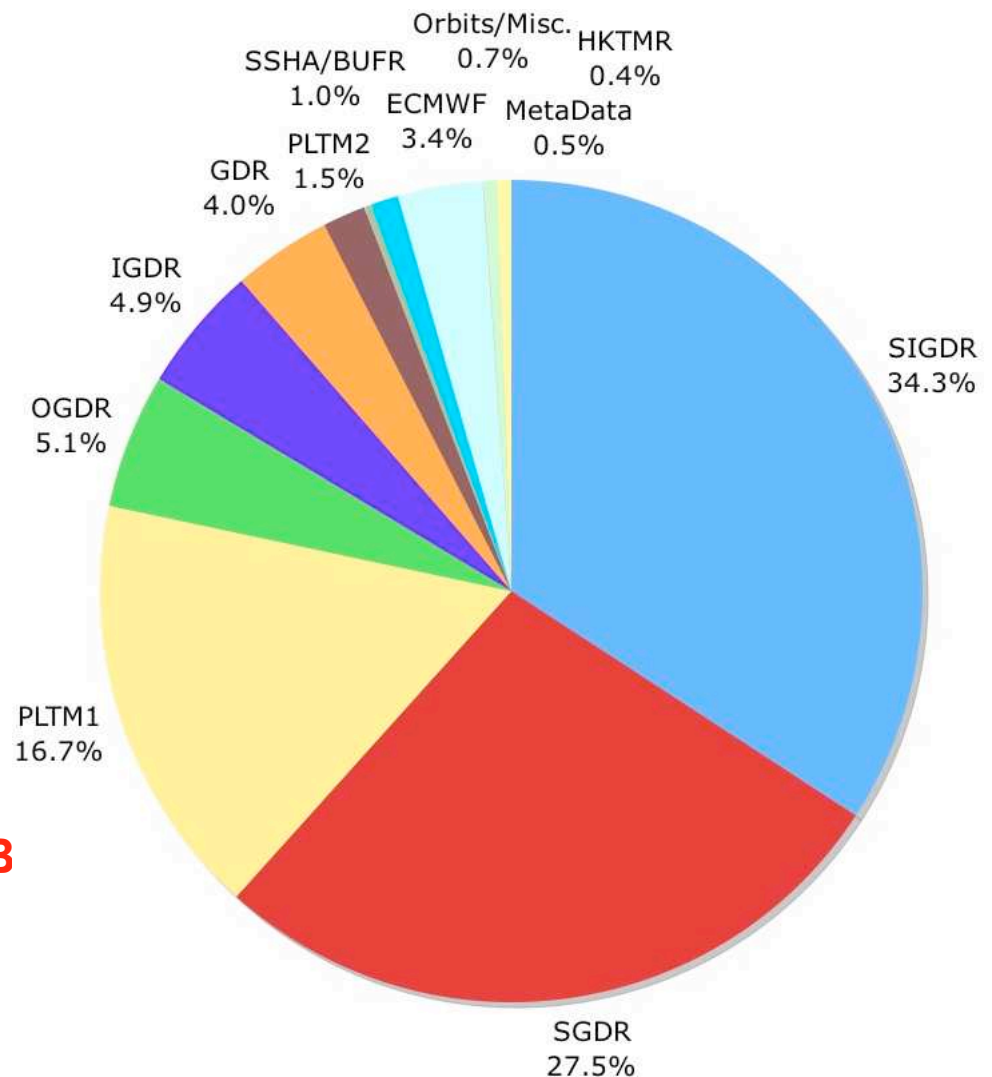




Comprehensive Large Array-data Stewardship System (CLASS) & Data Distribution Server (DDS)



- National Oceanographic Data Center (NODC) provides data stewardship using CLASS archive infrastructure
- Data access controlled by data type: (Public, OSTST, Project-only)
- ~ 30 Jason-2 Users at CLASS
- Online ordering & Subscriptions
- DDS for real-time OGDR users only
- Jason-2 Annual Data Volume: **872 GB** (22-Jun-2008 to 18-Jun-2009)

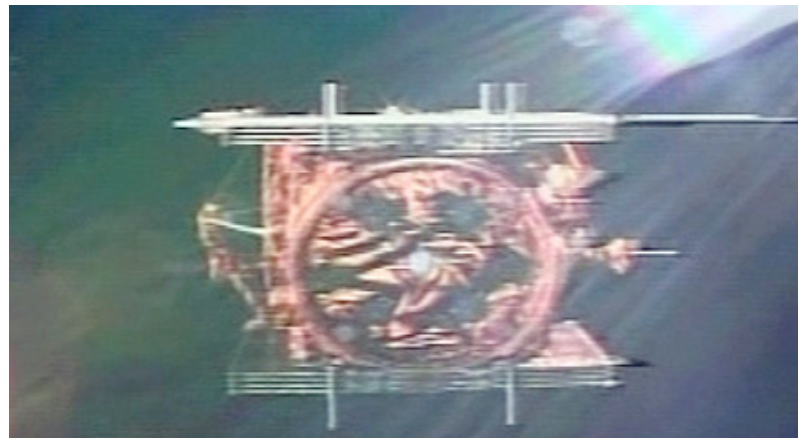




FY09 Jason-2/OSTM Milestones

- 10-Oct-08: Shared Processing Program O/IGDRs to NAVO
- 29-Oct-08: Operational Satellite Command/Control Handover
- 01-Dec-08: Installation of TM-NRT V2.3 at EUM & NOAA
- 15-Dec-08: Public distribution of OGDRs
- 15-Jan-09: Public distribution of IGDRs
- 14-Feb-09: Jason-1 interleaved orbit (drift began 26-Jan)
- 31-Mar-09: NOAA/SOCC transition to high security
- 01-Apr-09: GDR distribution to OSTST (Cycles 999 & 0-28)
- 11-May-09: DEM Upload & 02-Jun-09: OBSW Upload
- 28-May-09: I/GDR ftp file corruption issue resolved
- 04 to 14-Jun-09: DIODE/DEM tracking mode (Cycle-34 only)

Congratulations on 1 Year of Successful Operations!





NOAA Jason-3 Status

- Preliminary letters of intent exchanged among NOAA-EUMETSAT-CNES-NASA
- Target for completion of Memorandum of Understanding: end of calendar year.
- NOAA has proposed \$210M budget for Jason-3, to pay for launch, radiometer, GPS, satellite command and control, telemetry, near real-time data processing, data archiving and distribution.
- On June 12th (10 days ago), US House Committee on Appropriations for Commerce, Justice & Science approved \$20M for an FY10 start
- Now awaiting action by US Senate.



NOAA National Climate Service

- New President - New Priorities
- New NOAA Administrator - Dr. Jane Lubchenco
 - Marine Ecologist, Distinguished Professor - Oregon State Univ.
- Four energy bills currently being considered by US Congress, each includes some form of NOAA National Climate Service
- National Climate Service leadership already selected
 - Tom Karl & Chet Koblinsky
- Sea Level Rise already identified as major theme of proposed new Service.

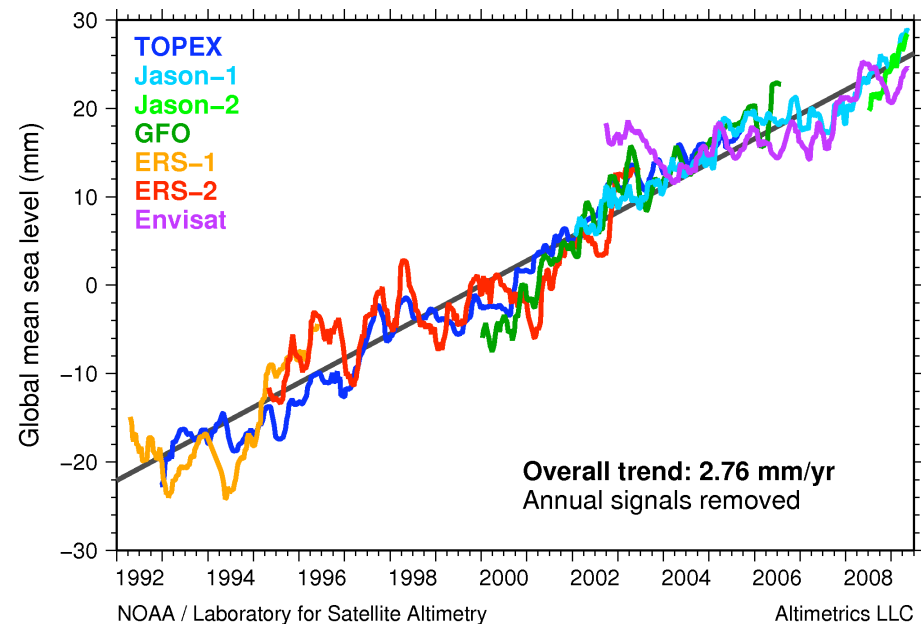
RADS: Towards an Altimetric Climate Data Record

Radar Altimeter Database System (RADS)

- Remko Scharroo, Altimetrics LLC

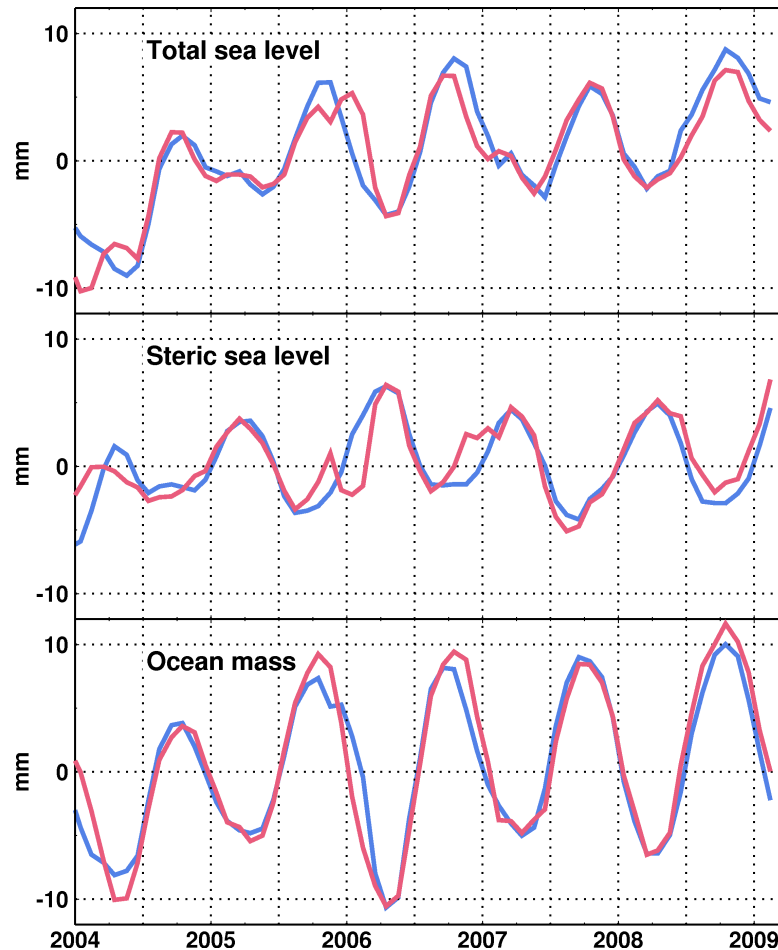
- Developed at TU Delft. Supported by NOAA for past ~10 years.
- Combines observations of **eight** altimeter missions; 1985-present; updated daily.
- Data at fundamental level (1 Hz); standard & alternative corrections and models are user selectable, hence custom-made GDRs on the fly; netCDF output.
- Cross-calibrated measurements & corrections

Global Sea Level Change From
LSQR Fit on 7 Missions



Jason Sea Level Budget

Eric Leuliette - NOAA/LSA



Total Sea Level (Jason) =
Argo + GRACE

Steric Sea Level (Argo) =
Jason - GRACE

Mass Sea Level (GRACE) =
Jason - Argo

Agreement has improved since Leuliette & Miller (2008).



Jason Radiometer Calibration Project

New NOAA project to ensure smooth transition from research to operations, working closely with NASA, CNES, & EUMETSAT

Objectives

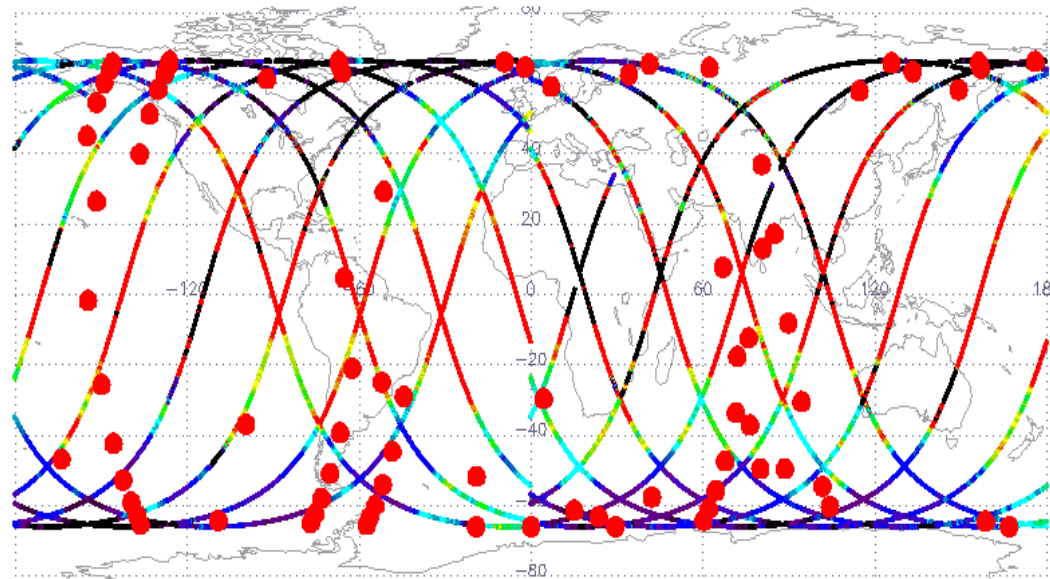
- Establish routine monitoring of instrument performance
- Perform inter-satellite calibration (Jason 1&2, AMSU, SSMI, etc.) for accuracy and long-term drift assessment
- Investigate calibration improvements and provide feedback on Jason-3 design
- Overall Objective - Climate Data Record

NESDIS/STAR Team

- Dr. Changyong Cao, calibration scientist
- Dr. Ding (Ellen) Liang, microwave engineer, calibration & algorithms
- Drs. Fuzhong Weng and Song Yang, MW water vapor retrieval
- LSA (Remko Scharroo, Eric Leuliette, John Lillibridge, Laury Miller)
- Dr. David Walker, NIST, noise diode & MW blackbody calibration standards

First Look at Simultaneous Nadir Overpasses (SNOs) Between Jason2/AMR and MetOP/AMSU

Both Jason2/AMR and AMSU have a nadir looking 23.8 GHz channel



Red dots show SNOs occurring within 30 sec. between Jason 2 and MetOP
Sample Jason 2 orbits used as background.