



Understanding  
the Interaction  
Between Ocean  
Circulation, the  
Water Cycle,  
and Climate by  
Measuring  
Ocean Salinity

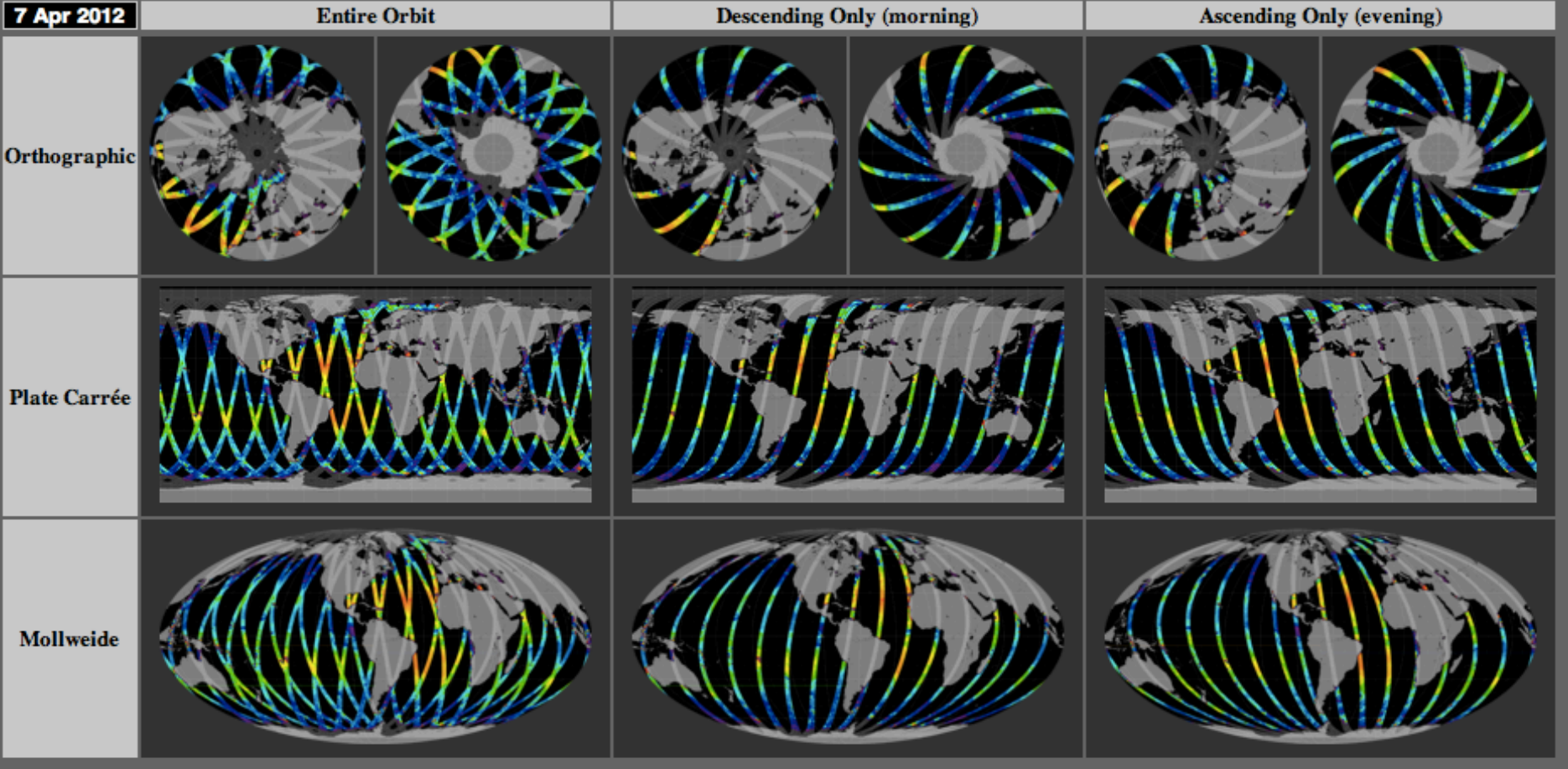
Aquarius/SAC-D

Aquarius Project Status  
7<sup>th</sup> Aquarius/SAC-D  
Science Team Meeting  
11 April 2012

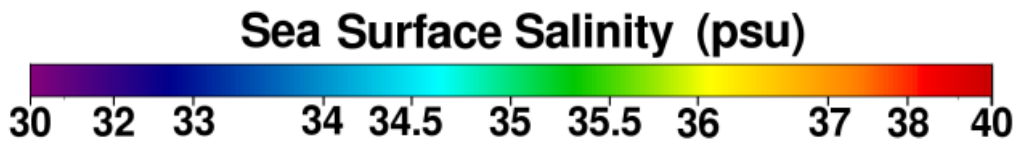




# Aquarius Daily Sea Surface Salinity

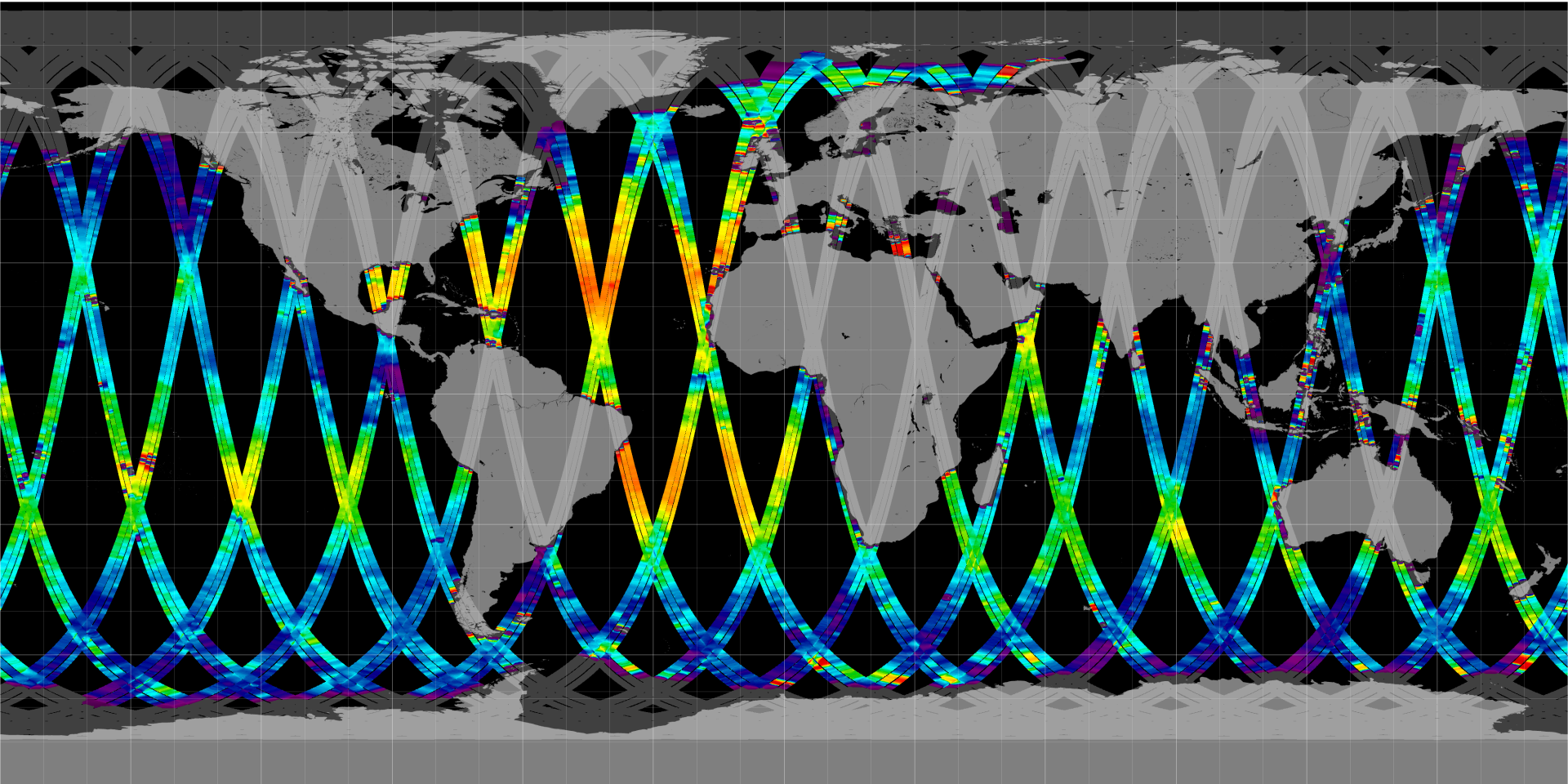


[Previous day](#) [Show weekly](#) [Show monthly](#)

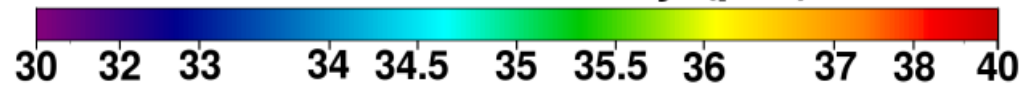


# Aquarius Daily Sea Surface Salinity

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Sea Surface Salinity (psu)

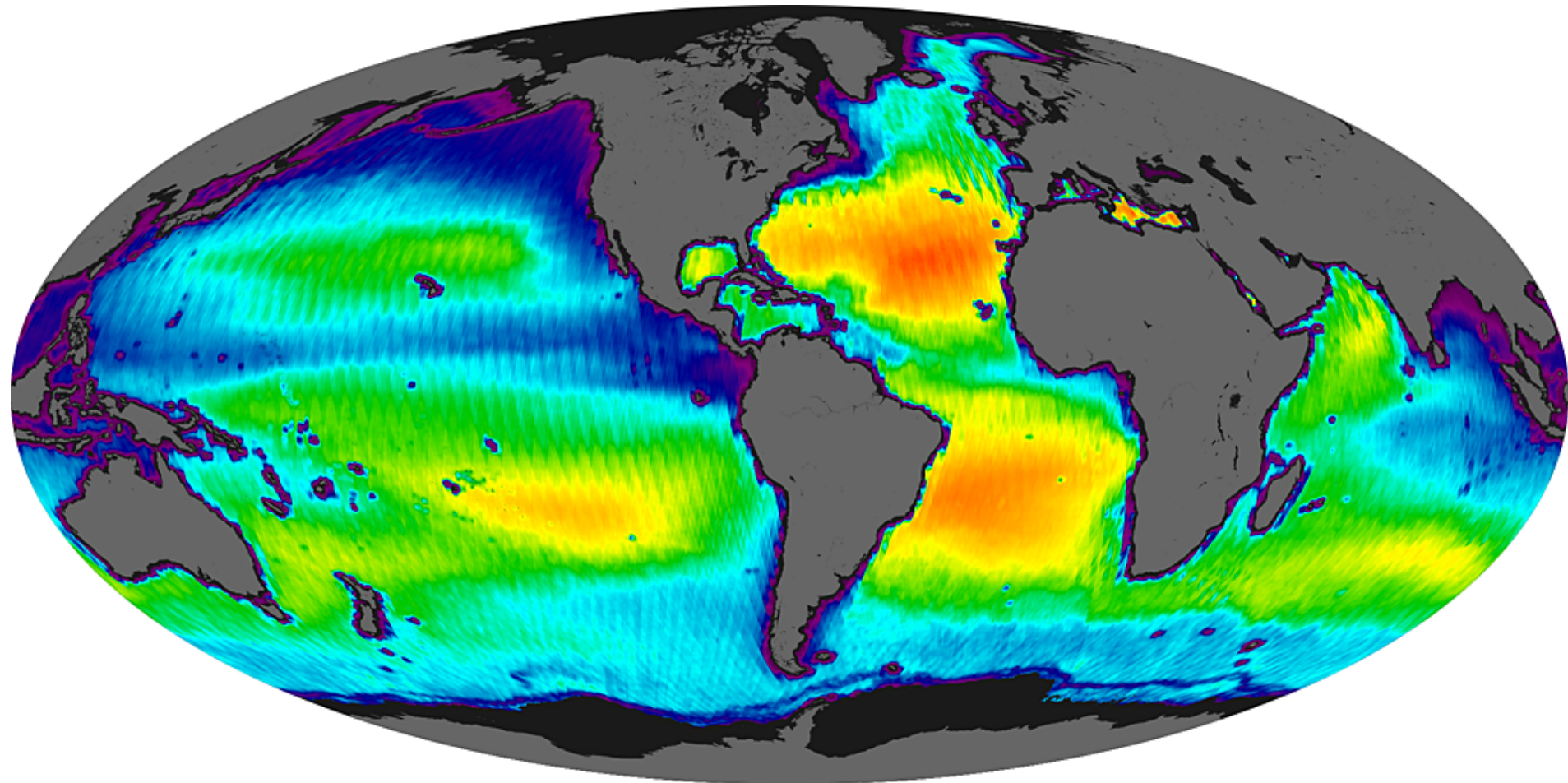




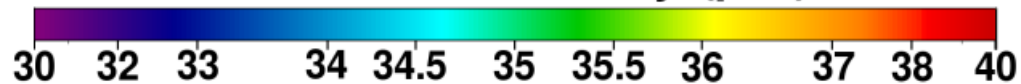
# Aquarius Mission-long Sea Surface Salinity

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25 August 2011 – 6 April 2012



Sea Surface Salinity (psu)



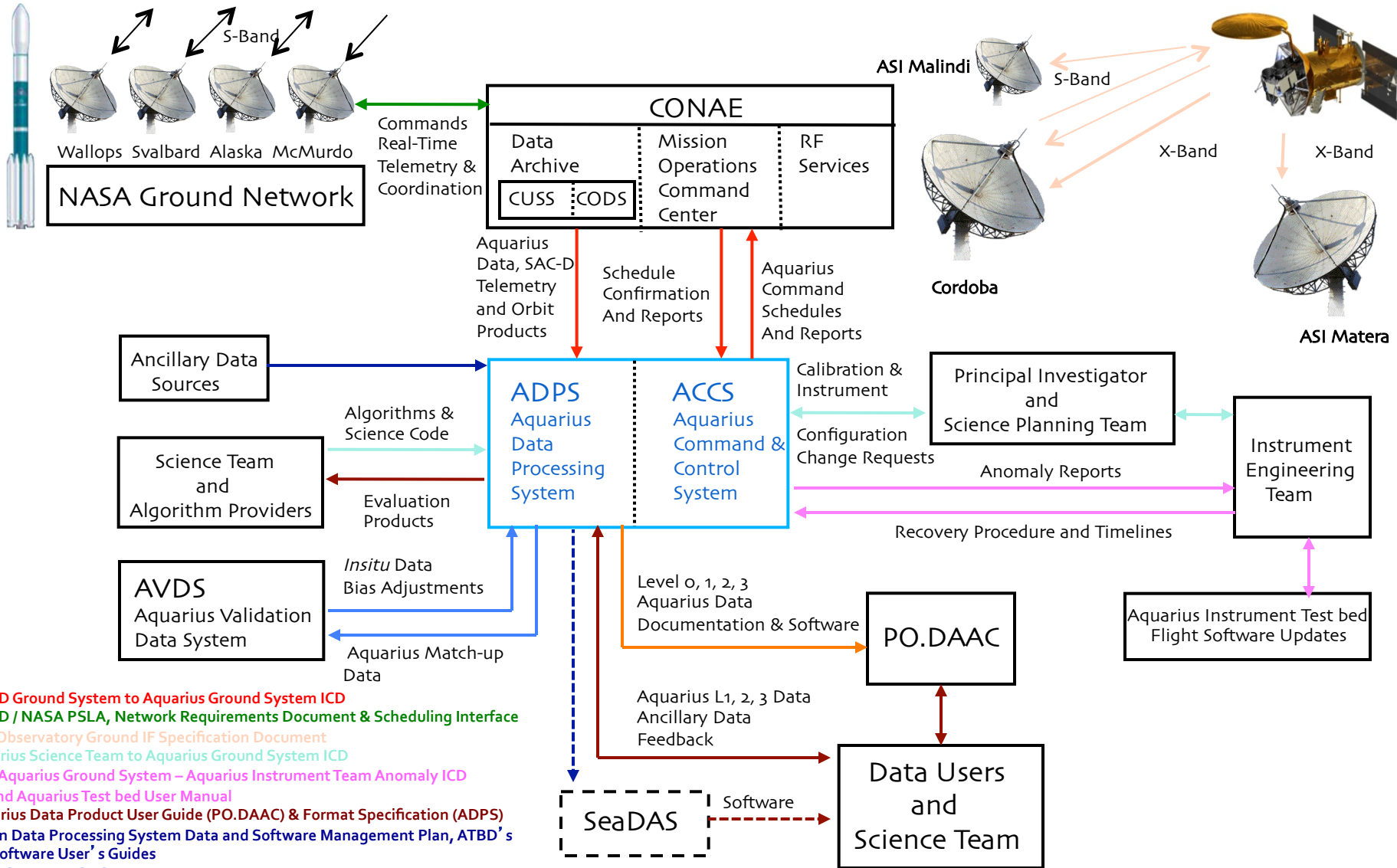
# Aquarius Project Status

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- AQ project management transferred to GSFC for Phase E operations on Dec 1, 2011 after a successful NASA Aquarius PLAR and with centers/program/HQ concurrence.
  - GSFC assumed full project management and fiscal responsibility
  - GSFC operates the Aquarius Ground System and provides radiometer and Deputy P.I. support
  - JPL maintains roles in science team, instrument engineering support, and official NASA science data archive/access throughout Phase E
  - JPL to complete remaining Phase D activities including support of SAC-D PLAR
  - SAC-D PLAR is planned for May 15, 2012
- AQ flight and ground systems all nominal; AQ science cal/val team has made great progress since first light and V1.3 data products are now in the operational forward stream and viewable online at:

<http://oceancolor.gsfc.nasa.gov/cgi/aquarius>.

# Aquarius Ground System Interfaces



- 1- SAC-D Ground System to Aquarius Ground System ICD
- 2- SAC-D / NASA PSLA, Network Requirements Document & Scheduling Interface
- 3- SD - Observatory Ground IF Specification Document
- 4- Aquarius Science Team to Aquarius Ground System ICD
- 5- AQ - Aquarius Ground System – Aquarius Instrument Team Anomaly ICD and Aquarius Test bed User Manual
- 6- Aquarius Data Product User Guide (PO.DAAC) & Format Specification (ADPS)
- 7- Ocean Data Processing System Data and Software Management Plan, ATBD's and Software User's Guides
- 8- AVDS to ADPS ICD
- 9- Aquarius Ground System to PO.DAAC ICD

# Aquarius Ground System Responsibilities 1/2

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The Aquarius Ground System at NASA/GSFC consists of:  
Aquarius Data Processing System (**ADPS**) and the  
Aquarius Command and Control System (**ACCS**)

- The ADPS supports the:
  - Acquisition and ingest of Aquarius/SAC-D data from CONAE.
  - Acquisition of dynamic ancillary required to support the science processing.
  - Processing of Aquarius data to standard and evaluation product levels using algorithms provided by the Science Team.
  - Quality control of data products using methods specified by the Science Team.
  - Match-up of Aquarius data with *in situ* salinity measurements and provide to AVDS.
  - Archive and distribution of all data products during the active life of the mission.
  - Delivery of ALL Aquarius data products to the PO.DAAC regardless of validation status.

# Aquarius Ground System Responsibilities 2/2

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The **ACCS** supports:

## **Aquarius Routine Command Planning**

- Science Data X-band Downlinks
- Schedule Cold Sky Calibrations

## **Aquarius Offline State-of-health Analysis**

- Receipt of Aquarius/SAC-D science and housekeeping data from the ADPS.
- Receipt of Aquarius/SAC-D pass prediction files, acquired by the ADPS from CONAE.
- Processing of Aquarius/SAC-D housekeeping and Aquarius science data for the purpose of monitoring instrument trends and state-of-health.
- Publishing of telemetry trends and alarms to Web-based tools to enable off-site health checks.

## **Anomaly Detection and Notification**

- Support Aquarius Instrument Operations Team in anomaly resolution

Both the ADPS and ACCS are be supported within the existing infrastructure of the GSFC Ocean Biology Processing Group (OBPG).



## Summary

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I would like to express my thanks to all of our colleagues from CONAE for their dedication, incredibly hard work and long hours, technical skills and most importantly, for being the most incredible team mates that I have ever had the privilege of working with.

Con todo mi corazón, gracias