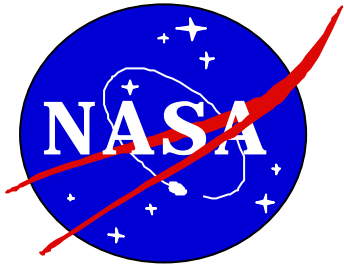


The Ocean Surface Topography Science Team

Bill Emery and Eric Lindstrom

NASA HQ

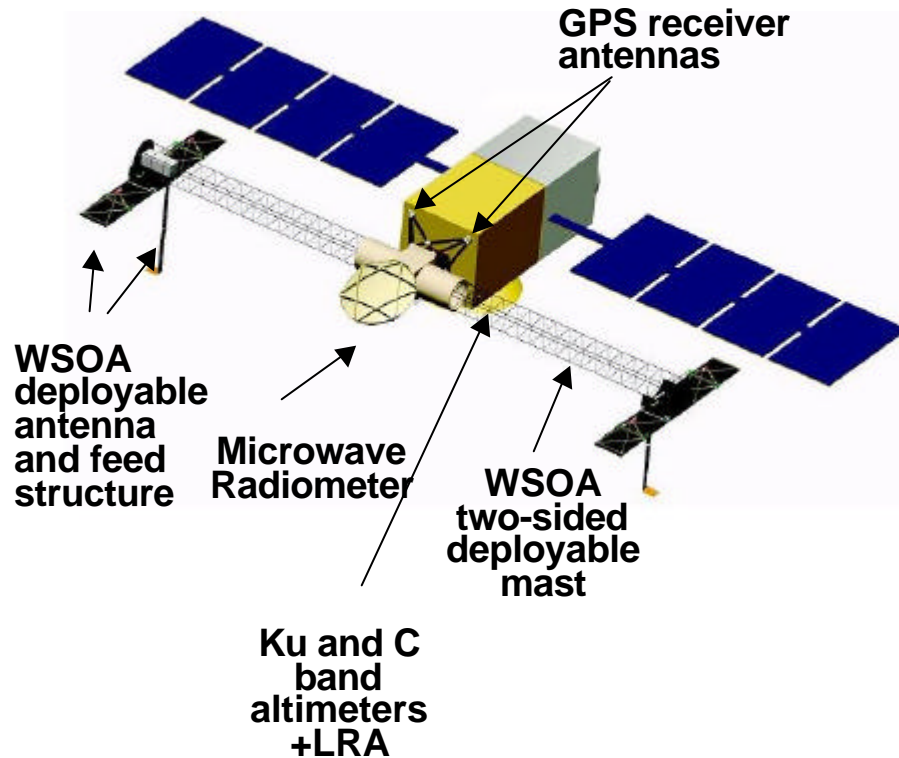
Wash. DC



Ocean Surface Topography Mission + Wide Swath Ocean Altimeter **Concept**

Objectives:

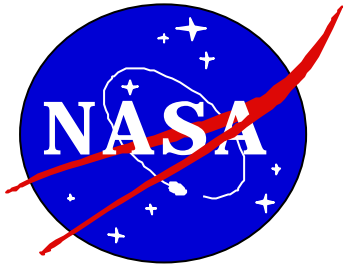
1. To continue the time series of high quality nadir altimeter measurements.
2. To test and demonstrate (if funds allow):
 - Wide swath coverage of ocean topography
 - Reconstruction of littoral tides and inverse bathymetry estimate
 - Full space-time coverage of ocean mesoscale structure



Description: Real aperture radar interferometer provides height measurements across a 200 km wide swath at 500 m across track by 12 km along track with postings at 6 km. Additional ground processing produces 15 km X 15 km product.

Equipment:

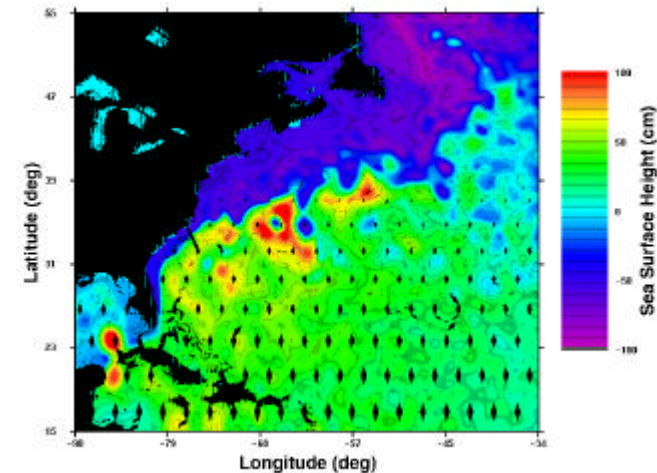
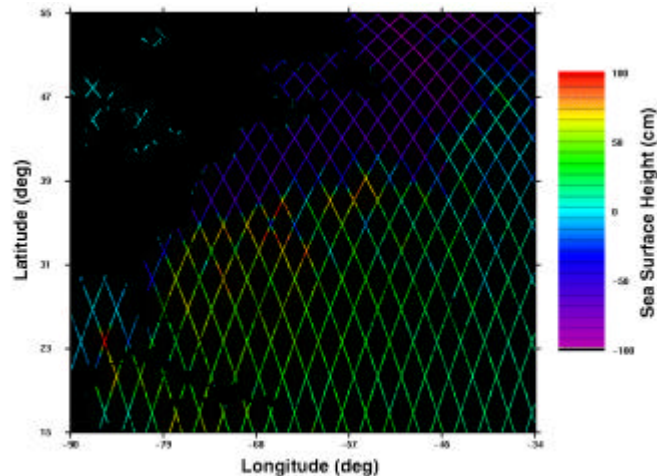
- Ku band radar interferometer
- Ku and C band nadir altimeters
- Three-frequency radiometer
- Laser retroreflector array
- GPS receivers for precision orbit
- DORIS beacon

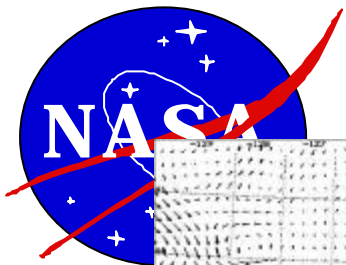


Reasons to fly the WSOA

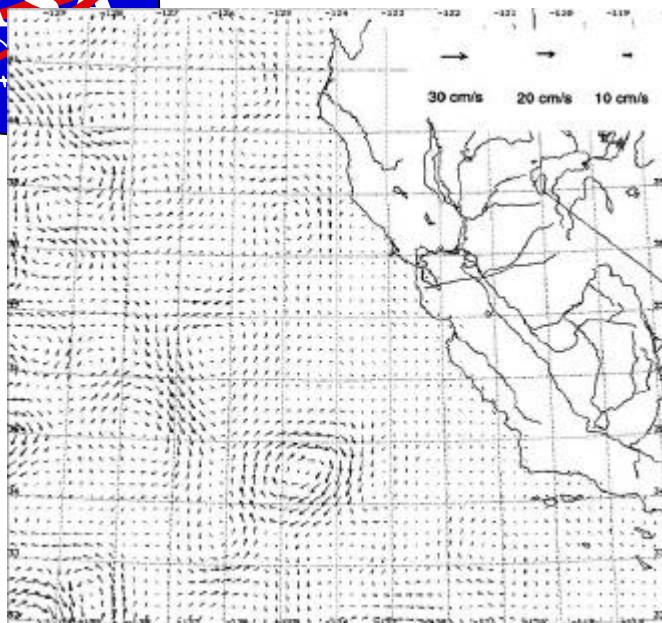
- NASA would fly a single nadir altimeter mission
- NASA would use funds to procure a launch vehicle

- If we can find a partner to launch the satellite we can include the WSOA and provide a much more comprehensive view of the ocean's surface.

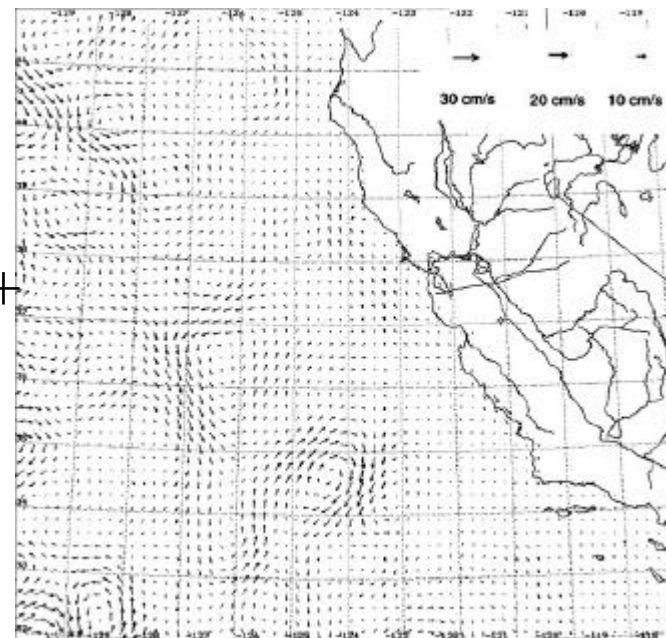




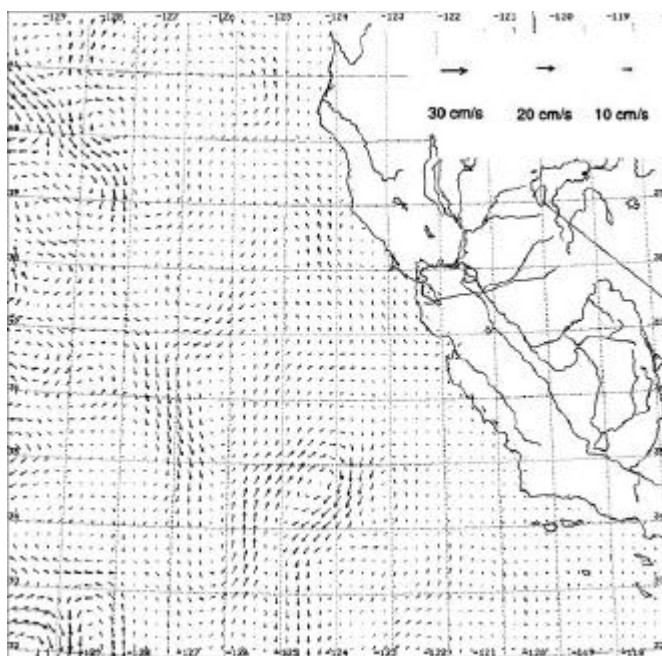
Vector Differences between 1 km “truth” and altimeters



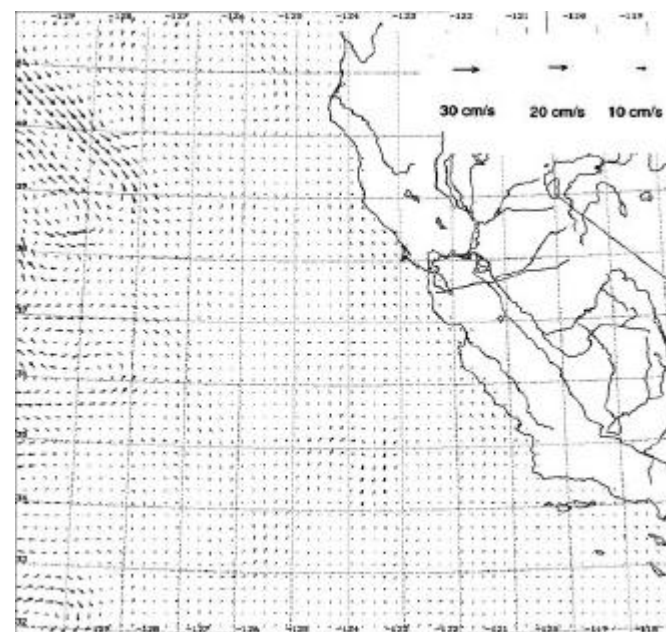
Jason only



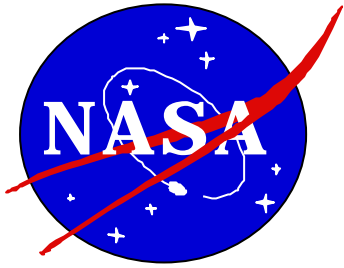
Jason +
TP,
GFO,
ERS-2



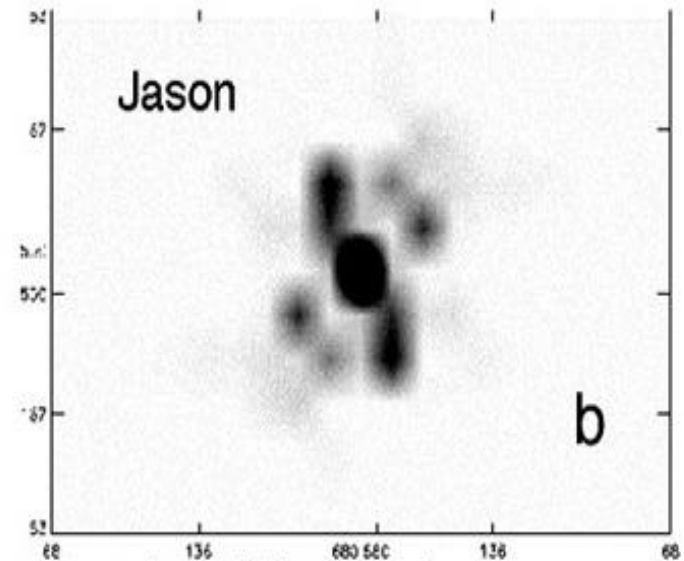
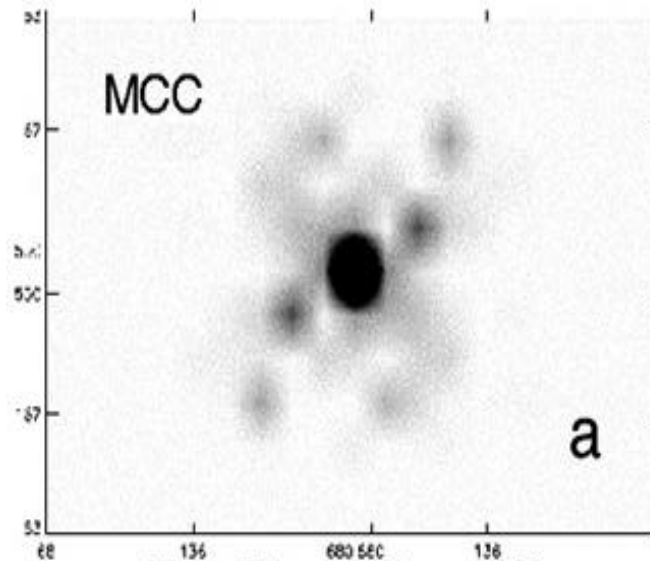
Jason +
TP



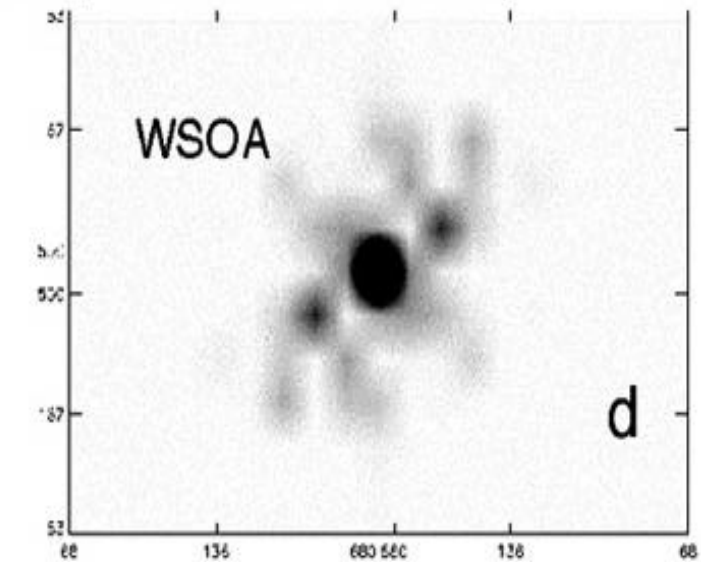
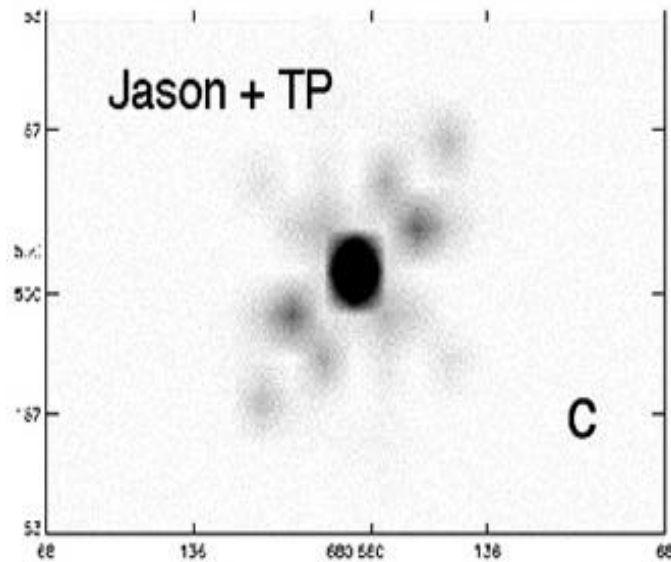
WSOA

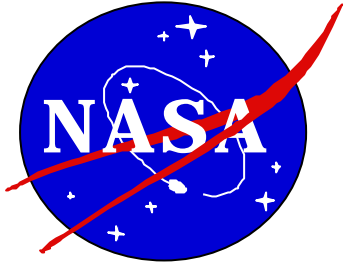


Wavenumber Spectral Comparisons



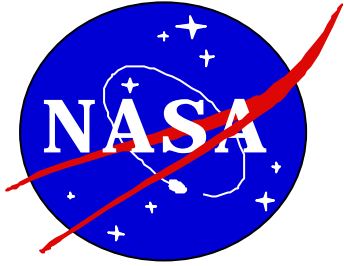
Two Dimensional Wavenumber Spectra of the U velocity





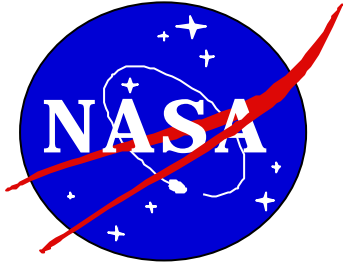
The Unique Character of the OST Mission

- This altimeter mission will be turned over to NOAA and EUMETSAT for its daily operation and maintenance. NASA's Earth Science Enterprise is not going to fund another nadir viewing altimeter to continue the time series and the future responsibility to continue this time series must be picked up by NOAA, NPOESS and EUMETSAT.
- As a consequence we expect science support to extend to include NOAA and other (ie high latitude) science participants.



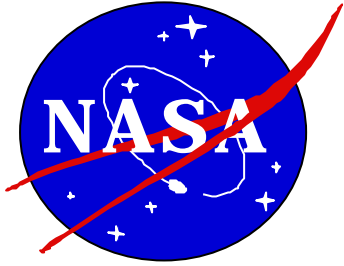
The Unique Character of the OST Mission

- Science focus is on Ocean Surface Topography which includes both present and future missions in general applications of satellite altimetry data. In addition pre-launch, cal/val and other developmental efforts are supported.
- ^a Most critical element is to continue the time series of nadir altimetry started with TP and continue with Jason. This is the operational aspect of this project and what is being turned over to NOAA and EUMETSAT.



Emphasis of the Science Team

- There continue to be two main themes:
 - Assure the delivery, quality and awareness of the most precise ocean surface topography data set for research and applications.
 - Funding scientific data products based on ocean surface topography data set such as:
 - cartographic data (global, regional, processes)
 - Other application (gas exchange, hydrology, biology)



Ocean Surface Topography Science Team

- Hoped the NRA would appear in March and it finally made it out at the end of July with a closing date of Oct. 31.
- We have >80 proposals from many of you which we are in the process of selecting reviewers and assigning proposals
- We are organizing a review panel that we hope to hold in early Feb to review all 80 proposals to hopefully accelerate the selection process. Since most of you are Pis you will not be asked to participate on this particular review panel.
- If we can conclude selection by the end of March it will then take about 3 months to negotiate and issue contracts. Thus, don't expect new funding until July 1, 2004.