PROMOTING OSTST SCIENCE, RESEARCH, AND SOCIETAL BENEFITS

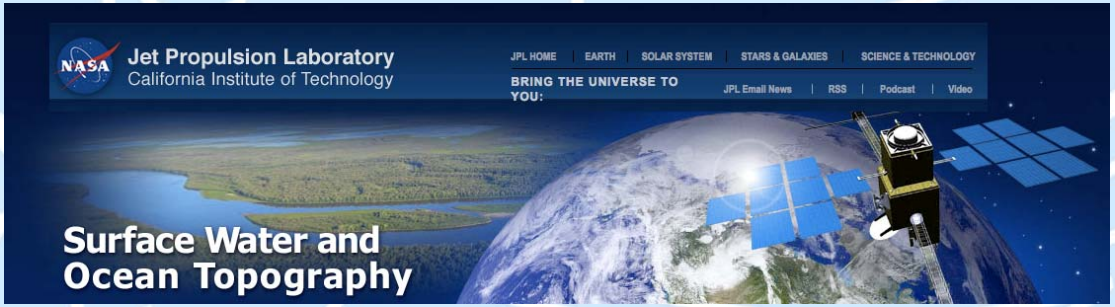
Margaret Srinivasan
Altimeter Applications Lead
Jet Propulsion Laboratory
California Institute of Technology

Ocean Surface Topography Science Team Meeting
18-20 October 2010
Lisbon, Portugal

Web Resources

NASA/JPL OST "Sealevel" http://sealevel.jpl.nasa.gov

NASA/JPL SWOT http://swot.jpl.nasa.gov

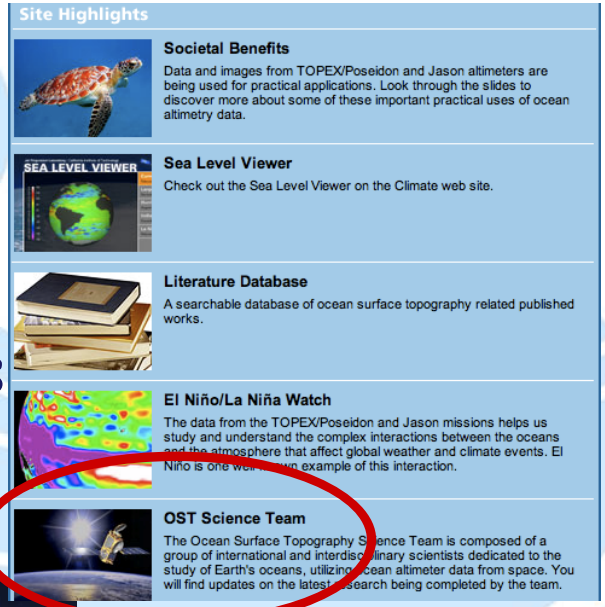


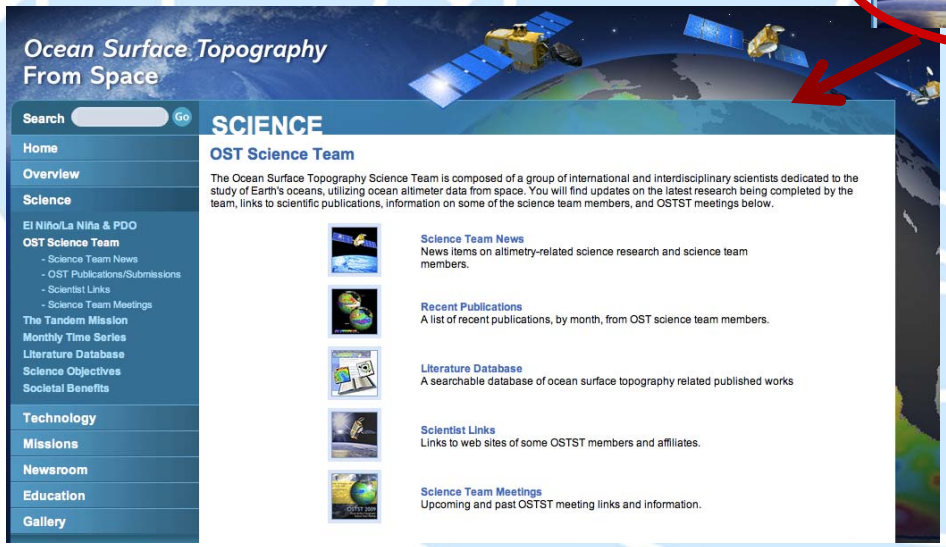
NASA Climate Change http://climate.nasa.gov/

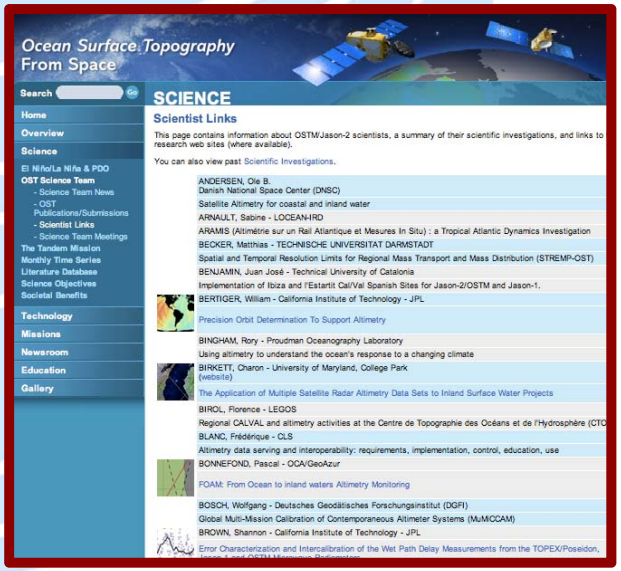
Promoting the OSTST

WEB

- Feature stories
- Literature database
- Science Team pages
- Newsroom Press Releases
- Sea Level







Scientist Links

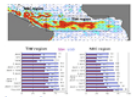
- Missing → many CNES science plans
- Science Investigations
- Science Team News
- Latest Citations

Advanced Altimeter Data Assimilation for Physical Ocean Prediction and Ecosystem Monitoring

Authors:

Jacques Verron
(LEGI/CNRS)

Co-Investigator(s):
Joaquim Ballabrera
(CSIC)
Eric Blayo, Laurent Debreu, Maelle Nodet, Arthur Vidard
(LJK)
Laurent Bertino, Geir Evensen
(NERSC)
Jean Michel Brankart, Pierre Brasseur, Emmanuel Cosme, Achim Wirth, Bernard Barnier, Thierry Penduff
(LEGI)
Lionel Gourdeau
(IRD)
Jens Schröter
(AWI)
Peter-Jan
(UU)



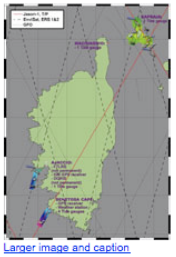
Larger image

Abstract:

The general objectives of this project are to imp
data and other data into ocean and ecosystem
in the prospect of programmes such as GMES
climate (CLIVAR, IMBER) and the related obser

Data assimilation methodological approaches wi
statistical optimal estimation and optimal contro

FOAM: From Ocean to inland waters Altimetry Monitoring



Larger image and caption

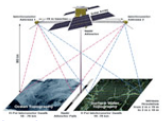
Authors:
Pascal Bonnefond
(OCA/GeoAzur)

Co-Investigator(s):
P. Exertier, O. Laurai
(OCA/GeoAzur)
Y. Ménard
(CNES)
F. Lyard, S. Calmant
(LEGOS)
G. Jan
(NOVELTIS)
V. Ballu
(IPGP)

Abstract:

In collaboration with the CNES and NASA oceanographic pr
the OCA developed a verification site in Corsica since 1996
CALibration/VALidation embraces a wide variety of activities
interpretation of information from internal-calibration modes
of the fully corrected sea-level estimates using in situ data.
Harvest platform (NASA side), an operating calibration sites
continuous monitoring with a high level of accuracy: a 'point
instantaneous bias estimates with a 10-day repeatability of
deviation) and mean errors of 3-4 mm (standard error).

**Wide swath altimetry for high resolution oceanogr
hydrology: the SWOT mission**



Larger image

Authors:
Nelly Mognard
(LEGOS)

Co-Investigator(s):
Paul Bates
(University of Bristol)
Lee-Lueng Fu
(California Institute of Techn
Douglas Alsdorf
(OSU)
Ernesto Rodriguez
(California Institute of Techn

Abstract:

A critical drawback of profiling altimeters for the ocean is the 200 t
between orbital tracks that prevents sampling of two-dimensional
mesoscale processes that contain 90% of the kinetic energy. In co
observations, surface fresh water measurements are limited mostly
of gauges that record water surface elevations at fixed points along
SWOT (Surface Water Ocean Topography) mission will provide a g
improved resolution that will revolutionize the ocean and hydrology

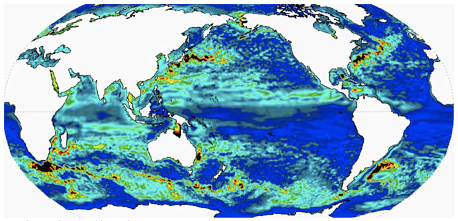
The SWOT mission ocean science questions are:

1. What is the small-scale (1-100 km) variability of ocean surface topography that determines the velocity of ocean currents? How are fronts and eddies formed and evolving? How is oceanic kinetic energy dissipated?
2. What is the synoptic variability of coastal currents? How do the coastal currents interact with the open ocean variability? What are the effects of coastal currents

MERCATOR, Global Operational Ocean Monitoring and Forecasting

Authors:
Eric Dombrowsky
(MERCATOR OCEAN)

Co-Investigator(s):
Pierre Bahurel
Dominique Obaton
Yann Drillet
(Mercator Océan)
Marie Drevillon
(CERFACS)
Mounir Benkiran
(CLS)
Didier Jourdan
(SHOM)



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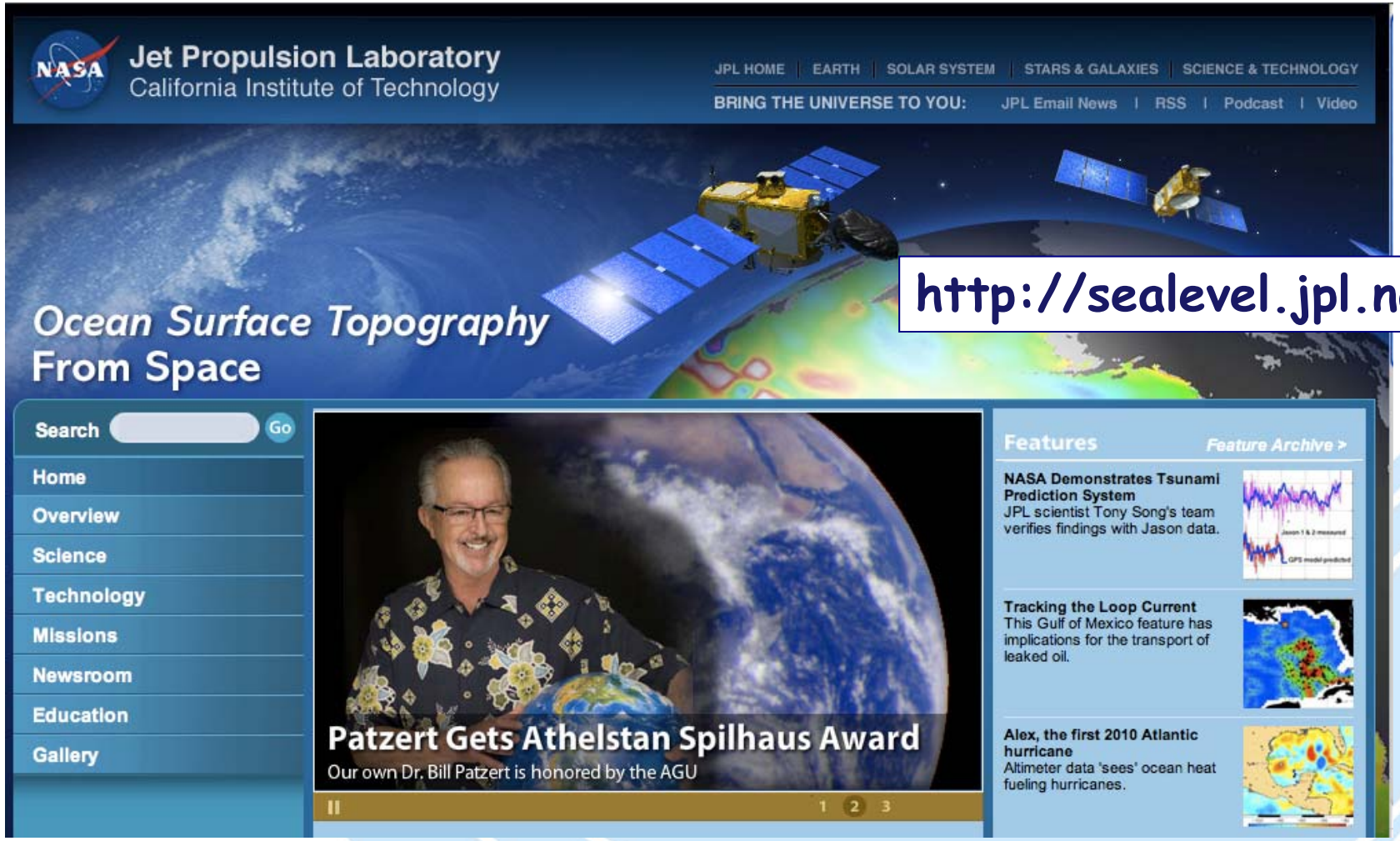
Abstract:

Promoting the OSTST

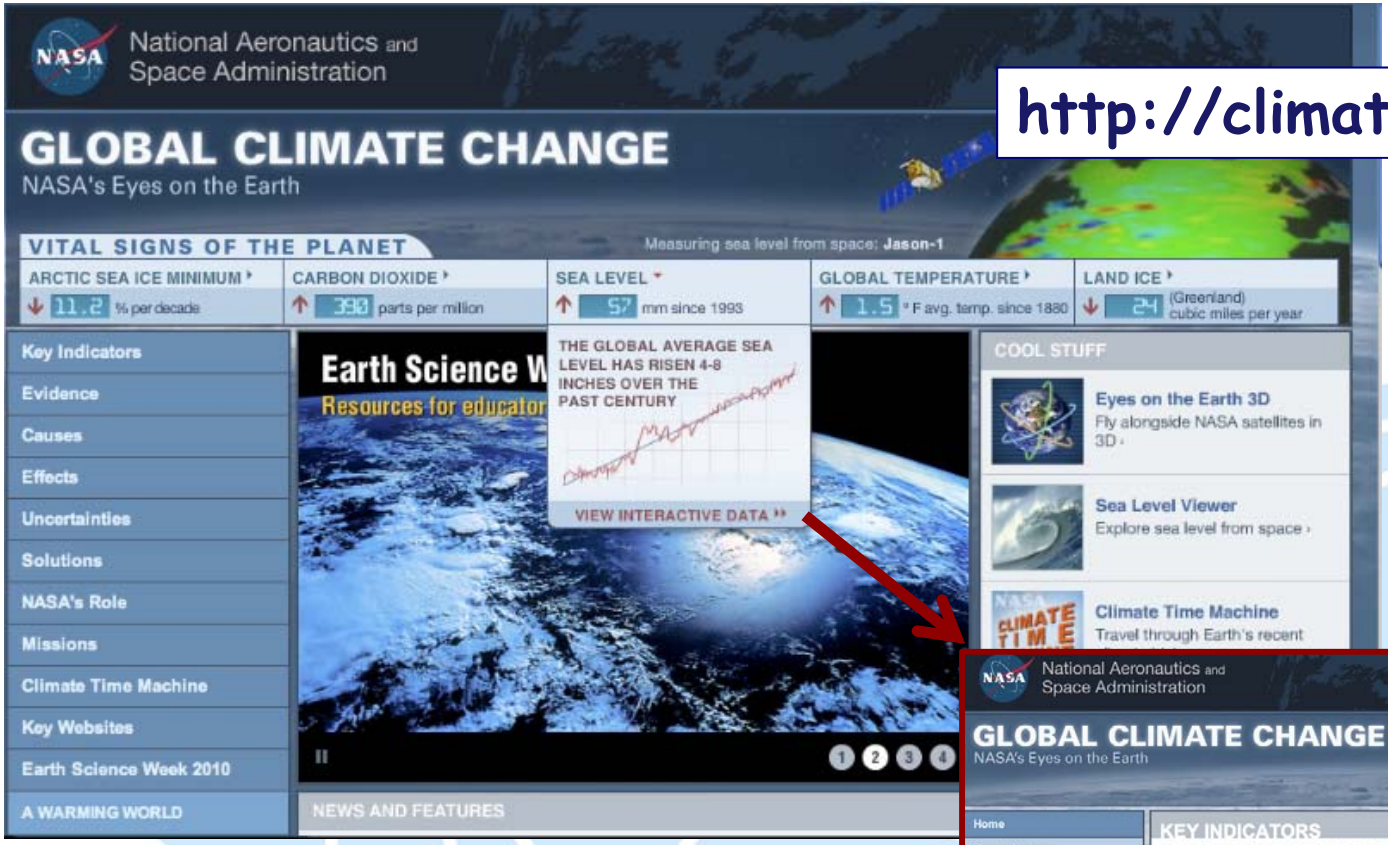


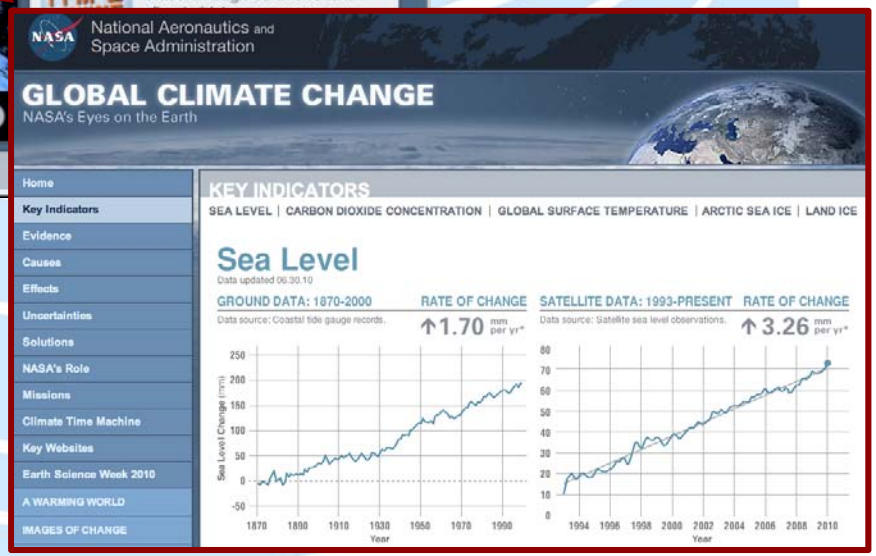
Opportunities to promote your:

➔science ➔research ➔activities ➔awards

Promoting the OSTST

http://climate.nasa.gov





Promoting the OSTST

NON-WEB

- Science Results Posters
- Banner stands

Banner stands

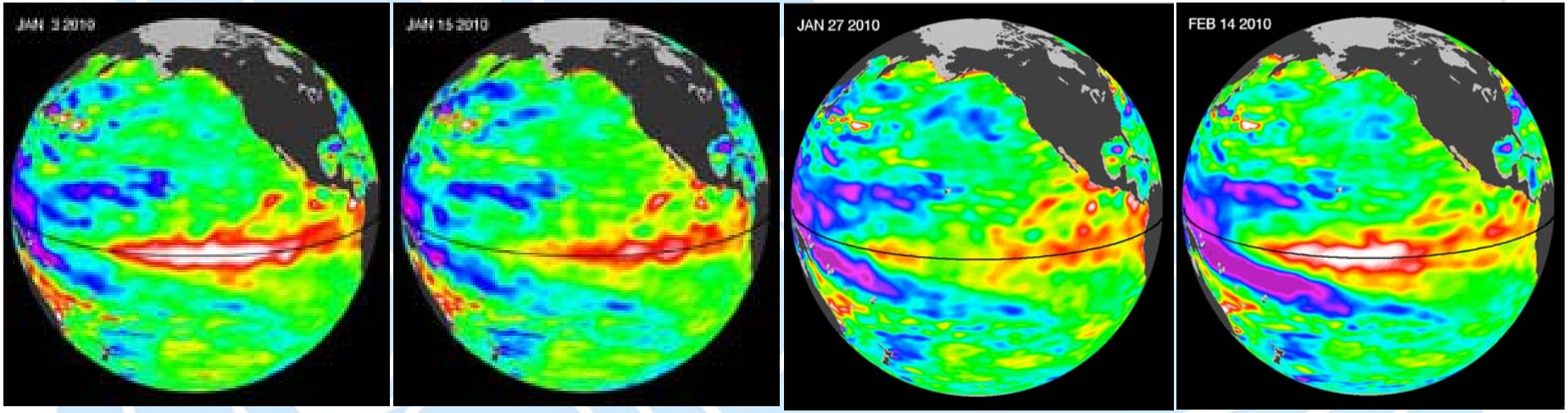
Science Results Posters

Societal Benefits Web Page

Methods

- ***Features*** – *monthly updates, blogs, image releases*
- ***Science Investigations*** – *summaries 40% complete*
- ***Literature Database*** – *quarterly updates*
- ***Societal Benefits*** – *slides downloadable*
- ***Email listserve*** – *sharing new science results*
- ***Science Results poster series***
- ***Display graphics*** – *banner stands*

El Niño 2009/2010

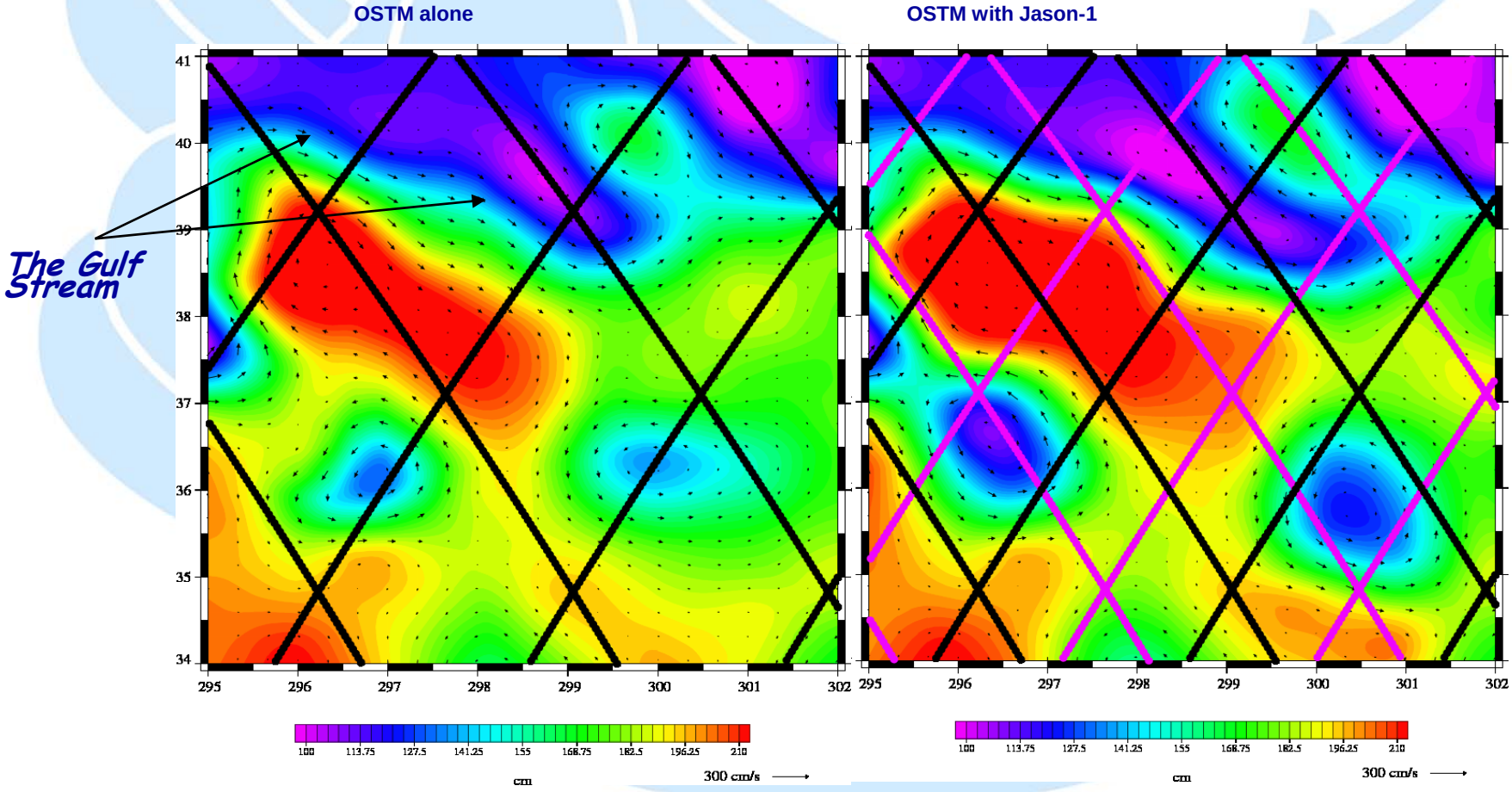


The eastward propagation of a warm Kelvin wave (red to white color) is apparent in these images from the U.S./European Ocean Surface Topography Mission/Jason-2 oceanography satellite data.

Jason-1 & OSTM Tandem Mission

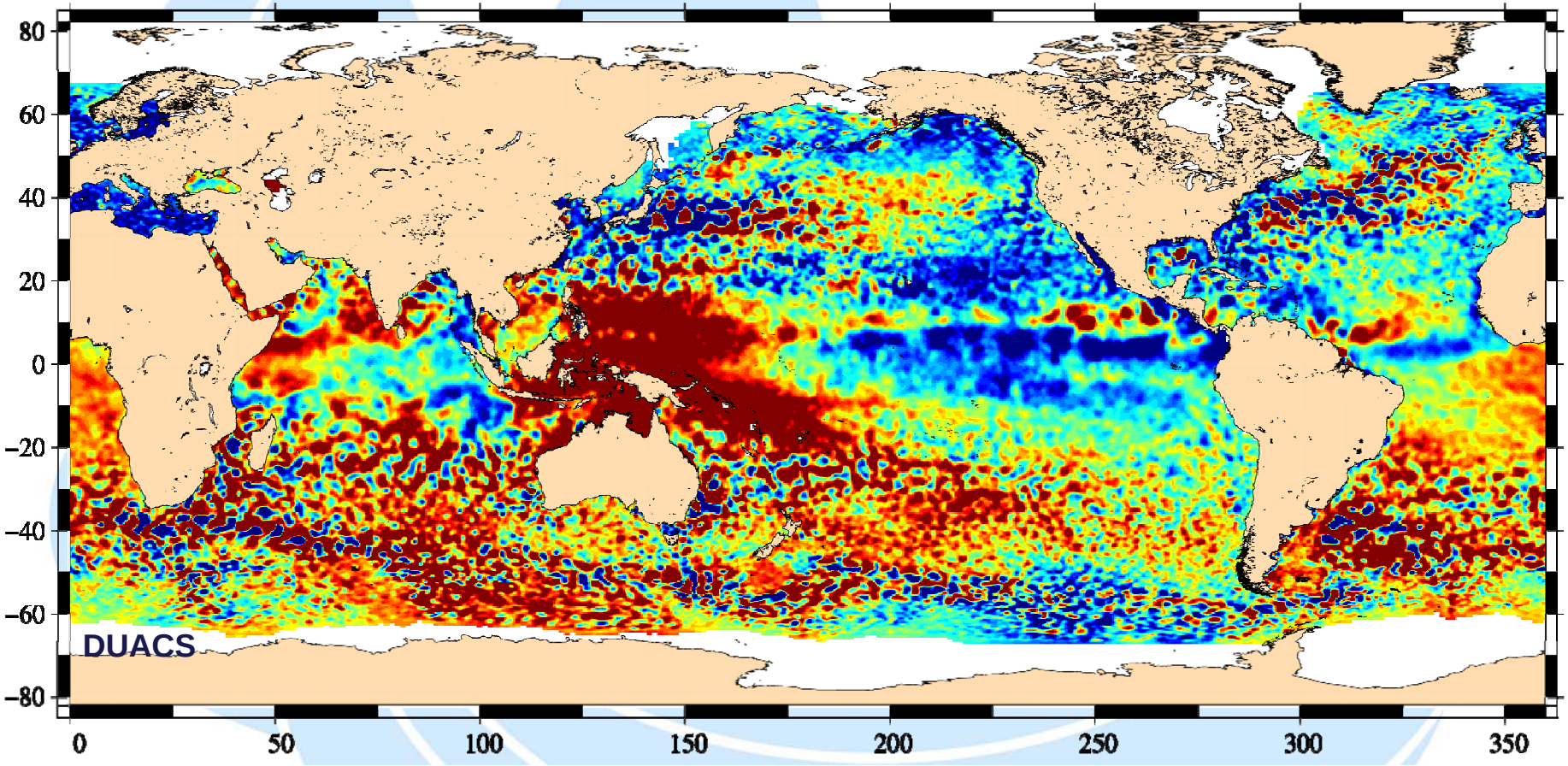
Enhanced Science Return Clearly Demonstrated

Jason-1 was maneuvered into a new orbit with ground tracks interleaving those of OSTM with a 5 day offset in time for maximum sampling of small-scale ocean features like currents, fronts and eddies.



Sea Level Anomaly

Jason-1 + OSTM/Jason-2



Global map of sea surface height anomalies from combined OSTM + Jason-1 observations in the interleaved tandem mission. The eddy field revealed by the map contains 90% of the kinetic energy of ocean circulation.

JPL Web Site – Image Release

Jet Propulsion Laboratory
California Institute of Technology

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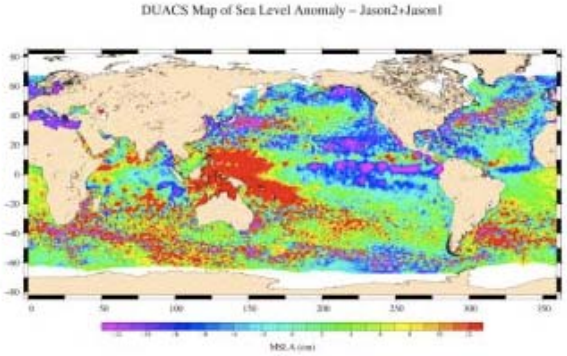
PIA11859: First Jason-1 and OSTM/Jason-2 Tandem Global View



Target Name:	Earth
Is a satellite of:	Sol (our sun)
Mission:	Jason-1 (TOPEX/Poseidon) OSTM/Jason-2
Spacecraft:	Jason-1 (TOPEX/Poseidon) OSTM/Jason-2
Instrument:	Altimeter
Product Size:	3508 samples x 2479 lines
Produced By:	JPL
Full-Res TIFF:	PIA11859.tif (26.09 MB)
Full-Res JPEG:	PIA11859.jpg (1.128 MB)

Click on the image to download a moderately sized image in JPEG format (possibly reduced in size from original).

NASA's Planetary Photojournal

Your help…

- Consider potential and operational applications of your research

- Estimate the economic/practical effects/benefits

- Get your story out into the public domain;
  - Feature
  - Press Release
  - Image Release
  - Awards, Honors, Milestones

Your help…

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Obrigada!