AVISO and PO-DAAC
serving altimetry data users

K. Case[1], N. Picot[2]
(1) Nasa/JPL, USA (2) Cnes, France
Nicolas Picot - E-mail: nicolas.picot@cnes.fr

PO-DAAC and AVISO GDR user teams around the world

Ten years of data from Topex/Poseidon have spawned a broad range of services for distributing, promoting and exploiting products from various altimetry missions. Now, users are set to benefit from new products and services derived from the Jason-1 mission.

Topex/Poseidon reached its tenth year in service last year. During those ten years of operation, the associated user services on both sides of the Atlantic—AVISO for CNES and PO-DAAC for NASA—have validated, distributed and promoted the data from this mission on a day-to-day basis. Over 200 million sea level anomaly (SLA) data products have been distributed on more than 30,000 CD-ROMs. Interim Geophysical Data Records (IGDRs) and Geophysical Data Records (GDRs) have made a vital contribution to worldwide oceanography research. Indeed, the uniform data the satellite has delivered throughout its lifetime (the same references and models were used for the entire series of merged GDRs) have been a cornerstone of this research effort. These distribution structures have in turn fostered new scientific and commercial applications.

Products aimed more at the lay public have progressively been derived from these generic products. The current circle of GDR users is limited to about 250 research teams, but Maps of Sea Level Anomaly (MSLA) grid-type products derived by merging data from several altimetry missions—Jason-1, ERS, and GFO, for example—have the advantage of being easier to use for a wider

audience. Recently, real-time DUACS products (Developing Use of Altimetry for Climate Studies) were added to the AVISO altimetry range. These products are essential to the ocean modeling work being done for the Global Ocean Data Assimilation Experiment (GODAE), in particular the French contribution, Mercator. We have come a long way from the original circle of 60 Principal Investigators at the start of the Topex/Poseidon mission. Today, over 1,000 research groups in more than 50 countries regularly receive products from the AVISO and PO-DAAC catalogs. As a result, applications are naturally becoming ever more diverse, from monitoring mean sea level to ocean forecast bulletins and harbor planning studies.

Given the positive results achieved, this service is being continued for the Jason-1 mission and the same types of products have been developed. For example, Jason-1 GDRs are very similar to Topex/Poseidon merged GDRs. However, the products have also been upgraded to support new distribution standards and a big effort has focused on real-time processing and dissemination. Real-time Operational Sensor Data Products (OSDRs), designed chiefly for meteorology applications since wave heights and wind

speeds are assimilated into the prediction models used by weather services, are delivered to users less than one hour after science telemetry is received at one of the three ground stations. And IGDRs are produced, validated, and distributed in under 48 hours by the SSALTO and JSDS processing systems.

Jason-1 products are now available to all users. Important refinements to correction models were made during the recently completed science validation phase. A good example is the electromagnetic bias correction. At least one year of data is required to ensure sufficient precision when calculating this correction. These improvements were essential to ensure a uniform time series of Jason-1 data over the early years of the mission. Like for Topex/Poseidon, real-time and near-real-time products (OSDRs and IGDRs) will be distributed exclusively via an FTP server. GDR and SGDR products will be distributed via an FTP server and on DVD-ROM (every two months). DVD-ROMs will also contain
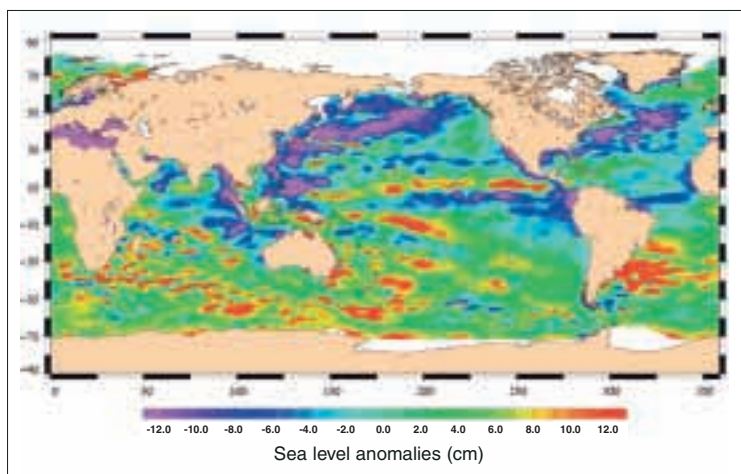
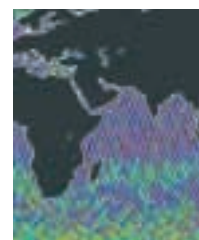**Near real time SSALTO/DUACS sea level anomalies on March 22, 2003 (low resolution merged data)**

Topex/Poseidon data covering the same period. The first DVD-ROMs will be delivered at the end of the second quarter of 2003. Distribution of Topex/Poseidon merged GDRs on CD-ROM will be wound down progressively in 2003.

Everything that has contributed to the heritage and success of Topex/Poseidon has

been taken on board for the Jason-1 mission, but it is now time to take a new step forward. Today, new products and services are in development to facilitate and foster use of data from these missions still more. AVISO and PO.DAAC are working to develop:

- communication via web sites, or via publications like this newsletter

- real-time along-track Interim Sea Level Anomaly products (ISLA)

- resources for investigation and comparison, by developing LAS tools (Live Access Server) that in future will offer faster and easier access to altimetry products.

The AVISO and PO.DAAC services are leveraging their experience to provide a full complement of services to meet users' needs. Today, data from the Topex/Poseidon (NASA/CNES), Jason-1 (NASA/CNES), ERS-1&2 (ESA) and GFO (US Navy) altimetry missions are part of our science heritage. They will soon be joined by data from the Envisat mission (ESA).

PRODUCT	DELIVERY MEDIA	FREQUENCY
SLA (Sea Level Anomalies) : Residual sea surface heights calculated along the satellite ground track with respect to a seven-year mean.	CD Rom DVD Rom GDR ftp	yearly every two months every 10 days
MSLA (Maps of Sea Level Anomalies) : Gridded residual sea surface heights (1/3°x1/3° Mercator grid) in NetCDF format.	ftp	twice yearly
CorSSH (Corrected sea surface heights) : Along-track corrected sea surface heights.	CD Rom DVD Rom GDR ftp	yearly every two months every 10 days
OSDR (Operational Sensor Data Record) : Real-time along-track wind and wave data.	satellite ftp CD Rom, on request	three hours three hours monthly
GDR (Geophysical Data Records) : Along-track altimetry data records from the Jason-1 mission.	DVD Rom ftp	every two months every 10 days
IGDR (Interim Geophysical Data Records) : Near-real-time (within three days) along-track altimetry data records from the Jason-1 mission.	ftp	daily

Aviso: www-aviso.cnes.fr / Po-Daac: podaac.jpl.nasa.gov | **Jason-1 products** |