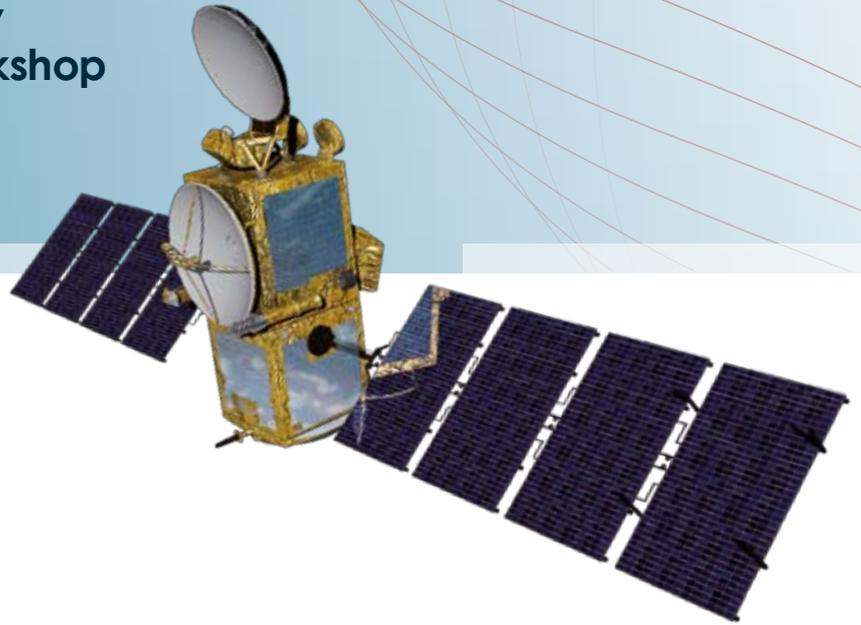


CEOS

Ocean Surface Topography Constellation Strategic Workshop

29-31 January 2008
Assmannshausen
Germany



Introduction:

From 29 to 31 January 2008, representatives from several operational space agencies as well as a panel of operational and scientific users of altimetry products met under the auspices of the Committee on Earth Observation Satellites (CEOS) to discuss ocean surface topography constellations.

The CEOS Ocean Surface Topography Constellation (OSTC) provides an opportunity for operational European, Indian and US space agencies (ESA, EUMETSAT, CNES, ISRO, NOAA, NASA) to collectively use existing satellite and infrastructure capabilities in a joint effort to establish a series of coordinated missions that will provide continuity of observations, as well as the future transition to new technical capabilities.

The Venice Symposium on 15 years of Progress in Altimetry, held in March 2006, produced a consensus set of recommendations concerning the transition of satellite altimetry into a sustained global system supporting operational oceanography and climate monitoring.

The Assmannshausen Workshop used these recommendations to outline a plan for their implementation over the next 15 years.

The following recommendations resulted from the Assmannshausen Workshop:

Maintain continuity of high-accuracy Jason altimetry

- Proceed with implementation of Jason-3.
- Proceed in parallel with implementation of Jason-CS as Jason-4.
- Pursue the option for Jason-CS/Jason-4 successors to constitute a new series.
- Maintain the current Jason orbit for Jason-3 and Jason-CS/Jason-4 as the baseline to serve as the basis for continuity of present services.
- In planning for Jason-4 and its successors, assess the technical and scientific consequences of any departure from this baseline orbit to optimize the performance of the constellation.
- Launch Jason-3 in time to maintain continuity of present services with OSTM/Jason-2, requiring an overlap of at least six months;
- launch Jason-CS/Jason-4 in time to allow an appropriate overlap (9-12 months) due to the change in the series for cross calibration and system tuning.

Maintain continuity with altimeters on at least two complementary, high-inclination satellites

- Proceed with implementation of the following approved satellites: Cryosat-2, SARAL, HY-2A, and Sentinel-3A.
- Given that HY-2A and Sentinel-3A each represent the first satellite of a new series, proceed in planning the implementation of follow-on satellites to assure continuity of service for those new series.
- Consider the in-orbit performance of new approaches to altimetry (e.g. SARAL) in planning the implementation of future series of altimeters.
- Take actions, as appropriate, to extend mission lifetimes of existing satellites in orbit (e.g. ERS-2, ENVISAT), as well as provide funding to support their continued operation and data utilization.
- Assess the extent to which the orbits of both the existing and planned satellites comprising the constellation might be optimized to provide more effective coverage, such as:
 - Interleave the orbits after achieving sufficient overlap between successive satellites of the Jason series (as was done with T/P and Jason);
 - Optimize sampling achieved by Sentinel-3A, -3B, and successors.

Extend the capability of altimetry to denser observational coverage through swath altimetry

- Proceed in planning both in the U.S. and Europe for the development and use of a wide-swath altimetry demonstration mission – e.g. the SWOT mission – with a target launch date in 2016.
- Ensure the availability of adequate ground data system capabilities to take advantage of these new technologies.
- Expand the exploration of alternative approaches to achieve denser observational coverage beyond wide-swath altimetry.

Maintain an open data policy including near-real-time data for operational purposes

- Maintain an open data policy with timely access to all appropriate levels of calibrated and validated products from the full set of satellite altimeters in order for the international community – both operational and research – to derive maximum benefit from the constellation.
- Provide timely access to global wave-form data, in particular for near-shore and inland regions for use in coastal and terrestrial hydrological monitoring and research.
- Encourage the dissemination of altimeter products via the GTS, EUMETCAST, and other appropriate means to facilitate timely access for operational use.

Maintain a continuing partnership with the scientific community

- Operational agencies should include provision for participation by science teams in their respective operational missions, just as research agencies include the opportunity for operational participation in their research missions.

Maintain broad collaboration between engineering and science, research and operations, and international partners

- Build on the demonstrated success in international collaboration in planning the implementation of the constellation in the future.
- As a complement to research agencies, operational agencies need to establish a budgetary capability to demonstrate and assess the impact of new technologies, take advantage of new scientific developments, and plan for their transition into applications.
- Support a sustained international effort in training and outreach in the context of the constellation.
- Ensure close coordination between scientists and managers of space and ground components for both present and planned altimetry missions in order to facilitate the efficacy of the constellation.
- Ensure close coordination between the constellation and external forecast centers, downstream service providers, and other users.

