



JCOMM matters

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(based on contributions from J. Dorandeu, D. Halpern,
and J.L. Fellous – TT-SAT)



Introduction

- Satellite observations have clearly demonstrated usefulness in providing information for ocean applications, operational and research-based, to improve simulation and forecasting of ocean states, and more recently for coastal applications.
- The creation of the JCOMM resulted from a general recognition that worldwide improvements in coordination and efficiency may be achieved by combining the expertise and technological capabilities of World Meteorological Organization (WMO) and UNESCO's Intergovernmental Oceanographic Commission (IOC).



The JCOMM mandate

- JCOMM coordinates, and develops and recommends standards and procedures for, a fully integrated marine observing, data management and services system that:
 - uses state-of-the-art technologies and capabilities;
 - is responsive to the evolving needs of all users of marine data and products; and,
 - includes an outreach programme to enhance the national capacity of all maritime countries.
- JCOMM aims to maximize the benefits for its Members/Member States in the projects, programmes and activities that it undertakes in their interest and that of the global community in general.



Essential ocean variables

- To support its strategy and actions addressing the global oceans including coastal zones, JCOMM has identified the key variables of interest and the need to utilize space- and surface-based observations in an integrated manner. These Essential Ocean Variables include:
 - sea surface temperature,
 - ocean surface topography,
 - ocean biology,
 - sea surface salinity,
 - ocean surface waves,
 - ocean surface vector winds, and,
 - sea ice



TT-SAT

- In order to consider, define and coordinate its satellite interests, JCOMM established a Cross-cutting Task Team on Satellite Data Requirements (TT-SAT).
 - The JCOMM Cross-cutting Task Team on Satellite Data Requirements was formed in March 2014.
 - TT-SAT members are M. Bourassa (FSU, USA), J. Dorandeu (chair, CLS, France), J.-L. Fellous (COSPAR), S. Guinehut (CLS, France), D. Halpern (NASA/JPL, USA), N. Kroese (NWS, South Africa) and S. Sathyendranath (PML, UK).
- TT-SAT was tasked to develop a document addressing the “*Marine meteorology and oceanographic forecasting service requirements for integrated satellite products*”.



TT-SAT Document Status (as of last year)

- An outline of the strategy document was proposed in mid-2014 by Dorandeu and Bourassa.
- Key topics to be covered in the document included:
 - Current status for each type of sensor, starting from existing documents; and,
 - Identification of gaps in the space-based ocean observing system.
- A first draft was intended to be released in early 2015, focusing on the current status for each type of satellite sensor, starting from existing documents, and identifying key gaps in the observing system.



TT-SAT Document Current Status

- An update of the Task Team achievements was discussed by the JCOMM Management Committee (MAN) in mid-November 2015.
- The Task Team Chair reported that the technical outline of the requirements document has been refined. He and Bourassa have further developed along those lines some sections of the requirements document, notably for ocean topography (Appendix A of IPET-SUP-2/Doc. 9.2).
- The same work needs to be carried out for the other sections of the requirements document.



Next steps

- The JCOMM-MAN welcomed the progress made by the TT-SAT and made a few recommendations:
 - Strengthen the section on the synergy between *in situ* and space-based data;
 - Emphasize the need for a project on Surface Wind Vectors, similar to the GHRSSST project; involve space agencies in order to get their feedback on the requirements; and,
 - Plan for a release of the requirements document at the 5th Session of JCOMM in October 2017, which implies a closing date in end-2016.
- The TT-SAT requirements document should be published by IPET-SUP-3.



Aquarius and SMOS SSS Measurements

- **CGMS-43 IOC paper “Aquarius and SMOS Sea Surface Salinity Measurements: A Review of Initial Results”, by Halpern, Font and Lagerloef (2015)**
- **Summary**
 - Salt budget in the North Atlantic
 - Instability waves
 - Rossby waves
 - Mesoscale motions
 - Freshening of surface coastal waters from riverine outflow and impact on hurricane forecasting in northwest Atlantic
 - SSS response to La Niña
- **Recommendations**
 - **Support sustained high spatial and high frequency SSS measurements for improved weather and climate applications.**
 - **Assimilate measurements of satellite SSS, SST, and ocean surface topography, together with *in situ* measurement, into ocean general circulation models to improve estimates of vertical profiles of ocean currents and ocean heat transport**



THANK YOU FOR YOUR ATTENTION!