BOOS
Baltic Operational Oceanographic System

20-12-2018

Dear BOOS partners,

As we have come close to the end of the year, I would like to take this opportunity to thank you for all your efforts throughout the year. The success of BOOS is built on your efforts. In addition, on behalf of BOOS Steering Group, I would like to give you a review on the progress we have made and highlight a few things which can be essential for our development in the next 10 years:

- **Global and European background**
  - UN/IOC: SDGs14 and 13 aiming at sustainable use of marine resources and adaptive socio-economy to climate change. "Decade of Ocean Science for Sustainable Development" (2021-20130) was initiated. (roadmap here)
  - GOOS: ocean observing addresses not only operational oceanography but also climate change and ocean health
  - EOOS (sustained European Ocean Observing System): a coordination framework for European ocean monitoring and observations. In EOOS Stakeholder conference 21-23 Nov. 2018, presented by DGs, EEA, regional conventions, EMODnet, IOC, GOOS, EuroGOOS and ICES etc, EOOS called actions on "Countries should coordinate all national marine and coastal data collection efforts to improve efficiency, and identify priorities and gaps to meet policy and societal needs."
- **Major BOOS Working Groups (status 2018)**
  - FTP data exchange: BOOS partners can access real time observations and multi-model forecasts through the BOOS "ftp data exchange network";
  - Multi-model Ensemble (MME): based on NRT data exchange, a MME value added forecast is made available to the partners (led by BSH). Next step is to use the MME at national level;
  - Web site: organization, NRT products and news are presented online (hosted by BSH);
  - Near real time (NRT) ship observations delivery: SMHI has organized two workshops to facilitate the NRT ship data delivery in technical level. This task will speed up integration between operational oceanography and environmental community
  - Model calibration and validation: common cal/val toolbox has been developed through BAL MFC and released, workshop and telecon were organized for user training (BSH & MSI);
  - Data assimilation (DA): a strong DA cooperation has been developed among partners. Open source Parallel Data Assimilation Framework (PDAF) is currently used by at least 6 BOOS partners. Operational assimilation is becoming a basic feature of Baltic Sea operational oceanography;
  - Optimization of BOOS observational networks: featured by Argo, ferrybox, mooring array and tidal gauge networks, BOOS provides a perfect testbed for integrated coastal observing, both in technical and infrastructure aspects. (a review here)
- **Community cooperation**
  - BOOS-NOOS: during annual meetings of BOOS and NOOS, collaborative topics were identified such as MME, common validation framework, river forcing and data assimilation etc. Potential future joint research on BANOS Program
  - BOOS-CMEMS: some major BOOS progresses, eg MME, Cal/Val and DA cooperation, are implemented via CMEMS BAL MFC support.

- BOOS-HELCOM: through integration of BOOS and HELCOM observing, modelling and assessment activities, BOOS and HELCOM data will fit for both operational and environmental assessment purposes. The multi-purpose integrated observing has been proposed by BOOS and well accepted by EuroGOOS, DG-MARE and EOOS. It is expected that the BOOS-HELCOM observing integration will provide a testbed for other regional seas.
- BOOS-Baltic Earth: BOOS and BALTEX/Baltic Earth communities both exist for the last two decades, but with little interactions. BOOS was presented in the 2nd Baltic Earth conference, calling for active win-win cooperation between the Baltic Sea operational and climate research communities. A white paper on BOOS-Baltic Earth cooperation is in preparation.
- BOOS-EMB (European Marine Board)-GOOS: a white paper on "integrated coastal and biological observations" have been submitted to OceanObs19 (co-led BOOS & EMB), as contribution to GOOS emerging areas.
- BOOS-EMODnet: BOOS has been well presented in EMODnet community. The Baltic Sea Check Point (BSCP - led by DMI) was completed successfully in 2018. The project made a comprehensive assessment on the adequacy of Baltic Sea marine data from air, water to the biota and human activities. BSCP was chosen to give a speech in representing all other regional sea checkpoints in the EOOS conference.

The above activities may be linked to your national tasks. Please consider how your organization can be involved, especially in EOOS, and how to integrate different component of ocean observing (operational, environmental, fishery, geological, research and commercial) in your country. In BOOS annual meeting 2019 (during April-May), these issues will be further discussed.

We wish you a Merry Christmas and a successful 2019!

Jun She, on behalf of BOOS Steering Group

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