EuroGOOS

European Global Ocean Observing System

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Integration workshop

Strengths of BOOS

- There exist a group of active core partners
- Free exchange of data and program codes
- Well-established monitoring network for physical and biogeochemical oceanography
- Long history of cooperation on modelling for 20 years (HIROMB->HBM->NEMO-Nordic)
- BOOS partners are well represented in CMEMS (BSH, DMI, FMI, SMHI, TTU, SYKE) so that a closer BOOS-CMEMS relationship can be generated
- There exist coordinated organizations/programs in environment, climate change and fishery management (HELCOM, Baltic Earth and ICES), which provide a good basis for integration of BOOS operational oceanography with environment, climate change and ecosystem community
- Example of cooperation: https://git.smhi.se/BALMFC/

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Weaknesses of BOOS

- The advancement levels of partners on OO vary significantly, which caused limitation on the range of involvement: it's easier for the developed partners to cooperate and get funding, difficult for less-developed partners to cooperate and get funding
- The STG and GA spent a lot of time on making vision, strategies, programs and WGs, but not that many are actively functional.
- For some partners, contact person is the only point related to BOOS. Difficult to get collaborative ideas expanded to the relevant groups in the institute.
- Cooperation on RS and Operational Ecology is still fragmented

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Opportunities for BOOS

- More dedicated, flexible and dynamic cooperation: a variety of communication tools (eg skype, Github, Slack) make knowledge sharing and joint research easier, more flexible and dynamic. A good cooperation needs several conditions:
  - Dedicated topics: the topic with common interests, and easily to exchange results and perform group development
  - Resources: the main players in the group should have certain amount of resources, either supported by external projects or institutional funding
  - Partners: should have necessary expertise; one or two of them would like to take the lead
- New opportunities from OO to Climate change and Ocean Health (HE, GOOS, UN DOS, marine plastics etc)
  - National demands on climate change service are increasing: downscaling of indicators & impact modelling
  - Operational ecology
- Open data-driven products and service: many BOOS partners have adopted or start to adopt an open data policy; machine learning is increasing used in improving the service; impact-oriented forecast and services are also becoming a new direction

Please detail any possible synergies/prospects for cooperation with other ROOS, WG and TT

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Opportunities for BOOS

- BOOS-ROOS cooperation: indicators, ensemble forecasting, coupling (?), machine learning
- BOOS-TT cooperation: assessing value of monitoring devices – OSEs and OSSEs; promote using of cost-effective monitoring devices with higher TRL;
- BOOS-DMWG: need better NRT data management for ferrybox
- BOOS-SAWG:
  - Identify research priorities in Baltic Sea region
  - Develop BOOS cooperation on seamless earth system prediction capacity (operational ecology and marine climate change adaptation)
- BOOS-COASTAL WG: BOOS needs advices from high level NEMO code developers, sediment model developers, machine learning experts, coupling experts
- BOOS-TPWG:
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Please detail any possible synergies/prospects for cooperation with other ROOS, WG and TT

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Threats to BOOS

- Increasing distance between the developed group and less-developed group in forecasting capacities
- Lack of communication between partners on national interests, projects and opportunities
- Lack of involvement of less-developed partners in cooperation
- Russian partners are not active
- Lack of resources and common BOOS projects
- Data exchange used to be a major driving force for BOOS. It's a successful story: the system is running operationally and provide a basis for CMEMS and EMODnet. Now the data exchange mainly focuses on NRT ship data delivery. Another question is: how much we have benefited from the data exchange?

Please outline key possible threats that would limit the ability of your ROOS, WG or TT at present or in the near future (2-3 year timescale)

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How can the EuroGOOS Office better service the needs of BOOS?

- **Help to stimulate cross-cutting cooperation ROOS-WG-TT**
- **Broadcasting funding opportunities and conference news**
- **Help to develop wider engagement of BOOS partners in large scale projects**
- **Lobby in HE, JPIs**