



Long term perspectives INGV

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ISSUES

- **Strategic:** improve and strengthen the benefit deriving from the community modeling strategy. A more detailed definition of the “consortia” approach and shared consortium goals. Specific effort to address the external users request and potential feedback;
- **Scientific:** representation of missing ocean processes and environmental dynamics directly influencing the ocean. Added value of on-line diagnostic;
- **Software infrastructure:** interconnection between NEMO package and the hardware.



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Strategic

- Definition of community model:** define the common purpose. Grow organically from the needs of the member and take shape over time as the community grows.
- Community configuration:** Are the present NEMO configuration adequate for the consortium members? Only ORCA can be considered a community conf.
- Coupling with other models:** generalize the coupling interface
- Training strategy:** increase as much as possible the number of NEMO users (and NEMO community configuration users).
- Publication strategy:** Define and support a publication strategy (on going)



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Scientific

-Wave-current interaction: contribute actively to the ongoing scientific discussion on the coupling between wave and primitive eqs. Models. Define a NEMO strategy. If necessary define an addition NEMO component for the wave (OPA, LIM, TOP, WAVE)

-Hydrological cycle: The land and ocean coupled hydrological cycle and its representation in NEMO is worth to be investigated. Depending on the temporal and spatial resolution used it will be necessary to move the boundary between what is parameterized and what is explicitly resolved. A new component?

-Mixed Layer dynamics considering both Air-Sea fluxes and mixing parameterizations: Air-Sea fluxes and their impact on the vertical mixing. Coherence in the way air-sea exchange and vertical mixing is parameterized should be analyzed.

-Diagnostic: EVA and MS-EVA online to immediately understand numerical consistency in the model implementation, develop strategy for a specific configuration and provide the base for dynamical studies.



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Software infrastructure

Performance in multi-processors machines should be improved