

The Challenges of the Oceans

- Challenge 1:* Quantify the interaction between variability in ocean dynamics, thermohaline circulation, sea level, and climate.
- Challenge 2:* Understand physical and bio-chemical air/sea interaction processes.
- Challenge 3:* Understand internal waves and the mesoscale in the ocean, its relevance for heat and energy transport and its influence on primary productivity.
- Challenge 4:* Quantify marine-ecosystem variability, and its natural and anthropogenic physical, biological and geochemical forcing.
- Challenge 5:* Understand land/ocean interactions in terms of natural and anthropogenic forcing.
- Challenge 6:* Provide reliable model- and data-based assessments and predictions of the past, present and future state of the ocean.

