

OCEAN SCIENCE GRAND CHALLENGES

Session Convenors: M.-H. Rio, D. Fernandez, C. Donlon, J. Benveniste

Invited Speakers: Anny Cazenave (LEGOS), Christine Gommenginger (NOCS), Peter Minnett (RSMAS), Shubha Sathyendranath (PML)

Agenda Points:

- Current and future Ocean Science Activities in ESA (M.-H. Rio, ESA)
- Future ESA Ocean missions (C. Donlon, ESA)
- Measuring and Understanding sea level from global to local scales (Anny Cazenave, LEGOS)
- Ocean circulation (Christine Gommenginger, NOCS)
- Remote sensing measurements to improve estimates of air-sea exchanges (Peter Minnett, RSMAS)
- Marine Ecosystems (Shubha Sathyendranath and Trevor Platt, PML)

Session scope/description:

Society is facing today a number of global environmental challenges requiring the better understanding and monitoring of the complex and interconnected Earth System processes. Ocean is one of the gearing of this complex engine. However, knowledge gaps remain in order to better understand, characterize and monitor its role in all major Earth System global cycles (e.g. water, energy, gas, and in particular carbon, momentum cycles...). To fill these gaps, dedicated research activities are needed, embracing a large number of disciplines as physical oceanography, biogeochemistry, ecology, and further exploring the interaction of the ocean with the other components of the Earth System. In this context, the objective of this Agora session is to bring together experts from a wide range of disciplines to share their view and foster open discussion with the session participants on which are today the major ocean science open questions and how to best address them.