

7-10 JULY 2015

PARIS, FRANCE

OUR UNDER  
COMMON CLIMATE  
FUTURE CHANGE

International  
Scientific Conference

## Observing the changing ocean climate

### Lead Conveners :

Fischer A. a.fischer@unesco.org (1)

(1) Intergovernmental Oceanographic Commission of UNESCO, Paris, France

### Conveners :

Dewitte B. b.dewitte.legos@gmail.com (1) ; Garçon V. veronique.garcon@legos.obs-mip.fr (2) ; Le Traon PY. pierre.yves.le.traon@ifremer.fr (3) ;

Melet A. angelique.melet@legos.obs-mip.fr (4) ; Roca R. remy.roca@legos.obs-mip.fr (5) ; Visbeck M. mvisbeck@geomar.de (6)

(1) LEGOS, Toulouse, France; (2) CNRS, LEGOS, Toulouse Cedex 9, France; (3) IFREMER & MERCATOR OCEAN, Ramonville St Agne, France; (4) CNES/LEGOS, Toulouse, France; (5) CNRS, Legos, Toulouse, France; (6) GEOMAR & Kiel University, Kiel, Germany

### Short Summary (max 15 lines)

The oceans are key regulators of global and regional climate. They help reduce the rate of atmospheric warming by absorbing about 30% of annual carbon emissions, and 90% of the excess heat in the climate system since 1971. This buffering effect is not without consequences on ocean chemistry and ecosystems. The oceans have become 26% more acidic since the start of the industrial revolution, and are more stratified and less oxygenated. Different ocean regimes including the tropical, polar, and deep oceans, western and eastern boundary current systems, each play unique roles in the global ocean climate, and have their own knowledge challenges. These climate-induced changes will affect the ocean, its biodiversity, ecosystem services, and human well-being in ways that we are only beginning to understand.

Long-term, globally-coordinated and high-quality sustained ocean observations underpin our knowledge of the role of the ocean in climate. They allow us to monitor changes and provide initial conditions and validation of models to predict the evolution of climate and its consequences on ecosystems, and to provide a basis for climate services. This knowledge informs and supports government climate and environmental policies. The session will conclude with ocean observing and modeling challenges, gaps, opportunities, and recommendations.

### Full Abstract (max 35 lines)

The oceans are key regulators of global and regional climate. They help reduce the rate of atmospheric warming by absorbing about 30% of annual carbon emissions, and 90% of the excess heat in the climate system since 1971. This buffering effect is not without consequences on ocean chemistry and ecosystems. The oceans have become 26% more acidic since the start of the industrial revolution, and are more stratified and less oxygenated. Different ocean regimes including the tropical, polar, and deep oceans, western and eastern boundary current systems, each play unique roles in the global ocean climate, and have their own knowledge challenges. These climate-induced changes will affect the ocean, its biodiversity, ecosystem services, and human well-being in ways that we are only beginning to understand.

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### Proposed structure of the Parallel Session

Keynote speakers (Please include as follows: Time allocation - Title, First Name, Last Name, Institution, Country, Email) :

- 15' - The state of knowledge on the role of the oceans in the Earth's changing climate
- 15' - How do we observe and model the changing physical, biogeochemical, and ecosystem phenomena?

Offered communications

- Time allocation for offered communication 1 : **40' - Panel of contributed short talks on ocean observing challenges, gaps and recommendations (6-8 talks in 40' total) - these may cover different ocean regions and regimes, in situ and satellite observations, sustainability issues, and the link between sustained ocean observations and modeling for climate research,**

Session Number (as provided to you by the Conference Secretariat) : **1110 - Ocean Observation**

Keywords (enter at least 1 keyword, max 4) :

- ocean
- observations
- modeling
- impacts

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**projections, and services.**

- Time allocation for offered communication 2 :
- Time allocation for offered communication 3 :
- Time allocation for offered communication 4 :
- Time allocation for offered communication 5 :
- Time allocation for offered communication 6 :
- Total time allocation for poster presentations : **90'**

Panel (Please include as follows: Time allocation - Title, First Name, Last Name, Institution, Country, Email) :

- 15' - Moderated discussion / questions from the audience
- 5' - Summary and adoption of synthesis recommendations

Please indicate the total number of people (including conveners, and speakers) from your Parallal Session that you anticipate will attend the conference as a participant :

**10 +**

Comments :