



SOLAS Introduction	p04
Welcome Notes	p05
Conference Sponsors	p06
Organising Committees	p07
Programme	p08
Plenary Talks	p12
Discussion Sessions	p26
Posters	p32
Local Information	p44
- Transport	p44
- Hotel Directions	p46
- Conference Venue	p48
- Entertainment	p52
- Useful Information	p53
Contact List	p54

SOLAS (Surface Ocean – Lower Atmosphere Study) is an international research initiative that aims “to achieve a quantitative understanding of the key biogeochemical-physical interactions and feedbacks between the ocean and the atmosphere, and of how this coupled system affects and is affected by climate and environmental change”. Achievement of this goal is important in order to understand and quantify the role that ocean-atmosphere interactions play in the regulation of climate and global change.

The domain of SOLAS is focused on processes at the air-sea interface and includes a natural emphasis on the atmospheric and upper-ocean boundary layers, while recognizing that some of the processes studied operate on larger scales. SOLAS research covers all ocean areas including coastal seas and ice covered areas.

A fundamental characteristic of SOLAS is that its research not only integrates different oceanographic disciplines (such as biogeochemistry, physics, mathematical modeling), but also requires a close collaboration between marine and atmospheric scientists. This conference presents the results of such collaborations and aims to encourage further work in this direction.

SOLAS science can be broadly divided into the following topics or foci:

Focus 1: Biogeochemical interactions and feedbacks between ocean and atmosphere.

Focus 2: Exchange processes at the air-sea interface and the role of transport and transformation in the atmospheric and oceanic boundary layers.

Focus 3: Air-sea flux of CO₂ and other long-lived radiatively active gases.

The 2009 Open Science Conference will also provide SOLAS scientists with the opportunity to discuss “hot” topics such as halogen-ozone exchanges, DMS emissions in global climate models, sea ice biogeochemistry, ocean-derived aerosols, atmospheric control of nutrient cycling, ocean-atmosphere interactions in the Mediterranean, ship plumes and air-sea fluxes in eastern boundary upwelling systems. Discussions will also address future activities, such as large scale experiments, ocean fertilization, plans for a joint ESA-SOLAS activity and cooperation between Asian SOLAS and Asian Dust and Ocean EcoSystem (ADOES).

SOLAS is sponsored by the Scientific Committee on Oceanic Research (SCOR), the International Geosphere-Biosphere Programme (IGBP), the World Climate Research Programme (WCRP) and the International Commission on Atmospheric Chemistry and Global Pollution (ICACGP).

The SOLAS International Project Office is supported by the Natural Environment Research Council (NERC) and the University of East Anglia (UEA).

<http://www.solas-int.org>



Days after Barcelona became the centre of world attention as host of the Barcelona Climate Change Talks, organised by the United Nations Framework Convention on Climate Change Secretariat as a means of discussion prior to December's meeting in Copenhagen, another great event is about to take place: the SOLAS Open Science Conference.

Climate change is possibly one of the greatest challenges currently facing humanity. We have become a species with a considerable capacity for modifying and altering our surroundings to the point at which this great “success” starts to take its toll, with the risk that it may be too high for us to pay, leading to serious consequences of all types: environmental, social, economic, health...even affecting our safety. That is why it is so important that all countries be aware of this in Copenhagen and that the foundations of a post-Kyoto undertaking be laid to establish the rules of the game for the coming years, in order to reduce these risks.

However, it is absolutely essential that the decisions made are based on the best knowledge possible, and here science and scientists play a fundamental role. Nobody is unaware of the fact that climate change discussions often involve the more or less explicit defence of interests. Faced with this situation, debate must be honest, and the exchange of information transparent. These aspects are the core of the exercise of Science and of what the SOLAS Open Science Conferences exemplify.

On behalf of the Catalan Office for Climate Change, welcome to Barcelona and to Catalonia and may you long continue to do such excellent work.

Salvador Samitier i Martí
Director, Catalan Office for Climate Change

SOLAS has held major scientific meetings in Europe (Damp, Germany in 2000), North America (Halifax, Canada in 2004) and Asia (Xiamen, China in 2007). The meetings allow for communication of the breadth of SOLAS science via plenary presentations as well as for in-depth discussion at the posters and within afternoon discussion groups.

This year's conference in Barcelona applies the same successful formula but also sees changes. Notably, the number of plenary presentations has been increased, we have a stronger focus on modern biological sciences and there is the opportunity to highlight a range of promising new approaches and techniques.

The discussion group sessions are especially important for SOLAS: they provide an opportunity to share ideas, establish networks and plan for the future. This year, several address issues that the SOLAS Scientific Steering Committee has identified as being of particular significance for the future development of SOLAS. I urge you to participate actively in these groups: this is your chance to influence and participate in the development of SOLAS at the international level.

As Chair of the SOLAS Scientific Steering Committee, I am very pleased to see the Conference held in Barcelona. The city has a >2000 year history of involvement with the ocean via trade, fishing and exploration. It has become a major centre for marine and atmospheric science. And we will have an opportunity to experience and enjoy Catalan culture. In return, I hope that our public information evening, organised in cooperation with CosmoCaixa, will be informative for the people of Barcelona.

On behalf of SOLAS I would like to thank our sponsors and local hosts, the CosmoCaixa Science Museum, the Conference Scientific Committee and the SOLAS International Project Office for their hard work and support.

I wish you a stimulating few days learning from the talks and posters, participating in the discussions, and enjoying Catalan culture!

Doug Wallace
Chair, SOLAS Scientific Steering Committee