

## SOLAS France

by Remi Losno

### 1. Scientific Highlights and Achievements

The French SOLAS activities are funded by CNRS/INSU through the LEFE program (Fluid envelopes and environment) <http://www.insu.cnrs.fr/co/lefe>, by ANR (National Agency for Research) <http://www.agence-nationale-recherche.fr/Accueil>, by IPEV (Institut Paul Emile Victor) [http://www.institut-polaire.fr/ipev/programmes\\_de\\_recherche](http://www.institut-polaire.fr/ipev/programmes_de_recherche), but also by CNES and other funding institutions (IRD, CEA, etc..) and universities. A more extensive and complete view of French SOLAS activities will be achieved at the meeting event planed in June 2009. SOLAS activities were running in 2008 as they were foreseen at the last SOLAS French meeting on September 11-12, 2007.

The **DUNE** program (PI : Cécile Guieu, ANR) was funded and launched with its first mesocosm experiment in June 2008: 6 bags were deployed in the sea at the Corsican coast and enriched by dust. See <http://www.insu.cnrs.fr/a2722,projet-dune-retour-campagne.html> for highlights of this first deployment cruise.

The program **FLATOCOA** (PI: Rémi Losno, IPEV) devoted to the dust flux over the southern Ocean also started for 2 years of time series at Kerguelen Island. Dissolution experiments of aerosols were also continued by several teams. See [http://www.institut-polaire.fr/ipev/programmes\\_de\\_recherche/en\\_cours/1188\\_flux\\_atmospherique\\_d\\_origine\\_continentale\\_sur\\_l\\_ocean\\_austral](http://www.institut-polaire.fr/ipev/programmes_de_recherche/en_cours/1188_flux_atmospherique_d_origine_continentale_sur_l_ocean_austral)

The program **AEROTRACE** (PI: Jean Sciare, IPEV) includes process studies such as i) the quantitative role of sea salt aerosols in the direct radiative forcing of aerosols above our stations, ii) the chemical determination of the CCN (Cloud Condensation Nucleus) fraction with a special attention to organic aerosols of marine origin. Atmospheric survey a tour monitoring stations of Amsterdam and Crozet, chemical measurements performed at the WMO global station of Cape Point (South Africa). Latitudinal distribution of biogenic sulphur (DMS) emissions in the Southern Ocean. Results of the oceanographic cruises OOMPH, chemical measurements (ions, carbon) obtained from size-resolved measurements performed at Amsterdam Island and Impact of organic aerosols in the chemical composition of CCN. See [http://www.institut-polaire.fr/ipev/programmes\\_de\\_recherche/en\\_cours/415\\_observatoire\\_aerosols\\_et\\_traceurs\\_atmospheriques\\_dans\\_l\\_ocean\\_austral](http://www.institut-polaire.fr/ipev/programmes_de_recherche/en_cours/415_observatoire_aerosols_et_traceurs_atmospheriques_dans_l_ocean_austral)

The **ISLAND** project (PI : Eva Bucciarelli, LEFE) offers an integrated study on the interactions between iron limitation, phytoplanktonic growth, ecosystem structure, DMSP, DMS and DMSO production through a set of questions : 1) How iron limitation does affect DMSP, DMS and DMSO relative production? How does it affect DMS emission? What would be the global oceanic response to an iron fertilization?

To see the full list of projects (GRABISU (Dandonneau), BOA (Sarhou, Desboeufs), CARBOCEAN in Southern Ocean (Boutin) and tropical Atlantic (Lefèvre) , South Indian Ocean (Metzl) (ORE CARAUS/S.O.OISO) and North Atlantic (SURATLANTE), UVECO (Sempéré), ...) please consult [http://www.lisa.univ-paris12.fr/SOLAS/Xiamen2007/0004Losno\\_SOLAS-France-an-overview.pdf](http://www.lisa.univ-paris12.fr/SOLAS/Xiamen2007/0004Losno_SOLAS-France-an-overview.pdf)

### 2. Main activities (research projects, cruises, special events, workshops, outreach, capacity building etc)

The year 2009 will encounter a special event by a joint meeting IMBER-SOLAS of the french community, on June 22-23, 2009 ( see [http://www.imber.info/IMBER\\_SOLAS\\_home.html](http://www.imber.info/IMBER_SOLAS_home.html)) at University Paris Diderot in Paris. A "state of the art" of the SOLAS french activities will be exposed here in details.

### 3. Publications in 2008 (Reports, articles, models, datasets, products, website etc)

The french SOLAS website is hosted at : <http://www.lisa.univ-paris12.fr/SOLAS/>

The list of articles, reports related to SOLAS is usually provided to the SOLAS IPO.

### 4. Goals and Plans for Future Activities

In 2009:

**DRAKE** (ANT XXV-4) cruise (March-April) across Drake Passage : CO2 survey and aerosols measurements (deposition and trace gases emission) . It is proposed to determine the continental background of oceanic air masses through Drake Passage (PIs: C. Provost, V. Garçon, and R. Losno)

**AMOP** (Activity of the Minimum of Oxygen (OMZ) in the Pacific) : ANR Blanc project .(PI: V. Garçon)

In the frame of the "Chantier Méditerranée" <http://www.dt.insu.cnrs.fr/c-med/c-med.php>, several project are currently being setting up and 2 of them are directly related to SOLAS activities: CHARMEx "Chemistry-Aerosol Mediterranean Experiment" (PI: F. Dulac) and MERMEx "Marine Ecosystems Response in the Mediterranean Experiment" (PIs: C. Guieu, X. Durieu de Madron and R. Sempéré. <http://mermex.com.univ-mrs.fr/>)