Second Circular - Workshop of the International Space Science Institute (ISSI)
Date – 13 January 2015

# Sea level and associated climatic components at global & regional scales as inferred from the ESA Climate Change Initiative

**Date:** 2-6 February 2015

**Conveners:**

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| Anny Cazenave | (ISSI, Bern, Switzerland & LEGOS, Toulouse, France) |
| Nicolas Champollion | (ISSI, Bern, Switzerland) |
| René Forsberg | (National Space Institute, Lyngby**,** Denmark) |
| Pascal Lecomte | (European Space Agency, Oxford, UK) |
| Christopher Merchant | (University Reading, Reading, UK) |
| Frank Paul | (University Zurich, Zurich, Switzerland) |
| Andrew Shepherd | (University Leeds, Leeds, UK) |

**Local organisation:** Jennifer Fankhauser, ISSI, Bern, Switzerland, Jennifer.Fankhauser@issibern.ch, Phone: +41 31 631 48 96, Fax: +41 31 631 48 97

## Objectives of the Workshop

Providing long, accurate records of sea level (global and regional), and of the various components causing sea level changes (land ice, ocean thermal expansion, salinity changes, land water storage, etc.) is crucial for validating the climate models used for future projections. The ESA Climate Change Initiative (CCI) program has provided the framework to produce consistent and continuous space-based records for several climate parameters (so called 'Essential Climate Variables' – ECVs); among them, 'sea level, glaciers, ice sheets, sea surface temperature and ocean colour'.

The objective of this workshop is to discuss in an integrative context recent results obtained by the ESA CCI program for the sea level, glaciers and ice sheets ECVs. Improvement of these ECVs allows better understanding the mass contribution to sea level rise, hence of the sea level budget. The workshop will also address the regional variability in sea level, sea surface temperature and ocean colour, and discuss the relative contributions of the natural/internal climate variability and anthropogenic forcing (detection/attribution) to associated spatial trend patterns.

**<u>The Workshop will cover the following main themes</u>**

The main goal of the proposed ISSI Workshop is to discuss the state-of-the-art of the research and future prospects.

Following discussions by the Conveners, it is proposed that the Workshop will cover the following main themes:

1. All the Essential Climate Variables (ECVs) controlling the sea level

2. The present status & prospect of CCI ECVs

3. Global ocean thermal expansion & mass components

4. Global sea level budget closure

5. Regional variations in sea level & associated climate variables

6. Regional sea level budget closure

7. Sea level projections & land ice contributions

Presentations by the attendees will be structured around the above headings. This list could, subject to discussion and assessment at the Workshop, become the set of chapter headings for the ISSI book. All attendees will be invited to contribute to one chapter or more.

**<u>Product of the Workshop</u>**

Following the Workshop, its output will be published as a volume in the Space Science Series of ISSI by Springer, in parallel with the publication of the papers in Survey in Geophysics. It is expected that a total of about 7 sections and between 20 and 25 review style and quality papers, submitted to the usual refereeing process will be published in the book. Papers will be based on talks presented at the Workshop and will reflect the discussions that will be held among the participants during the Workshop. <u>A realistic schedule for the publication of the contributions will be discussed and agreed at the end of the Workshop</u>.

**Location:** The Workshop will be held at the International Space Science Institute, Hallerstrasse 6, 3012 Bern, Switzerland.

**Attendance:** This workshop will be by invitation only with ~ 40/45 participants maximum including young scientists. The final version of the <u>Workshop program</u> is attached to this 2nd circular.

**Young scientists:** Under its special program for supporting young scientists, ISSI will invite (in addition) up to five early career scientists to take a full part in the Workshop.. As for all participants (see below), ISSI will cover the subsistence costs (hotel and meals) to the invited young scientists (see participants list).

**Funding:** ISSI will provide the subsistence costs (hotel and a per diem to cover meals) to all participants but not the travel costs. There will be no registration fee for the Workshop.

## Travelling to Bern

Bern can be reached easily from two international airports: Zurich (ZRH) and Geneva (GVA). Direct intercity trains to Bern depart every half hour from inside the airport buildings; see http://www.rail.ch for detailed departure times. The travel time is ~ 1.5 hours from Zurich airport and ~ 2 hours from Geneva airport. There is also a local airport (Bern, BRN http://www.flughafenbern.ch), located a 20 minutes shuttle ride from the city center, with direct connections to Munich, Berlin Schönefeld, Hamburg, Amsterdam, London City, Vienna and Paris Orly. Bern is connected to many European cities by fast intercity trains (e.g. TGV Paris- Bern in 4.5 hours, or Frankfurt-Bern 5 hours). Timetable information of trains within and around Switzerland can be found at http://www.rail.ch. Also check out our website http://www.issibern.ch for a few more travel tips such as links to city maps of Bern, weather forecasts, tourist information, ...

## Hotel reservations

A block booking has been made in city center hotels for the Workshop. All participants at the workshop are requested to contact the workshop secretary, Jennifer Fankhauser (Tel. +41-31-631-4896, Fax: +41-31-631-4897, email: Jennifer.Fankhauser@issibern.ch), to indicate their arrival and departure dates and times, as well as any special requests they may have (e.g. double room). A confirmation will be returned within a few days after your request. Please note that all hotel reservations have to be made by the ISSI Secretariat. Block bookings have been made in nearby hotels; please see http://www.issibern.ch/localguide/location.html for maps that indicate the location of ISSI and of the hotels (go to "hotels", and near the bottom of the page "map of hotels").