Final conference

The Final Conference of the ARCA project will be held on **11 October 2016** in Rome (Italy) at the Ministry of Foreign Affairs and International Cooperation.

The ARCA Final Conference aims to present the main outcomes achieved by the project to open a discussion on how to sustain, in a long-term perspective, the collaboration established between the Scientific Institutions promoting the project and, more in general, to highlight the Italian contribution to the Arctic Research.

Topics of discussion will be:

- Role of the Arctic in the Global system
- Understanding of the vulnerability
- Prediction of the future climate dynamics and ecosystems
- Support a sustainable development

For further information visit:
http://www.arcaproject.it

Organizing Committee

Vito Vitale
ARCA Coordinator-CNR

Stefano Aliani, Angelo Viola, Simona Longo
CNR

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OGS

Giorgiana De Franceschi, Lucilla Alfonsi
INGV

Local Organizer
CNR/DTA staff

Press
Ufficio stampa CNR
www.stampa.cnr.it

Deadlines

Registration

30 July 2016

Attendance is free of charge, but registration is required

On line registration:
http://www.arcaproject.it

Abstract

01 September 2016

Information on the abstracts preparation and submission is available through the ARCA web site:
http://www.arcaproject.it

Notification of the abstract acceptance

15 September 2016

Agenda

The Agenda will be available on ARCA website by

01 October 2016

Conference Venue

The Conference will be held in Rome (Italy) at the International Conference Room MAECI of the Farnesina Palace (Ministry of Foreign Affairs and International Cooperation).

Farnesina
Ministero degli Affari Esteri e della Cooperazione Internazionale

For further information

www.arcaproject.it
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Consiglio Nazionale delle Ricerche

INGV terremoti vulcani ambiente
ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA

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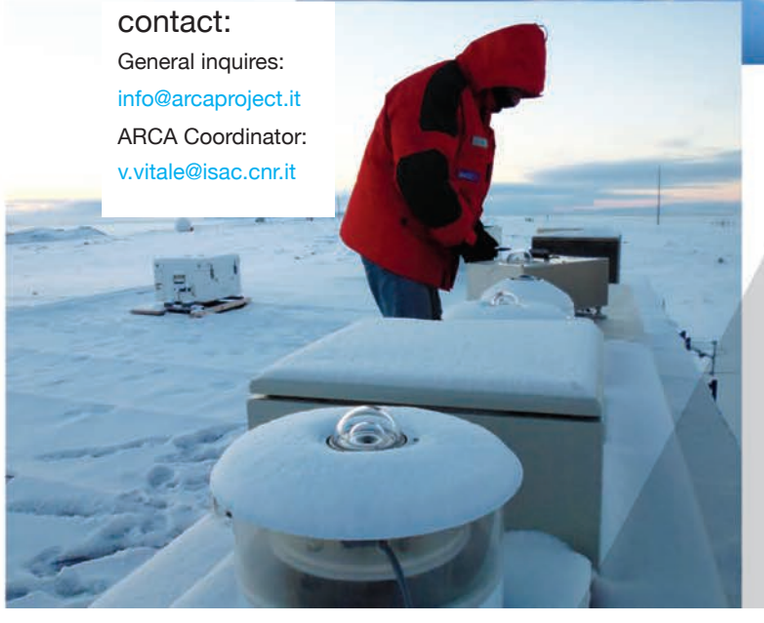
project ARCA

ARCTIC

PRESENT CLIMATIC CHANGE
and PAST EXTREME EVENTS



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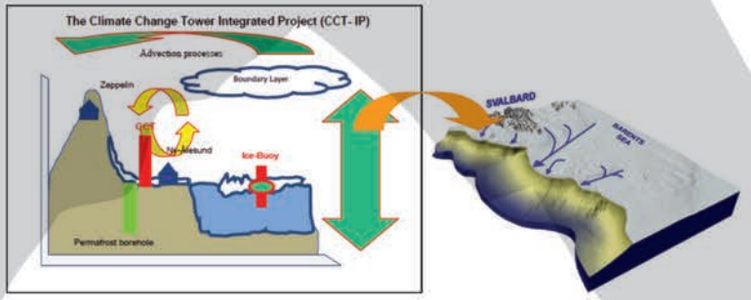
Rationale

The Arctic is warming faster than anywhere else on Earth, resulting in a rapid environmental change. The community of Arctic research is trying to cope with these changes and with the complexity of the interactions, processes and responses that are at the basis of these changes. The inextricable interactions between the atmosphere, ocean, cryosphere and biosphere, on a wide range of spatial and temporal scales, are largely responsible for the phenomenon named “arctic amplification”. In recent years, signals of an acceleration of the changes are increasingly evident in the observations of many geophysical and biological properties. The possibility of extreme events, especially the collapse of the ice sheets, no longer appears as remote as it initially assumed by several scientists. Unfortunately, the same complexity that generates this instability induces large uncertainties and errors in climate models, especially at regional scale.

Concept

Understanding the mechanism behind the release of large volumes of cold and fresh water from melting of ice caps is critical to understand processes linking Arctic to lower latitudes. The project ARCA (Arctic present Climatic change and pAst extreme events), supported by Italian Ministry of Education, University and Research aimed to study this complex system from the point of view of paleo climatic and of present-day air-sea-ice interaction processes.



Objectives

Support international scientific drilling campaigns and perform intensive campaigns to study the energy balance at the surface interaction processes and air-sea-ice

Enable the data acquisition and sharing for monitoring the dynamics of large outlet glaciers

Develop conceptual models from data collected with integrated approach and allow comparison at a regional scale

Analyse data in a common and coordinated way

Design an ICT infrastructure for distributed data management

Encourage the sharing of expertise currently distributed among the various institutions, and the creation of a multidisciplinary team with extensive experience in Arctic polar areas and strong international connections

WP1 The integrated atmosphere-hydrosphere-cryosphere system

Study of the radiation and energy budgets, and fluxes of mass, heat and momentum at the air-snow-ground interface. Oceanographic observations and study of the processes at atmosphere-hydrosphere-cryosphere interfaces.

WP2 Evolution and Dynamics of the glacial cap and outlet glaciers in Greenland

Monitoring of the Greenland outlet glaciers observed by the analysis of seismic data collected through the regional seismic network Greenland Ice Sheet Monitoring Network (www.glisn.info) trying also to find out correspondence in the glacier tongue evolution derived from the observation of satellite images.

WP3 Reconstruction of extreme meltwater events

Study of the dispersal mechanisms, age and recurrence of meltwater processes, quantification of sediment supplied based on lithological and geophysical data in Storfjorden and Kveithola (Barents Sea); study of magnetic and paleomagnetic properties of sediment cores, study of tephra, speleothem-based paleoclimate reconstructions.

WP4 Conceptual model and distributed system for the management, use and dissemination of data

Summary obtained through the results of WPs 1-3 and development of conceptual models for the study of various phenomena and processes. Implementation of a distributed structure based on the brokering approach concept, with nodes managed by different participants and a central infrastructure at the CNR.