

# *Inventory of Italian activities in the Arctic*

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Mino Elefante (Lecce University)

# MOTIVATION, SCOPE, COVERAGE

- establish instruments and collect data to properly contribute at national level to the SAON CON inventory plan
- be able to support Italian Representatives in the AC with the more complete information about activities and potentiality of Italy in the Arctic
- collect information not only from the Italian scientific community interested to/operating in the Arctic, but also from the public and private sectors (starting from subjects participating to the Arctic table implemented at the Foreign Ministry).
- make inventory of activities, but also be aware of potentiality to increase or implement new ones in respect specific requests/needs arising from Italian Foreign Ministry and the Arctic table.
- cover in principle all possible themes, Arctic as well as sub-Arctic regions, actual but as well as past activities. Offer a platform that could easily maintain up to date such information.



# Farnesina

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e della Cooperazione Internazionale

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Europe

Arctic

Balkans

Relations between Italy and  
Russia

Int'l Orgs.

## Towards an Italian strategy for the Arctic



Italy in the Arctic: more than a century of history

Italy in the Arctic: the political dimension

Environmental and human dimension

The scientific dimension



ITALY IN THE ARCTIC

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Consiglio Nazionale delle Ricerche  
Dipartimento Terra e Ambiente

**La ricerca italiana per lo studio dei cambiamenti climatici nella regione Artica e il loro impatto alle medie latitudini**

**linee strategiche e prospettive del CNR per il 2015-2020**



## TOWARDS AN ITALIAN STRATEGY FOR THE ARCTIC

### NATIONAL GUIDELINES

MINISTRY OF FOREIGN AFFAIRS

AND INTERNATIONAL COOPERATION

2015



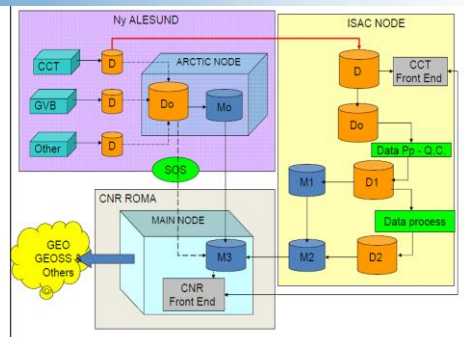
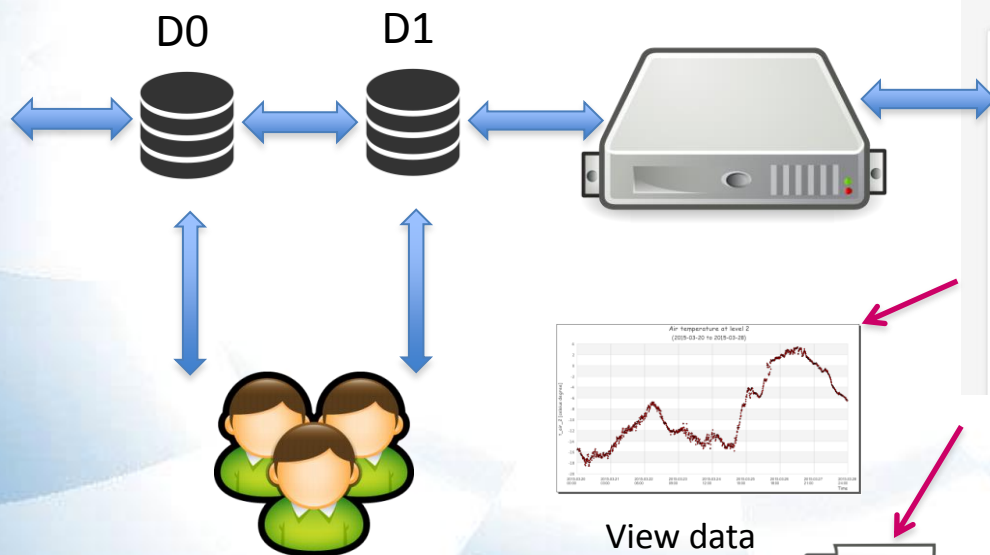
SAON CON meeting, Fairbanks, March 12, United States



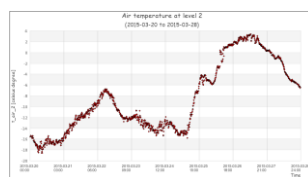


# SOURCES OF FUNDING/SUPPORT FOR ITALIAN ARCTIC RESEARCH

- Italian ANTARCTIC programme
  - EU projects (direct participation, TNA, ....)
  - Research and Foreign Ministry programmes (PRIN, S&T cooperation)
  - from bilateral cooperation (Norway, ....)
- 
- ❑ **Dirigibile Italia station as entry point for the largest part of activities**
  - ❑ **CNR palying a pivotal role in coordinating/support Arctic research**
  - ❑ **since 2015 call for ideas for research activities at NYA**



Validation  
QA/QC  
Data Analysis



View data



Download data



Metadata data



Register data

<http://arcticnode.dta.cnr.it/cnr/>

### Elenco Proposte

**Logout**

**pHinS**

Anno: 2016

**Tipo:** Progetto

**RIS - Project:** New Project

**PI:** *Carolina Cantoni* - CNR-ISMAR

**Subject area:** Marine and oceanographic research

## Project title

pH tipping point in Svalbard

### Project description

Relative to seawater, unexpectedly high pH values can be found in Kongsfjorden, west Svalbard. Within the fjord, surface water pH reached up to 8.6 in summer 2015. As the fjord is open (with no sill to restrict circulation) and fjord circulation generally removes meltwater quickly, the mean pH of freshwater inputs from both land and marine terminating glaciers discharging into the fjord must be very alkaline in order to maintain such a high pH. Glacial meltwater feeding into the fjord from a large land terminating glacier is known to have high pH (up to 10), but it is not clear whether this is representative of inputs from groundwater or sub-glacial drainage. Increasing air temperatures in the Arctic are likely to increase annual discharge and glacial retreat in the coming decades. In the longer term meltwater discharge must ultimately decline if the present negative ice sheet mass balance is maintained. If glacial inputs are important for maintaining a high pH in fjord waters, a pH tipping point will then theoretically be reached as meltwater inputs to the fjord decrease. This should result in a rapid decline in fjord pH towards values more representative of coastal systems (8.0, or lower in a future higher CO<sub>2</sub> world). This rapid pH decline has the potential to be among the fastest natural changes ever reported for a natural body of oxygenated seawater. Kongsfjorden is therefore a very interesting natural laboratory in which the ecosystem response to this pH change could be easily be monitored due to the presence of the Ny-Alesund research station. The primary driver of very high pH in meltwater is normally the hydrolysis of carbonate and silicate mineral phases. These reactions only occur with freshly deposited glacial flour (fine ground rock), so the ability of a glaciated system to drive high pH downstream depends on the active production of fresh glacial flour. Prolonged glacial retreat may, in the short term, expose large quantities of glacial flour and thus supply ample material to maintain high pH in all water draining through the pro-glacial moraine, but carbonate and silicate phases will, ultimately, be depleted such that the pH of water draining through a freshly de-glaciated catchment will no longer be driven to high pH. Changing sediment loads should also directly affect alkalinity and pCO<sub>2</sub> as reactive sediment phases

## Valutazioni

Inserisci un nuovo commento

Inserisci

Provenziale Antonello 2016-02-04 09:41:38

Interesting project, very well described. No negative comments.

Vitale Vito 2016-01-30 00:53:09

parere positivo anche alla luce della possibilità' per il progetto di finanziarsi ampiamente.

Vitale Vito 2016-01-30 00:52:15

progetto molto ben descritto e sicuramente ben valutato logisticamente. Unica incongruenza sul personale (indicati 4 ma inserito un solo nome). Possibile la cosa sia perché il sistema non consentiva di mettere persone nuove a parte il PI.

# CHARACTERISTICS AND FUNCTIONALITIES OF IMPLEMENTING ITALIAN INVENTORY OF ARCTIC ACTIVITIES

Keeping in mind the broader motivation, scope and coverage illustrated before, inventory will be based on a questionnaire including 6 sections:

- 1 – activities connected to national/international networks
- 2 – projects
- 3 – long-term activities (programmes)
- 4 – Infrastructures at disposal for Arctic research (Arctic/Italy)
- 5 – Publications and other results connected to research activities
- 6 – People involved

The application we will use (developed at CNR) is based on web – technologies. In particular the web server used is Apache.

The architecture is based on WEB Data Blade technology that allows you to create web applications whose data are called up dynamically from the Informix database.



- a – possibility to move sequentially along sections without limitations.
- b – any time section is leaved for another data are automatically retained/saved.
- c – information content in the first 4 sections is collect/stored as a single record. Any network activity, project, programme, infrastructure is a single record (page) of the database. In compiling these sections you can add records (pages) and move sequentially along them.
- d – to identify the user and so to provide him possibility to go in and out as much as he like to complete questionnaire.
- e – Allow to the user to decide when to submit questionnaire, in such a way consolidating information. System we will use all information inserted but will allow to discriminate consolidated not consolidated information.
- f – Allow to produce statistics extract result including or not not consolidated information. In particular system will implement for each section possibility to produce an excel file summarizing information. Also will be implemente a production of SAON CON excel file with only consolidated information
- g – Allow in the future to the user to go in and add new information. Previous information will in principle put not at disposal for modification. This for sure for the first 3 sections considering we like to collect also records of the past activities.



for each section a set of question and rules to implement them on the web have been discussed and defined.

They are usually more than those reported in the SAON CON inventory template, ranging from 8 till 17 for the first 4 sections.

for networks, projects, platforms we will ask to indicate thematic field of research (choice between options). This could create a link with the second tier of SAON CON inventory strategy.

Area Tematica	area disciplinare	menu a tendina con numero fissato di scelte. fisica atmosfera, oceanografia/ scienze marine, criosfera/permafrost, ecosistemi terrestri/vegetazione, astrofisica/astronomia , .....
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Procedure will be always develop with the aim to be friendly/simplify introducing information. E.g., in section 6, will be possibile to import excel file containing information about people/personnel involved (Name, affiliation, role in the institution)

## SECTION 5 – PUBLICATIONS/PRODUCTS

<i>categoria</i>	<i>formato pagina dettagli</i>
pubblicazioni su riviste ISI	N campi text per 200 char max
pubblicazioni su riviste non ISI libri/capitoli di libri/pubblicazioni con indice ISBN	per ciascuno degli N prodotti indicati 1 campo di descrizione text per 200 char max + 1 campo denominato <b>ISBN</b> dove riportare questo numero di riferimento
proceedings di congressi	N campi text per 200 char max
comunicazioni(oralì o poster a convegni internazionali)	N campi text per 200 char max
comunicazioni (oralì o poster a convegni nazionali)	N campi text per 200 char max
database/dataset con riferimenti doi	per ciascuno degli N prodotti indicati 1 campo di descrizione text per 200 char max + 1 campo denominato <b>DOI</b> dove riportare laddove esistente questo riferimento per il dataset
altri prodotti della ricerca	1 campo text per 2000 char max dove il compilatore puo' inserire qualsiasi altra informazione ritenga utile

## Questionario

Welcome to the Registration Form for the IADC Survey. Please read carefully all instructions on the call before filling in this form. Before the call deadline, applications can be modified by simply saving a revised version, the new version will automatically overwrite the previous one. The survey must be closed by the deadline by clicking on the specific button at the bottom.

It is mandatory to fill in all the fields marked with an asterisk (\*)

First Name\*

Last name\*

Year of Birth (YYYY)\*

E-mail\*

According to art. 13 of the Italian Legislative Decree n. 196/2003, be informed that personal data will be processed and handled only for the purposes of the present call

☐ Accept

Save

Cancel

For assistance: [info.iadc@cnr.it](mailto:info.iadc@cnr.it) - For technical problems: [helpdesk.iadc@cnr.it](mailto:helpdesk.iadc@cnr.it)



Questionario

Gestione Password

Censimento delle attività in Artico

Lo scopo di questa sezione e' quello di raccogliere le informazioni necessarie ad avere un quadro quanto piu' completo possibile delle attivita' di ricerca legate alla regione artica che i ricercatori e le istituzioni Italiane (pubbliche e private) portano avanti. Il focus principale e' rivolto ad attivita' osservative e di monitoraggio attualmente in corso e/o previste. Ma questo non esclude attivita' di carattere modellistico o di altra natura che non contemplino attivita' in campo. Le informazioni raccolte serviranno ai seguenti scopi:

1. fornire ai nostri rappresentanti nel Consiglio Artico (AC) un quadro completo del contributo Italiano alla ricerca in e per l'Artico
2. contribuire al piano di SAON (Sustaining Arctic Observing Networks - mettere link a web page <http://www.arcticobserving.org/>) di portare avanti un inventario completo delle attivita' di osservazione e monitoraggio che a livello internazionale sono portate avanti in artico .... aggiungere qui un stato more.... per andare a una pagina che dice qualcosa di piu' su SAON (pagina in inglese perche' ripresa da documenti ufficiali)
3. permettere di presentare in modo completo la ricerca italiana in Artico nei diversi contesti Istituzionali (scientifici e politici)

I dati raccolti saranno trattati nel pieno rispetto della normativa vigente. Il questionario, come potrete constatare, e' costruito in modo tale da rendere "friendly" la sua compilazione. Qualsiasi segnalazione e/o suggerimento per migliorare la sua chiarezza, completezza e facilità di compilazione, sono assolutamente graditi e possono essere inviati a [info.iadc@cnr.it](mailto:info.iadc@cnr.it)

E' intenzione rendere nel tempo questo strumento uno strumento dinamico che consenta a chi ha gia' risposto una prima volta e sottomesso informazioni semplicemente di aggiungere le nuove. Questa funzionalita' verra' implementata nel corso del 2016.

For assistance: [info.iadc@cnr.it](mailto:info.iadc@cnr.it) - For technical problems: [helpdesk.iadc@cnr.it](mailto:helpdesk.iadc@cnr.it)

Questionario

**Network**

Progetti

Programmi

Infrastrutture

Pubblicazioni/prodotti

Personale coinvolto

Chiusura questionario

Gestione password

**Network**

Denominazione	Ambito	
Network1	Nazionale	<a href="#">MODIFY</a> <a href="#">DELETE</a>

Campi obbligatori (\*)

Inserisci un Network

Denominazione\*

Ambito\*  Seleziona un Ambito

Descrizione\* (max 2.000 characters)

Characters left: 2000

Copertura geografica\* (max 1000 characters)

Characters left: 1000

Contatti\* (max 1000 characters)

Characters left: 1000

URL\* (max 1000 characters)

Characters left: 1000

Database/ repository\* (max 1000 characters)

Characters left: 1000

Istituzioni coinvolte

Istituzione1

Istituzione2

Istituzione3

Istituzione4

Istituzione5

Altre Istituzioni (max 1000 characters)

Characters left: 1000

[Save](#)

[Cancel](#)

Questionario

**Network**

Progetti

Programmi

**Infrastrutture**

Pubblicazioni/prodotti

Personale coinvolto

Chiusura questionario

Gestione password

**Infrastrutture**

Denominazione	Tipologia	
Infrastruttura1	Satellite	<a href="#">MODIFY</a> <a href="#">DELETE</a>

Campi obbligatori (\*)

Inserisci una Infrastruttura

Denominazione\*

Tipologia\*  Seleziona una tipologia

Descrizione\* (max 2.000 characters)

Characters left: 2000

Sito di misura\* (max 200 characters)

Characters left: 200

Latitudine

Longitudine

Proprietà\* (max 200 characters)

Characters left: 200

Contatti\* (max 1000 characters)

Characters left: 1000

URL\* (max 1000 characters)

Characters left: 1000

[Save](#)

[Cancel](#)

# NEXT STEPS

- complete implementation of the questionnaire on the web (basic set of functionalities)
- beta test phase asking to 4-5 people to use the questionnaire and provide comments/suggestions
- distribute widely the questionnaire
- produce a first inventory statistics and analysis of collected information
- include results of this first inventory to Foreign Ministry for his report to AC (observers need to provide a review report for summer 2016).
- provide SAON CON information in the template format
- discuss with ADC how to connect our information system with other national and thematic inventories.



# Thank you for your attention



*SAON CON meeting, Fairbanks, March 12, United States*

