GEO Cold Regions Initiative (GEO CRI)

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GEO CRI for Data Side Event
GEOCRI – GEO Cold Region Initiative

Aiming to coordinates global joint efforts for Earth observations and information services over a vast Cold Regions area including the North Pole, South Pole, High Latitude Ocean, Himalaya-Third Pole and Mountain Cold Regions.

- The *GEO Cold Region Initiative (GEOCRI)* is an initiated initiative in GEO XII at Nov. 2015, listed at GI-11: GEOCR imitative.

- The AOS summit featured the GEO Cold Region Initiative (GEOCRI) that aims to identify, address and fill observational gaps and improve networks through coordinated observation practices and information services worldwide. See the *Statement on the GEO Cold Region Initiative (GEOCRI).*
GEOCRI links to other SBAs
GEOCRI Task and Implementation Plan

Tasks:

- Infrastructures
- Monitoring Network and Data
- Integrating in situ and Remote Sensing Observations
- User Engagement and Communication
- Capacity Building and Knowledge Transfer
- Management and Monitoring

Hierarchy structure of the activities
Community Portal development

• Customized entry point to Cold Region related information in GEOSS Portal: search, visualization, tools, bulletin board, contact/meeting point etc.

• The idea was initiated in Nov 2016 during GEO XIII Plenary

• Supported by ESA and CNR

• Re-use of GEOSS Portal Functionality for Community Portals #1 & #2

• Community Data Profile" template > to be filled in by mid-April

• ICIMOD website/portal http://www.icimod.org/
ECRVs development

- Existing EV’s related partially/also to Cold Regions
  - **GCOS Essential Climate Variables (WMO)** > 50 parameters
  - **Essential Biodiversity Variables (GEO BON)**

- Current status?
  - HiMAC 2017 group discussion and actions (please show quick the minutes and next step)

- Next steps?
  - Task Force? ECRVs task force
  - Desk study?
  - Selection of approach? E.g. SDGs, GEO SBAs, Science, or Arctic Framework
  - Candidate variables?
### Item #1: Exploratory activities

<table>
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<tr>
<th>Activity</th>
<th>Budget</th>
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<tr>
<td>Creation of a Community through meetings with external organizations, existing groups, experts involved in both Antarctica and Arctic activities</td>
<td>$15K</td>
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<tr>
<td>Designing a focused IEEE event to start an IEEE-centric activity on the topic</td>
<td>$10K</td>
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- Recognizing GEO's international position in respect to EO, **IEEE could co-organize with GEO a CRI/Pole to Pole stakeholders forum** to bring together the national as well as the international agencies and scientists responsible for research and policy in both the Arctic and Antarctica regions.

- Support GEO and the UN Sustainable Development Goals by **co-ordinating acquisition and analysis of EO for "Indicators for Requiring Cold Region Earth Observation"**
Recent Past Events

- Review the scientific motivations of an observation network of High Mountains and northern Cold Regions, promote the integration of in-situ and space observations, and .

- Outline the need for Essential Cold Region Variables (ECRVs) and required preparatory work to support the Group on Earth Observation Cold Region Initiative (GEOCRI). (In the afternoon time of 4th, March)

- GEO Cold Regions Initiative Meeting
  ASSW2017, Prague, Czech Republic

- Arctic Circle Assembly: Joint breakout session of GEO, SAON, EPB, WMO, ICC on Scales of Observations – Connecting Arctic data, information and people (TBC)
  Reykjavik, Iceland

- POLAR2018: GEOCRI side event (TBC)
  Davos, Switzerland
  Conference website
About

What is GEO Cold Regions?

GEO Cold Regions Initiative (GEOCRI) coordinates global joint efforts for Earth observations and information services to provide societal benefits over the world’s Cold Regions area including the North Pole, South Pole, Himalaya-Third Pole and Mountain areas.
GEOCRI Data Activities

Peter L. Pulsifer

Chair, IASC-SAON Arctic Data Committee
Co-Chair, IARPC Arctic Data SubTeam
Co-Lead, GEO Cold Regions Initiative
Co-Chair, Canadian Polar Data Management Committee
PI, Exchange for Local Observations and Knowledge of the Arctic (ELOKA)

Research Scientist, National Snow and Ice Data Center,
CIRES, University of Colorado
IASC-SAON Data Activities in Contribution to GEOCRI

- Formed Nov‘14
- IASC-SAON partnership
- National, organizational and voluntary members + Indigenous (2017)
- Promote and enable:
  - Understanding the system
  - Effective data policy
  - Infrastructure
  - Ethically open access
  - Attribution
  - Standards and interoperability

http://arcticdc.org
Interoperability Workshop and Assessment Process

7 - 10 November 2016
European Space Agency ESRIN
Via Galileo Galilei
Casella Postale 6400044 Frascati (Roma)
Italy

*** BE PART OF THE PROCESS - TAKE OUR BRIEF SURVEY ***

Related Events

- EU-PolarNet Task 3.3 Annual Meeting (Open) : Afternoon and evening of November 7th [Agenda]
  - Gathering at 14:45 at the Old Reception in Building 1

- Interoperability Workshop: November 8th, 9th [Draft Agenda: Polar Connections Interoperability Workshop and Assessment Process]
  - Registration from 8:30 at the reception desk close to the Big Hall in Building 14

- Third Meeting of the Arctic Data Committee (Open) : November 10th [Draft Agenda]
  - Gathering at 8:20 at the Old Reception in Building 1

Access to the ESRIN site is restricted to persons pre-registered using the online conference registration system, presenting a print of the email sent on 2 November and an original valid form of ID; as you are already registered, security has received your name on the list of participants for the conference. For security reasons, cars cannot be parked inside the ESRIN premises. A private parking area (open until 23:40) is available close to ESA/ESRIN in Via delle Perazzetta (Frascati) in front of the Train Station Tor Vergata.
Key Points

- Federated search a priority. Need for open protocols and tools.
  - Exploring Arctic Data Explorer, GeoNetwork, GEOCRI Community Portal (study underway in partnership with SOOS, NSIDC)

- Cloud/VRE is a strong emerging trend

- Indigenous participation critical – confirmation of formal representation on ADC

- Many others – presentation today, report pending
Arctic Data Ecosystem Initiative

- Nov. 2014 – Arctic Data Committee establishes *Mapping Arctic Data Ecosystem* initiative

- June 2016 – Complementary interests in *Pan-Arctic Options Project* (PAO) identified

- RESULT: PAO will lead initiative while sharing results with ADC, and many others (World Data Systems, Belmont Forum, CODATA, Research Data Alliance, SAON, EU-Polarnet)
Arctic Data Ecosystem Initiative
Arctic Data Ecosystem Initiative
main challenges today are social and organizational rather than technical

Includes “coordinating the coordinators”
Conclusion and Comments

- The cold regions are particularly important due to the environmental change that we are already seeing there.

- A key need at the moment is to have projects, programs and national efforts working together in a concerted way. This includes building a **technical network** that is interoperable, but also a **human network** that can work together.

- There are many important initiatives. GEOCRI can play an important role in the system in helping to **connecting the cold region to the larger global system and human network**.

- There is a good opportunity to bring people together next May through a **Polar Data Planning Summit** meeting that GEOCRI will be helping to co-organize with the Arctic Data Committee and other groups.
Thank you!