GEO Mountains Task Group 1.1b

Developing and maintaining a list of interdisciplinary in situ mountain observational infrastructure and associated datasets

Meeting #1, 19 January 2022

geomountains.org
Housekeeping

- Kindly mute yourselves when not speaking
- Please “raise your hand” to request the floor
- The meeting is being recorded
- Brief notes will be circulated afterwards
GEO Mountains: an introduction

The Global Network for Observations and Information in Mountain Environments
An Initiative of the Group on Earth Observations (GEO) co-lead by the Mountain Research Initiative (MRI) & the National Research Council of Italy

Objectives:

- To identify and satisfy the data and information needs of a diverse range stakeholders operating in the mountain sphere
- To improve monitoring and understanding of mountain processes and phenomena, especially under change
- To build, connect, and communicate with the community of mountain researchers, practitioners, and policy makers
- To develop collective reporting capacity that responds to pre-identified assessment and policy needs
## Task Groups

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Number of participants</th>
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<tr>
<td>1.1a</td>
<td>Develop, maintain, and share a list of relevant datasets</td>
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<tr>
<td>1.1b</td>
<td>Develop and maintain a list of interdisciplinary in situ mountain observational infrastructure and associated datasets</td>
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<td>1.2</td>
<td>Contribute to our series of regional workshops / consultations into data portal requirements and main data needs / gaps</td>
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<td>1.4</td>
<td>Contribute Knowledge Packages via GEO Mountains to the GEO Knowledge Hub</td>
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<td>2.1</td>
<td>Analyse the extent to which data from mountain observatories are freely available, and which measurement protocols are followed</td>
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<tr>
<td>2.2</td>
<td>Contribute to the MRI’s existing Mountain Observatories (MOs) and Elevation Dependent Climate Change (EDCC) Working Groups</td>
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<td>2.3</td>
<td>Contribute to a GEO Mountains workshop to identify Essential Mountain Societal / Socio-Economic Variables</td>
<td>34</td>
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<td>2.4</td>
<td>Develop a global spatial dataset related to mountain socio-economics</td>
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<td>2.5</td>
<td>Establish links with the paleoscience community to help ensure that paleodata pertaining to mountains are discoverable, accessible, and usable</td>
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<td>3.4</td>
<td>Develop educational, training, and capacity development materials related to the drivers, processes, and impacts of environmental, ecological, and societal change in mountains</td>
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<td>3.5</td>
<td>Identify areas in which / how existing resources can be applied to respond to pre-identified policy needs</td>
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Main Objective

- To contribute to the development of the GEO Mountains In Situ Inventory by contributing metadata describing interdisciplinary mountain stations / infrastructure, as well as links to associated datasets
  - Sites not currently in the inventory
  - Improvising / adding / updating information about sites that are already represented
Scope of the In Situ inventory

- Broad range of disciplines / themes; global

- Sites should be mountainous (broadly/inclusively defined; see “K” delineations)

- So far focuses predominantly on “research-oriented sites”

- As a minimum, for each station / network, location information must be provided and a link to an external web page providing summary information

- Links to download associated datasets are not mandatory, but at least a contact email should be provided in these cases (with their being some prospect of the data being obtainable)

- For now at least, we are not conducting extensive assessment / QC of the datasets contributed (e.g. checking that metadata is sufficient); *responsibly a dataset is suitable for a given application rests with the user

- Remotely sensed and modelled (i.e. gridded) datasets are excluded > please submit these to the GEO Mountains General Inventory
Foreseen impact of the In Situ inventory

- Data provider side: “showcase” your datasets to a potentially wider community, favouring reuse
- User side: Increase i) the discoverability/findability, and ii) the ease of access of mountain datasets
- Complement the GEO Mountains General Inventory (e.g. enable the MRI’s Mountain Observatories Working Group to identify sites rich in both in situ and remotely sensed data to form a global network of mountain observatories)
- Support project proposals
- Once further populated, form a basis for “gap analyses”, informing assessment exercises (e.g. IPCC reports) and establishing future priorities (regions / disciplines / data types)
- Form a basis for capacity building activities; use / combine various datasets to respond to policy and practical applications (e.g. Sendai Framework, SDGs, etc.)
Timeline

- The first release (v1.0) was made last year > Demo
- v1.1 planned for release in ~Summer 2022
- As such, any additions you are able to make before then will be included
- Periodic updates thereafter, depending on the frequency of further submissions (no “live” update process)

https://www.geomountains.org/resources-open-surveys/resources-surveys/inventory-of-in-situ-observational-infrastructure

https://geomountains.org/sftp/GEO_Mountains_In_Situ_Inventory_v1.0_with_K/ (full screen view)
How to make a submission

- Via [this form](#) > Demo
Outlook

- Increase the representation of operational sites (e.g. from national environmental monitoring agencies)
- Try and increase the proportion of sites which actually share their data openly (“the final mile”)
- Conform to established machine-readable metadata standards to enable interoperability, e.g. with the WMO’s OSCAR portal
- Exploit the inventory e.g. for a more interdisciplinary and comprehensive data gap analysis > collaborative effort under GEO Mountains (e.g. building on our recent study which was limited to a few climatological variables at GHCNd stations)
Outlook

Figure 3. Mean approximate record length of GHCNd stations in mountainous terrain for $PRCP$ (A), $TMAX$ (B), and $SNWD$ (C) by GMBA mountain polygons. The corresponding plot for $TMIN$ is provided.
Comments, questions & ideas
Many thanks for your interest and contributions!

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