

Evaluation framework for the Geohazard Supersites and National Laboratories initiative

Draft 27 January 2014 - to be accepted by SAC

1. Purpose of this document

This document describes the submission, evaluation and review procedure for proposals submitted to the Geohazard Supersites and Natural Laboratories (GSNL) initiative.

The Appendix contains forms for the review of Supersite proposals and for the biennial review of approved Supersites.

2. Proposals and Submission Dates

Proposals are submitted by the prospective Point of Contact (POC) for a Supersite. The POC is typically affiliated with the agency responsible for the monitoring of the proposed site, or has close ties with the agency. Proposals should follow the format indicated by the Committee of Earth Observation Satellites¹ (CEOS) and contain information about the in-situ monitoring systems².

Supersite and Natural Laboratory proposals are reviewed three times each year. Proposals should be received by 31 January, 31 May or 30 September.

3. The Evaluation Framework

The evaluation procedure is coordinated by the GEO Secretariat. Proposals are evaluated by the *interim* governance of the GSNL initiative, which consists of a Scientific Advisory Committee (SAC) and the CEOS Supersites Coordination Team (SCT).

The SAC is composed of scientists representing the geohazards community and of representatives from in-situ monitoring agencies and from data/service providers. The composition, working procedures and responsibilities of the SAC will be reviewed during the on-going strategic planning process.

The SCT³ is composed of representatives from participating CEOS Agencies and provides the primary interface between the CEOS Agencies and the GSNL Point of Contact. Its main functions are:

- to review the Supersites on behalf of the Space Agencies contributing data, and
- to coordinate the provision of satellite data to the Supersites.

In addition, there should be a link with GEO's Geohazard Community of Practice (GHCP).

4. The Evaluation Procedure

The evaluation procedure consists of a two steps process. The first step is the evaluation by the SAC. The second step is the evaluation by the SCT.

The procedure described below applies for proposals aimed at establishing Candidate Supersites, Permanent Supersites or Natural Laboratories.

¹ http://www.earthobservations.org/documents/gsnl/20120918_GSNL_CEOSSelectionProcess.pdf

² http://www.earthobservations.org/documents/gsnl/201212_Supersites_ProposalGuidelines_InSitu.pdf

- a) Proposals are submitted to the GEO Secretariat, who takes note of the submission, archives the document and sends the proposal to the SAC Chair.
- b) The SAC Chair shares the proposal with the SAC members in order to identify three experts who will review the proposal and write an evaluation report (see Annex A).
- c) The SAC finalizes its evaluation during planned teleconferences by approving, rejecting or suggesting modifications for improvement of the proposal (e.g. involving further research groups with known interest in the area). The SAC determines whether a proposed site satisfies the requirements of a Permanent Supersite⁴ or whether it should be considered a Candidate Supersite. The decision is taken after discussing the evaluation reports by the selected experts.
- d) Once the SAC approves the proposal, the SAC Chair sends the documentation to the SCT for the second evaluation step. The SAC Chair also informs proposers about the SAC's recommendation.
- e) Once the SCT has completed the evaluation, the SCT notifies the proposers about the evaluation result and about indicative commitment of resources. The GEO Secretariat and the SAC Chair are included in the communications.
- f) Final acceptance of a proposal is by the CEOS Plenary or by the CEOS Special Implementation Team (SIT), which meets 1-2 times each year.

5. The Evaluation Criteria

This section describes the criteria used by the SAC for the evaluation of Permanent Supersite and Natural Laboratory proposals.

5.1 Permanent Supersites

The criteria for Permanent Supersites are:

1. The proposed Supersite supports the objectives of the GEO GSNL Initiative
2. There is a broad scientific interest to work on the selected site as a consequence of well-identified threats and geohazards.
3. The proposed Supersite is a well-justified complement to existing Supersites, aiming at establishing the Supersites as a representative selection of areas exposed to geological threats.
4. The proposal contains information on the existing monitoring networks and data infrastructures,
5. The proposal contains information on existing data policies, which should enable effective data sharing, or, alternatively, a roadmap (with timeline) to provide full and open access to the data.
6. The proposal contains information on existing web-services, or an implementation plan (with timeline).
7. The proposal contains information on the access to past data (catalogues, repositories) and data products (including data taxonomy).
8. The proposal contains information about available satellite data and the strategies for further data requests and existing collaborations with space agencies.
9. The proposal contains information on the long-term sustainability of the existing monitoring infrastructures and facilities.
10. The proposal contains information on existing collaborations with other supersites or similar international initiatives.
11. The proposers express the willingness to participate in Federated Research infrastructures.

5.2 Natural Laboratories

⁴ http://www.earthobservations.org/documents/gsnl/20120906_GSNL_Definitions.pdf

The criteria for Natural Laboratory proposals are the same as for Permanent Supersites, except there should be scientific interest to study a larger region and that multiple geohazards should be present. The proposal should present the added value of creating a National Laboratory. Furthermore, the proposal should contain information on the multi-disciplinary and cross-disciplinary research that will be facilitated and on the collaborative platform that can be created through the establishment of a Natural Laboratory.

5.3 Candidate Supersites

Sites that do not fulfill all the requirements for Permanent Supersites because of limited in-situ monitoring networks or data infrastructure are designated Candidate Supersites. The status of a Supersite (Permanent versus Candidate) is determined by the SAC during the review process.

To be discussed: (1) Candidate Supersites are meant to be incubators for permanent Supersites (comment Massimo) and/or sites with insufficient in-situ data (comment Falk). How to word this? (2) We want to encourage coordination between the permanent Supersites. Can and should this be part of the evaluation process?

6. Review Process

Supersites and Natural Laboratories.

A regular review verifies the progress of the individual Supersites and Natural Laboratories towards the full establishment of the platform envisioned in the GSNL initiative. The review also facilitates the involvement of the scientific community and promotes coordination among the Supersites.

This review is performed through a report sent by the point-of-contact to the GEO secretariat, which will be forwarded to the SAC and the SCT. In the review process the SAC determines whether a Candidate Supersite satisfies the requirements for a Permanent Supersite. The recommendations by the SAC and the SCT will be sent back to the POC together with the confirmation of continuing support of CEOS.

Event Supersites

A review of Event Supersites verifies the impact of the satellite data provided, the quality of the scientific products made available, as well as the quality of the information provided through the web-services. The review of Event Supersites is an effort to identify short-comings of the current approach, and to improve future event Supersites.

Similarly as for regular Supersites, the review is performed through a report sent by the point-of-contact to the GEO secretariat, which will be forwarded to the SAC and the SCT which each will issue an evaluation report.

Review Dates

Supersites and Natural Laboratories are reviewed after 1 year and then every 2 years. Review reports should be received by 30 September.

Reports for event Supersites should be received 2 months after the establishment of the Supersite or by one of the three target dates (31 January, 31 May and 30 September), whichever comes first.

Reporting to GEO

The SAC Chair synthesizes the review reports and other GSNL activities in an annual report to the GEO Plenary for an evaluation of the status of the GSNL initiative.

For discussion: Section on engagement of scientific community?

Appendix A**Proposal Evaluation Form***For proposal review by the SAC.*

POC and proposal title:

Evaluator:

A. Proposed site, proposing organization and proposal team

1. Is the proposed site relevant for the goals of the GSNL and a natural choice for investigating the physical process present? Is there a direct link between the proposing organization and local disaster management agencies? Is the POC the natural choice given his/her expertise?
2. Are the major research groups studying or monitoring the site (with in-situ and space data) included into the proposal team? Are there other researchers not explicitly mentioned in the proposal who likely will be involved? If some important players are not involved, does the proposal explain why this does not affect the overall GSNL objectives?
3. Will the proposal lead to new collaborative research? Does the proposal specify how other researchers, not part of the proposing teams, can become involved?

B. Space data

1. Will the requested data lead to new scientific discoveries and/or improve the routine monitoring?
2. Is the data acquisition plan well designed (viewing geometry, imaging frequency, synergies between sensors)? Does it strike a healthy balance between prudent use of satellite resources and striving for transformative new discoveries?
3. Will the requested data attract the interest of a larger research community?

C. In-situ data

1. Does the proposal contain a comprehensive description of existing seismic data and how to access them? Are seismic data available following FSDN standards? If not yet open access, is there a plan for providing open access?
2. Same as above for GNSS data.
3. Same as above for other in-situ data.
4. Do the proposal contain a plan for the provision of data and data products using web-services (using GSAC-WS or similar).

D. Dissemination of information

1. Does the proposal include a plan of how the Supersites activity and research results will be disseminated?

E. Supersites status

1. Should this site be considered a Permanent or Candidate Supersite?

Appendix B. Supersite Review Form

To be submitted by the POC for the biennial review

Supersite (candidate or permanent):

POC:

A. Space data

1. New imagery since last review: Give a rough overview of how many images were received from which satellite.
2. Archived imagery: Do you have access to the complete archived imagery?
3. Data access: Is all imagery (new and archived) available through the Supersites data infrastructure (SSARA)?
4. Suggestions for improvement to CEOS.

B. In-situ data

1. Are all new GNSS and seismic data available through the Supersites data infrastructure?
2. Are you using GSAC-WS and are disseminating seismic data following FDSN standards?
3. Are there any other data you would like to make available if the data infrastructure could accept them?
4. Suggestions for improvement of the GSNL data infrastructure.

C. Data products

1. Are you providing any data products using web-services (GPS positions time-series, hypocentres)?
2. Are there any other data products you could provide into the GSNL data infrastructure?
3. Suggestions (e.g. public domain software that could be of use, assistance requested)

D. Space data use

1. Briefly describe current use, e.g. are you or your collaborators routinely or occasionally analyse imagery?
2. Future plans.
3. Which research groups are analysing and/or are planning to analyse the data?

E. Dissemination of information

1. Has the Supersite webpage been updated? Much of the information provided in this form should be on the Supersite webpage.

E. Publications and products