Deliverable 2.1
Stakeholder Engagement

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Introduction

This report targets the institutional analysis of stakeholders and end users underway in WP2. It builds upon efforts to be undertaken in WP8 and on the stakeholder engagement strategy already reported in Deliverable 9.1 (Rodila et al., 2018). An important goal within the GEOEssential project is the engagement with key stakeholders to identify the needs in observations, and environmental and socio-economic data analyses, which can yield advances on Essential Variables (EVs) in Societal Benefit Areas (SBAs). Based on these needs, we will design the various outputs of GEOEssential i.e. the GEOEssential Dashboard.

WP2 is responsible for among other tasks, developing three main stakeholder engagements:

- GEO activities & Communities of practice (www.earthobservations.org/geoss_wp.php)
- ESA TEPs activities (https://tep.eo.esa.int/about-tep)
- European Network of Earth observation Networks (www.eneon.net)

Additionally, the monitoring bodies for the GEOSS strategic targets and UN sustainable development goals initiative are also stakeholders. Dissemination activities will target adequately these various stakeholder groups. Stakeholders will be involved during the project for adjusting the final forms of outputs (contents, visual aspects, data access) of delivered information, and for maximizing the impact and use of GEOEsssential deliverables.

To date, a GEOEssential Strategy for Stakeholders Engagements (Rodila et al., 2018) has been developed which outlines a series of stakeholder engagement steps, including an engagement strategy and stakeholder mapping. The stakeholder mapping in particular has lead to the creation of a living document of GEOEssential Stakeholders (see Appendix). This deliverable builds upon these two first steps, and continues with efforts on preparation, engagement and the engagement action plan.

Stakeholder Engagement Strategy

Deliverable 9.1 "Stakeholder groups" (Rodila et al., 2018) produced the following GEOEssential strategy for stakeholder engagement. The aim was to fulfil the first two steps of the strategy (i.e. Engagement strategy and Stakeholder mapping). This report will revisit these two steps, and address the further three steps (i.e. Preparation, Engagement and Action Plan). The aim is to put this strategy into practice, which will then be implemented over the course of the project. Final outcomes of the engagement strategy will then be reported in the GEOEssential final report, in particular via WP8.

The proposed engagement strategy from Rodila et al., 2018:

1. **Strategy** – establish a vision and level of ambition of future engagement and review past actions.
2. **Stakeholders mapping** - define criteria for identifying and prioritizing stakeholders and select an engagement mechanism. Understand who are the key stakeholders, where they come from and in which way they can get involved in our activities. This phase can be broken into sub-phases such as:
   a. Identifying the relevant groups of stakeholders;
   b. Analyzing the relevance of and the perspective of each group;
   c. Mapping the relationships between stakeholders and objectives;
   d. Prioritizing (ranking) the relevance of stakeholders.
3. **Preparation** – focus on short and long-term goals, determine logistics for the engagement and set the rules.
4. **Engageme**nt – conduct the engagement itself, ensuring equitable stakeholder contribution and mitigating tension while remaining focused on the issues.
5. **Action Plan** – identify opportunities from feedback and determine actions, revisit goals and plan next steps for follow-up and future engagement.

Engagement strategy

Establish a vision and level of ambition of future engagement and review past actions.

General types of stakeholders engagement:

- **Formal meeting** – planned gathering of two or more people to discuss predetermined topics and objectives and make decisions relating to them.
- **Questionnaire** – great method to gather quantitative and qualitative data in a short time.
- **1:1 Interview** – one to one meetings between researches and participants to discuss in depth certain topics.
- **Group Interview** – a compelling look at how a larger set of involved people operates, collect theirs diverse opinions and requests (different than an in depth interview).

- **Workshop** – meeting in which a group of people engage in intensive discussion and activity on a particular topic or project.
- **Direct observation** – gain an understanding of potential users and their challenges, motivations and goals by observing the users in their daily activities.
- **Scientific engagement** – a special issue has been submitted on GEOEssential related efforts with the aim to raise awareness among the scientific community of some of the efforts ongoing within the project (https://www.tandfonline.com/toc/tjde20/current)

Within GEOEssential, we will implement several types of stakeholders engagements, with focus on stakeholders meetings/dialogue, expert workshops and plenary side events of international meetings to inform and get feedback about the GEOEssential products. We will also contribute to capacity building initiatives through the organization of training materials and events.

WP8 in the project will develop specific actions to capitalize on the project results for societal impacts, to ease the transferability to user communities, to establish feedback loops, to foster the use of open access portals and platforms for dissemination of data and knowledge. An important aim will be to support policy and relevant stakeholder groups for decision making with close links to relevant GEO tools, services and platforms.

One of the first stakeholder engagement events was a hands-on session at the EuroGEOSS Workshop 2018 in Geneva, September 12-13. This allowed to explore both the needs and motivation around the topic of essential variables among the scientific community. As the project gains momentum, these events will occur in a variety of different locations and will be reported via the project website and social media. A second event will be the Essential Variable side event at the GEO week in Kyoto in October 2018 to explore the interest of creating a GEO activity on EVs.

Stakeholders mapping

Stakeholders mapping - define criteria for identifying and prioritizing stakeholders and select an engagement mechanism. Understand who are the key stakeholders, where they come from and in which way they can get involved in our activities. This phase can be broken into the following sub-phases:

a. **Identifying the relevant groups of stakeholders (draft complete)**;
b. Analyzing the relevance of and the perspective of each group;
c. Mapping the relationships between stakeholders and objectives (ENEON);
d. Prioritizing (ranking) the relevance of stakeholders.

Identifying the relevant groups of stakeholders (draft complete)

WP2 is responsible for developing three main stakeholder engagements:

- GEO activities & Communities of practice
  (www.earthobservations.org/geoss_wp.php)

- ESA TEPs activities (tep.eo.esa.int/about-tep)
- Former European Network of Earth observation Networks, current European Observatory of Earth Observation Networks (www.eneon.net)

Additionally, WP4 task 4.4, will assess biodiversity policy needs, for which the views of stakeholders relevant to that scope will also be collected. The stakeholders identified so far were already included in the living document of GEOEssential Stakeholders[1].

The list of stakeholders is a dynamic list and depends on different factors such as: current activities, stakeholders impacts, current engagement objectives. This list will change as the environment around changes and as the stakeholders make decisions and/or change their opinion. So far, in GEOEssential we have identified a list of stakeholder groups (see living document), which will change over time. The aim is to communicate regularly to the stakeholder groups on the advancement of the project and the benefits of its developments.

Furthermore, GEOEssential is closely related to a series of co-funding and/or ongoing national and international projects. We have identified and gathered this list of related projects (see living document) and we will both use their results as inputs in GEOEssential and/or disseminate our outputs to them.

Analyzing the relevance of and the perspective of each group and prioritizing (ranking) the relevance of stakeholders

With the initial broad-brush mapping of stakeholders and projects complete, along with an improved version of the ENEON available, it is now necessary to prepare the collected information for analysis. Once the information is adequately prepared, and additional information collected where required, a proper stakeholder analysis can be conducted. In the following section on preparation we outline the necessary information that is additionally required and will be collected via the engagement planned over the project lifetime.

Mapping the relationships between stakeholders and objectives (ENEON)

Initial steps have already been undertaken to map the relationships between stakeholders started in the ConnectinGEO project via ENEON. These are visible in Figure 1. This is an initial starting point, whereby the missing networks will be added to the ENEON graph. We will build upon these efforts throughout the course of GEOEssential. Gaps on networks/stakeholders will be also discovered through the relations between them and the EV/SDG they monitor.

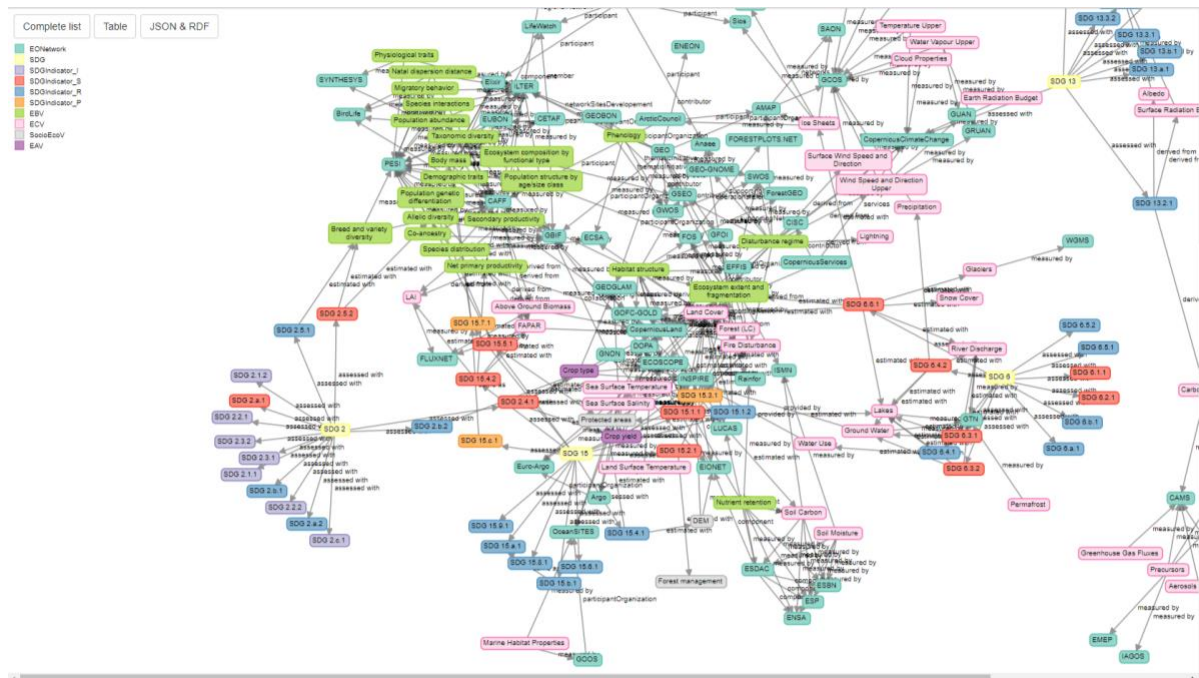[1] https://owncloud.unepgrid.ch/index.php/s/u0PfZMdUz95t8mu

Figure 1. European Observatory of Earth Observation Networks (ENEON) connectivity graph showing some of the interconnected EO networks within Europe and the services they provide in terms of EVs and SDGs (http://www.eneon.org/graph-ev-sdg/index.htm).

Preparation

Preparation – focus on short- and long-term goals, determine logistics for the engagement and set the rules.

Regarding key stages to consider in engagement strategies, the three sections of a participant's journey identified by West and Pateman (2016) were considered in the GEOEssential engagement strategy: Awareness, Initial Participation and Sustained Participation.

With the initial basic mapping complete of the GEOEssential stakeholders and related projects, we now need to further enhance the basic information about the identified stakeholders. The following templates will be used to guide the additional information collected via the various stakeholder groups, projects and ENEON engaged over the course of the GEOEssential Project.

Table 1. Additional fields required to be filled in the stakeholder database (Mascarenhas et al., 2017).

Name	Description
Role	What role(s) does the stakeholder play regarding the issue(s)/topic(s) of interest?
Needs	What are stakeholders' needs in relation to the issue(s)?
Needs Addressed ?	How are these needs currently addressed (if at all)?
Can GE Help ?	How can GEOEssential help address stakeholders' needs better than in the current situation?
Role	What role can the stakeholder play in GEOEssential?
Motivation	What are the users' motivations for participating?
Barriers	Potential engagement barriers

Engagement

Engagement – **c**onduct the engagement itself, ensuring equitable stakeholder contribution and mitigating tension while remaining focused on the issues.

Engagement with GEOEssential stakeholders and projects is already underway. These efforts will increase over the course of the project as project results are realized and feedback is obtained from the various users. As identified above, a variety of forms of engagement will be used within the project, e.g. meetings, questionnaires, interviews, workshops, publications etc.

Action Plan

Action Plan – identify opportunities from feedback and determine actions, revisit goals and plan next steps for follow-up and future engagement.

Analyzing the outcomes from the various forms of engagement planned over the course of the project with the stakeholder groups and projects outlined above, we will implement an action plan for engagement within GEOEssential. Feedback from various stakeholder groups and related projects should feed as quickly as possible back into GEOEssential, ideally helping to shape the project outcomes. This will be an ongoing process over the course of the project that will ultimately lead to more sustainable products.

Summary

This deliverable has reported on the current progress of the GEOEssential Engagement Strategy, building upon Rodila et al., (2018). A basic strategy has been outlined which will continue to be modified and improved upon as the project advances. Initial stakeholder mapping has already occurred which includes project engagement and a link to the European Network of Earth Observation Networks. This mapping is however a living document and the database requires further population as identified above.

In terms of preparation, we have outlined a set of templates which should be populated going forward with the project via the various forms of engagement already identified. Engagement is already underway in GEOEssential with the scientific community in the form of both a special journal issue, a hands-on event at the EuroGEOSS Workshop 2018, a side event at the GEO week in Kyoto 2018, and with the ECOPotential project and the GEO DAB in terms of workflow design and implementation. Finally, implementation of the action plan will occur further along the project timeline as the project matures. The ultimate aim is to ensure that the various outcomes of the project are designed as much as possible with user needs in mind to ensure maximum uptake.

References

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West, S., Pateman, R. (2016). Recruiting and Retaining Participants in Citizen Science: What Can Be Learned from the Volunteering Literature? Citizen Science: Theory and Practice 1(2), 15, http://doi.org/10.5334/cstp.8.