

WP23_25: GEO Essential Variables

1426,206

Basic Information

Full title of the Initiative

GEO Essential Variables

Short Title or Acronym

GEO-EV

Current category in the 2020-2022 GWP

Community Activity

Proposed category in the 2023-2025 GWP

Pilot Initiative

Points of Contact

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Purpose

Objective

To be a panel of experts to discuss about the current status of the EVs, exchange knowledge, experiences and methodologies in EVs definition, analyse the usefulness of some of them in creating SDG indicators and the gaps to be solved in communities in the near future.

Please provide a short description of the Initiative

The concept of Essential Variables (EVs) is increasingly used in Earth observation communities to identify those variables that have a high impact, high feasibility and relative low cost of implementation. The community of GCOS was the first to develop a full set of Essential Climate Variables (ECV). Other examples of communities applying the same concept are oceans (EOVBluePlanet), biosphere (EBV-GEOBON), water cycle (GEOGLOWS), etc. ConnectinGEO illustrated that EVs can be a useful approach to several indicators for monitor SDGs. ERA-PLANET GEO-Essential proposes a need to review and extend the current EV framework and a priority assignment in designing, deploying and maintaining EV in connection with the responsible observation networks. At the same time, EVs should be promoted among all SBAs in GEO. The GEO-EVs

Community Activity aims to be a panel of experts to discuss about the current status of the EVs, exchange knowledge, experiences and methodologies in EVs definition, analyse the usefulness of some of them in creating SDG indicators and the gaps to be solved in communities in the near future. This Community Activity does not have the intention to interfere in the on-going communities already working on the definition of the EVs, but to become a common point to share expertise and to have a single voice inside GEO regarding EVs.

Why is this Initiative needed?

To identify variables that correspond to high impact on the Earth system and are a priority for monitoring.

What evidence is there to support this need?

The review of the set of EVs, conducted by ConnectinGEO (www.connectinggeo.net) in several GEO communities, revealed that there exist different maturity levels and a considerable overlap between the EVs identified by the different communities considered.

Is this Initiative open to participation by representatives of any GEO Member, Participating Organization, and GEO Associate?

Yes

Are you aware of other projects or initiatives at a global or regional scale (both in GEO and externally) that provide similar products or services?

Yes

Please describe.

The community working on the Global Climate Observing System (GCOS) was the first to develop a full set of EVs, i.e. the Essential Climate Variables (ECV) (Bojinski et al., 2014; Hollmann et al., 2013; Szczypta et al., 2014). Presently, significant efforts are being made to define and monitor EVs in the areas of biodiversity and ecosystems (Pereira et al., 2013; Scholes et al., 2012), water (Lawford, 2014), oceans (Constable et al., 2016; Hayes et al., 2015) and more recently on SDGs themselves (Reyers et al., 2017).

How is this Initiative unique?

This Community Activity does not have the intention to interfere in the on-going communities already working on the definition of the EVs, but to become a common point to exchange procedures, experiences and challenges, know overlapping and gaps, and to have a single voice inside GEO.

Please identify the most important actual and/or intended outputs (products, services, etc.) produced by the Initiative, along with their intended and/or actual users. This list does not need to be comprehensive but should identify the outputs which are most used and are expected to have the greatest potential impact.

Output	Status	Users	Additional info
white paper on EVs	In development	all the GEO community	
ENEON graph	Regularly updated	all the GEO community	

If needed, please provide additional comments or explanation to accompany the outputs table

- no answer given -

What kinds of decisions are the outputs of this Initiative primarily intended to support?

Secure finance to the set of Essential Variables

How will these decisions benefit from the outputs of this Initiative?

Fluid dialogue between decision makers and scientists based on a common set of EVs

What kinds of impacts (for example, reduced loss of life, monetary savings, conservation of biodiversity, etc.) are anticipated as a result of the use of the outputs of this Initiative?

Preserve and enrich the Earth Observation networks producing EVs

Has this Initiative been asked to provide specific information (for example, reports, data, services) on an ongoing basis to an international convention, organization, or other multilateral body?

No

Technical Synopsis

Please provide a brief description of the methods used by the Initiative to produce its (actual or planned) outputs.

Knowledge creation around the production of scientific literature, in particular Special Issues and white papers.

If you would like to provide further details on the technical methods, you may upload one or more documents here.

- no supporting documents provided -

Are there any significant scientific or technical challenges that need to be resolved by the Initiative during the 2023-2025 period?

Yes

Please describe these challenges and the steps being taken to solve them.

Fill the gaps of EVs by creating consensus among communities and observation networks

Does the Initiative expect to complete any key new outputs, improvements to existing outputs, or improvements to the methods of producing outputs, in the 2023-2025 period?

No

Resources

Have all resources required to implement the Initiative's planned work in the 2023-2025 period been secured?

- Gap in financial resources

What is the estimated funding gap for the 2023-2025 period?

25000 €

What actions is the Initiative taking to obtain the required resources?

Look for European Commission funded opportunities

Please list all financial and non-financial contributions to the Initiative (other than in-kind, voluntary participation by individual contributors) having a value of more than USD 50,000.

- no answer given -

Lessons from the 2020-2022 Period

Were all planned activities for the 2020-2022 period implemented as expected?

Yes

Were there any key challenges faced by the Initiative in the 2020-2022 period?

Yes

Please describe.

Gap analysis of EVs

Were there any impacts or changes to operations due to COVID-19?

No

Please describe the key changes proposed for the 2023-2025 period, for example, new projects, new areas of focus, or adjustments to the activity governance.

Expanding EVs to all relevant themes in Earth Observation, in particular, Agriculture, Energy, Urban, socioeconomical areas.

Does the Initiative have outputs (products, services, etc.) available to users now, even if only on a pilot or testing basis?

Yes

Please provide any available information describing this usage (for example, user statistics, results of user testing) and/or feedback from users (for example, user comments, evaluations).

ENEON graph: <http://www.eneon.org/graph-ev-sdg/index.htm>

Please provide supporting documentation if available.

- no supporting documents provided -

Do you have evidence of any impacts that have occurred in part as a result of using the outputs of the Initiative (for example, policy decisions taken, behaviour changes by users, risks mitigated)?

No

Have there been any internal or external reviews or evaluations of the Initiative since 2019?

No

Please indicate any GEO Work Programme activities with which you have ongoing collaboration.

- EUROGEO - European Group on Earth Observations

- GEO BON - GEO Biodiversity Observation Network
- GEO-CRADLE - GEO Capacity Building in North Africa, Middle East, Balkans and Black Sea Region
- GEOGLAM - GEO Global Agricultural Monitoring
- GEOGLOWS - GEO Global Water Sustainability
- GEO-LDN - GEO Land Degradation Neutrality
- GEO-WETLANDS - GEO Wetlands
- GFOI - Global Forest Observation Initiative
- GEO-MOUNTAINS - Global Network for Observations and Information in Mountain Environments
- BLUE-PLANET - Oceans and Society: Blue Planet

Please indicate any additional GEO Work Programme activities with which you would like to establish new collaborations.

- AFRIGEO - African Group on Earth Observations
- AMERIGEO - Americas Group on Earth Observations
- AQUAWATCH - AquaWatch
- ARCTIC-GEOSS - Arctic GEOSS
- AOGEO - Asia-Oceania Group on Earth Observations
- EO4EA - Earth Observations for Ecosystem Accounting
- EO4HEALTH - Earth Observations for Health
- EO4MIN - Earth Observations for Managing Mineral and Non-Renewable Energy Resources
- EO4SDG - Earth Observations for the Sustainable Development Goals
- GEO-ECO - GEO Global Ecosystems
- HUMAN-PLANET - GEO Human Planet
- GEO-VENER - GEO Vision for Energy
- GEO-WETLANDS - GEO Wetlands
- LAND-COVER - Global Land Cover
- BLUE-PLANET - Oceans and Society: Blue Planet

Stakeholder Engagement and Capacity Building

Are there specific countries or organizations that your Initiative would like to engage?

No

Does your Initiative engage users in the work of the Initiative (for example, consultation, testing, co-design)?

No

Does the Initiative have a user engagement strategy or similar kind of document?

No

Are there categories of users that are not represented at this time, but you would like to engage?

No

Does the Initiative have a documented capacity development strategy?

No

Please describe the approach to capacity development that is being implemented by the Initiative?

- no answer given -

Are there any commercial sector organizations participating in this Initiative?

No

Are there opportunities for commercial sector uptake of the outputs of the Initiative?

No

Are there opportunities for further commercial sector participation in the Initiative?

No

Does the Initiative have a plan for commercial sector engagement?

No

Governance

Please describe the roles of each of the key leadership positions, as well as any team structures involved in day-to-day management.

A very simple governing structure is proposed with two chair persons and an advisory committee. The two co-chairs are responsible for the management of the activity (e.g. organizing regular meetings with the Advisory Board and with the Stakeholders) and to organize the execution of the decisions that the Advisory Board recommends by consensus. The Advisory Board is composed of selected experts on EVs coming from the different EV initiatives. Regular communications about the Community Activity will be organized where stakeholders will be invited. Main opportunities will be the GEO meetings and the GEO Essential plenary meetings. Following the advice of the board, regular telecons will be organized to monitor the progress of the internal tasks and towards the expected outcomes. If necessary, dedicated telecons or face-to-face meeting will be organized to make progress toward a particular outcome.

Is there a steering committee or other governance bodies that advise the Initiative but are not involved in day-to-day management?

No

What methods does the Initiative use to communicate with its participants?

- Email / e-newsletters
- Regular conference calls

Please describe the key risks that could delay or obstruct the completion of the planned activities and outputs of the Initiative, along with any actions taken to mitigate these risks.

Description of the hazard	Description of the possible impacts	Scale of impact	Likelihood of occurrence	Mitigation measures
low interest in a community	less development of the EVs in that community	Moderate	Not very likely	work with another community

What methods are used by the Initiative to monitor its effectiveness?

- Informal discussions with users / beneficiaries

Would the Initiative be interested in assistance from the GEO Secretariat for developing an impact plan?

No

How are the results of the monitoring and evaluation activities shared with participants and the wider GEO community?

- no answer given -

Are any monitoring or evaluation activities required by funders/contributors?

No

Participants

Please list the active individual participants in the Initiative

First name	Last name	Email address	Member	Org
Joan	Masó	joan.maso@uab.es	Spain	CREAF - Centre for Ecological Research and Forestry Applications
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Other information

Please provide any other comments or information that was not included in the previous sections, but you would like to appear in the Implementation Plan.

- no answer given -

- no supporting documents provided -

Co-Editor Management

List of co-editors for this initiative

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