



# EnMAP

Announcement of Opportunity

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# Announcement of Opportunity for EnMAP

## January 30th 2023

The main scientific goal of the hyperspectral EnMAP (Environmental Mapping and Analysis Program) mission is to study environmental changes, investigate ecosystem responses to human activities, and monitor the management of natural resources. By measuring diagnostic parameters that quantify the state and trend of environmental change, the stability of ecosystems, and the sustainability of resource use, the EnMAP mission aims to provide critical information for an improved understanding and management of the Earth System.

Beginning of November 2022, the EnMAP mission will transition from commissioning to the routine operational phase. Therefore, the EnMAP Instrument Planning Portal (IPP) will be opened on 2nd November 2022 for submission of proposals for scientific, non-profit and non-commercial use of EnMAP data. Scientific users can register and submit their proposals for data requests under <https://planning.enmap.org>. One proposal should be related to one project, scientific users may submit several proposals. Submitted proposals will undergo a review process.

Scientific, non-profit, non-commercial use in the sense of this EnMAP AO is the use of EnMAP data for purposes of pure and applied research including the development of new applications or pre-operational services or experimental/demonstrative activities. EnMAP data are any data and products that are of the EnMAP mission provided to the user.

For further information on the EnMAP mission, please refer to <https://www.enmap.org/>. Relevant information for the AO are in particular

- Information on data products and access (<https://www.enmap.org/mission/dataproducts/>)
- IPP User Manual and submission guidelines (available from 2<sup>nd</sup> November)
- User license (available from 2<sup>nd</sup> November)
- EnMAP science plan [https://www.enmap.org/data/doc/Science\\_Plan\\_EnMAP\\_2022\\_final.pdf](https://www.enmap.org/data/doc/Science_Plan_EnMAP_2022_final.pdf)

Questions related to the registration process, proposal submission, evaluation, scientific use, ordering and order status etc. should be sent to [enmap\\_application\\_sp@dlr.de](mailto:enmap_application_sp@dlr.de).

**The following two Announcement of Opportunity (AO) processes are be open to scientific users.**

## **AO #00001: General AO Process** **duration: 02.11.2022- end of mission lifetime**

The General AO aims at demonstrating the usability of EnMAP data for scientific studies in various application fields as described in the EnMAP Science Plan, but not limited to these, for product and algorithm validation and data harmonization. The AO intends to foster the development of novel methodologies that improve the accuracy of currently available remote sensing information. Furthermore, it aims at advancing the generation of science-driven information products by developing new concepts and techniques for data extraction and assimilation including the exploration of synergies with other sensors, and developing new science products and new science applications for spaceborne hyperspectral imaging.

This **General AO** will be open during the whole routine operational phase to ensure the possibility to submit proposals throughout the entire mission.

Selected proposals that include extensive in situ measurements and/or are embedded in already existing monitoring networks and larger research projects are highly welcome and can be granted a higher priority in the scheduling of observations.

## **AO #00002: Special AO Process: Long-Term Ecosystem Monitoring (02.11.2022-30.06.2023)**

The Special AO aims at long-term ecosystem monitoring spanning observation timescales of more than 1 year. Diagnostic geochemical, biochemical, and biophysical parameters need to be monitored using time series analyses in combination with in-situ measurements to describe the dynamics of various ecosystems in order to improve our understanding of complex environmental processes. This will significantly contribute to environmental research studies, particularly in the fields of ecosystem functions, plant traits, natural resource management, natural hazards, and Earth system modelling.

This Long-Term Ecosystem Monitoring AO will be open for the submission of proposals for three months. As the emphasis lies on time series analysis for ecosystem monitoring, observation plans are expected to be longer than one year and can extend up to the entire EnMAP mission length (up to 5 years). Observations will be granted for the first year of operations. The call will be renewed once a year in order to allow tasking of new acquisitions and submission of new proposals.

Outstanding proposals that include extensive in situ measurements and/or are embedded in already existing monitoring networks and larger research projects are highly welcome and will be granted a higher priority in the scheduling of observations.

## **AO #00003: Special AO Process: EnMAP product quality monitoring (01.05.2023-31.08.2023)**

The EnMAP product data quality provided to the users is essential to achieve the scientific mission goals. High-quality EnMAP products are the prerequisite for achieving high-quality bio- and geochemical retrievals. Dedicated validation and regular monitoring efforts are needed to ensure appropriate data quality and to assess the effectively achieved product data quality. The validation should take place globally across different scales and ecosystems, for land surfaces and water surfaces, and under various atmospheric conditions. Well-balanced and EnMAP-adapted in-situ measurements are of central importance for this purpose.

The Validation AO aims at the monitoring of EnMAP hyperspectral sensor data quality and validation of the EnMAP products (L1B, L2A). The AO is intended to stimulate and unite the efforts of the user community and the mission team regarding EnMAP product data quality validation and associated measuring and sharing of in-situ field data, and improve synergies and match-ups with current optical and hyperspectral missions over calibration/validation targets. Besides the support of the EnMAP product validation, this AO intends to foster the identification of adequate sites and test-bench datasets for validation in synergy with present and future optical and hyperspectral spaceborne missions and international CAL/VAL teams. The AO will also support the development of standards and protocols for measuring and sharing in-situ validation data in this regard. This Validation AO will be open during EnMAP's whole routine operational phase to ensure the possibility to submit proposals throughout the entire mission, for time series over permanent sites or specific validation experiments.

Proposals that include EnMAP representative in-situ measurements from stations or field campaigns and the willingness to share successfully acquired in-situ data are highly welcome. Submitted proposals will undergo a review process which will assess and guide their suitability for product validation purposes. Successful proposals are granted a higher priority in the scheduling of observations. The AO-PI and the validation team are happy to support coordinating and aligning respective validation actions and measurement schemes.