



## EuroGEOSS Request 2018

Fields marked with \* are mandatory.

### Request for Expressions of Intent to scale-up and showcase EuroGEOSS Pilot Applications

EuroGEOSS is a regional initiative launched in October 2017 by the European countries, the European Commission and organizations participating to the Group on Earth Observations (GEO). From 2018 onwards, the EuroGEOSS initiative plans to launch periodic Requests for Expressions of Intent. All organizations located in European GEO member countries which are involved in developing, promoting or deploying innovative EO derived solutions are invited to come forward with voluntary Expressions of Intents for networking with other stakeholders along the value chain and scaling-up their activities within a timeframe of maximum three years.

**This EuroGEOSS Request provides the online form to submit your Expression of Intent to the EuroGEOSS initiative. Submissions are accepted until 30 June 2018.**

#### Why to submit an Expression of Intent?

- To share good practice, benchmark experiences and scale them up across different local contexts and across the EU;
- To network including with users and other stakeholders not yet involved in European Research and innovation EO activities;
- To get high visibility and recognition - including in GEO and Copernicus events - and take part in a more strategic dissemination at European and international level under the EuroGEOSS flag;
- To benefit from EuroGEOSS as a regional gateway to GEO;
- To link with important EO projects and programmes in Europe including Copernicus, Horizon 2020 and its follow-up programme after 2020;
- To benefit from and contribute to a reinforced European EO marketplace;
- To get regularly informed on funding opportunities;

- To participate in a European-wide, lasting partnership where shared competences, resources and skills are combined.

The Expressions of Intent should build upon the combination of existing funded developments. They must address the EuroGEOSS scoping priorities and selection criteria annexed to the text of the EuroGEOSS Request 2018.

All Expressions of Intent submitted online to the EuroGEOSS Request 2018 will be analyzed by the EuroGEOSS Coordination Group.

Action Groups will be established for each of those application areas where critical mass and market potential is identified from the submitted Expressions of Intents. Being selected for an Action Group is the prime mechanism to get your activity labelled as a EuroGEOSS activity. Each Action Groups shall facilitate upscaling of a specific EO applications characterized by a Technology Readiness Levels (TRLs) equal or above 5.

The Action Groups are not subject to a contractual basis. They represent ad hoc voluntary partnerships aiming at advancing the EuroGEOSS innovation agenda on a best effort basis and for a period of maximum three years.

For more information on this survey - including the EuroGEOSS selection criteria - see the *"Request 2018 for Expressions of Intent"* and the related *Frequently Asked Questions (FAQ)* available from the [EuroGEOSS](#) web site. You can also send your eventual questions to [RTD-EUROGEOSS@ec.europa.eu](mailto:RTD-EUROGEOSS@ec.europa.eu).

### ***Disclaimer***

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***Data protection related to this survey:*** *personal data protection will be ensured (please click [here](#) for further information).*

***Specific Privacy Statement:*** *is available [here](#).*

**DEADLINE FOR SUBMISSIONS: 30 June 2018**

**FEEDBACK BY EMAIL TO CONTRIBUTORS: end August 2018**

**LAUNCH OF SELECTED ACTION GROUPS: mid September 2018**

## **1 PARTNERSHIP SUPPORTING THE EXPRESSION OF INTENT**

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### **1.1 LEAD ORGANISATION**

\* Lead organisation name

*100 character(s) maximum*

European Centre for Medium-Range Weather Forecasts

\* Lead organisation address (Address, city, country)

*100 character(s) maximum*

Shinfield Park, Reading, Berkshire, RG2 9AX, United Kingdom

\* Lead organisation URL/website

*100 character(s) maximum*

www.ecmwf.int

Lead organisation profile in relation to GEO and/or Copernicus

If applicable, please describe briefly the links between your organisation and the GEO initiative and/or the Copernicus programme.

*1000 character(s) maximum*

ECMWF has been entrusted by the European Commission to operate two of the core Copernicus Services: Climate Change and Atmosphere Monitoring. ECMWF is also the computational centre for the Floods Early Warning Systems (a component of the Copernicus Emergency Management Service). Last but not least, ECMWF is a participating organisation to GEO.

\* Contact person (Name and firstname)

*50 character(s) maximum*

Christel Prudhomme

\* Contact person e-mail

christel.prudhomme@ecmwf.int

## 1.2 OTHER ORGANISATIONS

Name of other organisations (Please include the name and country of the other organisations separated by comma.)

*1000 character(s) maximum*

The European Commission - Joint Research Centre (JRC) manages GloFAS and EFAS projects as part of the Copernicus Emergency Management Service - and additionally contributes to the system with further research and development.

The European Center for Medium-range Weather forecasts (ECMWF) operates the EFAS and GloFAS systems and ensures a 24/7 service and provides basic research support.

The University of Reading (UK) conducts research using GloFAS forecast products as well as liaising with end-users through the GloFAS Community initiative.

CEMADEN (Brazil) and RIMES (International, South East Asia) performs verification of GloFAS forecast products for river basins in their region. The Red Cross and Red Crescent (International) uses the GloFAS products to trigger flood preparedness actions. Brigham Young University runs a pre-operational web-service under the umbrella of the GEO Global Water Sustainability (GEOGLOWS) initiative to provide down-scaled GloFAS forecasts.

Types of organisations (Please select all types of organisations participating in your coalition)

- International organisation
- Public authority
- Research
- Business
- Non-governmental organisation
- Interest group
- Other (please specify below)

Are you looking for additional, specific expertise along the value chain?

- Yes
- No

Specify the profile of partners you are looking for

*500 character(s) maximum*

End-users engagement is key to the success of a hydrological forecasting platform, insuring the system is fit for purpose. Engagement with hydrological data providers is also important to calibrate and validate the forecasts. Partnerships with organisations involved in disaster risk reduction, hydro-met services and businesses (insurance, agriculture, SMEs etc...) would strengthen GloFAS's community of users so that GloFAS future development meets users needs.

## 2 YOUR EXPRESSION OF INTENT

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\* Descriptive title

*200 character(s) maximum*

GLOBAL FLOOD AWARENESS SYSTEM (GloFAS)

Acronym (optional)

20 character(s) maximum

GloFAS

\* Abstract/executive summary (including the overall description of the intended EuroGEOSS pilot application)

2000 character(s) maximum

The Global Flood Awareness System (GloFAS) and its European counterpart EFAS are part of the Copernicus Emergency Management Service and provides complementary, added value flood forecasts independent of administrative and political boundaries. It couples state-of-the art weather forecasts with a hydrological routing model, and with its global scale set-up provides downstream countries with information on upstream river conditions as well as continental and global overviews.

- GloFAS now produces fully operational global ensemble flood forecasts since 23 April 2018
- GloFAS has shown its potential as a decision-making tool through many floods
- GloFAS has supported Red Cross operations in Africa and South America

GloFAS is able to predict floods up to two-three weeks in advance depending on the situation and river size; it also includes a hydrological seasonal outlook of probability of high/low flows in ~300 river basins in the world up to 8 weeks in advance. It became fully operational recently, which guarantees a 24/7 service as part of the Copernicus Emergency Management Service.

GloFAS's principal objectives are to improve preparedness and response for floods at a global level by providing

- added value flood forecasting information to the relevant national authorities complementary to existing national systems
- global scale, comparable, and basin-wide flood forecasting information to international organizations, and any other potential user

Access to GloFAS data outside Europe is unrestricted, and available for commercial use. Within Europe, EFAS data is available but restricted to national authorities that can issue warnings.

## EXPECTED INNOVATION OUTCOMES

(to tick one or several options from the form)

\* What main EuroGEOSS innovation outcomes?

- Real life, user-driven demonstrated EO applications
- Reviews of user-related experience and questions
- Catalogues of good practices available in different languages
- Strategies for scaling-up new services including critical success factors
- Guidelines for business models, evidences on return on investment
- Innovative procurements of interoperable innovative solutions
- Innovation deals in the field of service solutions
- Reference site with high potential for replication in Europe
- Inter-regional cooperation
- Cooperation with H2020 projects
- Awareness raising campaigns
- Emerging themes of novel interest for European research & innovation.
- Education and training modules, including for trainers
- Other (please specify below)

**EuroGEOSS POLICY PRIORITIES ADDRESSED BY YOUR INTENT** (to tick relevant options from the form)

**\* EuroGEOSS priorities**

- |  |  |
|--|--|
| <input type="checkbox"/> SDG2: Zero hunger                                     | <input type="checkbox"/> SDG 14: Life below water / SDG 15: Life on land |
| <input type="checkbox"/> SDG 3: Good health and well-being                     | <input type="checkbox"/> SDG 13: Climate action - Paris agreement        |
| <input type="checkbox"/> SDG 6: Clean water and sanitation                     | <input type="checkbox"/> SDG 13: climate action Paris agreement          |
| <input type="checkbox"/> SDG 7: Affordable and clean energy                    | <input checked="" type="checkbox"/> Sendai Framework                     |
| <input type="checkbox"/> SDG 9: Industry innovation and infrastructure         | <input type="checkbox"/> EU policies                                     |
| <input checked="" type="checkbox"/> SDG 11: Sustainable cities and communities |  |

**\* Link to GEO SBAs**

- |  |  |
|--|--|
| <input type="checkbox"/> Food sustainability and sustainable agriculture | <input type="checkbox"/> Sustainable urban development             |
| <input type="checkbox"/> Public health surveillance                      | <input type="checkbox"/> Biodiversity and ecosystem sustainability |
| <input checked="" type="checkbox"/> Water resources management           | <input type="checkbox"/> Crosscutting: climate change and impact   |
| <input type="checkbox"/> Energy and mineral resource management          | <input checked="" type="checkbox"/> Disaster resilience            |
| <input type="checkbox"/> Infrastructure and transport management         |  |

Is your Intent supporting directly the implementation of a specific EU policy?

- Yes  
 No

**EO application domains**

- |  |  |
|--|--|
| <input type="checkbox"/> EO for sustainable agriculture                  | <input type="checkbox"/> EO for resilient cities                   |
| <input type="checkbox"/> EO for public health surveillance               | <input type="checkbox"/> EO for nature conservation                |
| <input type="checkbox"/> EO for sustainable water management             | <input checked="" type="checkbox"/> EO for climate services        |
| <input type="checkbox"/> EO for renewable energies and energy efficiency | <input checked="" type="checkbox"/> EO for disaster risk reduction |
| <input type="checkbox"/> EO tracking human settlement                    |  |

**\* End user dimension (Who are the end users? How are they involved? How consolidated are the user needs?)**

*1500 character(s) maximum*

End-users of GloFAS range from academia, hydro-meteorological services, international organisations including disaster risk reduction and response communities, and public and private sectors. GloFAS includes over 2500 registered users (June 2018). GloFAS uses three main mechanisms for engaging with users: 1) regular community of users meetings and workshops, a dialogue platform for users to meet developers, feedback on existing services and influence the future shape of GloFAS hydrological services and forecasting products. Meetings have been targeting different sectors, including the hydro-meteorological services and the global business community; 2) in-situ training, where GloFAS developers reach-out to end-users, providing training in probabilistic forecasts and use of the platform for decision making. 3) Direct exchange, including data and forecast sharing, tailored data retrieval service and calibration of the hydrological forecasts based on users' data, and users' feedback and evaluation of the system.

**\* Market potential (Please document the level of already established market/uptake potential?)**

*1000 character(s) maximum*

GloFAS hydrological forecasts (outside Europe) are available to all without restriction, including for commercial use. (Within Europe, EFAS products are available but restricted to national authorities that can issue warnings) This means GloFAS forecasts can be used by consultancies and commercial organisations who can transform the forecasts and add value. Examples include downscaling in space the forecasts to provide information on more catchments, transformation of the forecasts, e.g. for inundation mapping or reservoir management, or construction of web-service applications tailored for specific users needs not possible for a global service.

\* Targeted Technology Readiness Level (TRL) (What level of service demonstration/validation have you achieved /do you aim to achieve?)

*1000 character(s) maximum*

Currently, GloFAS's forecasts are produced daily, and can be viewed through a dedicated web interface available 24/7, and forecasts are made available on demand through a dedicated, tailored ftp service. Further developments will include a more automatic data retrieval system. e.g. based on API or WMS.

\* Description of planned upscaling activities (e.g. wider user base, extended service quality with additional data sources, transnational

deployment in Europe, closer-to-market activity, service replication/incubation, other upscaling activity?)

*1500 character(s) maximum*

Outreach activities for GloFAS will continue, including strengthening engagement with HydroMet services in South America, South -East Asia envisaged for 2019. The service is developed continuously, with one upgrade planned per year; this can include improvement of the hydrological forecasting modelling chain, inclusion of new products including forecast skill evaluation information, improved forecast's access mechanisms and archiving.

\* Link to GEO and GEOSS (How do you intend to take advantage of GEOSS data/GEO activities?)

*800 character(s) maximum*

CEMS (which GloFAS and EFAS contribute to) is one of the 6 Copernicus Services and is thus directly part of EU's contribution to GEO. Liaising further with the GEO community can help sharing best practices, consolidating service evolution plans and increasing awareness and uptake.

\* Leveraging Copernicus (How about exploiting existing data/services/platforms/resources from the Copernicus programme?)

*1000 character(s) maximum*

GloFAS and EFAS are parts of the Copernicus Emergency Management Service - Early Warning System.

Duration(starting from September 2018)

- One-year duration
- Two-year duration
- Three-year duration

\* Funding resources (Reference to existing/upcoming funding resources or projects supporting your Expression of Intent)

*50 character(s) maximum*

GloFAS s funded by the European Commission DG-GROW

Comments (optional)

*1000 character(s) maximum*

### 3 ABOUT THE EuroGEOSS REQUEST 2018

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\* How did you learn about this EuroGEOSS Request?

*300 character(s) maximum*

ECMWF is a Participating Organisation to GEO and participates to the GEO High-Level Working Group (J.-N. Thépaut is ECMWF's representative).

Suggestions in view of future EuroGEOSS Requests (optional).

We would like to give you the opportunity to comment on this survey.

This will be taken into account for subsequent EuroGEOSS Requests after 2018.

*1000 character(s) maximum*

THANK YOU FOR YOUR COOPERATION.

#### Background Documents

[EuroGEOSS Request 2018 for Expressions of Intent.pdf](#)

[EuroGEOSS concept paper.pdf](#)

[FAQ](#)

[SpecificPrivacyStatement - EuroGEOSS 2018.pdf](#)

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#### Contact

RTD-EUROGEOSS@ec.europa.eu

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