Application Form
GEO-Amazon Earth Observation Cloud Credits Programme

1   Purpose

The GEO-Amazon Earth Observation Cloud Credits Programme offers developing countries access to free cloud services to help with the hosting, processing and analysis of big Earth observation data for sustainable development.

Using Amazon Web Services, the credits being made available are intended to enable government agencies and research institutions to build Earth observations applications that support environmental and development goals, including the Sendai Framework for Disaster Risk Reduction, the Paris Agreement and the United Nations Sustainable Development Goals.

2   Eligibility and Credit Amounts

Agencies and research organizations from GEO Members categorized as Developing Countries by the United Nations Development Programme (UNDP)[1] are eligible to apply. Eligible agencies and organizations can apply for Amazon Web Services cloud credits for non-commercial projects.

Agencies and organizations from a single country can apply for up to $60,000 of Amazon Web Services cloud credits over a 3-year period, while multinational projects can apply for up to $100,000 in cloud credits over the same period. We suggest the use of the simple monthly calculator[2] from AWS to estimate your monthly AWS bill based on various AWS services to be used. Please see Amazon Web Service FAQ page[3] for more information.

For successful projects, the institution receiving credits will be required to set up an AWS account with an institutional email address prior to receiving credits. Additionally, the institution should provide a physical mailing address to the GEO Secretariat, along with the name of a contact person.

Additionally, Sinergise, a Slovenian company that operates the Sentinel Hub, is working to help the GEO community optimise their use of remote sensing data and technology. Sentinel Hub is a cloud-based API that provides instant access to the most commonly used satellite datasets residing on AWS, including Copernicus Sentinel-1 and Sentinel-2, USGS Landsat, MODIS and others. Through unified service access, anyone can build Earth Observation applications in a matter of days, even advanced ones like the EO Browser. In combination with cloud infrastructure and various open-source tools for machine learning, Sentinel Hub is an indispensable resource for developers of all levels. In order to contribute to sustainable development objectives, Sinergise is committing €300,000 of Sentinel Hub Services for a three year period. These credits will be distributed by GEO to participants of the GEO-Amazon Earth Observation Cloud Credits Programme who have indicated in their proposal that they wish to use Sentinel Hub services and have provided an estimate of the area to be analyzed.

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[1] http://hdr.undp.org/en/content/developing-regions
[2] http://calculator.s3.amazonaws.com/index.html
[3] https://aws.amazon.com/research-credits/faq/

3   Project Assessment Criteria

Proposals will be evaluated against the following criteria:

a) Applications should outline innovative projects that will use cloud computing services and any free, open, multi-source Earth observation space and in-situ analysis-ready data.

b) Projects must identify tangible deliverables that enhance national capacity to comply with global policy mandates (such as the UN 2030 Agenda for Sustainable Development, Paris Agreement on Climate Change, or Sendai Framework for Disaster Risk Reduction).

c) Given the broad scope of issues addressed by these global policy initiatives, projects should demonstrate an approach that combines both interdisciplinary (involving collaboration of scientists/technology developers from at least two disciplines) and transdisciplinary (integrating the natural, social and economic domains together with relevant scientific and technological disciplines, societal groups, stakeholders and users) components in the research and applications phases.

d) Projects should feature opportunities for co-design, co-production and co-implementation with local stakeholders. Projects should demonstrate an intention to transition from research to practical application and show impact that is translatable to other contexts and the wider community.

e) Projects should address how they intend to support the GEO Work Programme. The GEO Secretariat will consult with the GEO Programme Board to determine how projects will feature within the GEO Work Programme.

f) Data and software used and developed in the course of the project, along with best practices, should be made fully and freely open and accessible to the wider GEO community, in compliance with GEOSS Data Sharing Principles, and will ultimately form part of the GEOSS platform.

4   Evaluation Panel

Submitted proposals will be reviewed and evaluated by the GEO Secretariat Director, the GEO Senior Scientist and three members of the GEO Programme Board. Neither the GEO Secretariat nor AWS make any guarantees regarding the awarding of AWS cloud credits. Applicants submit their proposals in the knowledge that the proposals may be declined without further consideration, subsequent to the review and evaluation process, at which point any further contact between the GEO Secretariat and the applicant will be terminated.

5   Guidelines on Earth Observation Data Usage

Use of Earth observation data from any open, free and fully accessible source is strongly encouraged in the proposed project.

To find free and open data, proponents are invited to use the GEOSS portal[4]. The GEO Secretariat will facilitate access to analysis-ready data from the Copernicus and Landsat programmes for proposals wishing to make use of this data.

For information, through its Public Datasets program, AWS hosts freely available datasets, staged for analysis in the cloud. The Registry of Open Data on AWS[5] makes it easy to find datasets made publicly available through AWS services. Projects that receive cloud credits

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[4] `https://www.geoportal.org`
[5] `https://registry.opendata.aws/`

may also use AWS services for data analysis, including EC2[6], Athena[7], AWS Lambda[8] and Amazon EMR[9].

6   Intellectual Property Rights

a) All data used in the project should be fully documented (showing provenance and access conditions, if any), and made available in a free and open manner, according to the GEOSS Data Sharing Principles and the FAIR guidelines[10].

b) Data from third party space-borne platforms used in the project (either in its original or processed formats) should be made available using the same license and giving the same rights of use as the original data.

c) Data from in-situ measurements provided by third parties used in the project should be made available using the same license as the original data.

d) Data from in-situ measurements produced in the project should be made available using a FAIR-compliant data license, such as Creative Commons[11] or the Open Database License[12].

e) All software used to produce the results, including the base packages and user-developed algorithms, should be made available using one of the licenses approved by the Open Source Initiative[13].

7   Project Follow-up and Monitoring

a) Project development, execution and results will be monitored by the GEO Secretariat, in close consultation with the GEO Programme Board. Each project will receive a grant for AWS credits to be used in a proportional manner during the three years' duration of the project.

b) Each project will be required to present its results on a yearly basis, on specific side events linked to the GEO Plenary. Presentation of the results will be required as a basis for the continuation of the grant.

c) Once the project has terminated and/or the allotted cloud credits have been exhausted, and no suitable alternative data hosting mechanism has been identified, Amazon Web Services guarantees that all data and applications developed on the Amazon cloud will not be retained by Amazon Web Services.

8   Deadline and anticipated timeline

a) Submissions must be made by the relevant GEO Principal to the GEO Secretariat Senior Scientist (dcripe@geosec.org) by **12 April 2019**.

b) Decisions will be announced by **15 May 2019**, and cloud credits will be applied on **1 June 2019**.

c) Initial results of projects will be presented at the 2019 GEO Ministerial in November 2019, while mid-term and final results will be presented at the GEO-XVII and GEO-XVIII Plenaries. Projects are expected to deliver annual progress reports by the GEO Plenaries. Projects will close by **31 May 2022**.

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[6] https://aws.amazon.com/ec2
[7] https://aws.amazon.com/athena
[8] https://aws.amazon.com/lambda
[9] https://aws.amazon.com/emr
[10] https://www.nature.com/articles/sdata201618
[11] https://creativecommons.org/
[12] https://opendatacommons.org/licenses/odbl/
[13] https://opensource.org/licenses

9   Further information

The GEO Secretariat will be available for any questions or concerns from interested from GEO Members and relevant agencies and organizations during the application process, and to assist finding potential links with the GEO Work Programme. Please contact Dr. Douglas Cripe, GEO Senior Scientist (dcripe@geosec.org).

Application Form

Lead author

    Name:

    Agency/institution:

    Mailing address:

    Email:

    Phone:

Collaborators
Please indicate all collaborating agencies and institutions, and the relevant focal points from each (with contact information):

Executive summary (2 pages max)
Please concisely summarize the problem that the project addresses, how the project will address it, and what the anticipated impacts are, especially in terms of how they support national efforts to meet global policy frameworks and development objectives. Please, specify the articles, goals, targets and indicators (as appropriate) that the project addresses in relation to the Sendai Framework for Disaster Risk Reduction, the Paris Agreement and the United Nations Sustainable Development Goals. If relevant, please, specify the links to other GWP's activities, including Regional GEOs activities.

Project plan (15 pages max)
Please make clear the inter or transdisciplinary nature of the methodology to be applied, cloud computing credits and Earth observation requirements, and clear description of deliverables/applications and timeline (total maximum lifespan of 3 years).

Also, please indicate whether you intend to use Sentinel Hub services, and if so, an estimate of the number of credits you would require and the geographic region to be analyzed.