



European Space Agency – Future Earth Joint Programme Open call for Global Research Networks 2025: Case Studies on Climate Change & Cities in Low & Middle-Income Countries

Through the ESA-Future Earth Joint Programme, researchers in Future Earth's Global Research Networks are invited to propose case studies using Earth Observation (EO) data to address the research themes of the IPCC's Special Report on Climate Change and Cities, with a specific focus on cities in Low-Middle Income Cities (LMICs). This open call aims to apply EO data to either 1) advance understanding of city-level climate impacts and risks, or 2) develop techniques to monitor adaptation and/or mitigation response options to climate change and/or their linkages on the city scale. Projects shall identify a key research and development challenge relevant to urban stakeholders to which EO can make a substantial contribution, and submit a journal manuscript before the IPCC Literature Cut-Off date (October 2026). Projects can apply for funding of €20,000 - €30,000. Deadline for proposal submission is 28th February 2025.

Background

The European Space Agency and Future Earth have [partnered](#) through a joint program to facilitate the development and uptake of Earth observation (EO) data by Future Earth's global research networks (GRNs). As global population rises, more than half of people now live in cities, and an extra 2 billion urban dwellers are expected by 2050. How cities are planned to develop and grow is central to the quality of life, health and safety of their inhabitants. Among a rise in other pressures, climate change is worsening the impact of weather extremes, causing for example, longer and more frequent heatwaves and more significant flooding events. Progress towards urban climate resilience is far off track for most cities in Low and Middle-Income Countries (LMICs)¹, captured by monitoring the targets set out under the UN Sustainable Development Goal 11².

The Intergovernmental Panel on Climate Change (IPCC) has decided that in its seventh assessment cycle it will include a Special Report on Climate Change and Cities (SRCCC). The scoped outline includes a [detailed plan](#)

¹ Low and Middle-Income Countries list:

<https://isi-web.org/low-and-middle-income-countries-and-regions>

² See Goal 11 Indicators Progress Chart:

https://unhabitat.org/sites/default/files/2023/11/sdg_11_synthesis_report_2023_executive_summary_2023.pdf

of the themes that will be covered. The report will be published in March 2027 with a literature acceptance deadline estimated to be the end of 2026. Through the ESA-Future Earth Joint Programme, researchers in Future Earth's GRNs are invited to propose case studies using EO data to address the SRCCC urban sustainable development themes in the scoped outline, including a collection of case studies for Chapter Five and actions and solutions to reduce urban risks and emissions for Chapter Three³, with a specific focus on cities in LMICs.

Spatially explicit EO data is freely available from a variety of space agencies and service platforms⁴ and can be applied to diverse scientific questions, to directly map change, derive indices, or integrate into modelling frameworks to investigate future scenarios. Accessing the relevant EO datasets and combining them with other information, such as socio-economic data, is supported by a range of cloud-based online platforms and tools for urban and climate applications (e.g., City Data Cubes via [ESA's Urban TEP](#), [the UN-Habitat EO Toolkit for Sustainable Cities and Human Settlements](#)). Even so, decisionmakers often lack access to locally-relevant EO-derived information at the scales and timeframes needed, hence this open call to the Global Research Networks (GRNs) of the [Future Earth community](#) seeking proposals for urban case studies.

Objective

The objective of this open call is to apply EO data to either 1) advance understanding of city-level climate impacts and risks, or 2) develop techniques to monitor adaptation and/or mitigation response options to climate change and/or their linkages on the city scale. Projects shall focus on Themes 1 or 2 and identify a key research and development challenge relevant to stakeholders in an identified LMIC urban environment, to which EO can make a substantial contribution. The project shall fully exploit the datasets developed within ESA's Climate Change Initiative programme⁵ (many of which are produced operationally through, for example, Copernicus Climate Change Service⁶) and ESA's wider EO data archive, but projects are not limited to only these datasets. The project shall submit the result of their study as a manuscript to a relevant peer-reviewed journal within the project duration and before the SRCCC Literature Cut-Off date.

Award Information

- Projects can apply for funding of €20,000 - €30,000.
- Estimated total number of awards: 2-3.
- Duration of studies: 18 months.
- Applications must be from members of a Future Earth GRN based in a research institute and be the recipient of the award, in a topic aligning with the research priorities of the network. Researchers who are not active members can be eligible by approaching a GRN Scientific Steering Committee via its International Project Office, and agreeing a formal advisory role to the project from the GRN.

Review Criteria

- Projects must work with urban stakeholders in addressing their research and development challenge, to ensure the study addresses user needs, taking a transdisciplinary approach.
- Collaborative projects across institutes/countries will be favoured.
- Proposals will be assessed by the extent of their contribution to the science plan of the GRN, and new contribution to projects and work streams in the GRN (growing the networks and their impact).

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<https://www.ipcc.ch/site/assets/uploads/2024/08/Outline-of-Special-Report-on-Climate-Change-and-Cities.pdf>

⁴ Chrysoulakis, N., Ludlow, D., Mitraka, Z. *et al.* Copernicus for urban resilience in Europe. *Sci Rep* **13**, 16251 (2023). <https://doi.org/10.1038/s41598-023-43371-9>

⁵ <https://climate.esa.int/en/projects/>

⁶ <https://cds.climate.copernicus.eu>

- Proposals should justify and cost for the study activity. Consideration will be given to the feasibility of the proposal, expected impact and societal relevance, and cost-effectiveness of the funding sought.
- Proposals led by researchers in the Global South are encouraged.
- In the case of demonstration tools, consideration of sustainability (an indication of the business case for it beyond the end of the project) is encouraged.

Tasks

- Identify and consult key stakeholders, review existing literature, local information and data, and any relevant tools and models needed to undertake the research, and submit an update to the Science Plan submitted in the proposal (Science Plan v2) no later than three months after kick-off.
- Integrate the data streams and carry out the scientific analysis according to the Science Plan v2.
- Share progress at regular online meetings with the fund manager taking place at kick-off and then months 3, 6, 12, and a final presentation at month 18. The final presentation should include recommendations on next steps, and its contents be submitted as a short written Final Report.
- Prepare a scientific manuscript and submit it to an agreed journal (liaising with the ESA-Future Earth Joint Programme fund manager) by 31st October 2026.
- Submit a conference abstract to promote the findings at a scientific meeting no later than 18 months after kick-off. Funds for conference travel should not be included in this award, but may be additionally awarded by the ESA-Future Earth Joint Programme on successful acceptance of an abstract (projects must liaise with the fund manager on conference selection and abstract submission).

Due dates

All proposals must be submitted by 28th February 2025. Proposals will be reviewed and selected by a committee made up of the Future Earth secretariat and ESA's Earth Observation Programme directorate. Awarded projects will be notified by 25th March 2025 and must start no later than 1st June 2025.

Submission information

- 1) Proposals should be a minimum of four and a maximum of five A4 pages (excluding CVs) in 11-point Times New Roman font and written in English. The proposal should include the following sections: 250-word abstract, problem statement, Science Plan that includes a timeline, expected outcomes, lead participant and supporting participant CVs, financial support required, lead participant contact information, letter of support by a Future Earth GRN, confirmation that the lead institute can administer the project budget.
- 2) Proposals can request support of €20,000 to €30,000.
- 3) Endorsement letter from your Future Earth Global Research Network.
- 4) All proposals and letters of endorsement must be submitted by 28th February 2025 via email to the fund manager sophie.hebden@futureearth.org.

Administrative and legal information

Awards will be administered by the Future Earth Sweden hub for cost-reimbursement of the host organisation of the lead participant. The contract template for the projects can be [found here](#); lead participants are asked to use this to informally check with their institutions for confirmation they will be able to administer the project budget so projects can initiate by 1st June 2025. Participants in receipt of funding are responsible for the declaration of national taxes and any social security and pension related to this funding.

Publications and other outputs arising should acknowledge ESA and Future Earth supporting this activity. Any assets created should follow the [Belmont Forum open data policy and principles](#) and conform to GDPR and [ESA's data protection policies](#). Completion of the activity - with the final presentation given and final report submitted - is required 18 months after kick-off.

Useful links

- Join the group of EO researchers on [Future Earth's Member Portal](#)

- Further [information](#) about the ESA-Future Earth Joint Program
- [CEDA archive](#) of environmental data
- ESA Climate Change Initiative's [Climate from Space web-app](#), and suite of climate data records via the [Open Data Portal](#)
- Copernicus [Climate Data Store](#)
- Future Earth Global Research [Networks](#)
- Access Copernicus Sentinel data online via [Sentinel hub](#)
- [Satellite Earth Observations in Support of the Sustainable Development Goals](#) (CEOS EO Handbook Special 2018 edition)
- ESA's [EO Science for Society](#) projects, training and further ITTs
- ESA's [Earth observation for sustainable development initiative](#)
- NASA's [online datasets](#)
- [PREP](#), [WRI](#), [GEO](#) websites

Questions?

If you have any questions or need assistance to build consortia, please contact:
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Banner Image: Montevideo, Uruguay in 2019, Copernicus Sentinel-2