

Met Office tendering on behalf of the Department for Science, Innovation and Technology (DSIT).

To register your interest, see notes at the end of this document. Registering interest requires no proposal detail at this stage and carries no obligation to bid.

Please note that this Expression of Interest is open to UK operating and registered organisations only.

Call Reference:	CSSP Brazil FY24/25 Grant Funding Opportunities (DN694878)
Expression of Interest for:	CSSP Brazil
Grant Funds for the Period:	May 2024 – March 2025 <i>Funding is initially available to cover an 11-month period (May 2024 – March 2025) - we are however inviting bidders to propose grant activities to cover a 3-year (35 month) period - subject to further funding allocations being received from DSIT, the Met Office will confirm extensions to the Grant Agreement on an annual basis to fund year 2 and year 3 activities.</i>

Expressions of Interest for the following lots:

Lot number	Title	Anticipated Amount	FEC @100%	FEC @ 80%
BZL24_1.2	Moisture Transport and Deforestation.	£162,500	£162,500	£130,000
BZL24_2.5	Sub-seasonal and seasonal predictions for Advancing Climate Services in Brazil.	£162,500	£162,500	£130,000
BZL24_3.4	Understanding and attributing weather and climate events, and their socio-economic impacts on key food, water and health sectors in Brazil.	£287,500	£287,500	£230,000

Key Dates

Estimated Publish of Call: <i>(Start of bidding period).</i>	Week commencing 30 th October 2023. <i>A notification email will be sent to parties who have formally registered their interest by way of clicking on the 'Register Interest' button displayed below the opportunity on the ProContract portal</i>
Estimated Bidding Period:	6 weeks.
Estimated Award of Call:	January 2024.
Estimated Delivery Period:	1 st May 2024 to 31 st March 2025

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Background to the Met Office Weather and Climate Science for Services Programme (WCSSP):

The Met Office is a delivery partner on behalf of the UK government's Department for Science, Innovation and Technology (DSIT). We administer funding through our Weather and Climate Science for Service Partnership (WCSSP) programme.

The WCSSP programme has been developing a global network of partnerships that harness the weather and climate scientific expertise of UK and partner countries to strengthen the weather and climate resilience of vulnerable communities around the world since 2014.

Through the WCSSP programme, we are working collaboratively on projects that focus on the global challenges of weather and climate with partners in Brazil, China, India, South Africa and Southeast Asia. International collaboration is vital to addressing the issues presented by global weather and climate change.

Outputs from the WCSSP programme support the UN's Sustainable Development Goals (SDGs) with world-leading weather and climate science. Through working in partnership around the world, we are building international meteorological capacity, saving lives and strengthening resilience and response to crises. The WCSSP programme particularly supports our work towards goal 13 (climate action) and goal 17 (partnerships for the goals). For more information see the programme website [Met Office WCSSP](#) and follow via Twitter: [@MetOfficeww](#)

Background to CSSP Brazil:

Launched in 2016, the Climate Science for Service Partnership Brazil (CSSP Brazil) is a research project that aims to build strong partnerships between research institutes in the UK and Brazil.

CSSP Brazil produces collaborative science that is fundamental to the development of climate services that support climate-resilient economic development and social welfare.

The project provides grants to support researchers from the UK climate science community in their work with Brazilian research institutes. CSSP Brazil is part of our [Weather and Climate Science for Service Partnership \(WCSSP\) programme](#).

For further information please visit the project website <https://www.metoffice.gov.uk/research/approach/collaboration/wcssp/cssp-brazil/index>

Summary of Requirements:

Lot 1 – BZL24 1.2 Moisture Transport and Deforestation

PRIME is a new Met Office tool to allow rapid assessment of new scenarios downscaled to land-based regional impacts using pattern scaling to run JULES in ES (Earth System) or impacts configurations. This activity will further develop PRIME to enable representation of

land-use change and deforestation, building a simple model to be used with PRIME, plausibly also with JULES-IMOGEN.

The scientific literature provides datasets that estimate the local response of land-surface fluxes to land-use change (e.g. 1-3) and it provides estimates of the impacts of surface-flux change on downstream climate (e.g. 4-5). Bringing these resources together would provide a valuable tool for science and policy.

1. Bright et al., 2017, “Local temperature response to land cover and management change driven by non-radiative processes.” <https://www.nature.com/articles/nclimate3250>
2. Duveiller et al., 2018, “The mark of vegetation change on Earth’s surface energy balance.” <https://www.nature.com/articles/s41467-017-02810-8>
3. Duveiller et al., 2020, “Local biophysical effects of land use and land cover change: towards an assessment tool for policy makers.” <https://www.sciencedirect.com/science/article/pii/S0264837718311554>
4. Guo et al., 2019, “Moisture Sources for East Asian Precipitation: Mean Seasonal Cycle and Interannual Variability” <https://doi.org/10.1175/JHM-D-18-0188.1>
5. Zemp et al., 2017, “Deforestation effects on Amazon forest resilience.” <https://doi.org/10.1002/2017GL072955>

Anticipated Outputs include:

- We require a computationally efficient tool to translate a pattern of land-cover change, or surface ET change, into a spatial pattern of climate response. Ideally this tool will be flexible enough that it can be tuned to emulate different data sources, such as CMIP6 model data.
- We require a metric(s) of the response of key ecosystem variables to changes in temperature and climate. The metrics could include measures of productivity, mortality or land-cover.
- The tool should then be coupled into the PRIME system and driven by CMIP6 and LUCME land-cover to assess the impact of future climate change, including biophysical feedbacks from land-use change, on the ecosystem metrics.
- The tool should then be coupled to JULES-IMOGEN, enabling changes in the ET simulated by JULES to feedback onto precipitation. This system will contain a more comprehensive set of processes and feedbacks, including CO₂-fertilization, soil biogeochemistry, vegetation dynamics and fire. The importance of precipitation feedbacks on ecosystem resilience should again be assessed.

We will be inviting bidders to propose grant activities to cover a 3-year (35 month) period, funding will initially be available for an 11- month period (May 2024 – March 2025). Subject to further funding allocations being received from DSIT, the Met Office will confirm extensions to the Grant Agreement on an annual basis to fund year 2 and year 3 activities.

Lot 2 – BZL24 2.5 Sub-seasonal and seasonal predictions for Advancing Climate Services in Brazil

There is significant scope to utilise sub-seasonal and seasonal predictions over Brazil to develop new and improved climate services. For example, this could focus on user-oriented

forecasts of hydrology, landslides, fires, agriculture or any other product(s) of interest to users in Brazil.

Depending on funding available, work will contribute to some or all of the following:

1) Development and assessment of novel user-oriented forecast output(s) for Brazil derived from sub-seasonal and seasonal prediction systems. For example, this could focus on forecasts of hydrology, landslides, fires, agriculture or any other product(s) of interest to users in Brazil. Delivery of products is the remit of Brazil partners, this work will enable development of improved products, but does not deliver them directly.

2) Improve understanding of sources of predictability over Brazil at seasonal/sub-seasonal timescales.

3) Contribute to improvement of modelling capabilities of sub-seasonal and seasonal prediction systems over Brazil.

Anticipated Outputs include:

- Improved understanding of how to translate sources of predictability over Brazil on seasonal and sub-seasonal timescales into user oriented forecast products, with multiple manuscripts (depending on funding available) prepared for submission to peer-reviewed journals. Planning and demonstrations of potential products developed in research mode between Brazilian and UK partners are encouraged.
- Recommendations on improved Impacts Based Forecasts/ing.

We will be inviting bidders to propose grant activities to cover a 3-year (35 month) period, funding will initially be available for an 11- month period (May 2024 – March 2025). Subject to further funding allocations being received from DSIT, the Met Office will confirm extensions to the Grant Agreement on an annual basis to fund year 2 and year 3 activities.

Lot 3 – BZL24 3.4 Understanding and attributing weather and climate events, and their socio-economic impacts on key food, water and health sectors in Brazil

The grant awardee will conduct research into the physical and socio-economic impacts of historical and future climate change and use the outputs from this research to develop climate services relevant to Brazilian stakeholders. The work should include:

- Development and application of techniques for the attribution of human induced climate change to key impacts. Focus on the food, water and health sectors, considering the meteorological hazard in addition to vulnerability and exposure in partnership with CSSP-Brazil partners CEMADEN.
- Analysis of weather and climate extremes, such as drought, excess rainfall, and seasonal timings of events, how they are projected to change in the future, and how they affect food and/or water security and/or lives and livelihoods in Brazil
- Developing workshops for early-career Brazilian scientists to learn about and apply knowledge of weather and climate risk analysis in the context of climate attribution studies
- Co-Development of climate services for stakeholders either in Brazilian national, regional or local government or other stakeholders relevant to the project's Brazilian partners. Noting that delivery of services remains the responsibility of Brazil partner organisations, this work develops the underpinning capability for that work.

Anticipated Outputs include:

- Scientific publications relevant to both (a) the attribution of human-induced climate change to key impacts sectors such as food, water and lives and livelihoods in Brazil, and (b) a deeper understanding of how Brazilian stakeholders may adapt current systems to reduce the risk of climate change related disasters in the chosen sectors.
- Work with UK Met Office to develop datasets needed for risk-based attribution studies.
- Work with Brazilian partners to develop appropriate services for hazard warning and disaster risk reduction for the chosen impacts sectors (such as policy briefings, or educational material). Enable improved and more relevant communication of scientific findings to a wider audience.

We will be inviting bidders to propose grant activities to cover a 3-year (36 month) period, funding will initially be available for an 11- month period (May 2024 – March 2025). Subject to further funding allocations being received from DSIT, the Met Office will confirm extensions to the Grant Agreement on an annual basis to fund year 2 and year 3 activities.

Eligibility:

The following criteria must be met by the organisation submitting a bid against Calls supported by the Met Office WCSSP Programme in order to be eligible to apply or be awarded funds against this Call:

- The Bidder must be an organisation operating and registered in the United Kingdom.
- The Bid must demonstrate how it contributes to the Met Office WSCCP Grant Fund's aim to develop science and innovation partnerships.
- The Bid must demonstrate ODA compliance.
- The Bid does not cover activities in relation to which the Bidder has received, or will receive, external funding.
- There must be an In Country economic and societal benefit to which must be demonstrated.
- The proposed Grant Activities in a Bid will last the full duration of the Grant Period.
- The Bidder must be willing and able to work with Met Office and other organisations and individuals associated with the WCSSP Programme, including by attending meetings and other collaborative events.
- Multiple Bids can be submitted from a single organisation where they are led by different academic departments.
- We welcome consortium bids - a lead organisation must be nominated for payment and agreement purposes and all consortium organisations must operate and be registered in the United Kingdom.
- Bidders are not expected to have pre-existing In Country Partners to respond to this call. The bilateral partnership nature of WCSSP means that effort by in-country

researchers is supported by our existing In Country partners as standard. In country partners are currently: National Institute for Space Research (INPE), National Institute for Amazon Research (INPA) and the National Centre for Monitoring and Early Warning of Natural Disasters (CEMADEN).

How to Apply:

The above Expression of Interest is advertised on the Met Office ProContract e-Tendering portal called ProContract. To access and register your interest you will need to log onto the ProContract portal via this link: tenders.metoffice.gov.uk.

You may need to search for the Call reference DN694878.

You will need to register your company (if you have not already done so) and register your interest against the opportunity before you are able to access the tender documents.

If you require guidance or 'how to' instructions – see the supplier manuals on the right-hand side of the supplier home page.

Online Discussions between Bidders and the Met Office:

There is a Discussions function on ProContract which shall be used to provide all further information regarding this opportunity including any changes to time scales, scope or clarifications. This function must be used by bidders to submit all clarification questions.