



Met Éireann's Weather and Climate Research Programme

Call for Proposals



Topic 1

TRANSLATE Programme

Additional Information

December 2024

1 Background

TRANSLATE is an established national program funded and led by Met Éireann bringing together members of the Irish climate change community to develop and mainstream national climate change scenarios for effective, climate-smart decision-making at national and local levels. Engaging with the national and international community this third iteration of the TRANSLATE Programme, so-called TRANSLATE 3, aims to continue the tradition of developing standardised climate change datasets for Ireland in line with international best practice, ensuring projections are consistent with other countries and represent the state-of-the-art of climate science. TRANSLATE 3 also continues the tradition of translating this climate information into robust and effective decision relevant climate services.

The TRANSLATE program underpins many essential national and local climate directives. It feeds directly into the National Framework for Climate Services (NFCS) to support climate services development, coordination and standardisation across the country. It underpins projections for Climate Ireland, the national portal for climate adaptation. It is embedded within the National Adaptation Framework (NAF) and the National Climate Change Risk Assessment (NCCRA) and as a result supports local climate action plans and sectoral adaptation plans mandated by Government. It is therefore critical that information and services from the programme remain relevant and robust to ensure policy and decisions are based on the most accurate and up to date climate information, as well as ensuring that decision makers have access to the highest quality climate data when required and consistency across planning cycles.

TRANSLATE 3 will build on the legacy of the previous iterations of TRANSLATE ([1](#) & [2](#)). It will expand the underpinning national climate change data set. Expanding the current climate projection dataset to include additional models such as Euro-CORDEX has the added benefit of better capturing the uncertainty and extremes. It will also move beyond climate change scenarios to include a high resolution annual to decadal data set – something that is essential within Irish planning horizons and currently missing for Ireland. It will continue its program of translating this novel information into decision relevant contexts through the development of climate indicators and climate services addressing core priorities of extreme events and their impacts, seamless and scalable services and the communication of climate information under uncertainty for multiple audiences with climate narratives and climate storylines. The aim is to build capacity across the national community to effectively understand, interpret and use climate information maximising the reach and impact of the programme.

The expanded program of TRANSLATE 3 also aims to strengthen relationships between Met Éireann and the national climate change community. The program is structured to promote direct active engagement not only between Met Éireann and national institutions but also across sub-topics supporting and facilitating knowledge exchange across program partners.

What will the research call achieve?

1. **Consistent set of Irish climate change scenarios** across Shared Socio-economic Pathways, (SSPs), and Global Warming Levels, (GWLs), for national, regional and local resilience planning and research.
2. **A standardised high resolution and bespoke annual to decadal dataset** for Ireland which currently does not exist to replace less granular international datasets.
3. **Enhanced capability and understanding of climate hazard and risk**, through consideration of past, present and future risk to Ireland particularly from compound and multi-hazard extreme events.
4. **Enhanced understanding of how to communicate across the audience spectrum** so society can better engage with climate change and its associated uncertainty.
5. Supported by the NFCS **further our understanding for the future development, scalability and standardisation of national climate services.**
6. **A community of interacting researchers, developers and policy makers** focused on building climate resilience for Ireland supporting the NFCS.
7. **A synthesis of findings from across the program** to support the update of national policy.

2 Notes on funding structure

The funding structure for TRANSLATE 3 differs significantly from that of the previous program iterations. Reasons for this include:

- Flexibility to support areas of research that require longer timeframes.
- Flexibility to develop more in-depth climate services research proposals as well as shorter pilot research.
- Flexibility to support multiple applications to single sub-topic.
- Facilitate start dates for 2-year projects dependent on data from year 1 or year 2 or gaps/needs identified.
- Greater flexibility to allow and approve proposals from multiple institutions focused on individual sub-topics as opposed to the whole call.
- Facilitate and support PhD applications in climate services research.

Budgets can be broken down as follows depending on sub-topic and suitability of the research application:

Maximum expected budget for sub-topics 1.2 (underpinning data) and 1.3 (climate extremes): €600k

Total expected months: 48

Total expected budget for sub-topic 1.3 (climate services): €300k.

Total expected months: 24

3 Sub-topic details

3.1 Sub-topic 1.1: Underpinning Data

Expected Deliverables to include:

- 1) Updated TRANSLATE national climate change scenarios
 - a) Expanded ensemble to include EuroCordex CMIP6 and any other models that may be relevant to Ireland, in line with existing TRANSLATE ensemble. The ensemble should include models to expand the spread to better capture extremes. The ensemble should also aim to address any existing research gaps.
 - b) Published recommendations outlining best practice (and application of where appropriate) on appropriateness of applying timeframes to global warming levels.
 - c) Published recommendations (and application of where appropriate) on most appropriate methods of merging/blending of different projection ensembles for scenarios and global warming levels, with a specific emphasis on CMIP6/CMIP7 blending.
- 2) Development of a standardised national annual to decadal dataset in line with the existing TRANSLATE ensemble and methodology if appropriate.
 - a) A definitive set of agreed high resolution data for Ireland, in line with international best practices.
 - b) Published recommendations (and application of where appropriate) on blending with climate change scenarios where the timeline overlaps to support the development of seamless services.
- 3) To develop relevant reproducible and scalable climate services from both datasets:
 - a) Development of new, and update of, existing key climate indicators across timescales (annual to end-of-century) to be hosted on Climate Ireland.



- b) Methodologies developed software and data should be delivered to Met Éireann and subsequently made open source so that the services can be easily updated after completion of the project when newer projections become available.
- c) Develop suitable information and communication material for all stakeholder types focusing on use and interpretation of results for decision making under uncertainty.

3.2 Sub-topic 1.2: Understanding risk of climate extremes

Expected Deliverables:

- 1) Published review on changing climate extremes in Ireland, (with a focus on extreme of extremes) based on the standardised data from the TRANSLATE programme across time horizons and scenarios.
- 2) Catalogue of past extreme events and how these could change in the future based on the standardised data from the TRANSLATE programme across time horizons and scenarios.
- 3) Case studies on multiple or compound events – (extreme events or events leading to extreme impacts).
- 4) Case studies on changing risk associated with 1 - 3 (above) building on the semi-quantitative and fully quantitative frameworks developed in the TRANSLATE programme. These should combine relevant exposure and vulnerability information along with the climate hazard information.
- 5) Development of reproducible event-based climate storylines building from TRANSLATE programme.

3.3 Sub-topic 1.3: Climate Services

Building on outputs from the TRANSLATE programme and available outputs from sub-topics 1 & 2 above where appropriate, scalable and reproducible climate services focused on translating climate information into practice to support risk-based decision making will be produced. Key elements of each climate service will focus on the communication and integration of climate information and uncertainty through climate storylines or otherwise. All audience types should be considered, (i.e. youth, public, decision makers, policy makers etc.). All climate services developed are to be based on standardised projections as defined in sub-topic 1.1.

Climate services to be considered should include:

1. Multi-sectoral climate services
2. Multi-hazard climate services
3. Sector specific climate services
4. Systems approach to climate services

