

### **Potential future directions for the GC-NTCP**

The GC-NTCP's initially stated work goals (see Section 3 in [https://www.wcrp-climate.org/JSC37/Documents/GC\\_ConceptNote\\_final.pdf](https://www.wcrp-climate.org/JSC37/Documents/GC_ConceptNote_final.pdf)) have probably been completed to 80%, with the rest likely to be achieved within a year. With that in mind, the question poses itself of whether or not to conclude the GC-NTCP within a year or so. For the case that the GC would be continued, the group proposes possible future focus topics:

- a) **User engagement**, which would not be approached in full generality, but with a specific focus that would involve regional optimization of predictions for users for example, using regional mean forecasts or other ways of downscaling or perhaps using the ensembles for risk estimates.
- b) **Real-time prediction data** with increased diagnostics to expand data provision and including post-processing in close collaboration with the WMO LC-ADCP and IPET-OPSLS.
- c) **Carbon cycle prediction**, either directly from those models including the carbon cycle (some already include this) or indirectly using the physical predictions. This could perhaps inform Carbon budgets and the global stocktake every 5 years (one of the most important UNFCCC activities) and help with attribution of atmospheric CO<sub>2</sub> changes, as the leading question is how to measure impact of mitigation efforts, in close collaboration with the GC on Carbon.
- d) **Specific research questions** and/or promoting coordinated experiments. This will imply links to DCP, and promotion of use of DCP-created data could be another task of the group.

During the last years, the GC has served as champion, spokesperson, and advocator for decadal ensembles and the fact that skill is high. In that sense, its discontinuation would leave a gap. At the same time, the above topics would benefit from an updated mandate from the JSC, new collaborations and possibly (depending on the topic) the integration of additional expertise in the group.

Irrespective of the exact future of the GC, three overarching themes are important in relation to the first step that it has brought about, namely the operationalization of decadal predictions: i) two-way information flow between research and services; ii) seamlessness; and iii) service to the global climate agenda (IPCC and others.).