



## **Towards the IPCC Special Report on Global Warming of 1.5°C**

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The Intergovernmental Panel on Climate Change (IPCC) has accepted the invitation from the Paris Agreement to prepare a special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. This special report is prepared under the scientific leadership of the co-chairs of the IPCC Working Groups I, II and III, and with operational support from the Technical Support Unit of Working Group I. It will consist of 5 chapters, providing (i) framing and context, (ii) exploring mitigation pathways compatible with 1.5°C in the context of sustainable development, (iii) assessing impacts of 1.5°C global warming on natural and human systems, and (iv) options for strengthening and implementing the global response to the threat of climate change, with a final chapter on sustainable development, poverty eradication and reducing inequalities.

The timeline of preparation of the report is extremely short, with four lead author meetings taking place from March 2017 to April 2018, and an approval session scheduled in September 2018. It is crucial that new knowledge is being produced and submitted / published in the literature in time for contributing new material to be assessed by the authors of the report (with deadlines in late fall 2017 and spring 2018). With respect to the additional impacts expected for 1.5°C warming compared to present-day, and impacts avoided with respect to larger warming, new research is expected to build on existing CMIP5 projections, including new information on regional change, methods to provide knowledge for the most vulnerable ecosystems and regions, but also information from ongoing projects aiming to produce large ensembles of simulations, and new simulations driven by low carbon pathways. This is important for identifying climate change signals from climate variability (e.g. changes in water cycle, extremes...), for assessing strengths and limitations of methodologies using high end climate scenarios versus true stabilisation pathways, and for exploring long term risks beyond transient response, with consideration for overshoots and the full timescale of Earth system feedbacks. Lessons learnt from past warm climatic phases may also provide insights complementary to projections, albeit without the perspective of rates of changes that is specific to the issue of 1.5°C global warming.

This special report is also designed to be complementary from the other reports in preparation for the IPCC Sixth Assessment cycle (AR6), including the special reports on the ocean and the cryosphere, on land use issues, both scheduled for 2019, and the Working Group main assessment reports, scheduled for 2021-2022.