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Ten new insights in climate science 2021 – a horizon scan

Maria A. Martin

Potsdam Institute for Climate Impact Research

Since 2017, the 10 new insights in climate science (10NICS, <https://10insightsclimate.science/>) annually summarize a set of the most critical aspects of Earth's complex climate system – including physical, biogeochemical and socioeconomic/sociocultural dimensions.

Here we set the context of the 10NICS series as a joint project between Future Earth, the Earth League and the World Climate Research Programme (WCRP), and briefly visit each of the ten insights from the 2021 edition (Martin et al., 2021): (1) the options to still keep global warming below 1.5 °C; (2) the impact of non-CO₂ factors in global warming; (3) a new dimension of fire extremes forced by climate change; (4) the increasing pressure on interconnected climate tipping elements; (5) the dimensions of climate justice; (6) political challenges impeding the effectiveness of carbon pricing; (7) demandside solutions as vehicles of climate mitigation; (8) the potentials and caveats of nature-based solutions; (9) how building resilience of marine ecosystems is possible; and (10) that the costs of climate change mitigation policies can be more than justified by the benefits to the health of humans and nature.

The 10NICS topics are not intended to form a comprehensive scientific assessment. Intentionally limited to 10, each insight is succinct and does not try to cover entire fields.

Martin, M. A., Alcaraz Sendra, O., Bastos, A., Bauer, N., Bertram, C., Blenckner, T., ... Woodcock, J. (2021). Ten new insights in climate science 2021: a horizon scan. *Global Sustainability*, 4(e25), 1–20. <https://doi.org/10.1017/sus.2021.25>