Ninth meeting of the Research Dialogue (RD 9), SBSTA 46,
Theme 1: Regional climate research data and information, and gaps

futureearth
research for global sustainability

Regional effects of air pollution, disaster risk, and urban climate change

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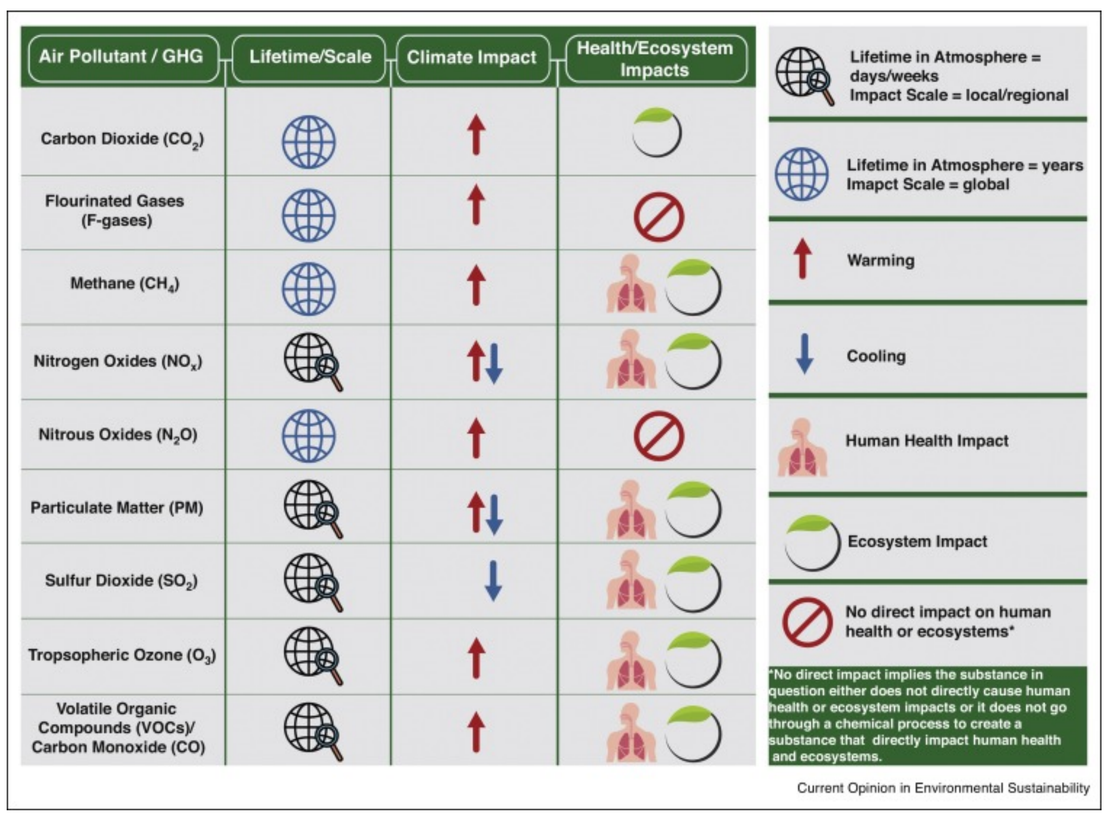
Joint considerations for air quality and climate change

Air quality and climate change are two inexorably linked issues, in particular at the regional scale, and should be addressed in a coordinated manner.



Messages

- By taking into account the three key considerations, which include
  (1) mix of emissions,
  (2) lifetime, and
  (3) benefits and trade-offs,
  more comprehensive sustainable policies can be developed to maximize the benefits for both air quality and climate change mitigation.

Melamed et al., 2016. Sustainable policy—key considerations for air quality and climate change. *Current Opinion in Environmental Sustainability* 23, 85-91.

Cities and Climate Change conference 2018, co-sponsored by IPCC

Edmonton, Canada, in March 2018 - #CitiesIPCC C40

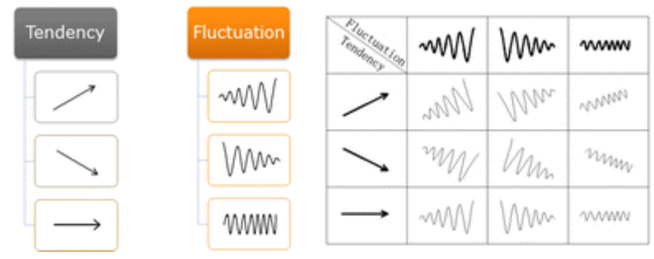
The conference is co-arranged by Future Earth, the Cities Alliance, ICLEI, Future Earth, Sustainable Development Solutions Network (SDSN), United Cities and Local Governments (UCLG), UN-Habitat, UN Environment and World Climate Research Programme (WCRP). The conference outcomes support the implementation of the Paris Agreement, the New Urban Agenda, and the Sustainable Development Goals.

Defining climatic regions based on a dynamic climate

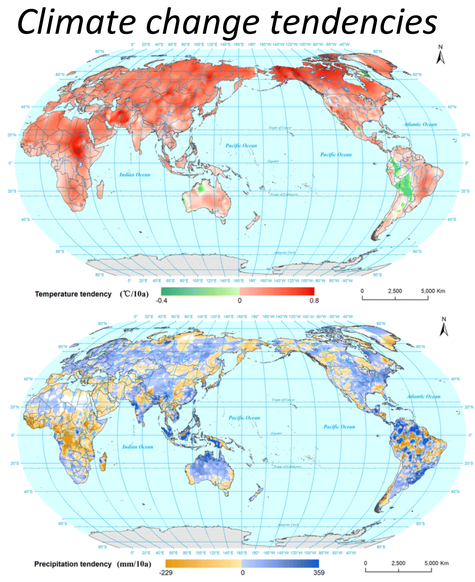
IRG-PROJECT [Integrated Risk Governance Project]

A new climate region classification method was developed to account for the dynamics of climate change.

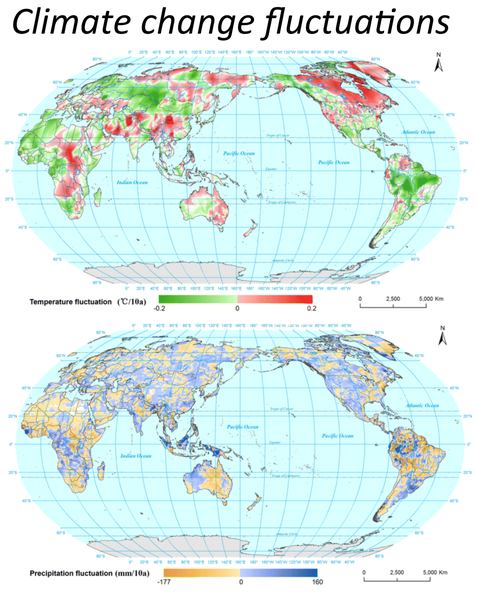
It uses annual mean temperature and precipitation as climatic indices, and linear trend and variation change as change indices to characterize climate change quantitatively.



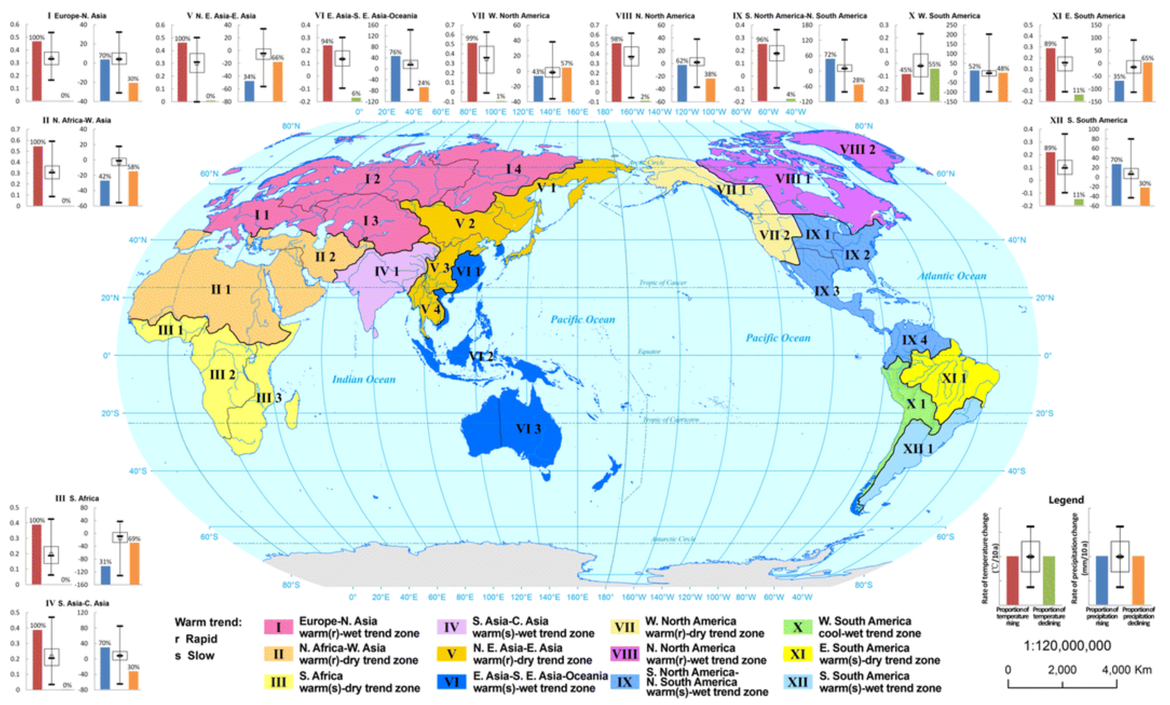
Climate change tendencies



Climate change fluctuations



Revised world regionalization of climate change



Messages

- Based on data from 1961–2010 resulted in 12 tendency regions and a sub-division into 28 fluctuation regions based on the variation change of climate.
- Climate change regionalization provides a scientific basis for countries and regions to develop plans for adapting to climate change, especially for managing climate-related disaster or environmental risks.

Future Earth is a major international research platform providing the knowledge and support to accelerate transformations to a sustainable world.
It is an open network for scientists of all disciplines, natural and social, as well as engineering, the humanities and law and for stakeholders of scientific knowledge at the global to the individual level. Transdisciplinarity, i.e. co-designing and co-producing knowledge across disciplinary and sectoral boundaries, is at the heart of Future Earth.

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