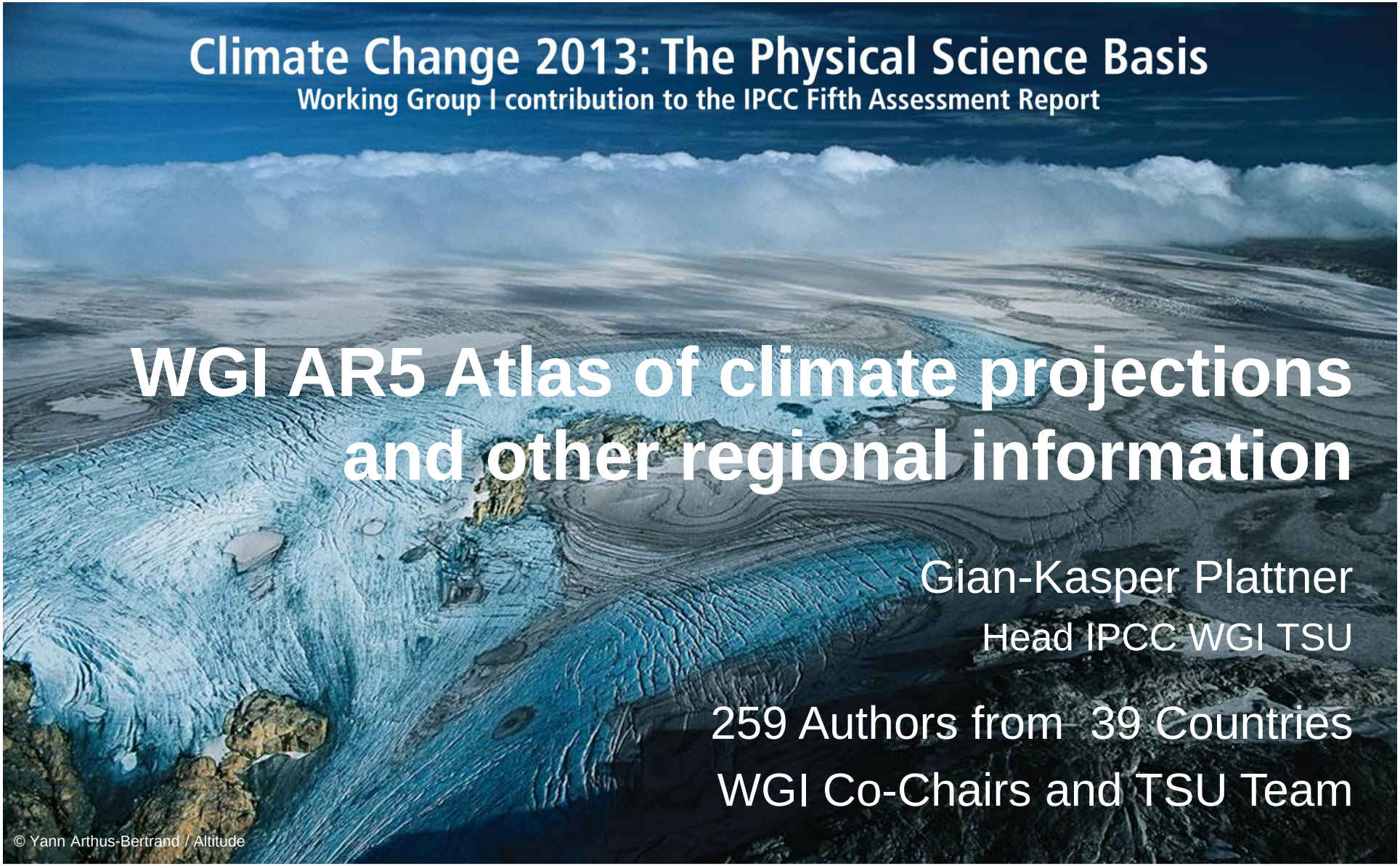

WGI AR5 Atlas of climate projections and other regional information

Gian-Kasper Plattner
Head IPCC WGI TSU

259 Authors from 39 Countries
WGI Co-Chairs and TSU Team

Global Mean Surface Air Temperature Change

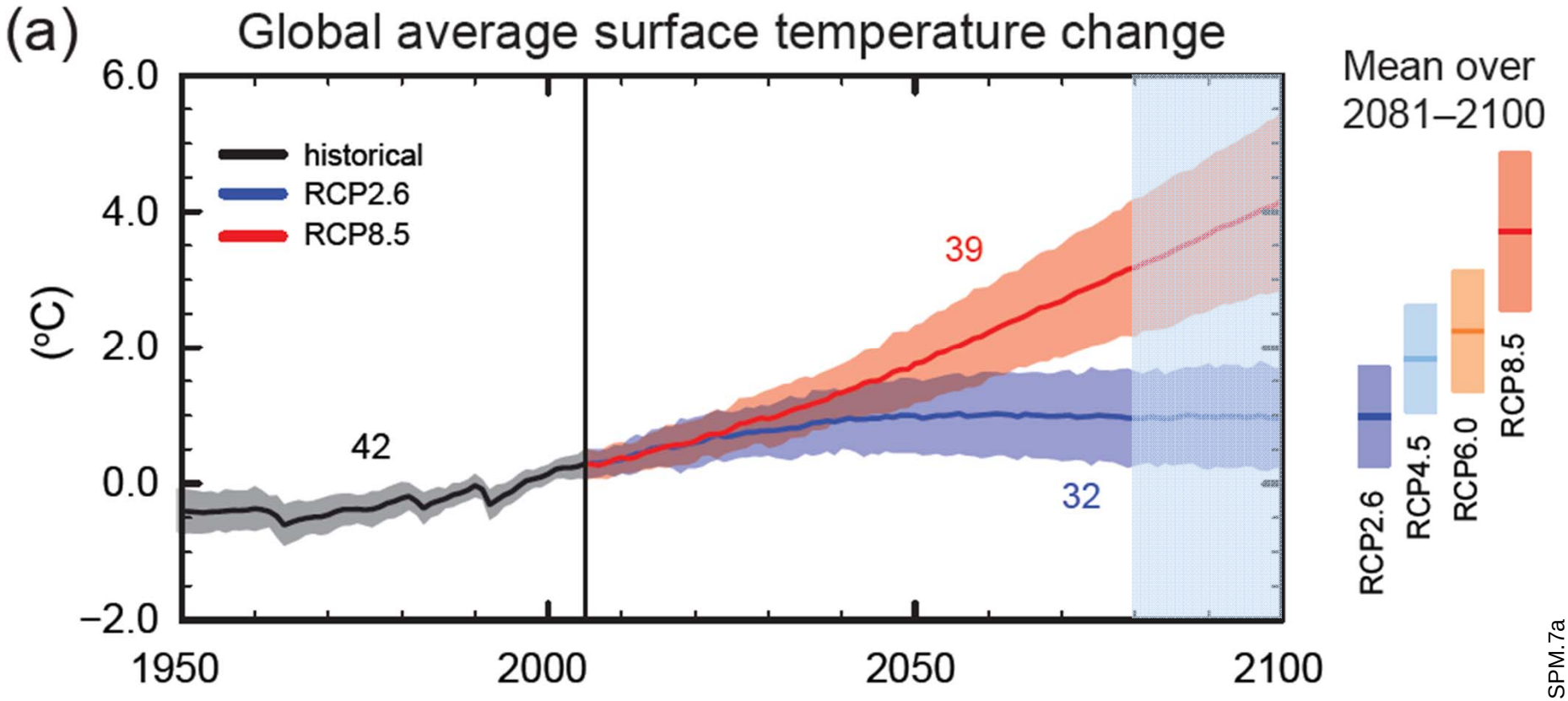

Fig. SPM.7a

5-95% ~ 'likely'

Anomalies w.r.t 1986-2005 average

Stable Patterns of Change with Warming

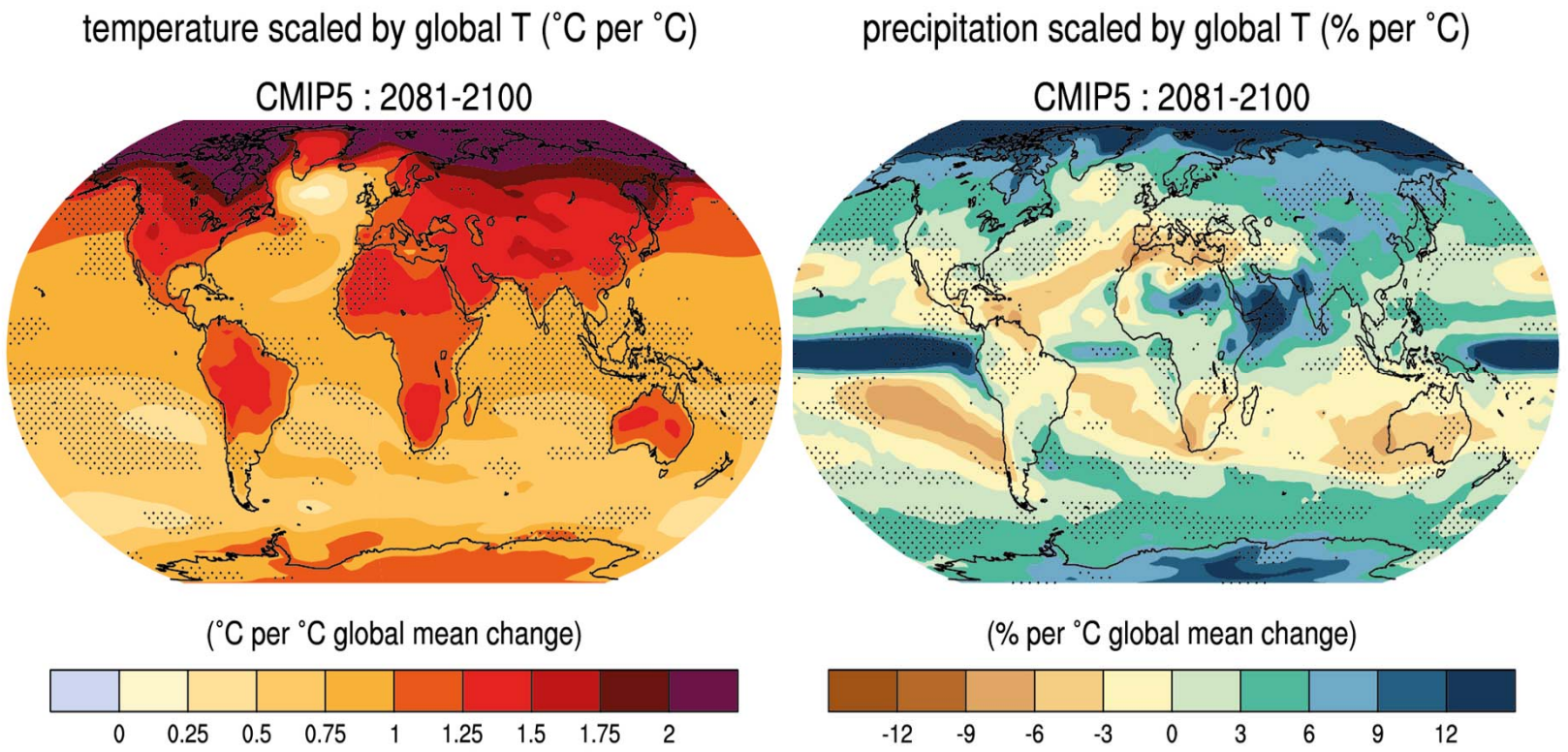

Fig. 12.41

Change at each grid point for a 1˚C change in Global Mean Temperature

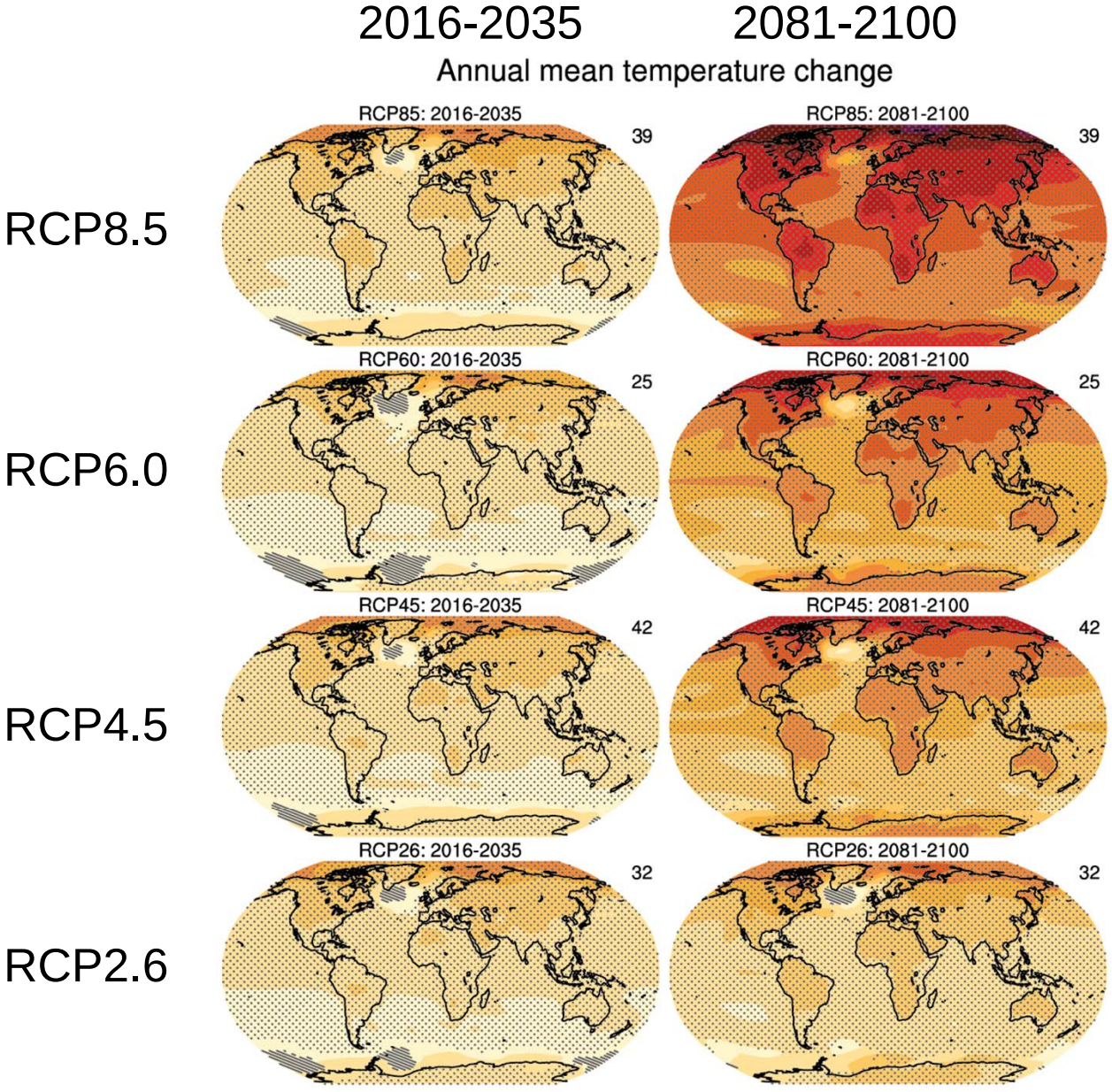

Fig. TS.15

Changes Conditional on Global Mean Temperature Change

- **High northern latitudes** expected to warm most. **Land** warms more than **ocean** surface
- More hot and fewer cold **extremes**
- **Global mean precipitation** increases but regional patterns of change not uniform
- Contrast between **wet and dry regions** and seasons to increase (with regional exceptions)
- **Tropical atmospheric circulation** expected to weaken
- **Arctic summer sea-ice** to melt back – ice free conditions *likely* by mid century under RCP8.5
- **Permafrost and snow cover** to retreat

For more specific regional assessment: Chapter 14 -- Climate Phenomena and their Relevance for Future Regional Climate Change

AI

Annex I: Atlas of Global and Regional Climate Projections

Editorial Team:
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INTERGOVERNMENTAL PANEL ON climate change
WMO UNEP

Atlas of Global and Regionale Climate Projections

- **42 global Climate Models**
- **35 Regions**
- **2 Variables**

  Temperature, Precipitation

- **4 Scenarios**

  RCPs 2.6, 4.5, 6.0, 8.5

- **2 Seasons**

  Dec-Feb, Jun-Aug (Temperature)
  Apr-Sept, Oct-Mar (Precipitation)

- **Maps for 3 Time Horizons**

  2016-35, 2046-65, 2081-2100
  Reference Period 1986-2005

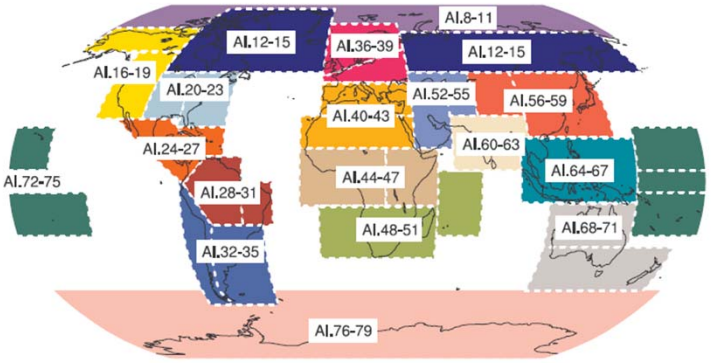
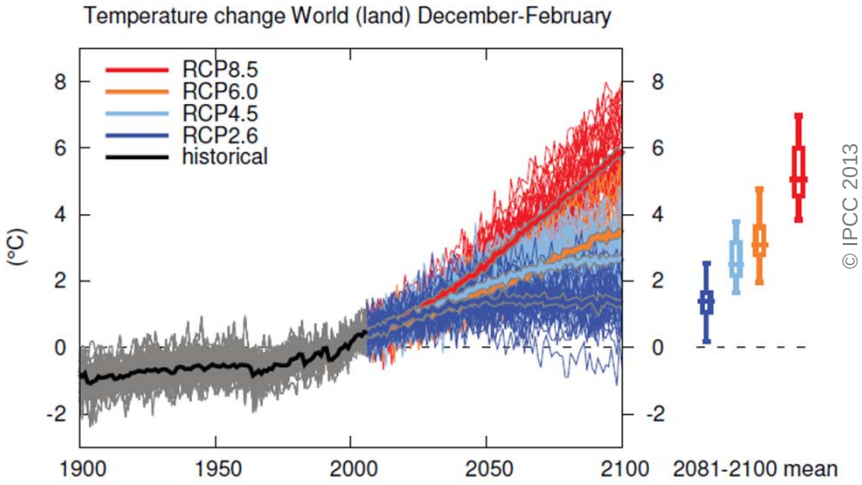


Fig. AI.3



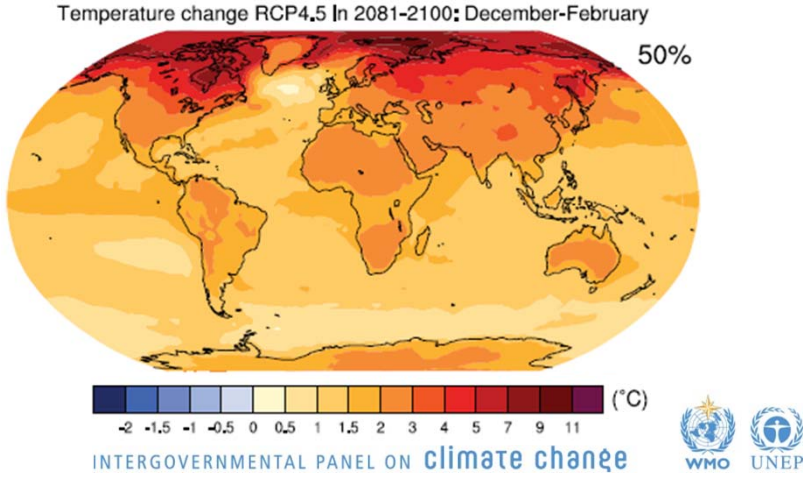


Fig. AI.4

Atlas of Global and Regional Climate Projections

- **Printed Publication**

  WGI AR5 Annex I, RCP4.5
  83 Pages

- **Electronic Supplement**

  4 RCPs, additional
  Annual mean, all 4 Seasons
  for Temperature
  4 x 153 Pages

- **Atlas Data**

  Electronically available as
  part of today's release
  (30. Jan 2014)

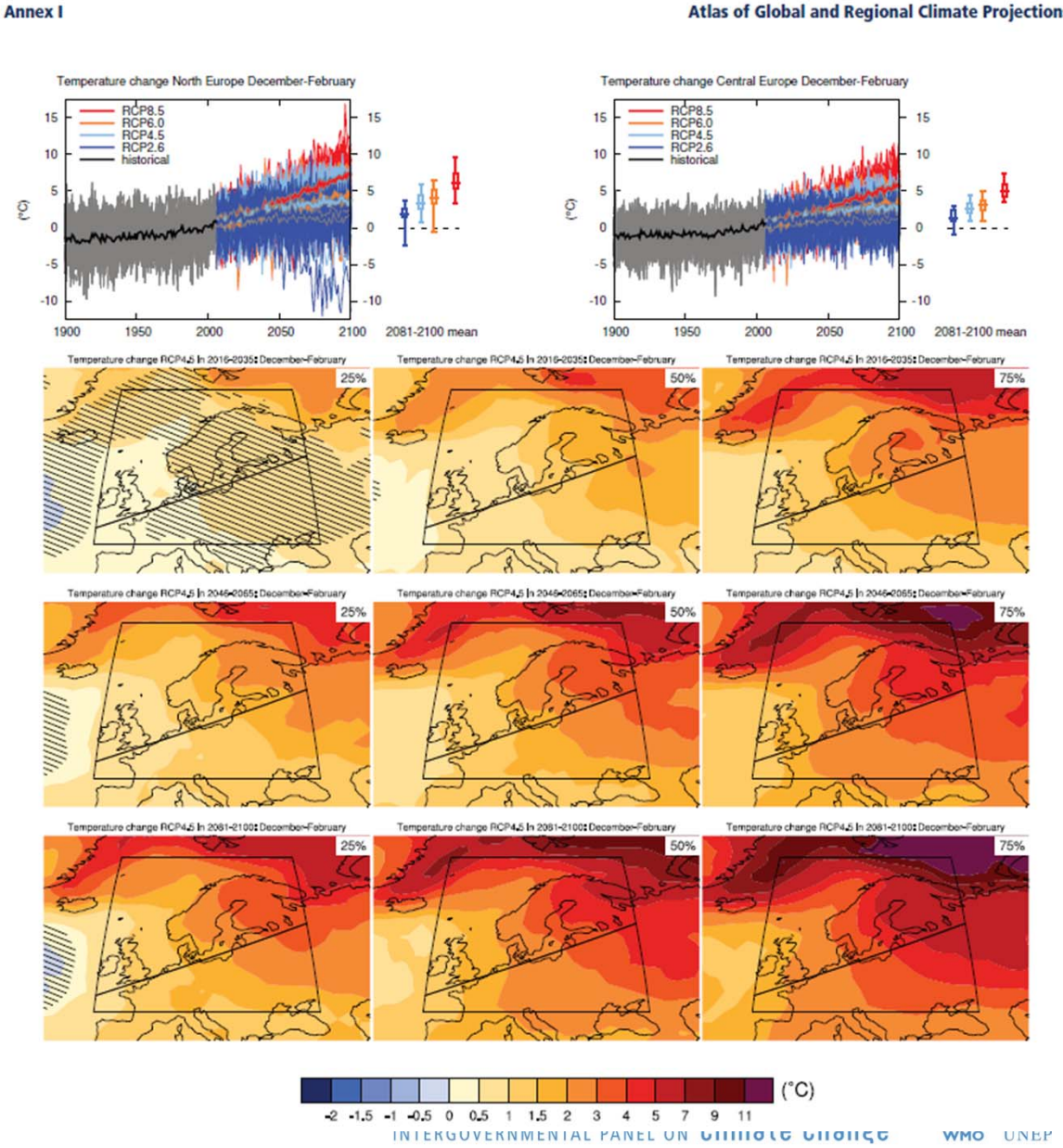


Fig. AI.36

Conclusions

- Assessment of global mean changes in temperature is supported by **multiple lines of independent evidence**
- For assessment of temperature and precipitation at large regional scales, available evidence is reduced
- Regional change can be substantially **influenced by other factors**; natural variability, regional feedbacks (e.g., snow-albedo), circulation changes etc. Limitations in models at the regional scale.
- The Annex I: Atlas provides **basic information** about regional changes – underlying data available at www.climatechange2013.org
- A final remark: Annex I: Atlas **presents climate model output, not an assessment**. The assessment of, e.g., the likelihood of changes is presented in the underlying Chapters (Chapters 11, 12, and 14)


Climate Change 2013: The Physical Science Basis
Working Group I contribution to the IPCC Fifth Assessment Report
Further Information
www.climatechange2013.org
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