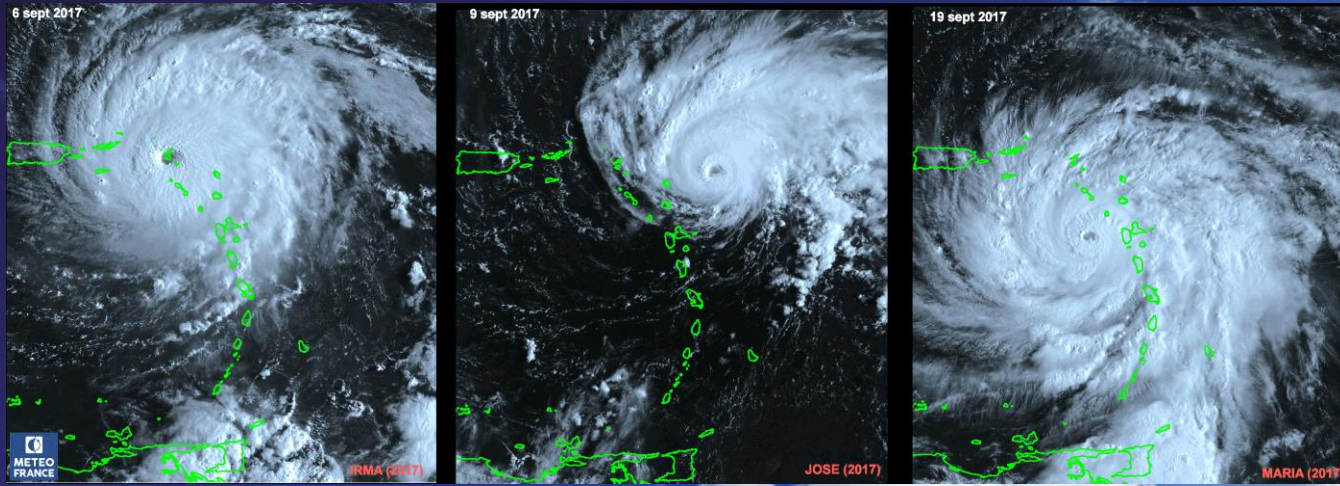


WMO 2017 Climate Statement

--WMO Briefing for the CPR to the UN Environment Assembly

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU



GOES-E



WMO OMM

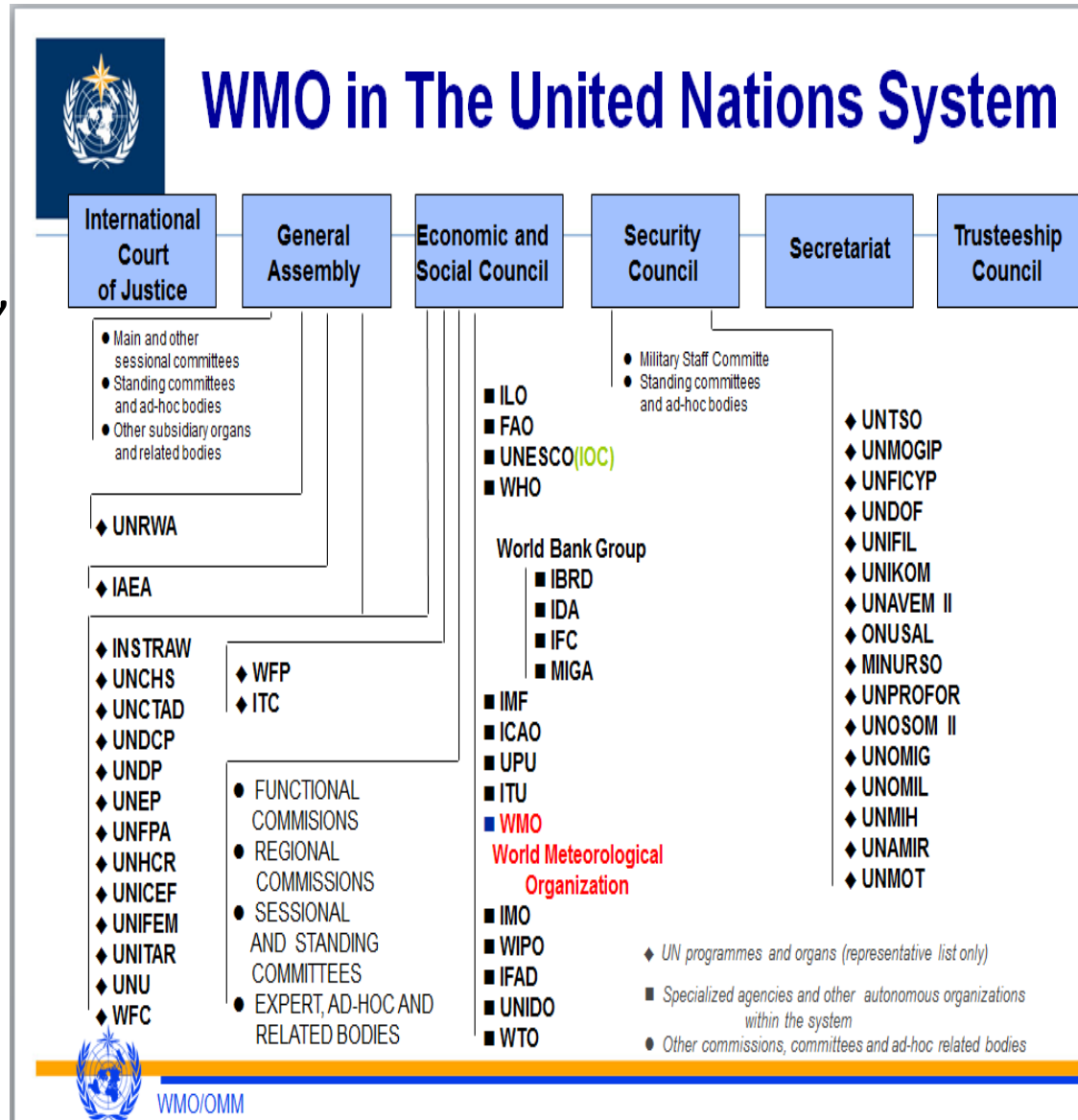
Dr Wenjian ZHANG
Assistant Secretary-General

World Meteorological Organization
Organisation météorologique mondiale

22-23 May 2018
Nairobi, KENYA
UNEP HQ

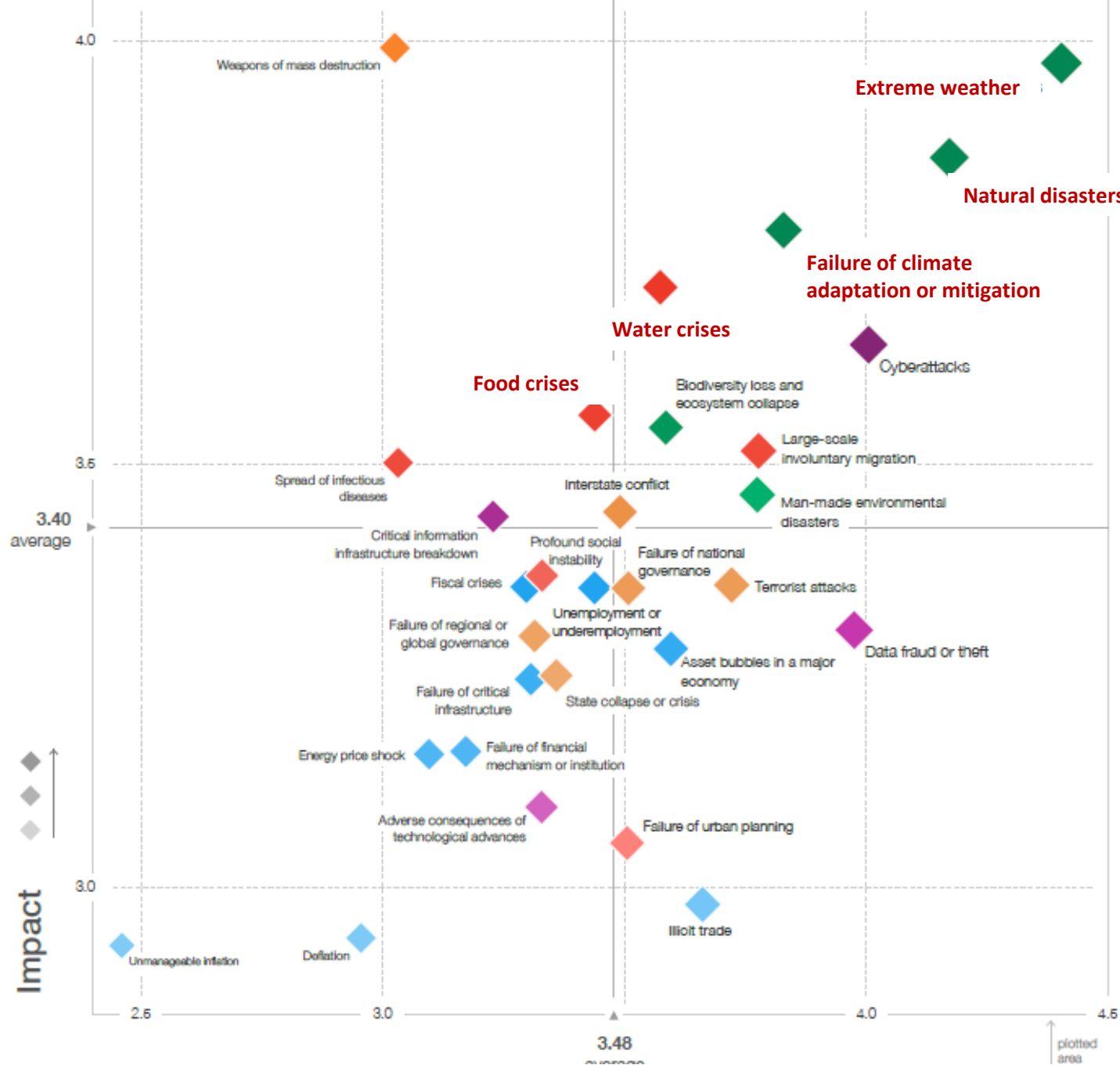
WMO is the UN system's authoritative voice on weather, climate, water & related environmental issues

- UN Specialized Agency on weather, climate & water since 1950
- Coordinates 191 Members, 200 000 experts from meteor & hydrological services and academia
- Backbone Programme: World Weather Watch (WWW) since 1963
- **Co-Founder and host of IPCC and GCOS with UNEP**
- Co-Founder of UNFCCC



Global risks landscape 2018

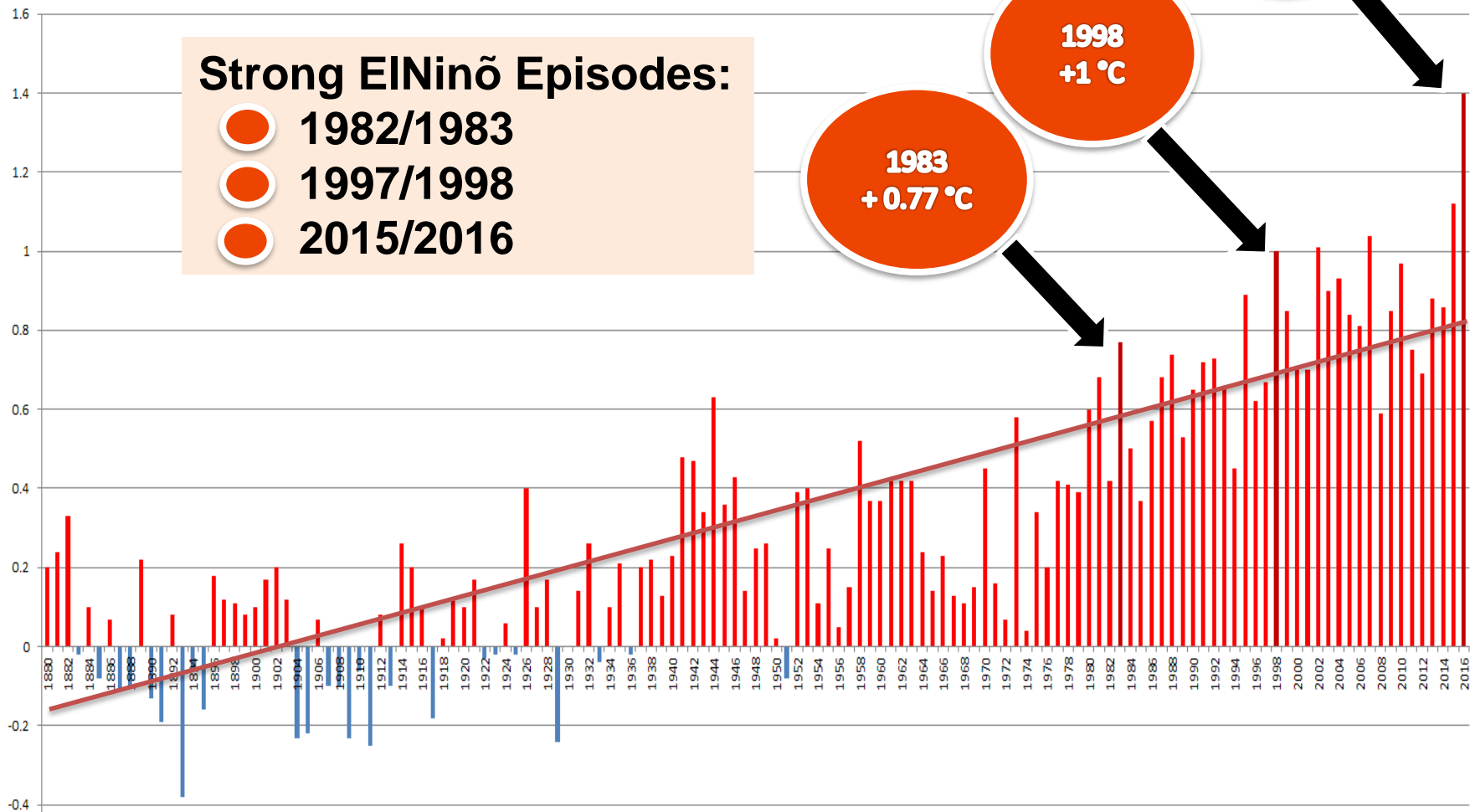
World Economic Forum



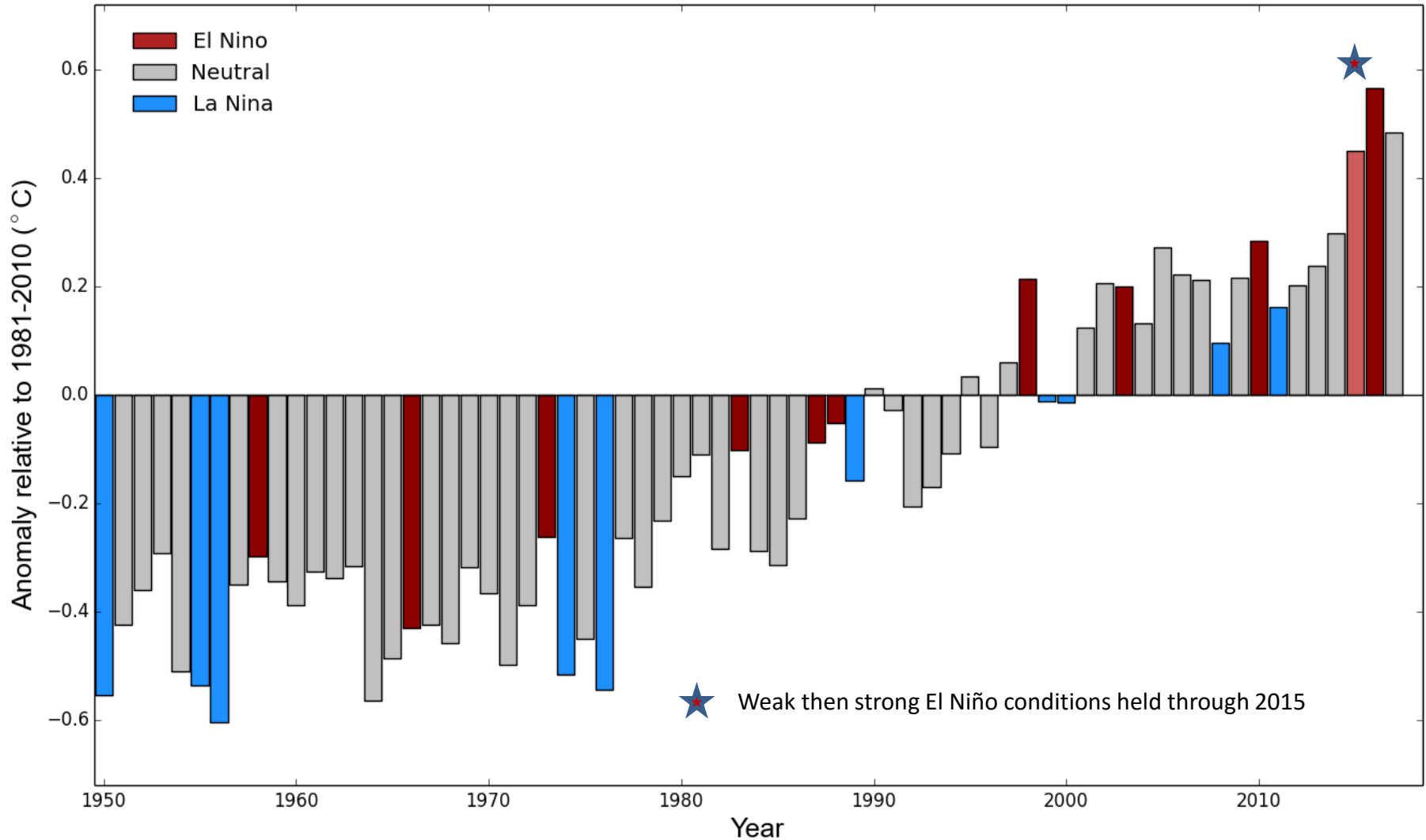
January-February 2016 global Temperature increase reference :1881-1910

Strong ElNiño Episodes:

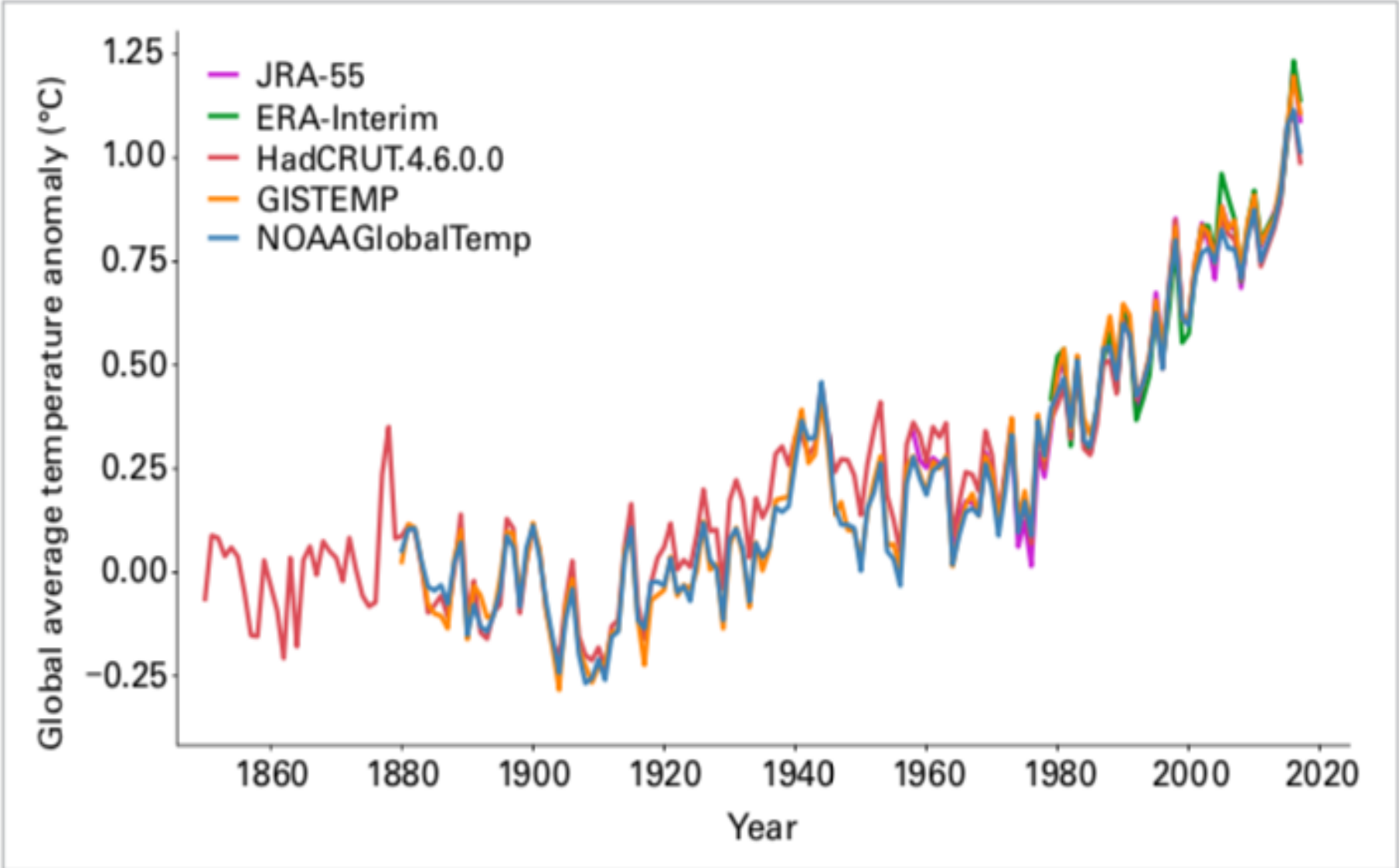
- 1982/1983
- 1997/1998
- 2015/2016



2017 – the warmest non-El Niño year on record



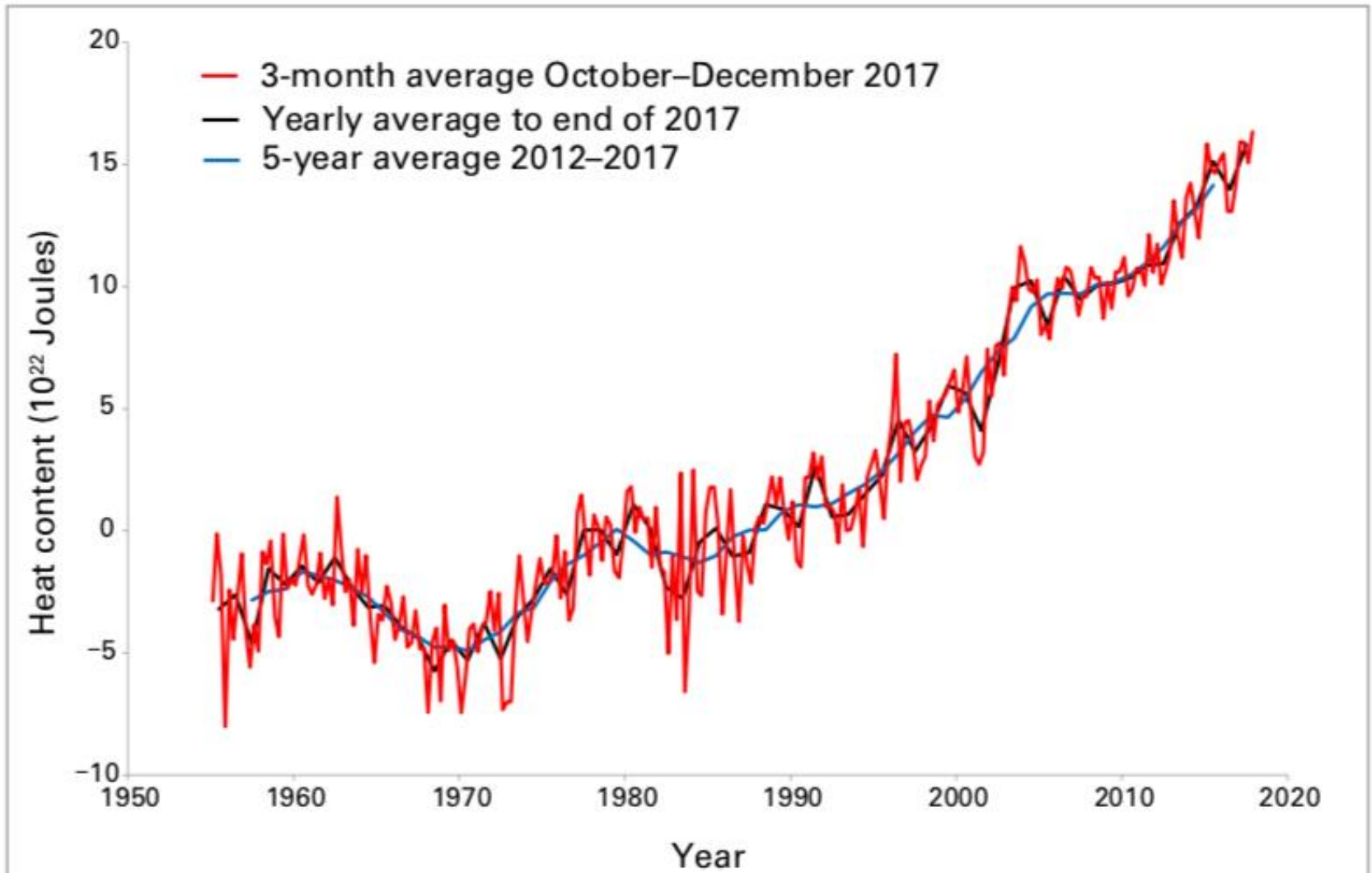
Global mean temperature anomalies, with respect to the 1850–1900 baseline, for the five global datasets



The world's warmest years on record

| <i>Year</i> | <i>Anomaly in respect of the 1981–2010 average (°C)</i> |
|-------------|---|
| 2016 | +0.56 |
| 2017 | +0.46 |
| 2015 | +0.45 |
| 2014 | +0.30 |
| 2010 | +0.28 |
| 2005 | +0.27 |
| 2013 | +0.24 |
| 2006 | +0.22 |
| 2009 | +0.21 |
| 1998 | +0.21 |

Global ocean heat content change ($\times 10^{22}$ J) for the 0–700 meter layer: three-monthly means (red), and annual (black) and 5-year (blue) running means



2017 Record breaking economic losses

Losses from natural
catastrophes
2017

US\$ 330bn



Less than half of the
losses insured

US\$ 135bn
(41%)

Costliest hurricane
season on record

US\$ 215bn



Floods in South Asia:
a humanitarian disaster

**2,700 people
killed**

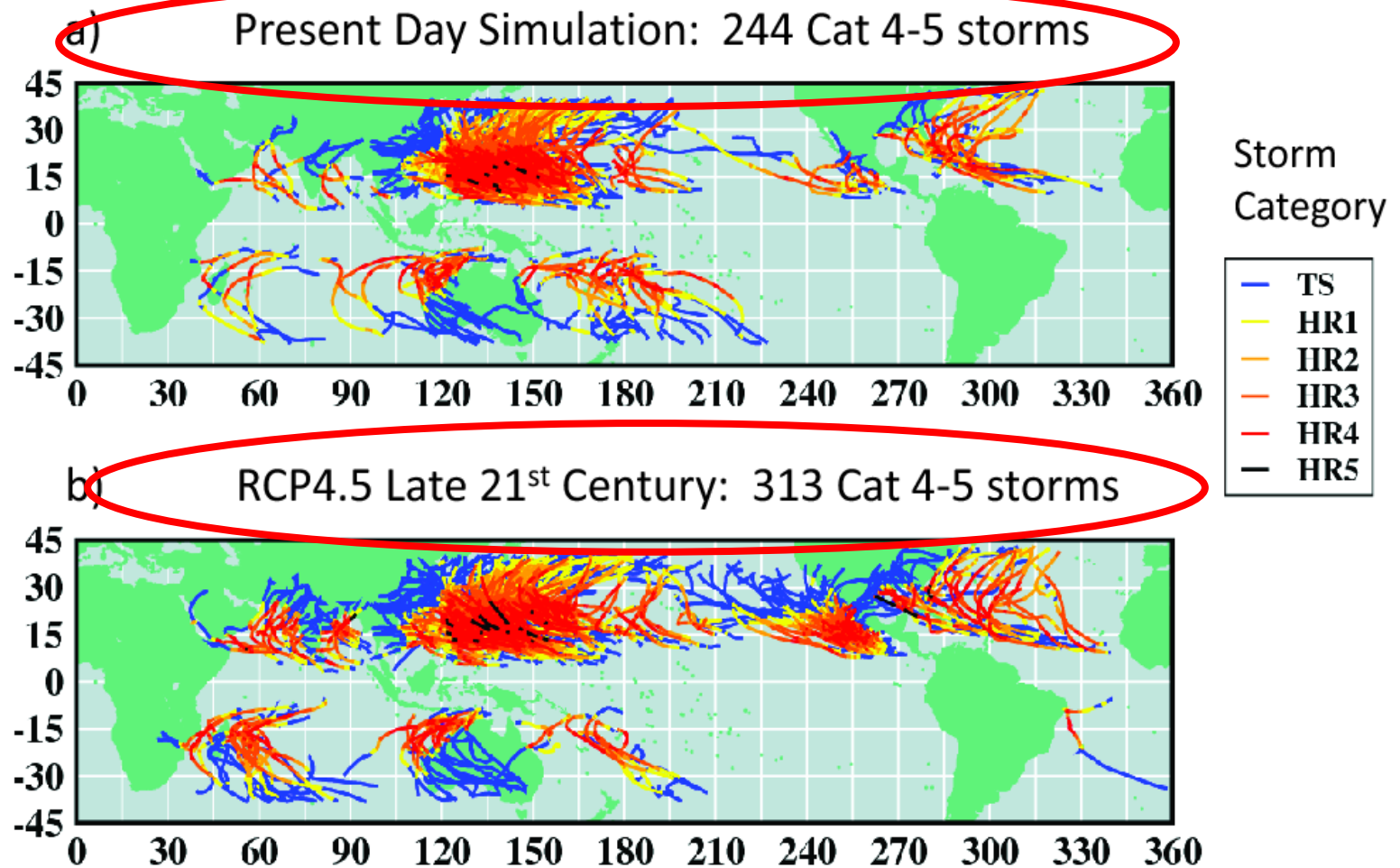


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© Munich Re NatCatSERVICE

Model simulations indicate **hurricanes in a warmer climate are likely to become more intense**

Tropical storms today and in 3 C warmed climate





SUSTAINABLE DEVELOPMENT GOALS/WMO



1 NO POVERTY
Weather resilience



2 ZERO HUNGER
Climate change & -services



6 CLEAN WATER AND SANITATION
Water resource management



7 AFFORDABLE AND CLEAN ENERGY
Solar, wind & hydro use



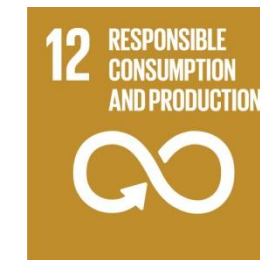
8 DECENT WORK AND ECONOMIC GROWTH
Climate resilience



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Big data, innovations



11 SUSTAINABLE CITIES AND COMMUNITIES
Air quality, heat waves, flooding



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



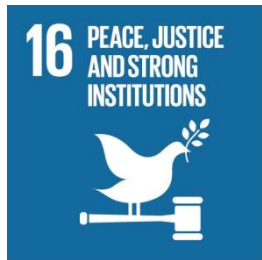
13 CLIMATE ACTION
DRR, Adaptation, carbon & climate monitoring



14 LIFE BELOW WATER
Sea level rise, climate<->oceans



15 LIFE ON LAND
Climate change <->ecosystems

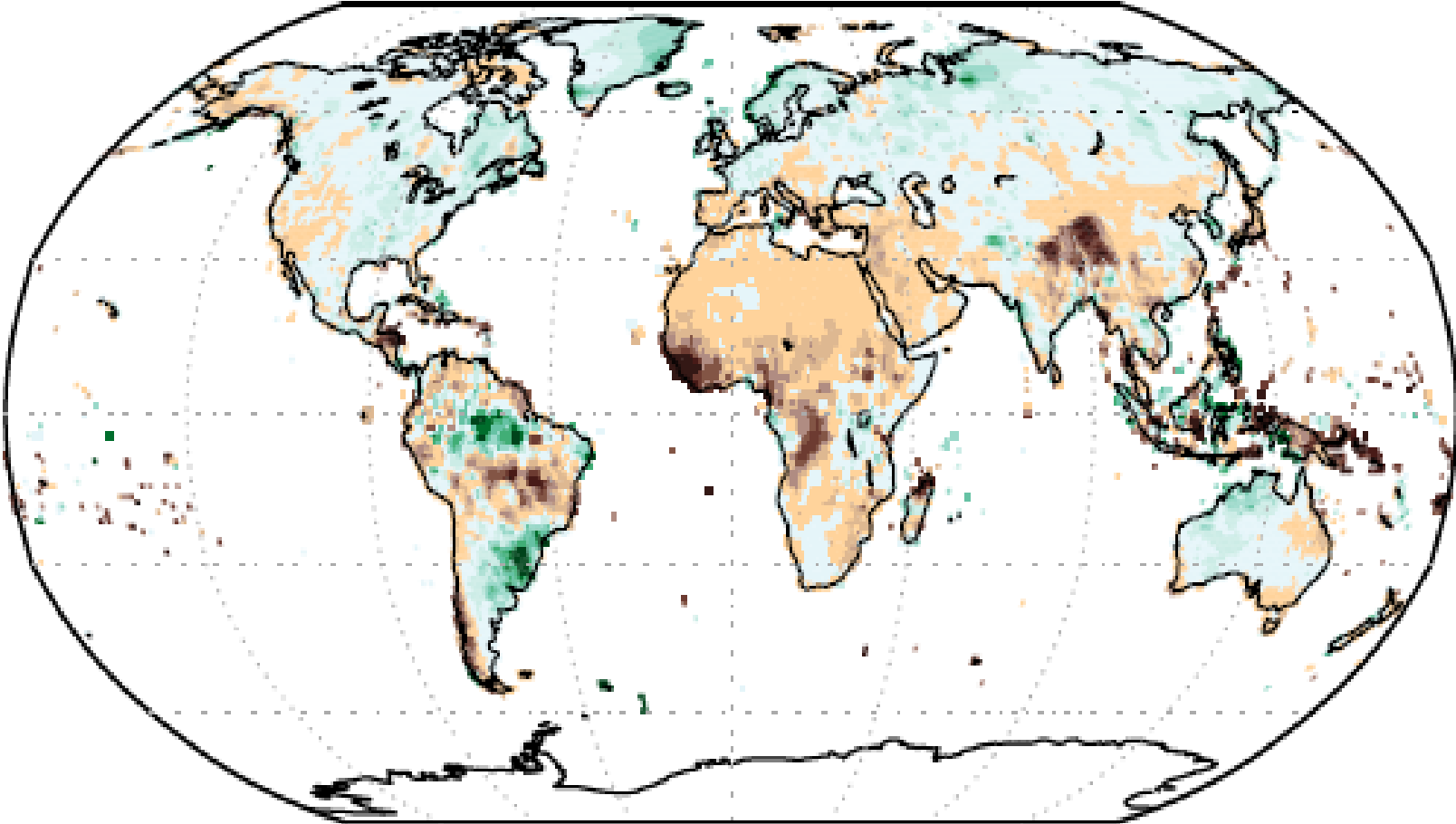


16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Climate driven conflicts



17 PARTNERSHIPS FOR THE GOALS
Resources for climate adaptation & DRR

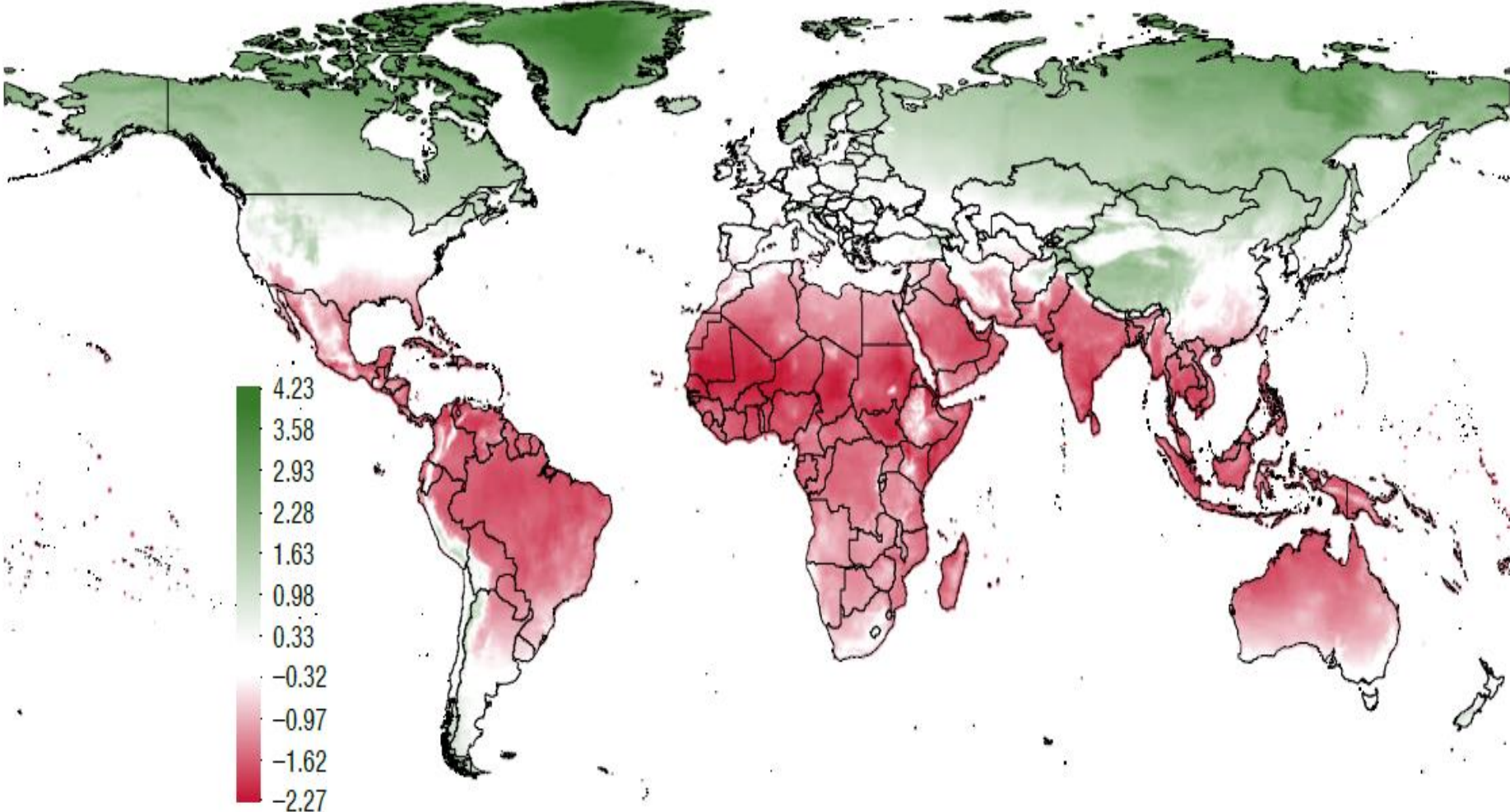
Global precipitation 1986–2015 vs. 1901–1960



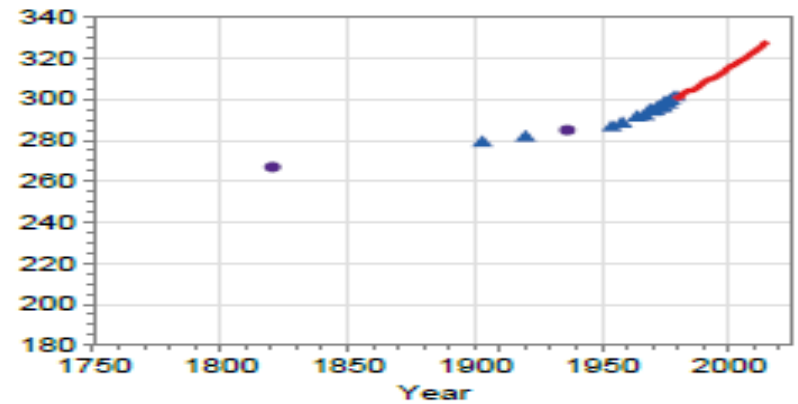
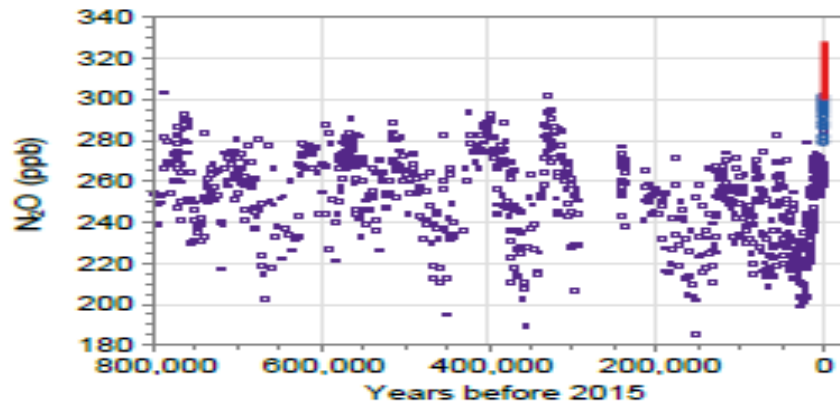
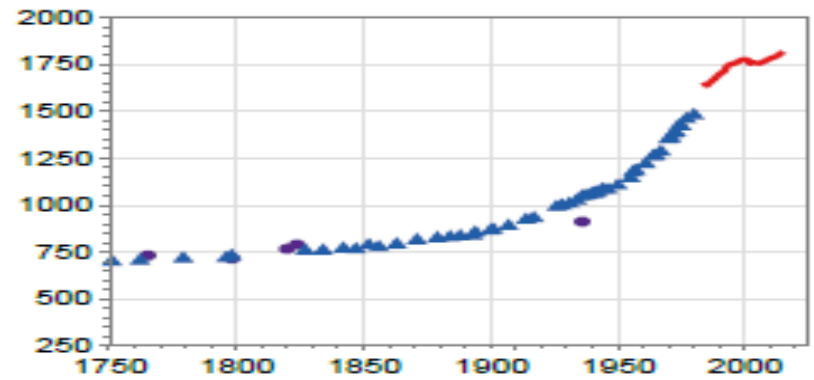
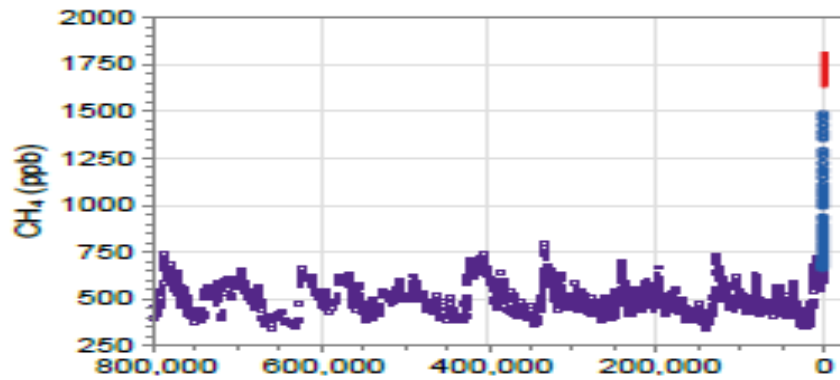
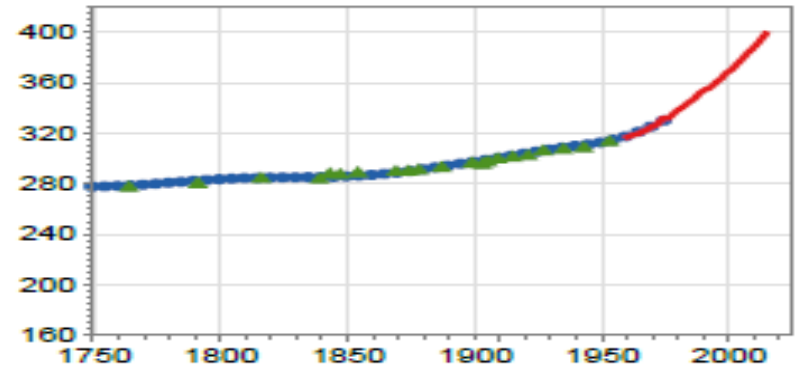
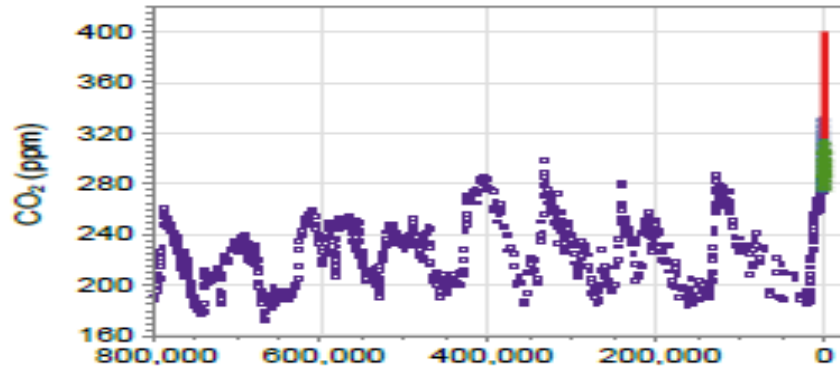
Change in Precipitation (inches)



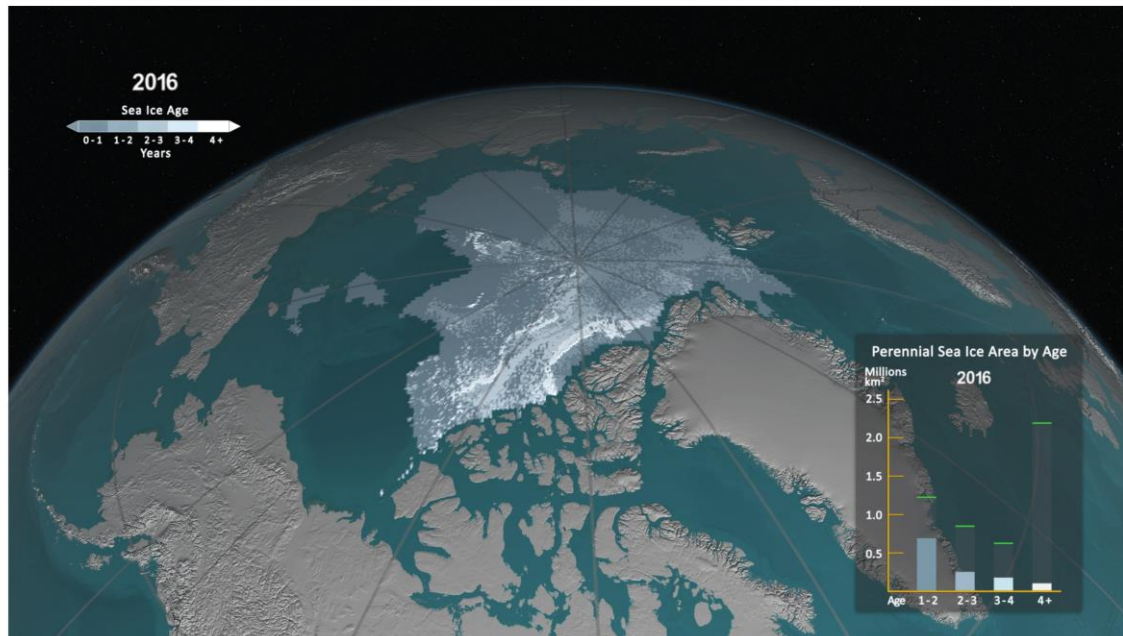
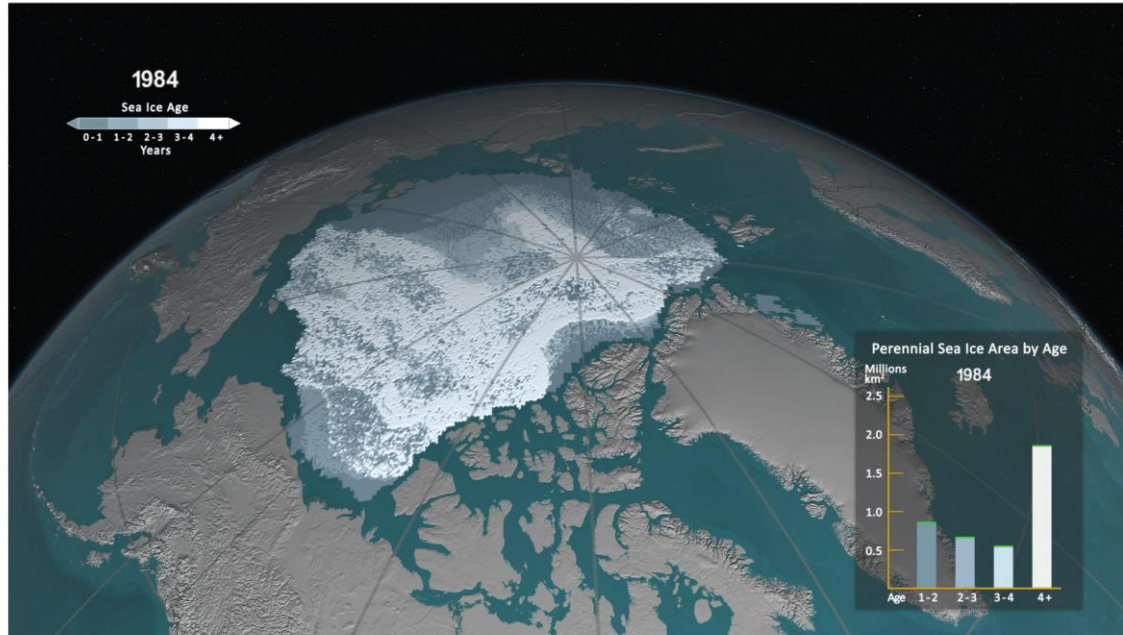
Effect of 1°C temperature increase on per capita output



CO₂, CH₄ & N₂O 800 000 BC-2016 AD

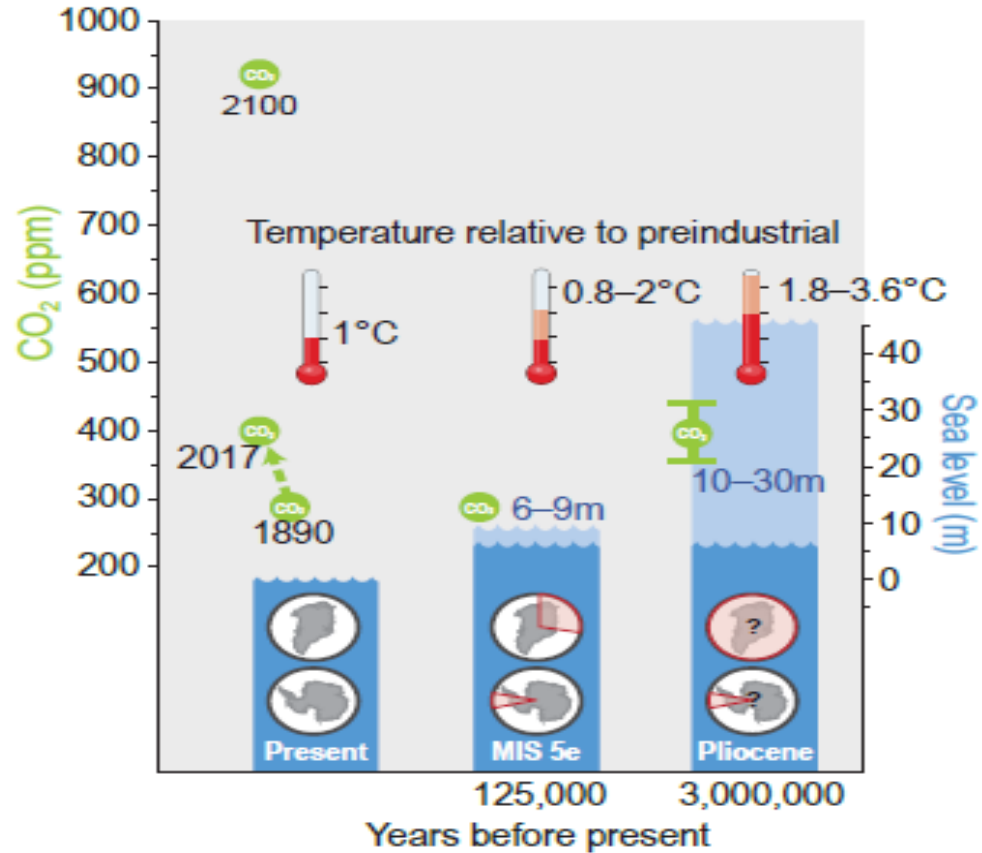


Multi-year ice 1984 and 2016

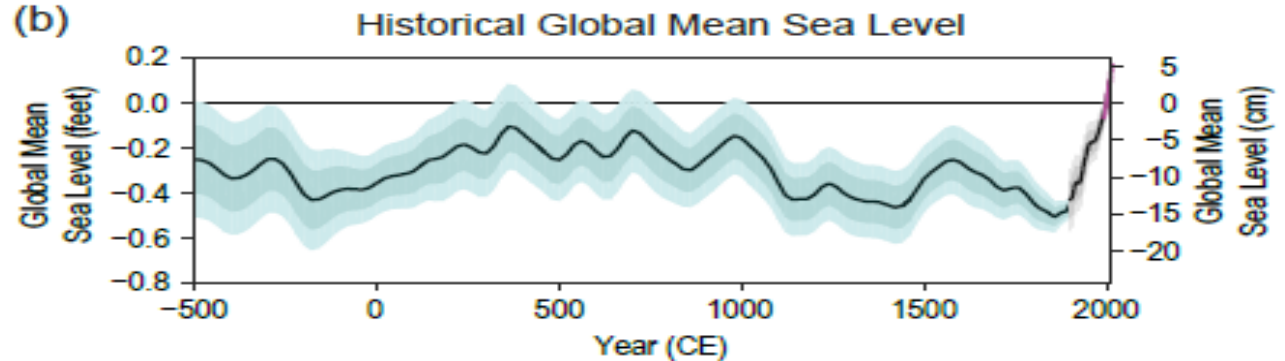


Historical CO₂-temperature-sea level

(a)

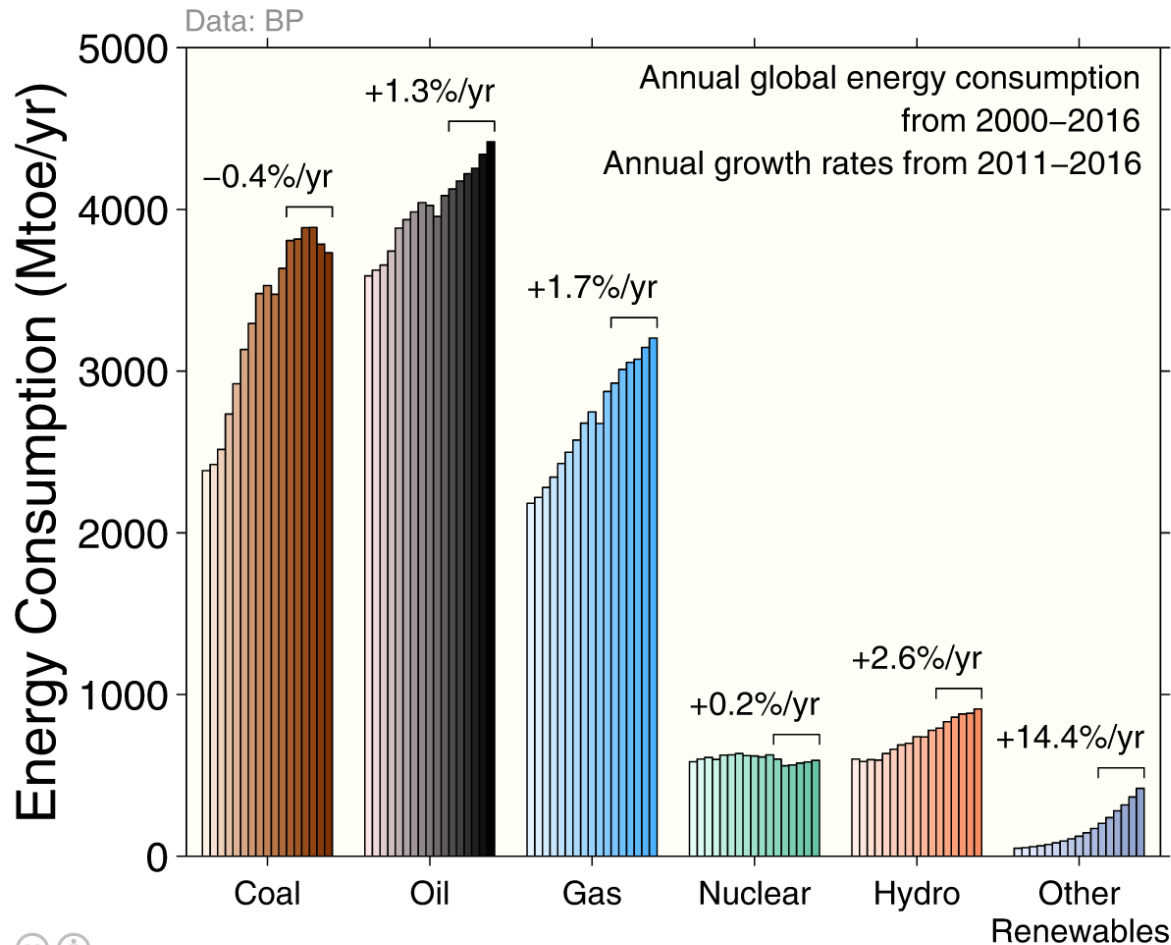


(b)



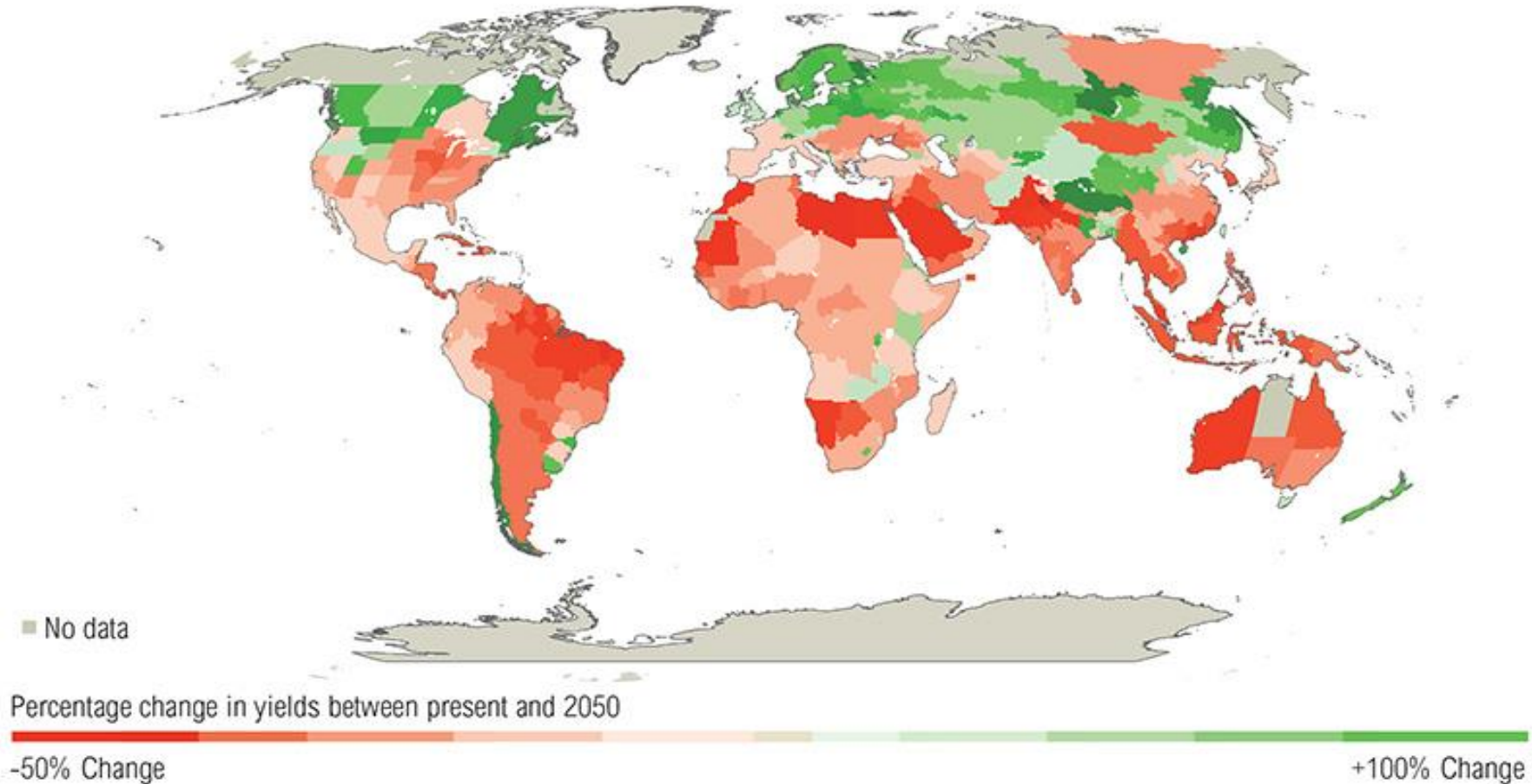
Energy consumption by energy type

Energy consumption by fuel source from 2000 to 2016, with growth rates indicated for the more recent period of 2011 to 2016



Impact of 3 C warming on crop yields

Most studies now project adverse impacts on crop yields due to climate change (3°C warmer world)

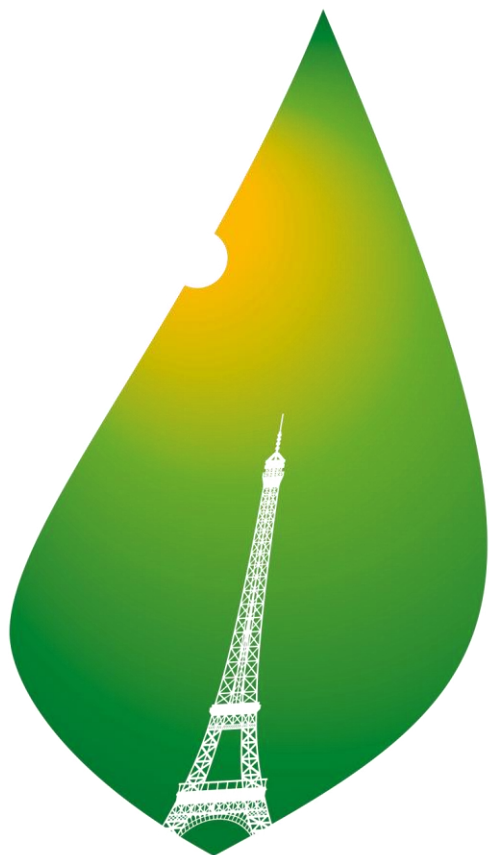


 WORLD RESOURCES INSTITUTE

Sources: <http://ow.ly/rpfMN>



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COP21 • CMP11

PARIS 2015

UN CLIMATE CHANGE CONFERENCE



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**Sendai Framework
for Disaster Risk Reduction
2015 - 2030**



United Nations

WMO will go together with all the partners to address the common challenge – Climate Change !

