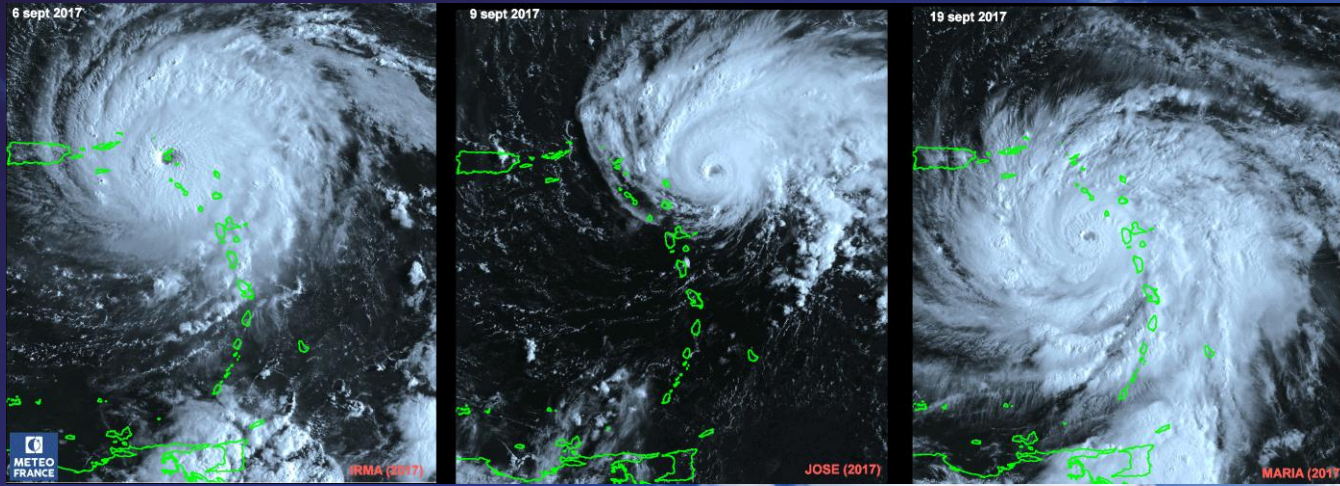


# WMO 2017 Climate Statement

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

WEATHER CLIMATE WATER  
TEMPS CLIMAT EAU



WMO OMM

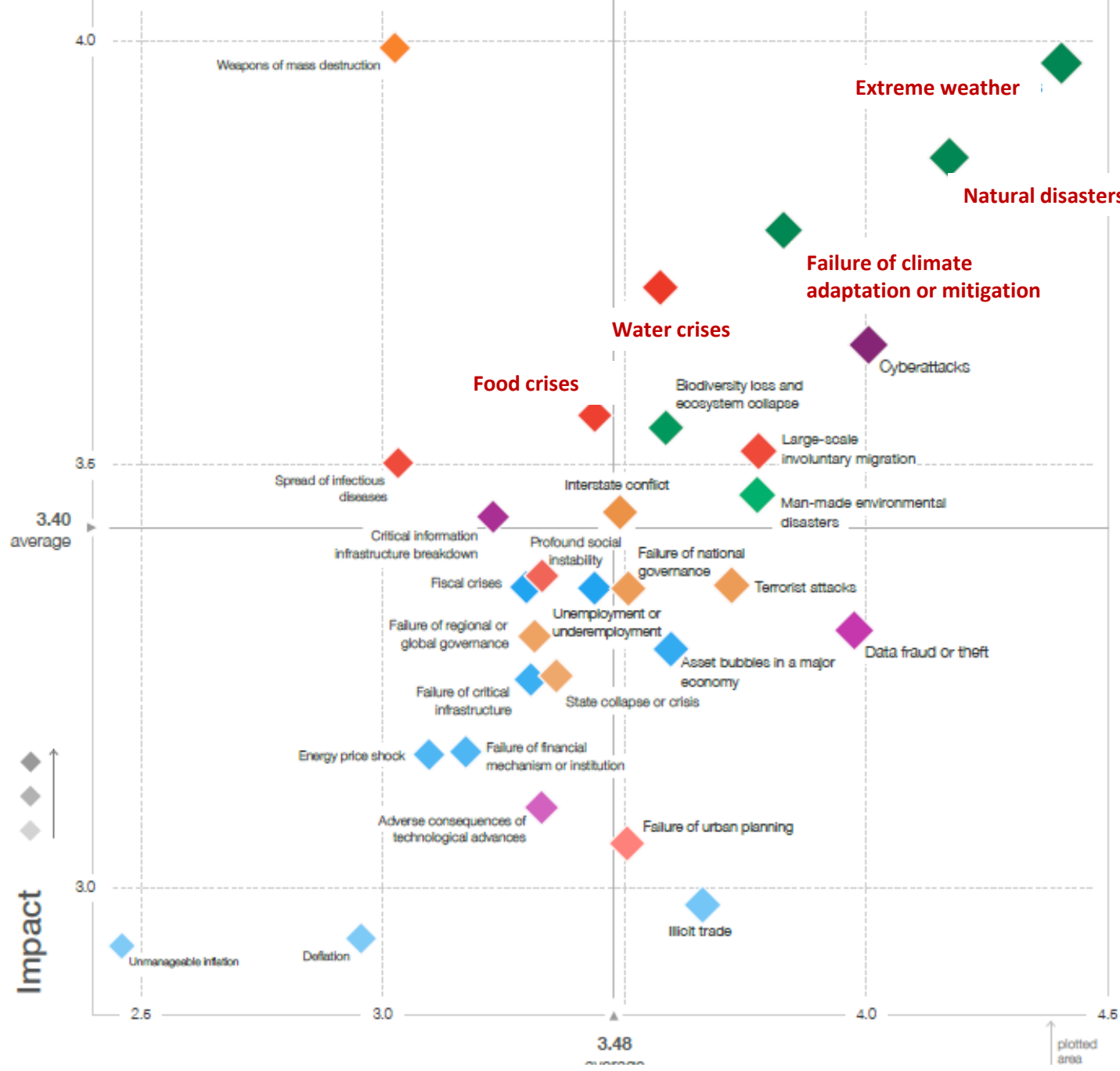
Dr Wenjian ZHANG  
Assistant Secretary-General

World Meteorological Organization  
Organisation météorologique mondiale

22-23 May 2018  
Nairobi, KENYA  
UNEP HQ

# Global risks landscape 2018

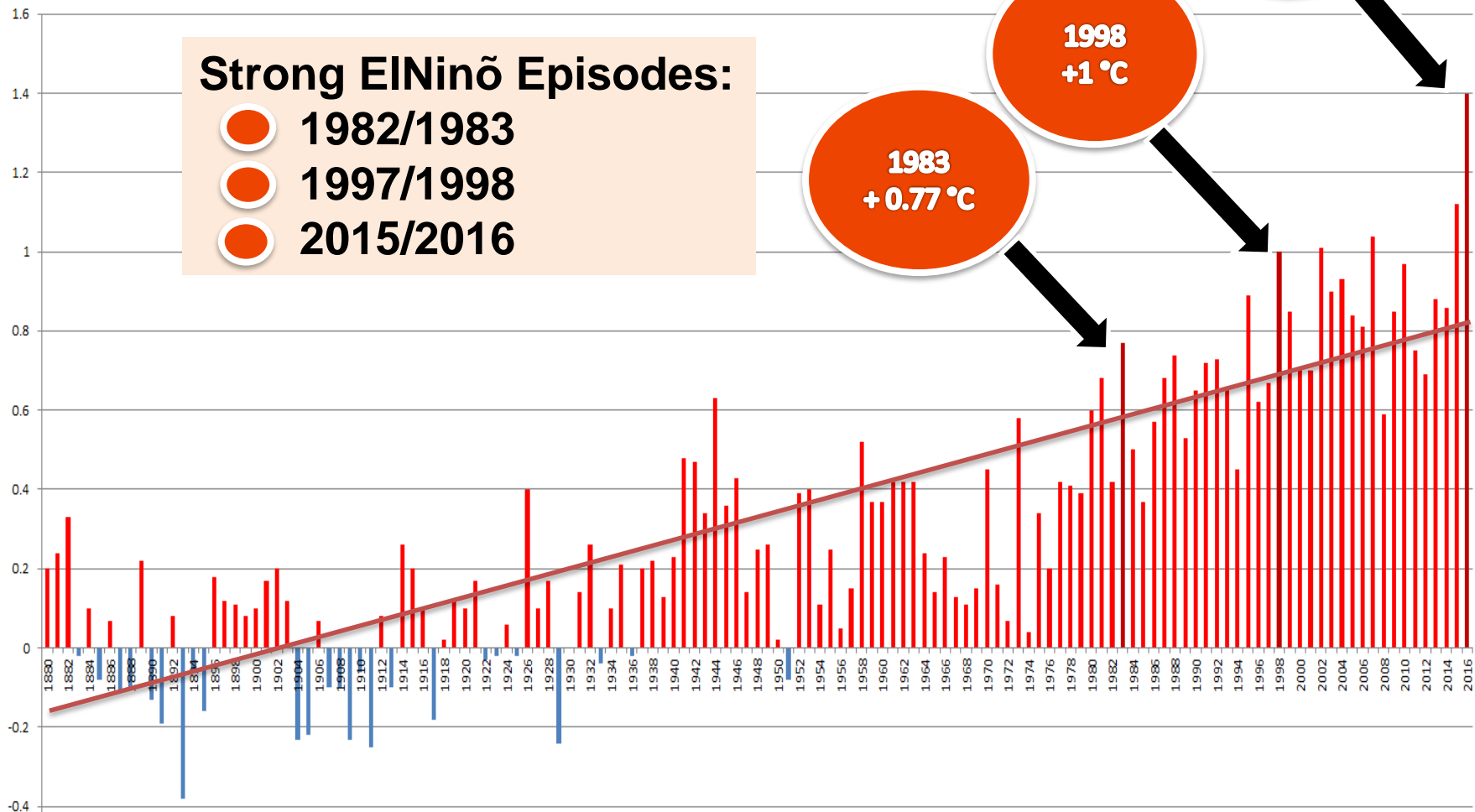
World Economic Forum



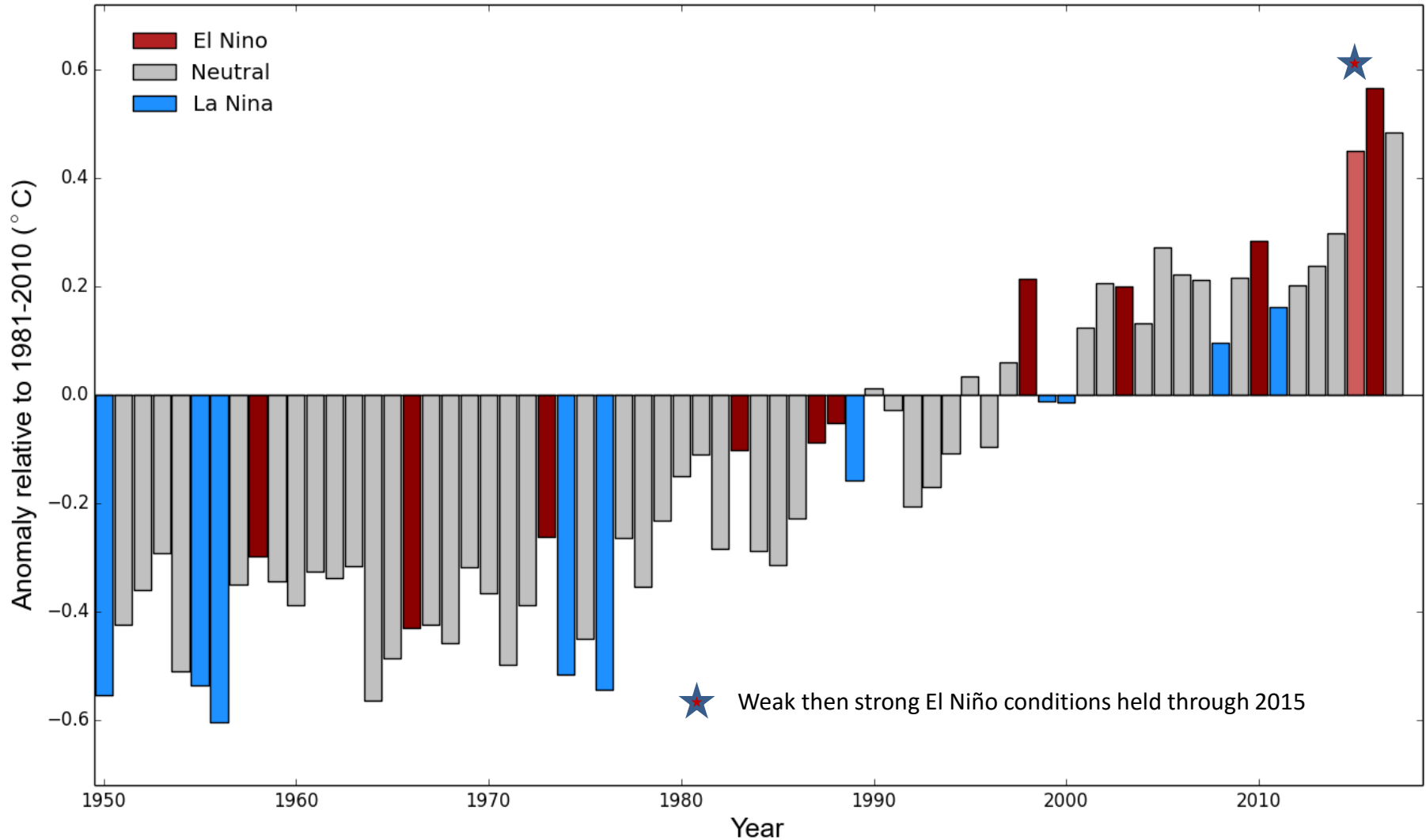
# January-February 2016 global Temperature increase reference :1881-1910

## Strong ElNiño Episodes:

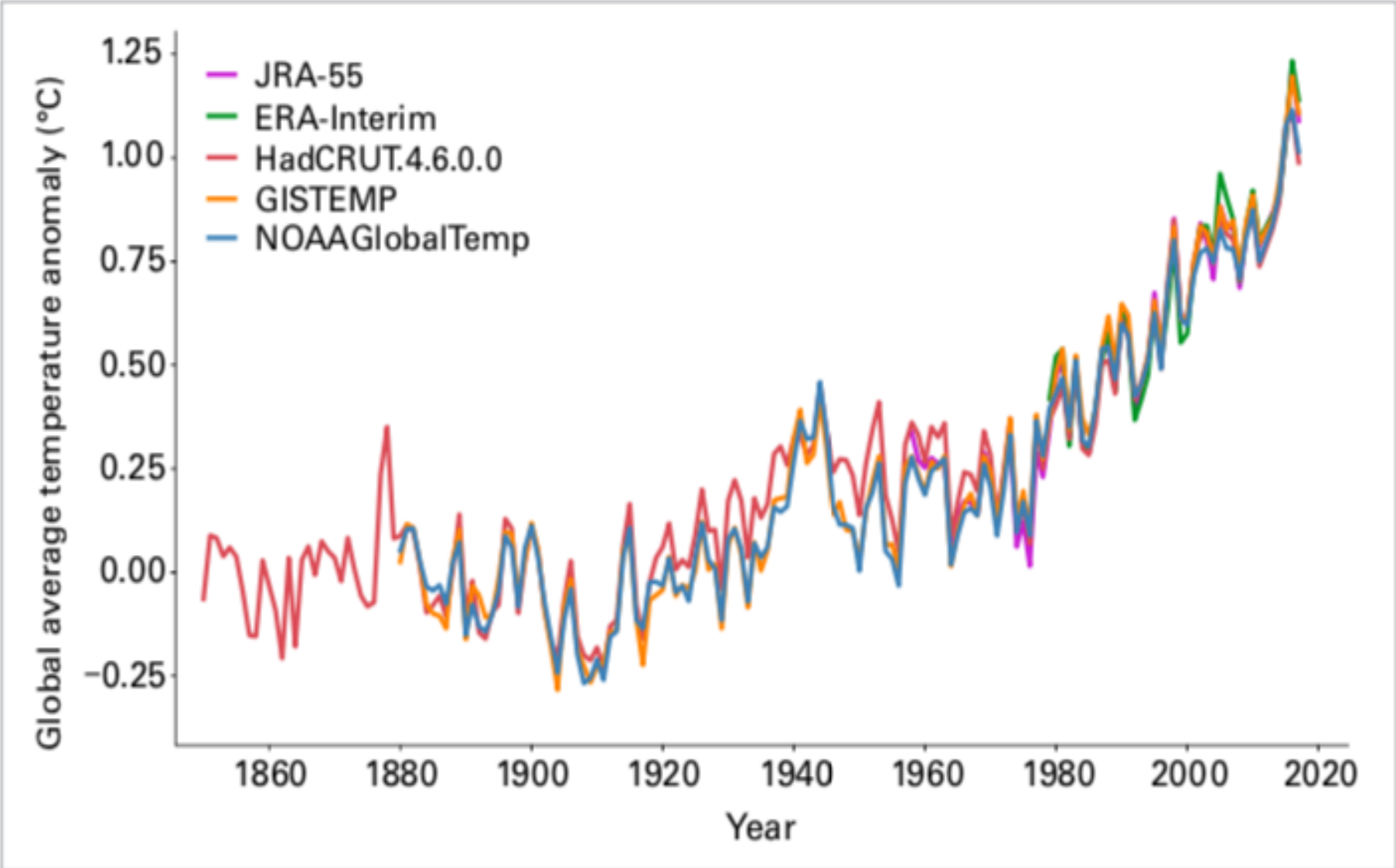
- 1982/1983
- 1997/1998
- 2015/2016



# 2017 – the warmest non-El Niño year on record



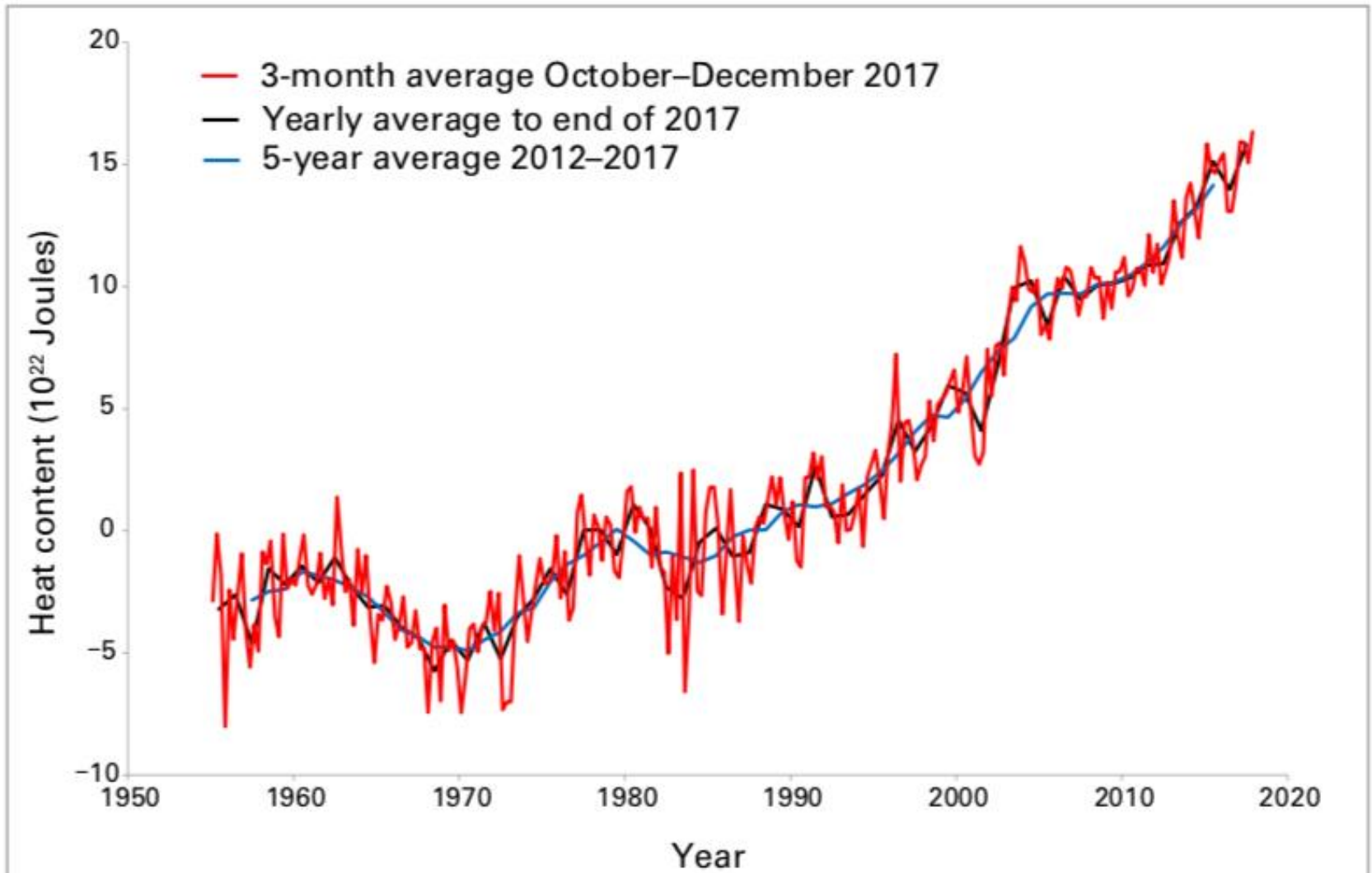
# Global mean temperature anomalies, with respect to the 1850–1900 baseline, for the five global datasets



## 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**



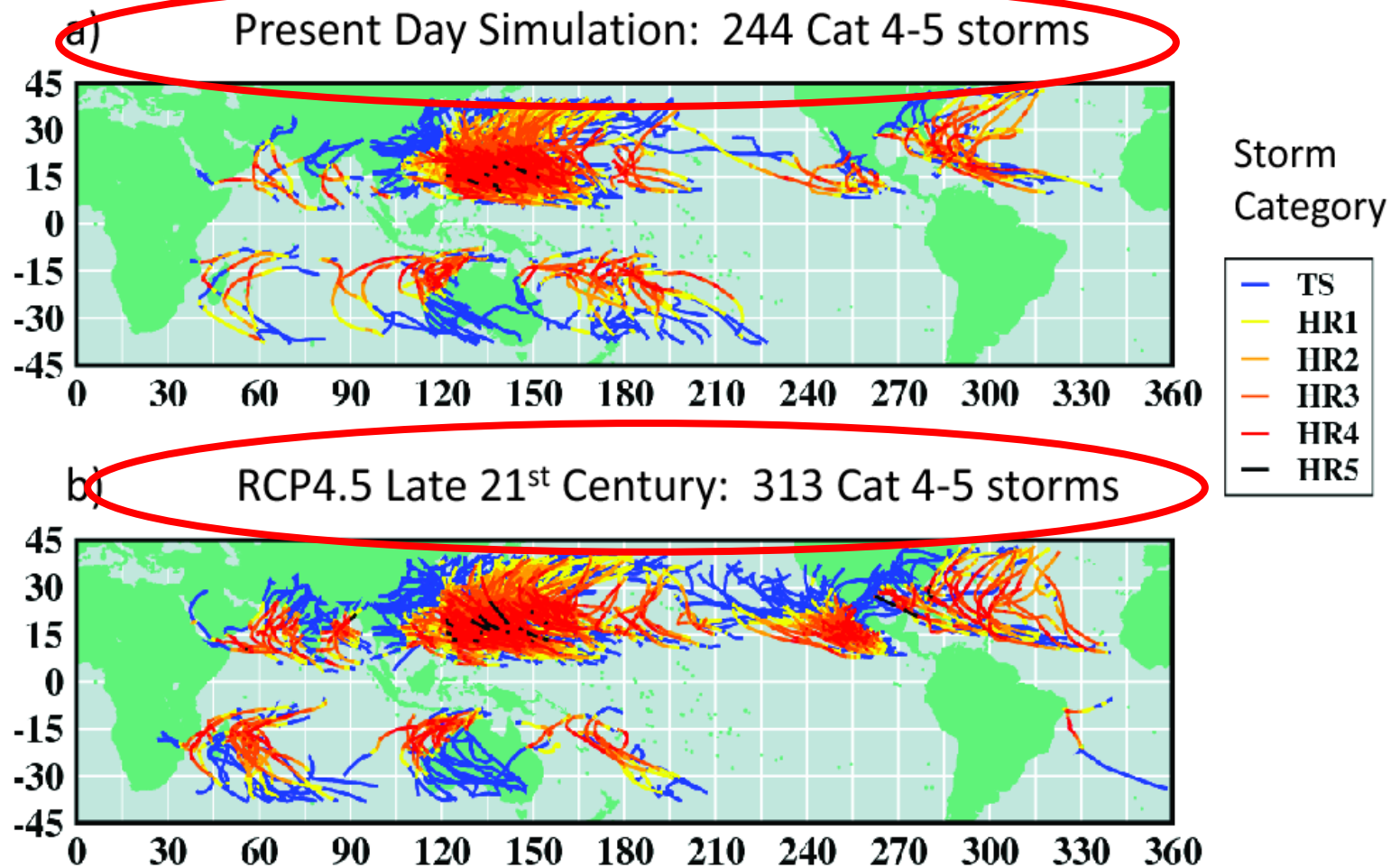
WMO OMM

© 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



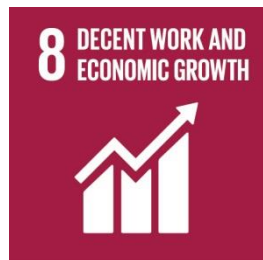
**2 ZERO HUNGER**  
Climate change & -services



**6 CLEAN WATER AND SANITATION**  
Water resource management



**7 AFFORDABLE AND CLEAN ENERGY**  
Solar, wind & hydro use



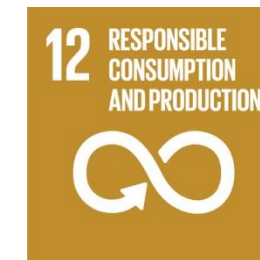
**8 DECENT WORK AND ECONOMIC GROWTH**  
Climate resilience



**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**  
Big data, innovations



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



**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**



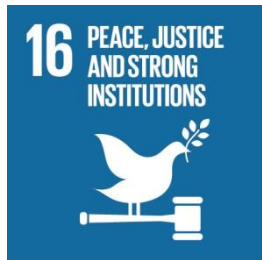
**13 CLIMATE ACTION**  
DRR, Adaptation, carbon & climate monitoring



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



**15 LIFE ON LAND**  
Climate change <->ecosystems

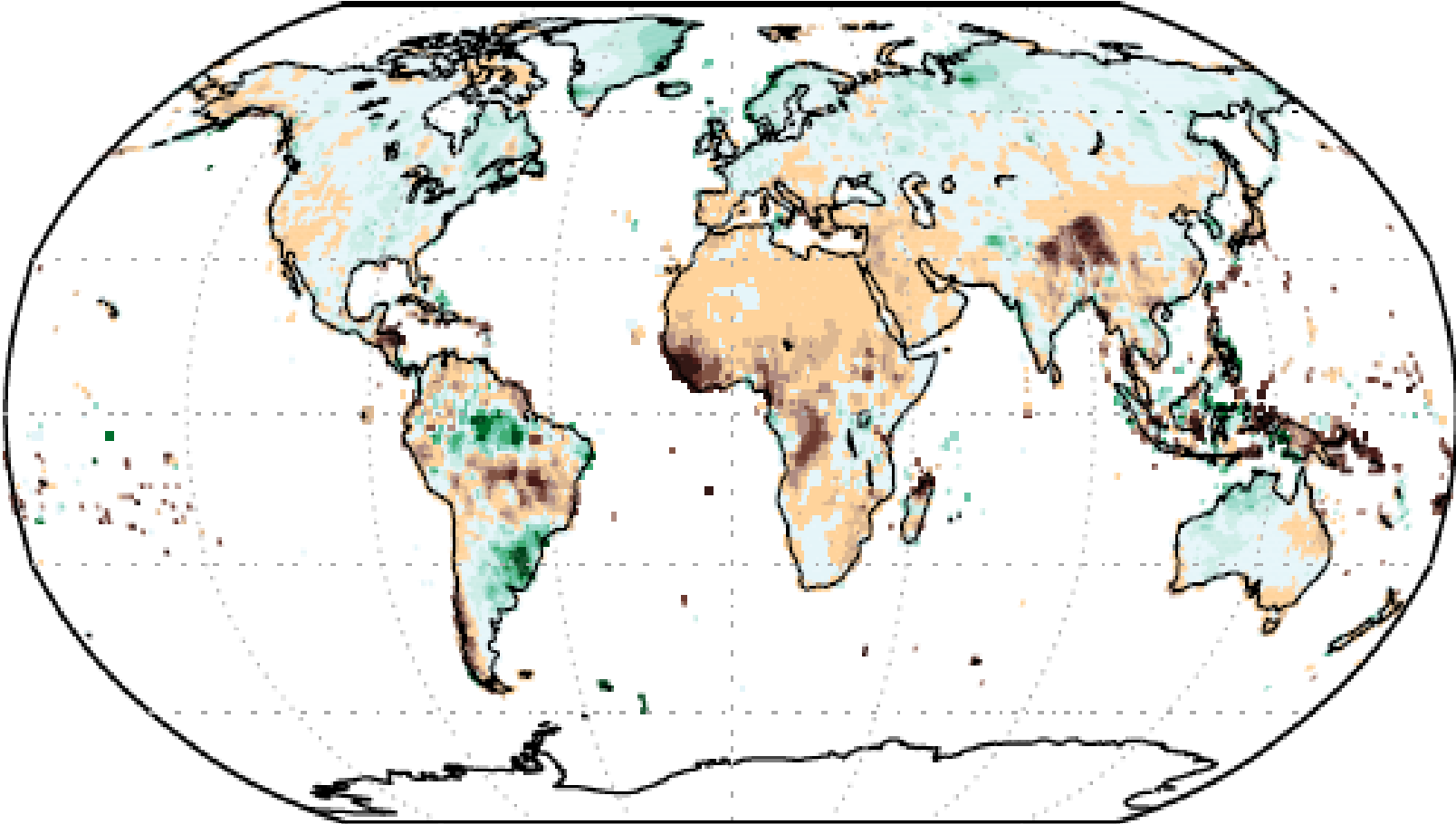


**16 PEACE, JUSTICE AND STRONG INSTITUTIONS**  
Climate driven conflicts



**17 PARTNERSHIPS FOR THE GOALS**  
Resources for climate adaptation & DRR

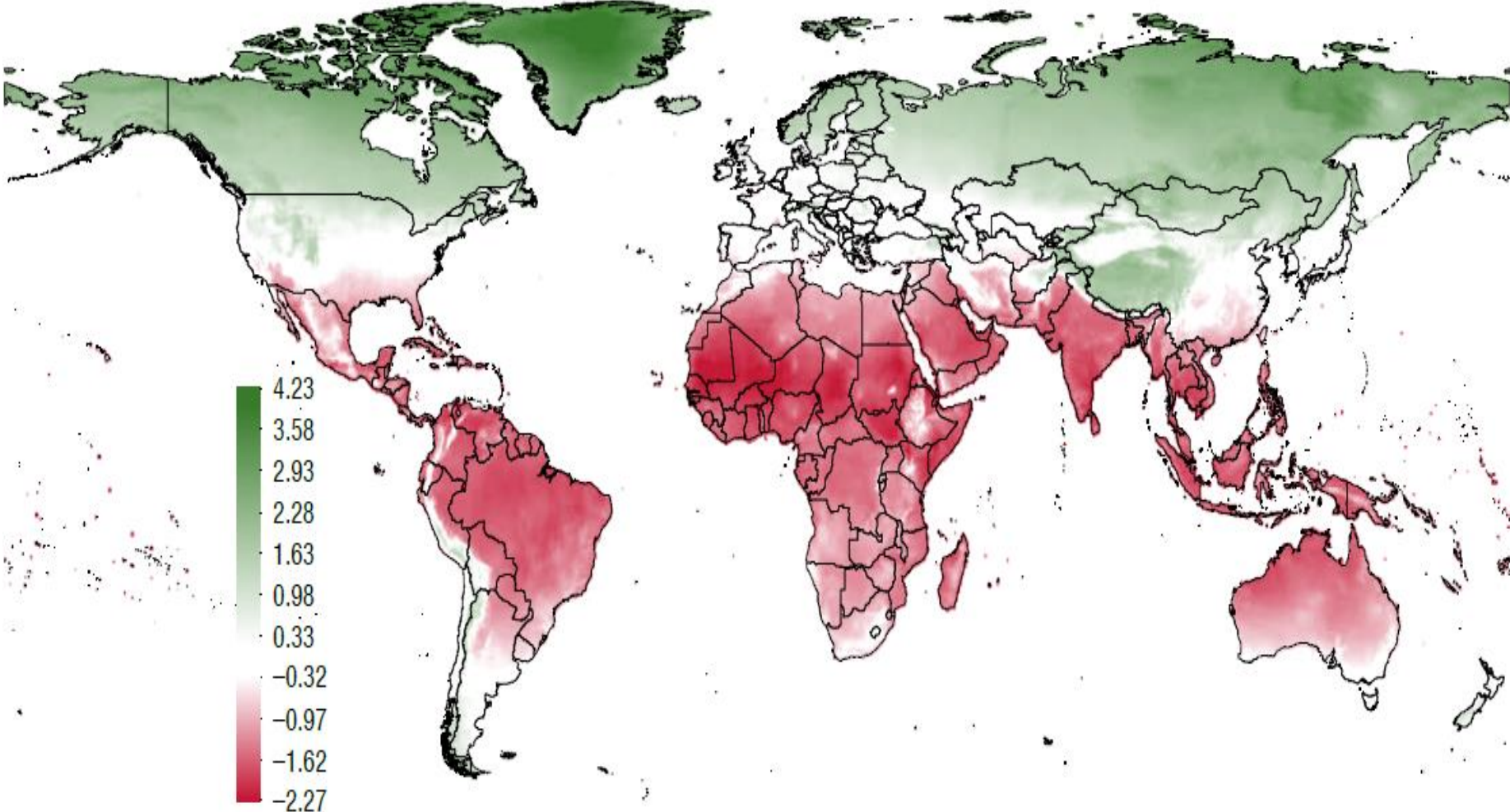
# Global precipitation 1986–2015 vs. 1901–1960



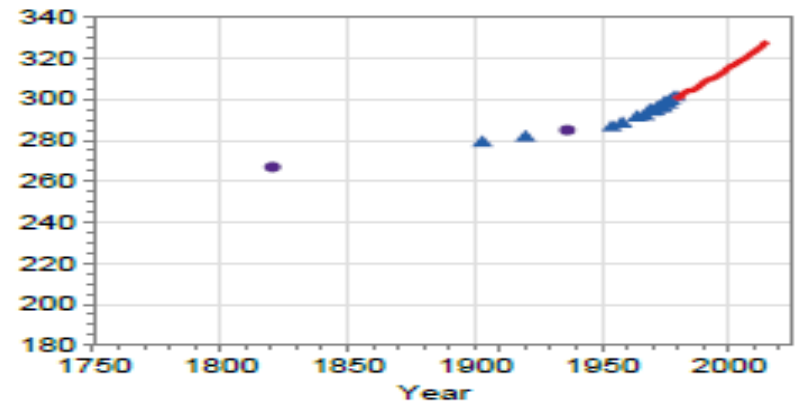
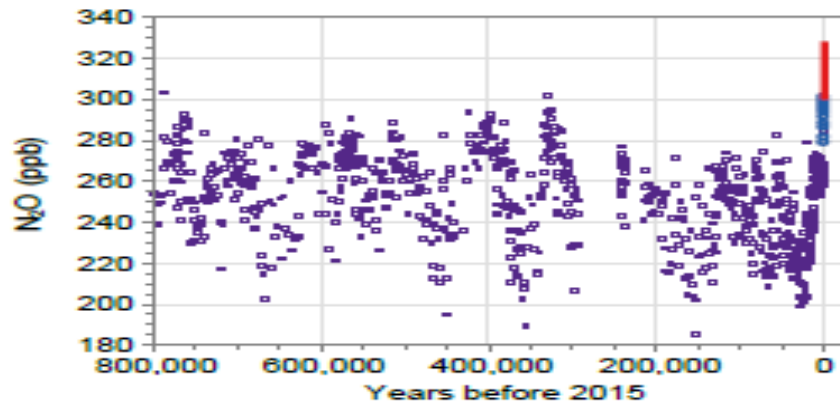
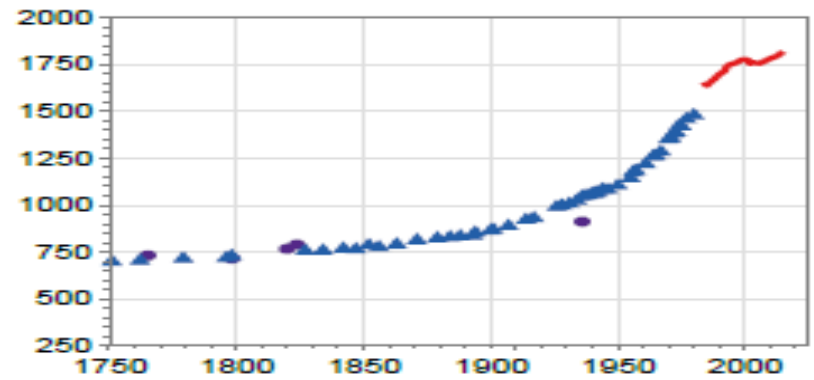
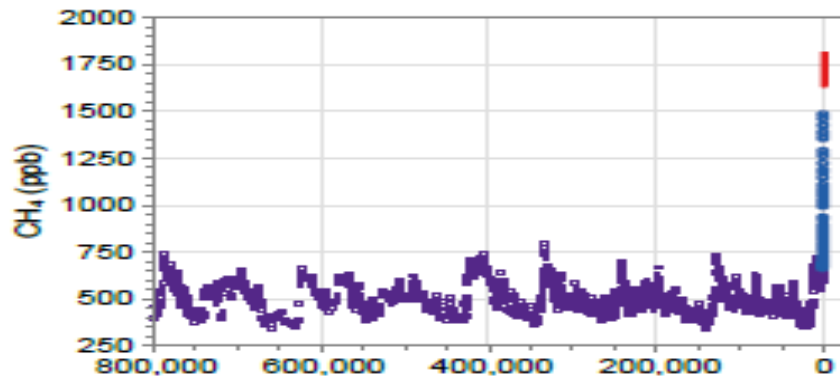
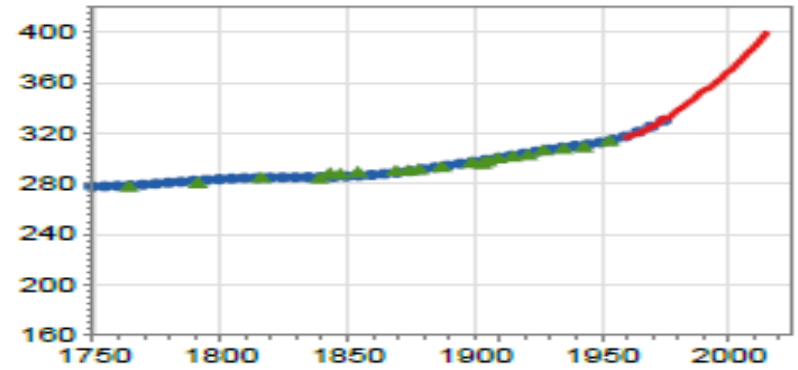
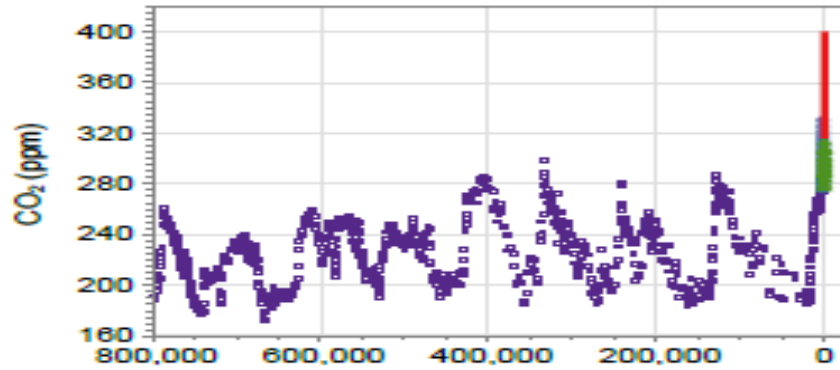
Change in Precipitation (inches)



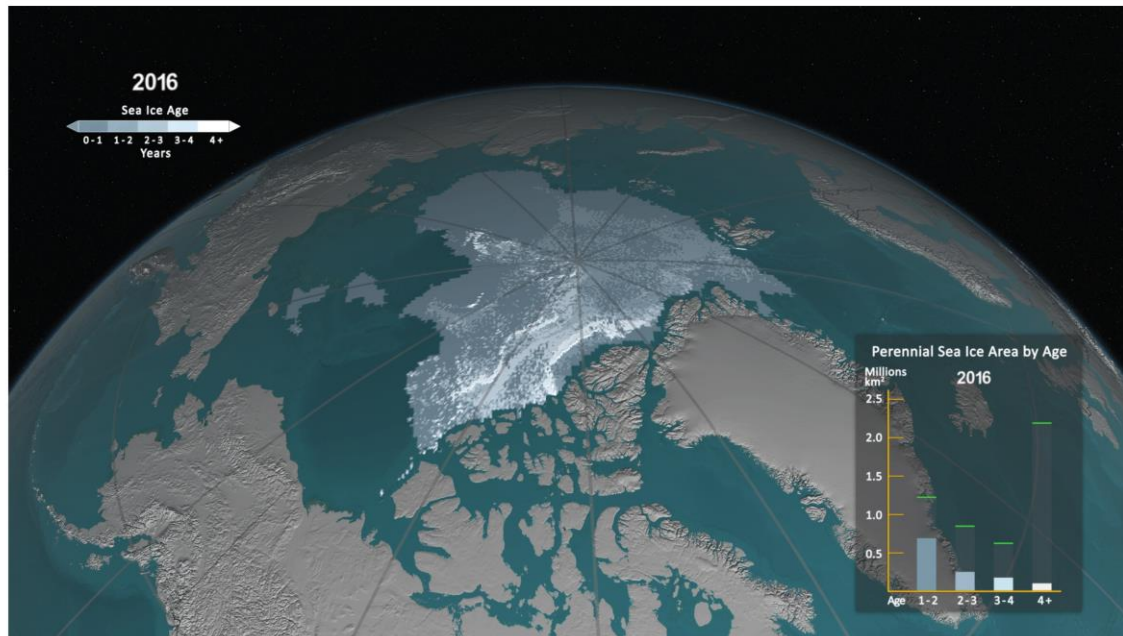
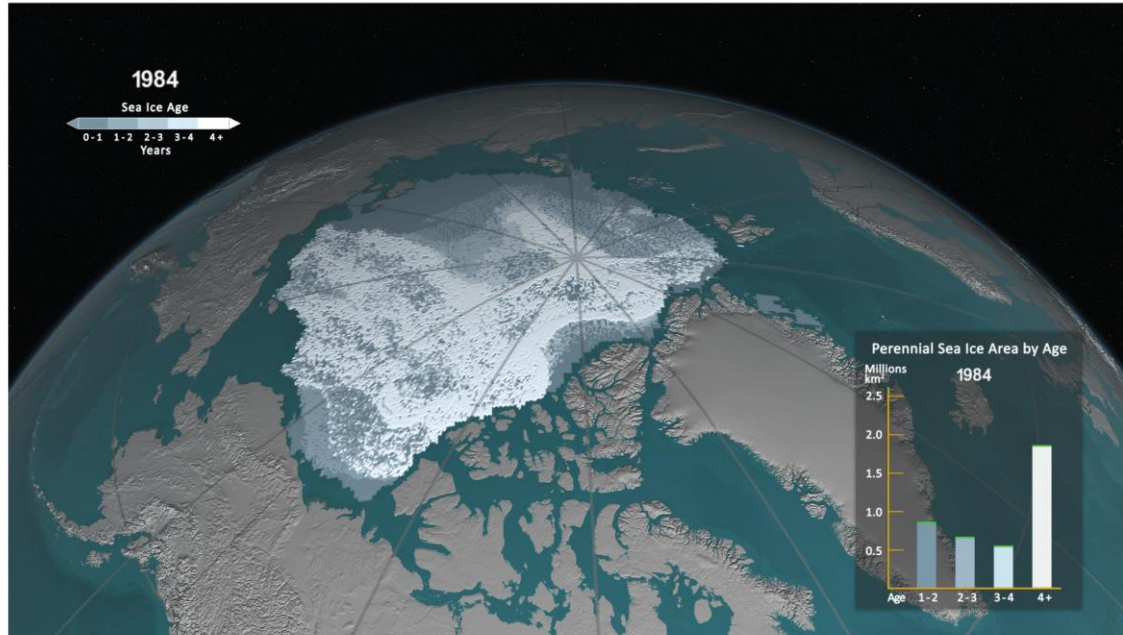
# Effect of 1°C temperature increase on per capita output



# CO<sub>2</sub>, CH<sub>4</sub> & N<sub>2</sub>O 800 000 BC-2016 AD

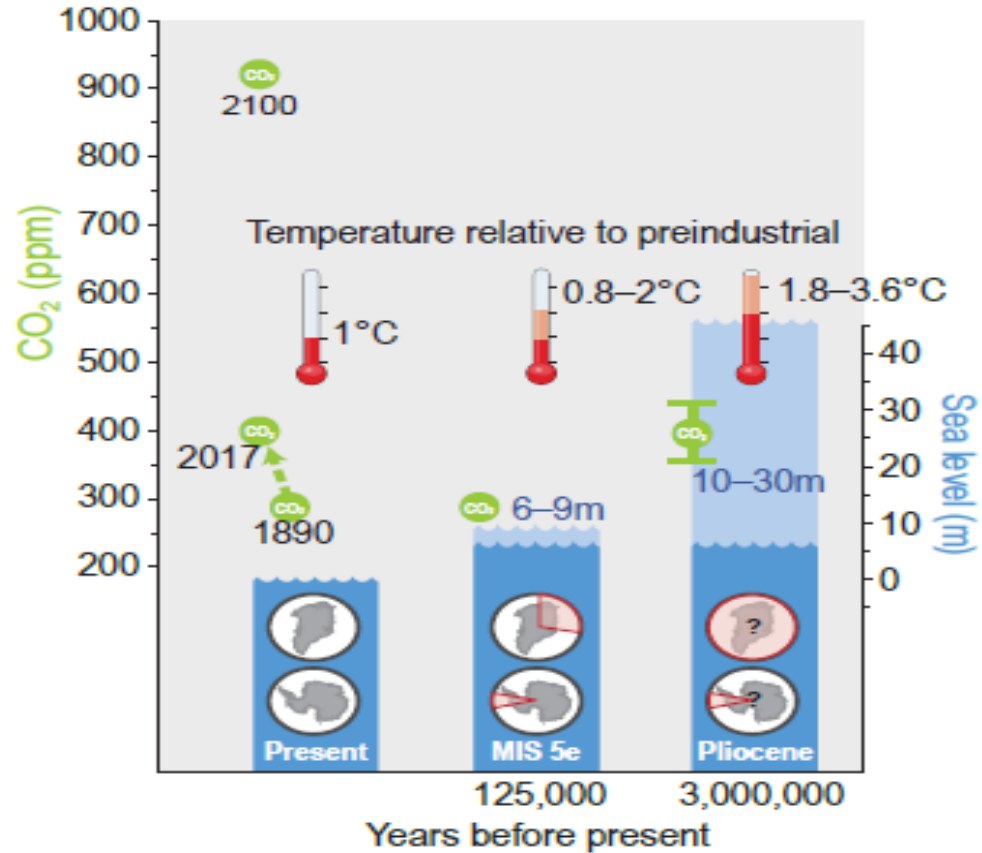


# Multi-year ice 1984 and 2016

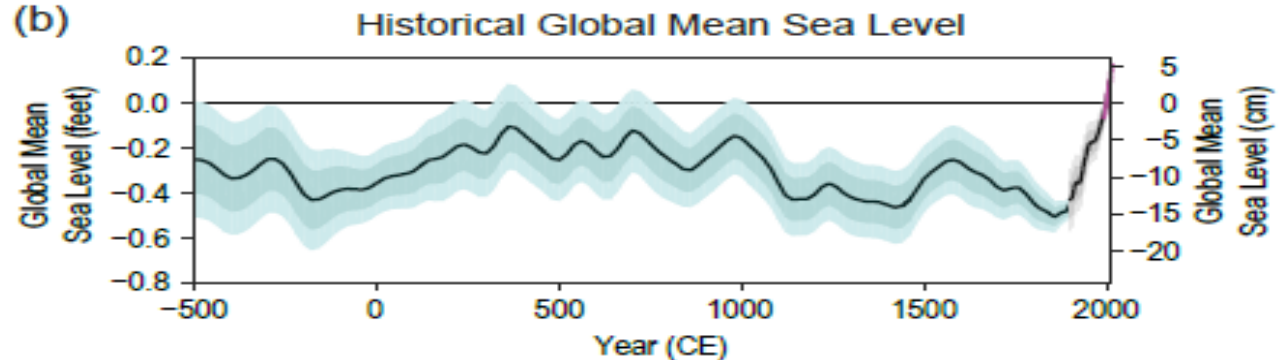


# Historical CO<sub>2</sub>-temperature-sea level

(a)

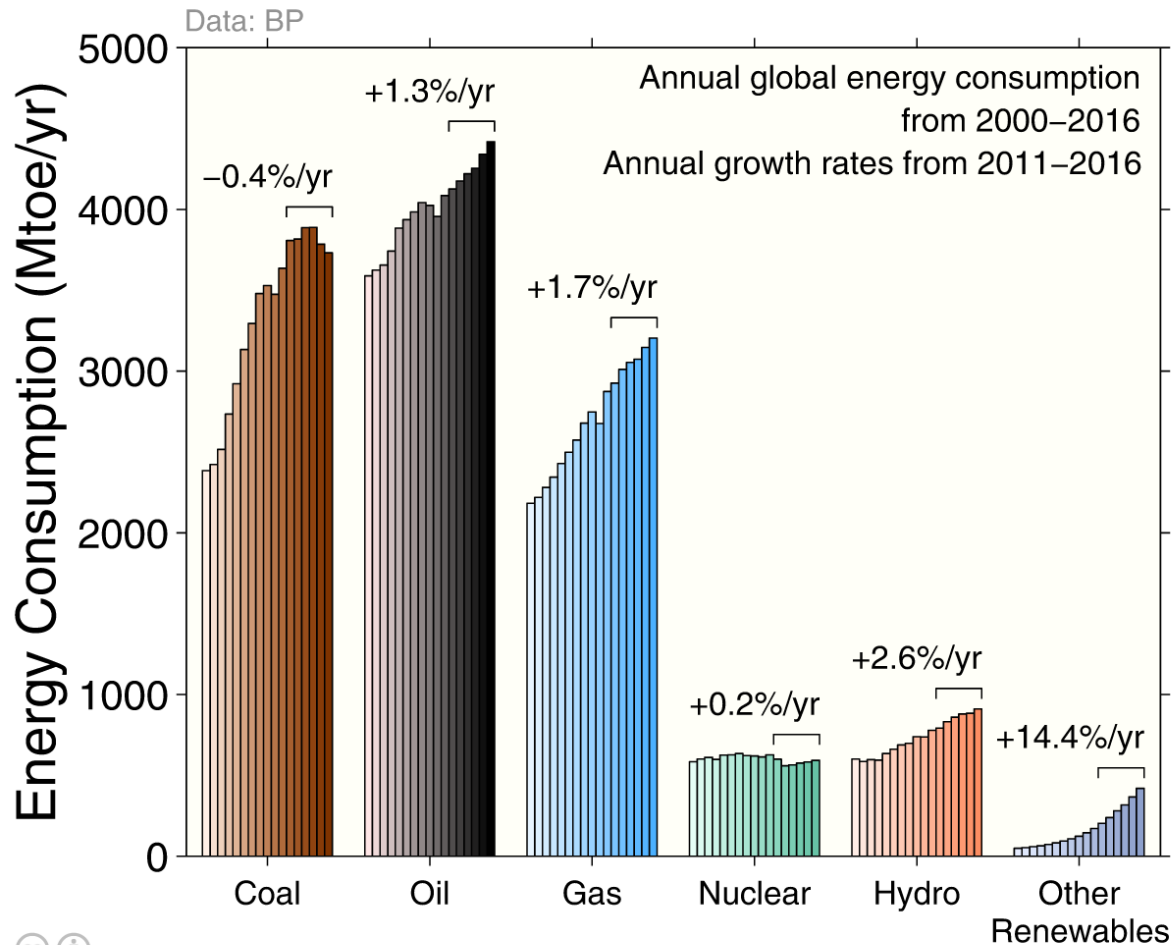


(b)



# Energy consumption by energy type

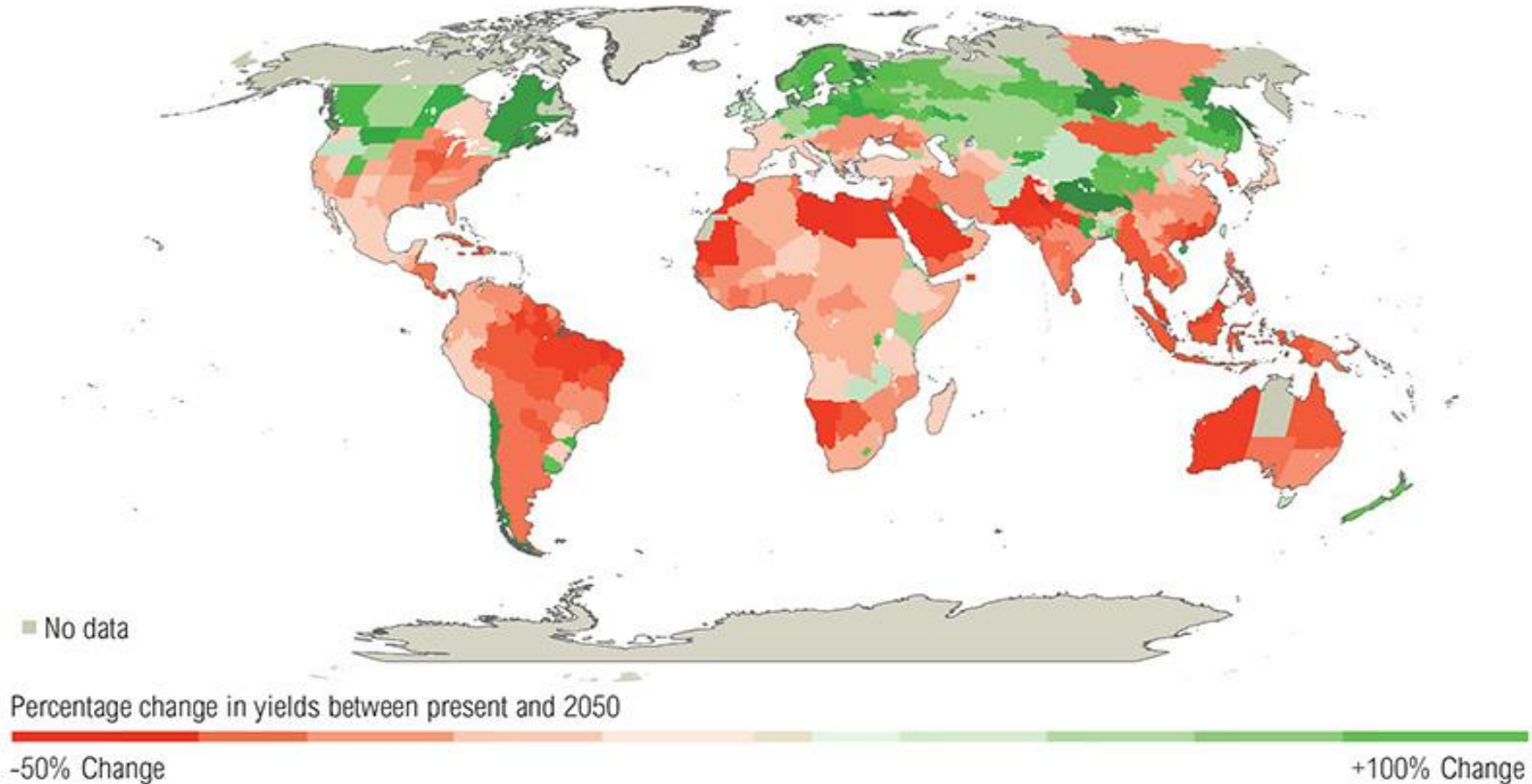
Energy consumption by fuel source from 2000 to 2016, with growth rates indicated for the more recent period of 2011 to 2016

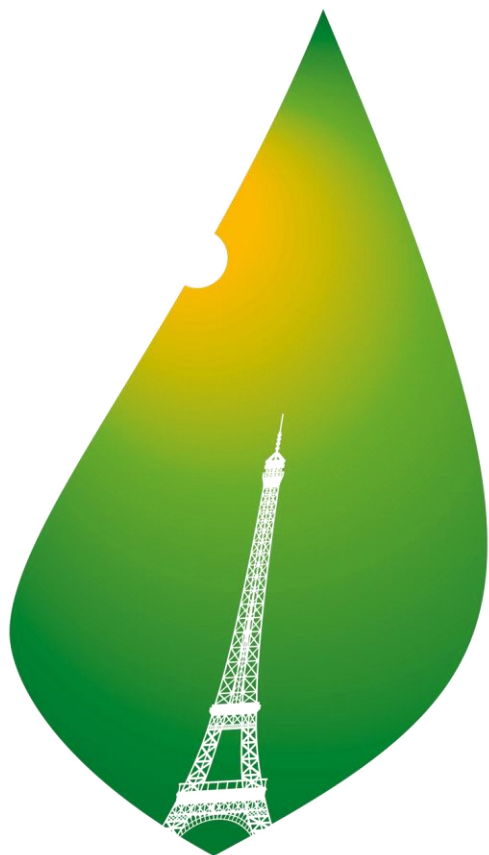




# Impact of 3 C warming on crop yields

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





COP21 • CMP11

**PARIS 2015**

UN CLIMATE CHANGE CONFERENCE



WMO OMM

**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 !

