

# CLIMATE CHANGE: WHAT WE KNOW AND CAN DO ABOUT IT



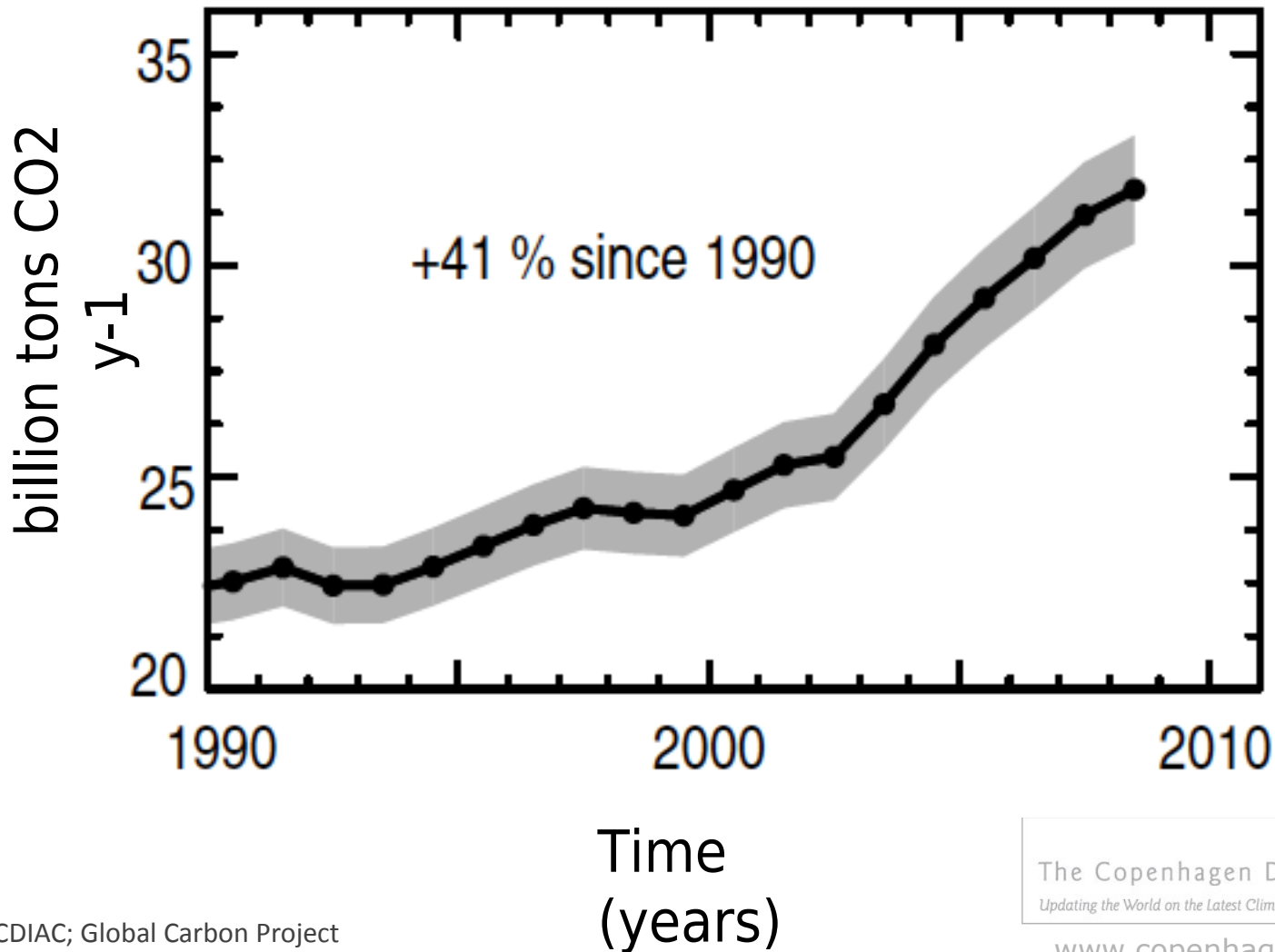
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Richard C. J. Somerville, University of California, San Diego

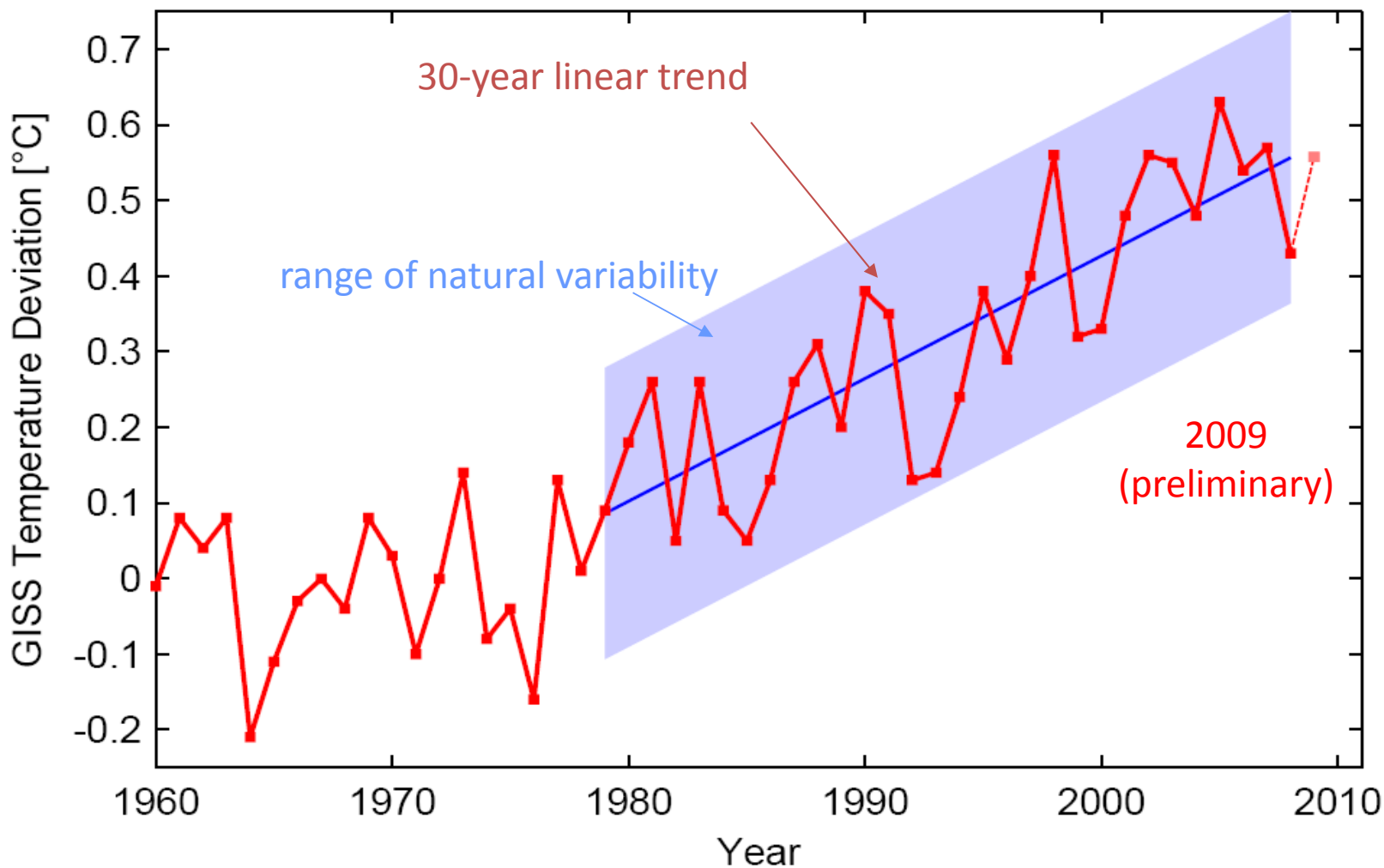
[www.richardsomerville.com](http://www.richardsomerville.com)

One Good World Eco Summit, Las Vegas, 31 January 2010

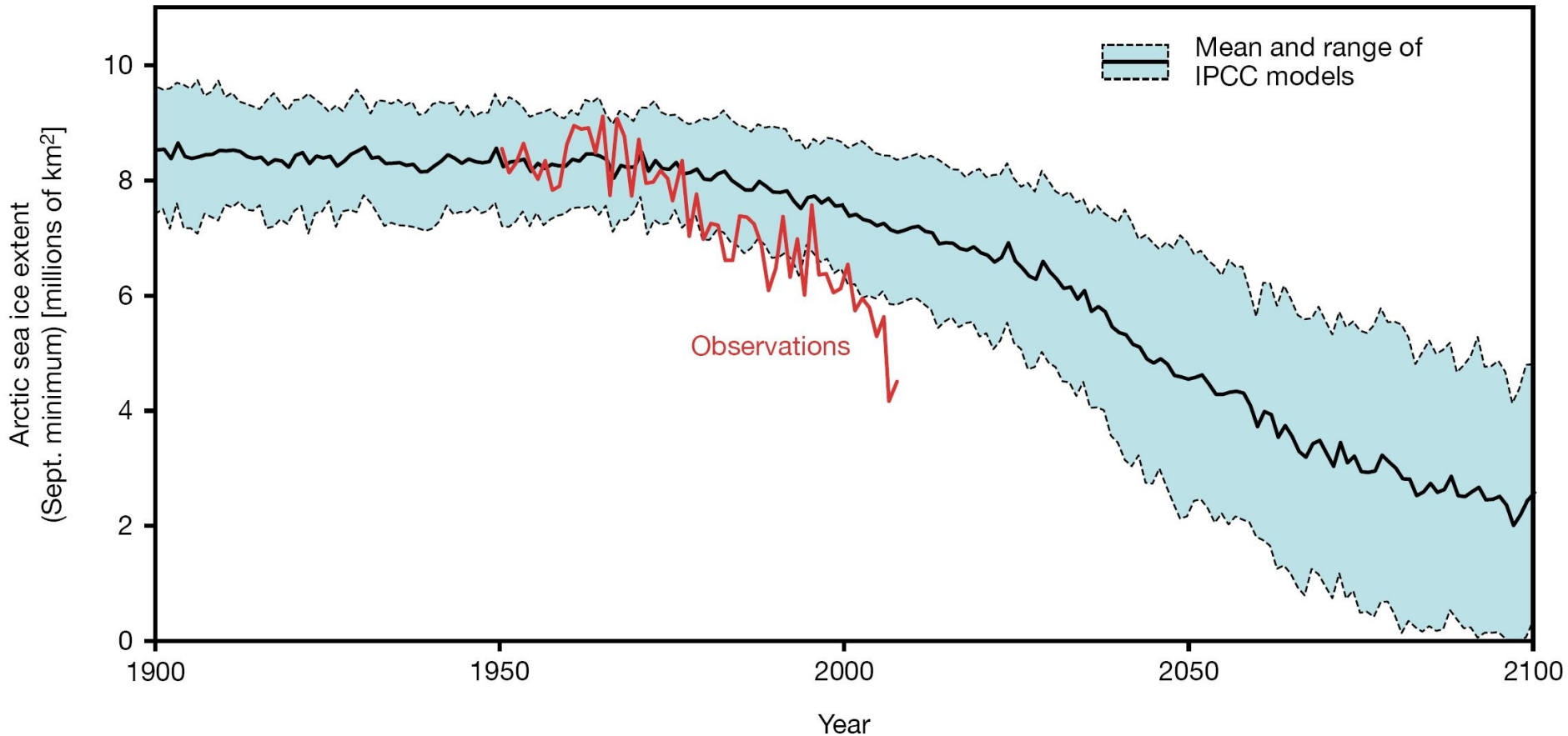
# Fossil Fuel CO2 Emissions



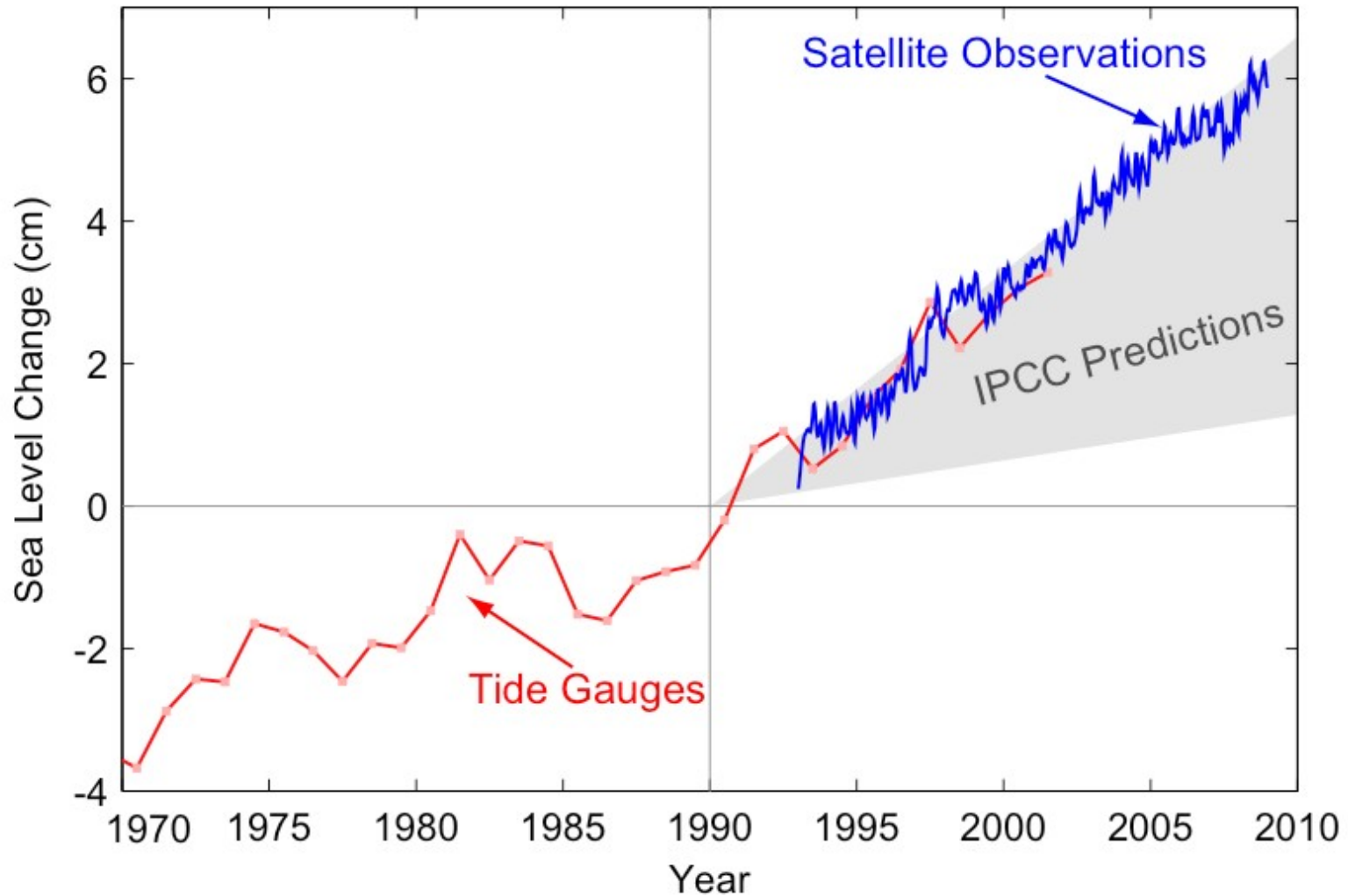
data: CDIAC; Global Carbon Project



# Observed and Modeled Arctic Sea-ice Extent



# Sea-level change 1970-2010



The Copenhagen Diagnosis

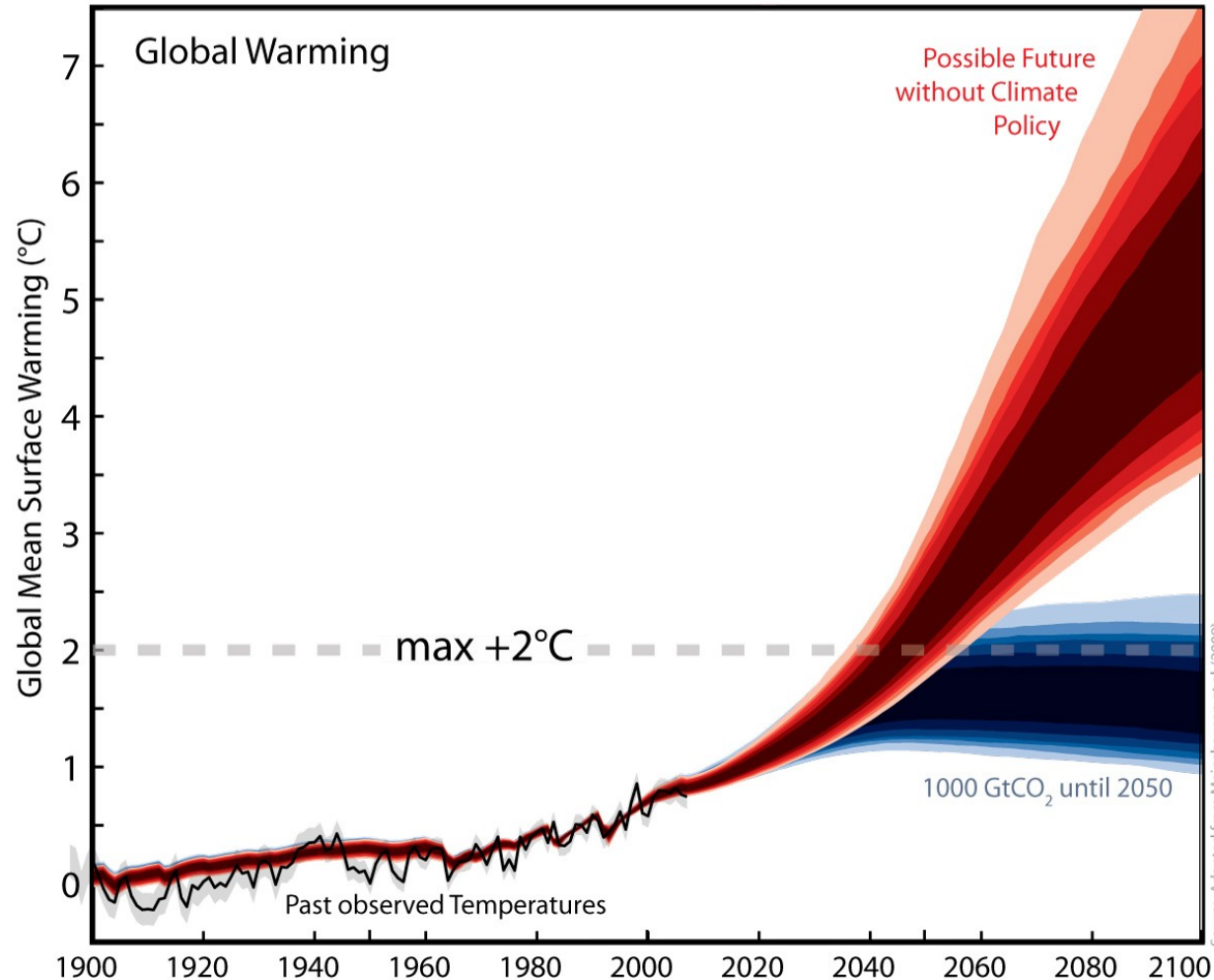
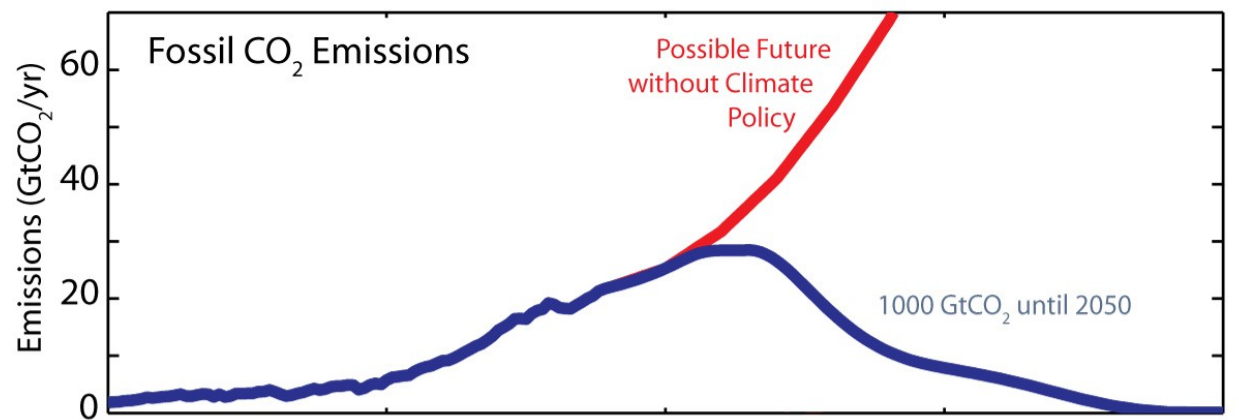
Updating the World on the Latest Climate Science



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▲ To stay below 2°C  
(with probability 66 -  
75%) we can still emit  
**700 – 800**  
**gigatons CO2**  
until 2050.

▲ At current rate we will  
have used up this  
budget in 20 years.



# A Race Against Time

CO2 budget 2010-2050: 750 Gt (Meinshausen et al. 2009)

