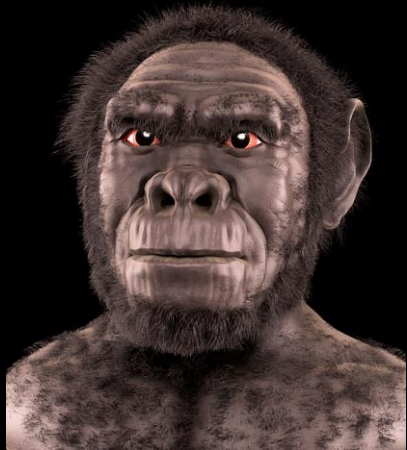


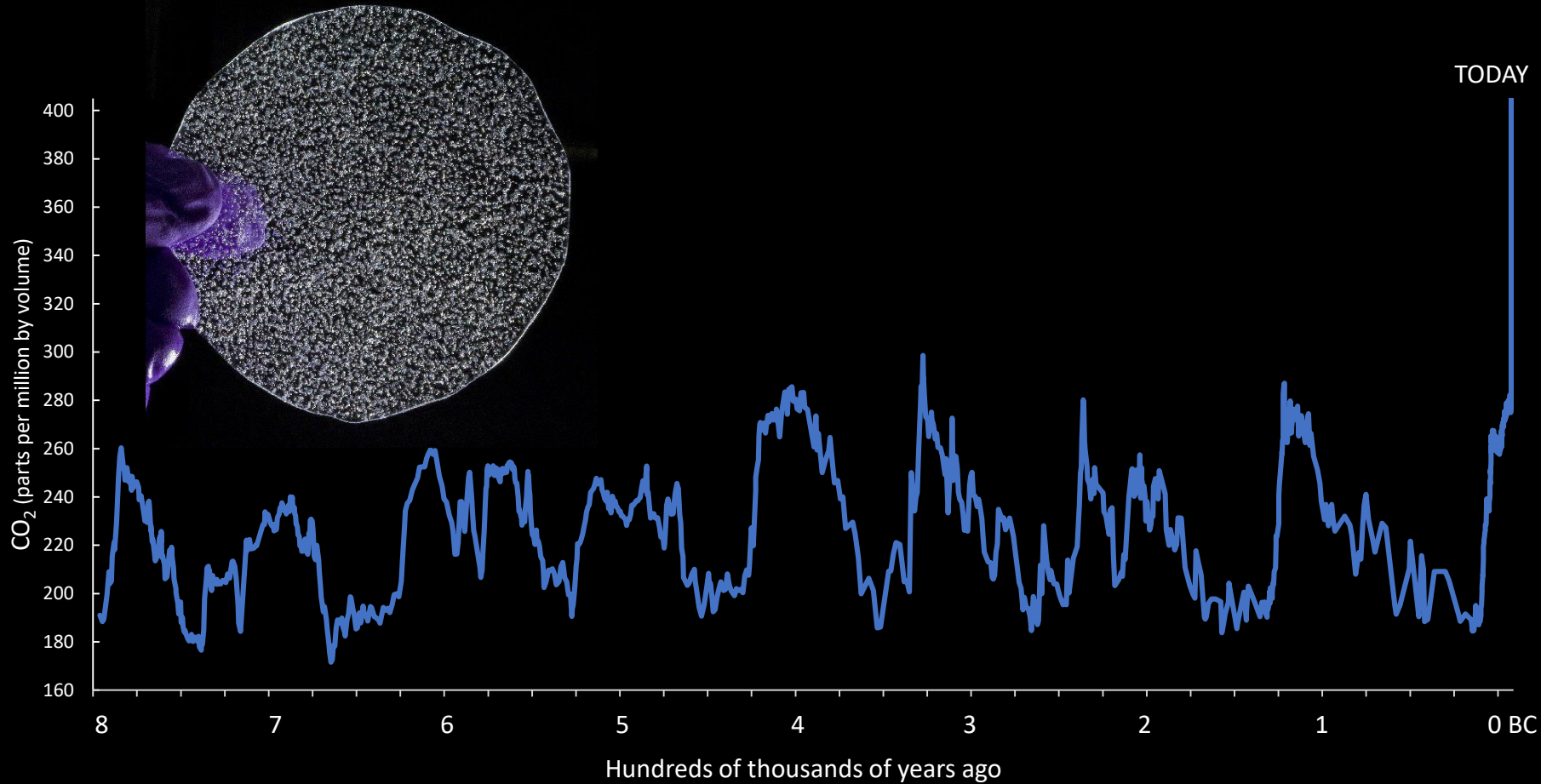


# The Cold Facts on Climate Change

@emilyshuckburgh

**Olduvai stone chopping tool**  
1.8 million years old





TODAY

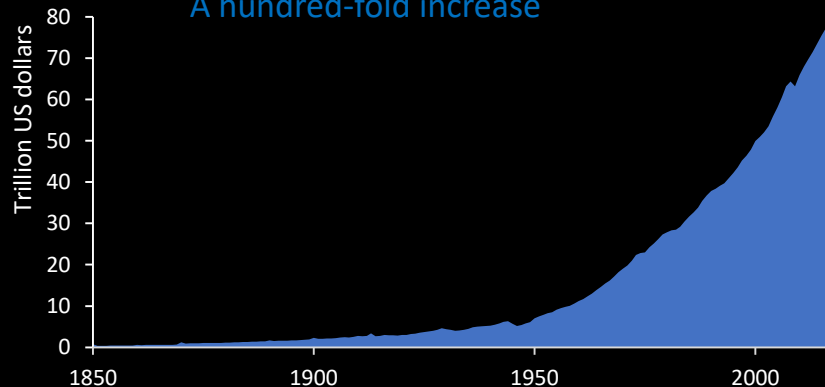
CO<sub>2</sub> (parts per million by volume)

Hundreds of thousands of years ago

8 7 6 5 4 3 2 1 0 BC

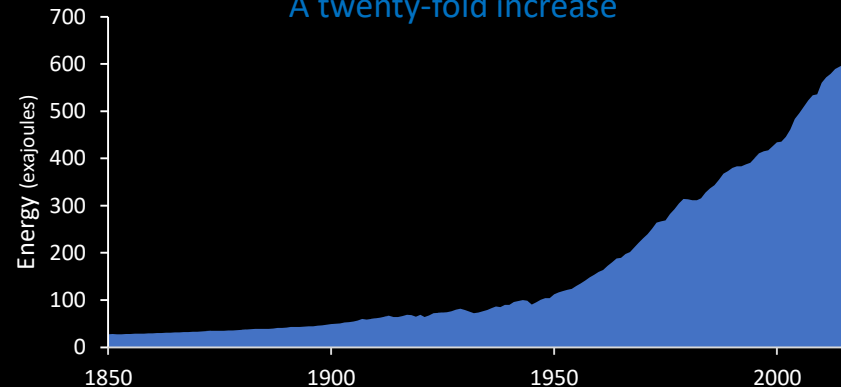
### Global GDP

A hundred-fold increase



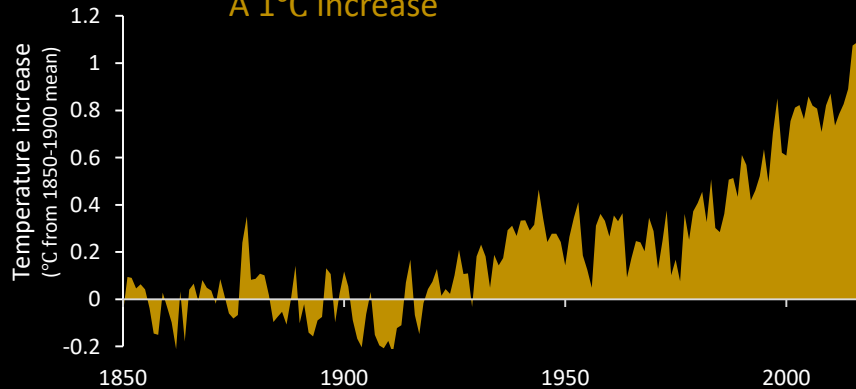
### Global energy use

A twenty-fold increase



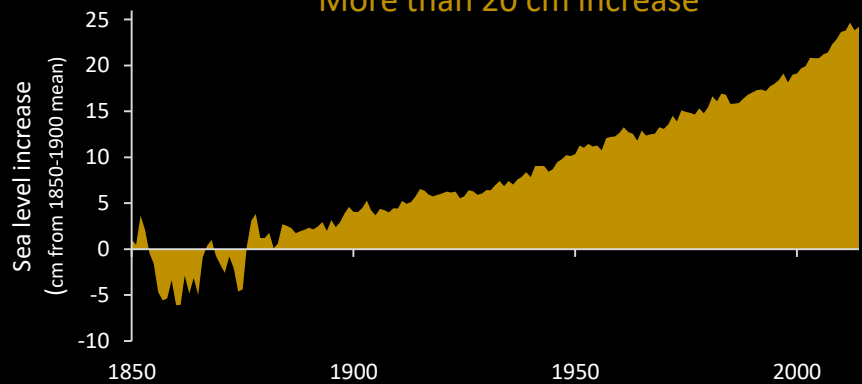
### Global surface temperature

A 1°C increase

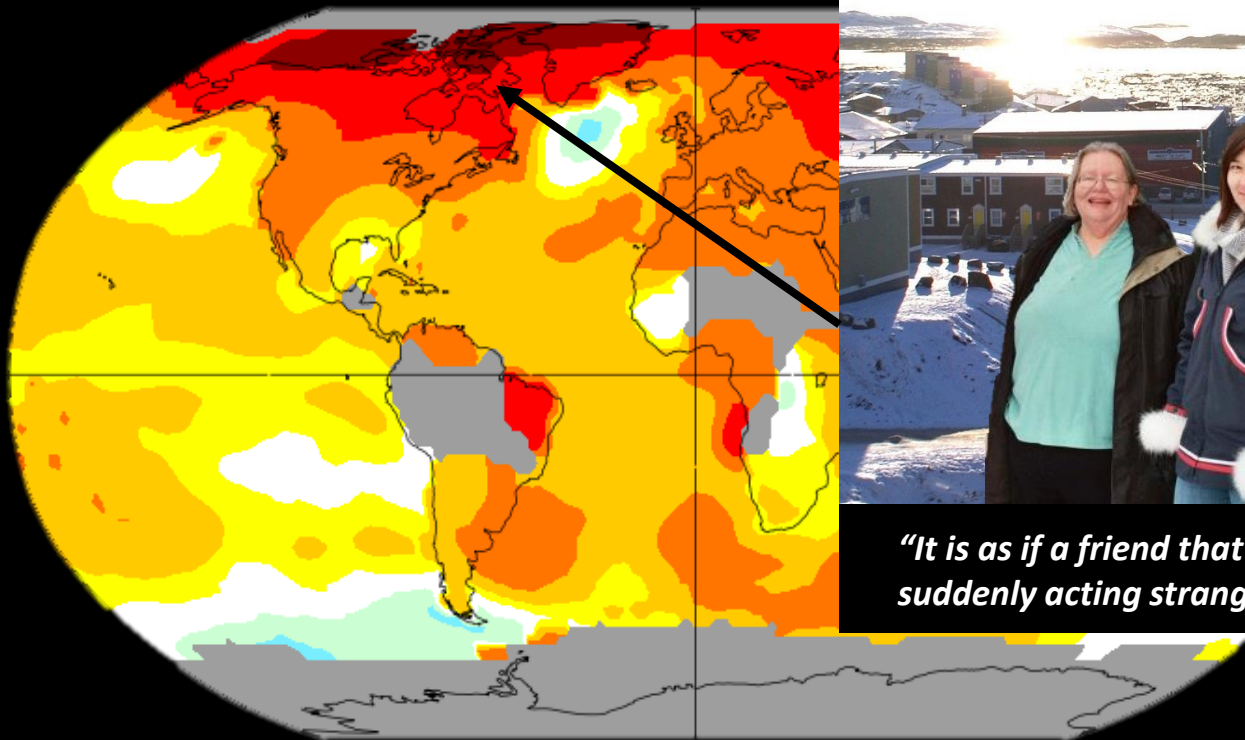


### Global sea level

More than 20 cm increase



# Temperature 2007-2017 vs



insufficient data



*"It is as if a friend that we could trust is suddenly acting strangely"*

# Attributing extreme weather to climate change

Click on a study to see the evidence...

● Human influence found

● No human influence found

● Inconclusive

❄ Cold, snow & ice

⚙ Drought

🔥 Heat

🌊 Oceans

💧 Rain & flooding

⚡ Storms

🔥 Wildfires

Source: CarbonBrief

# Attributing extreme weather to climate change

Click on a study to see the evidence...



Schaller et al, 2016

## Thirumalai et al, 2017



Human influence found

- Heat
- Oceans
- Rain & flooding
- Storms
- Wildfires

Heat

Oceans

Rain & flooding

Storms

Wildfires

Van Oldenborgh et al, 2017

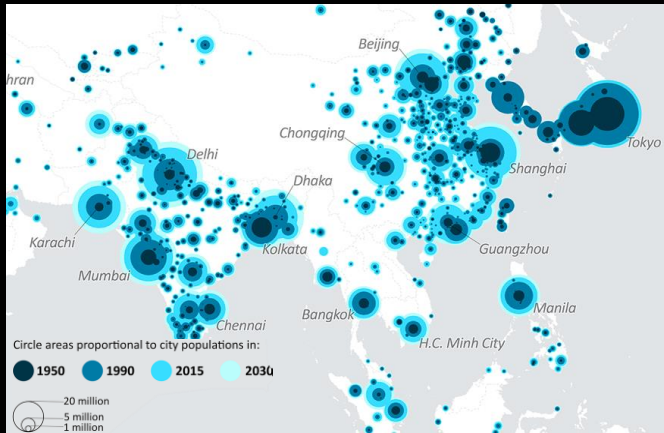
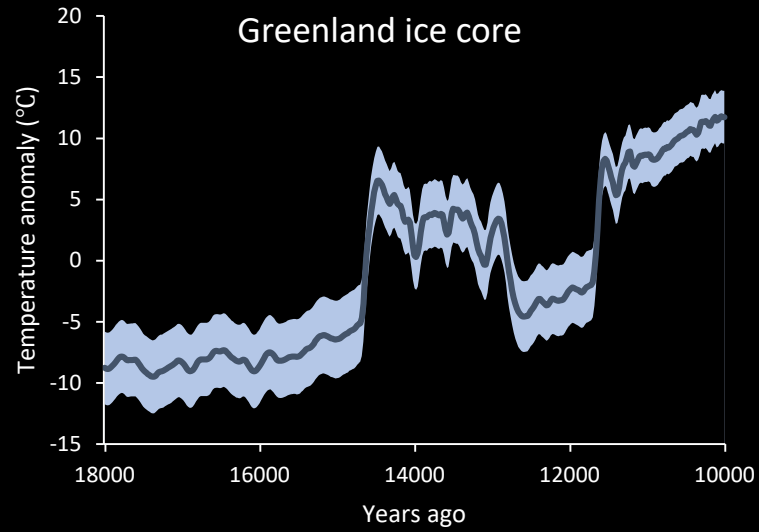


Funk et al, 2017

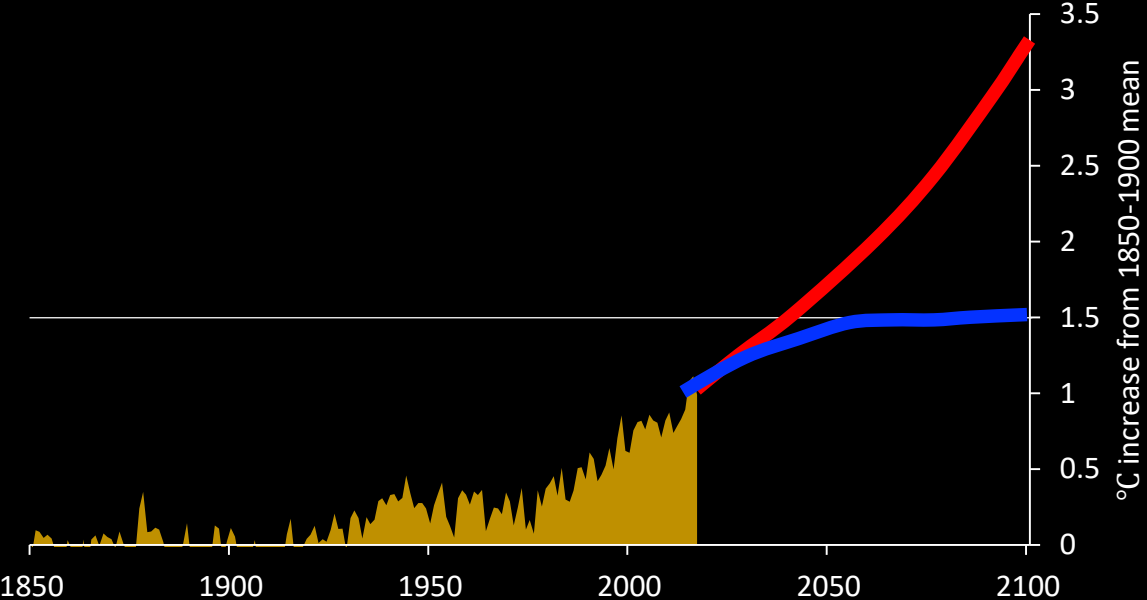




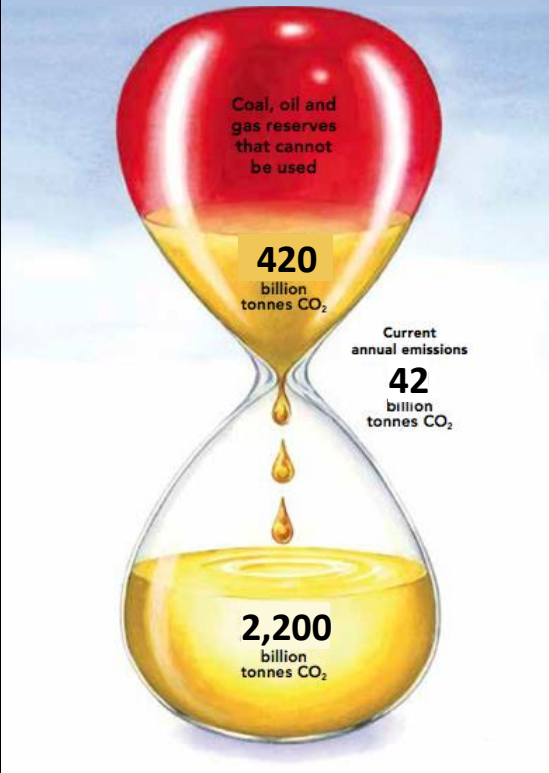




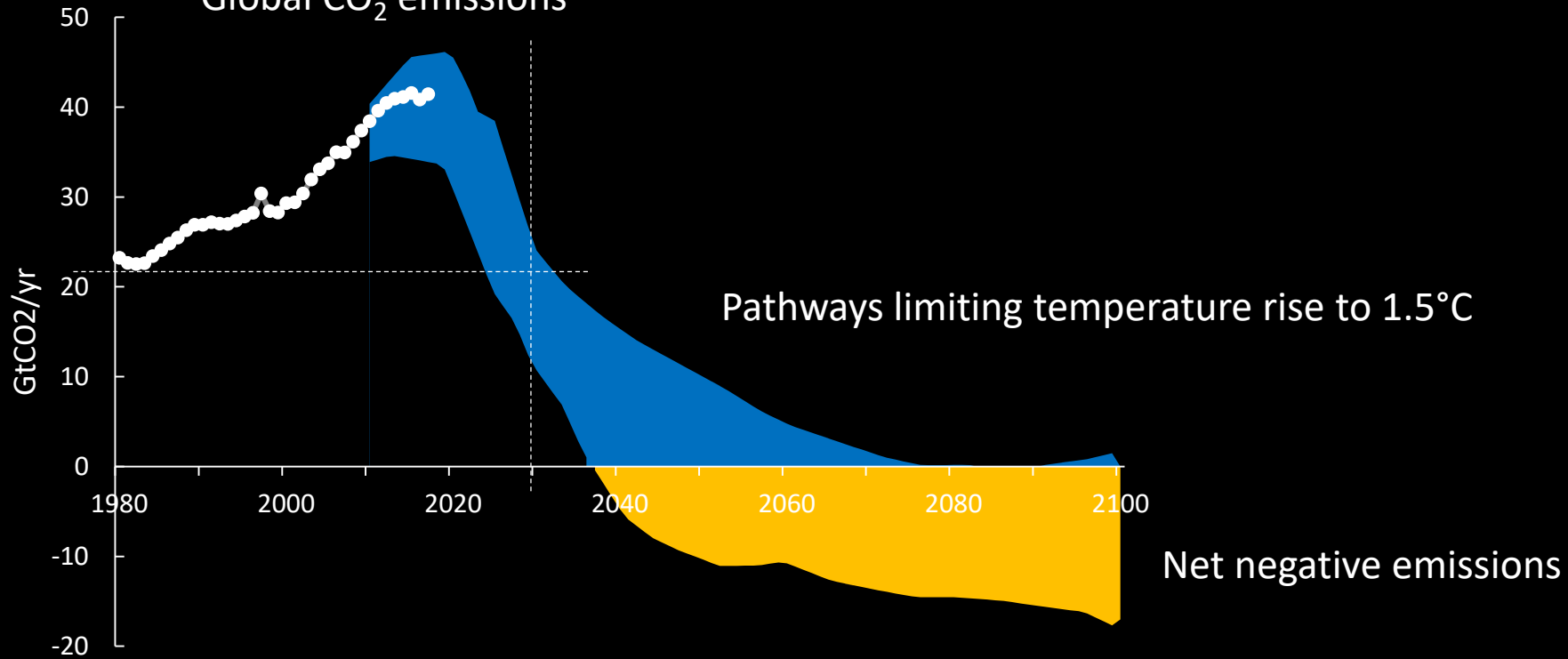
# Global surface temperature



# Carbon budget for 1.5°C of warming



# Global CO<sub>2</sub> emissions





Credit: NASA