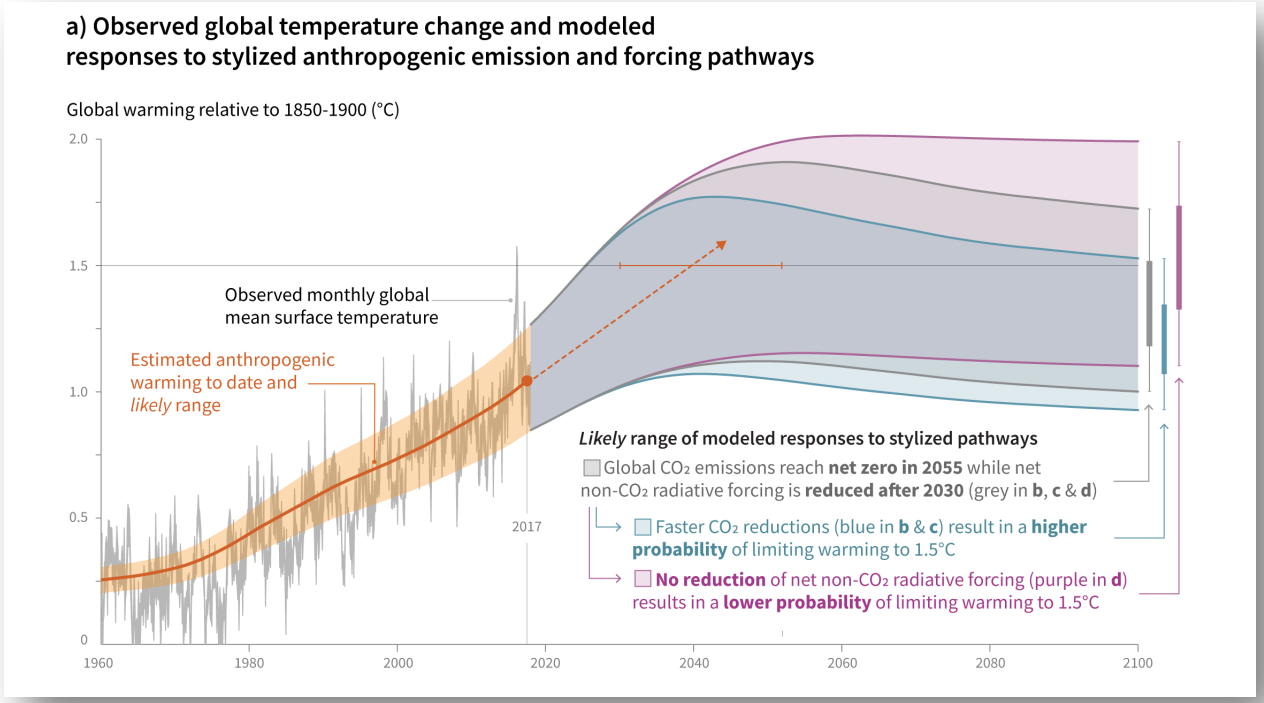
How can ESA CCI contribute to IPCC?
What are the big questions for IPCC over the next decade?

- How close are we to achieving, or failing to achieve, the long-term temperature goal of the Paris Agreement?



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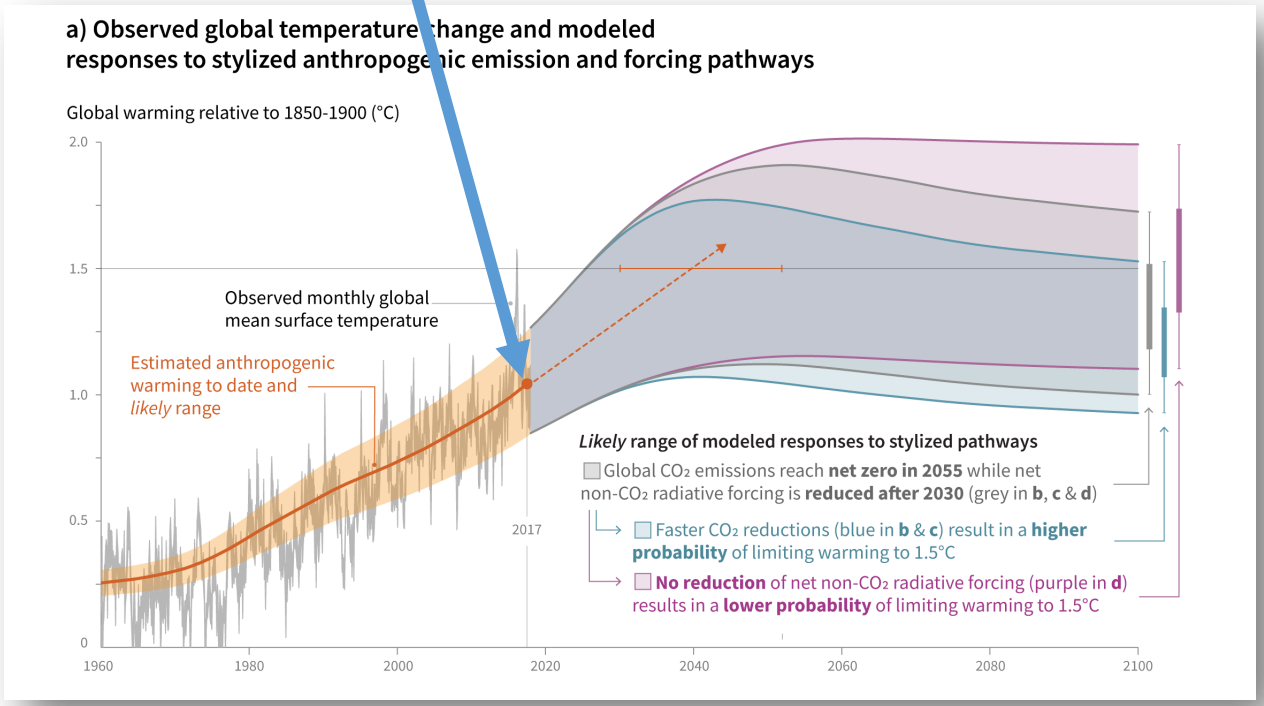
How can ESA CCI contribute to IPCC?
What are the big questions for IPCC over the next decade?

- Is global warming accelerating?



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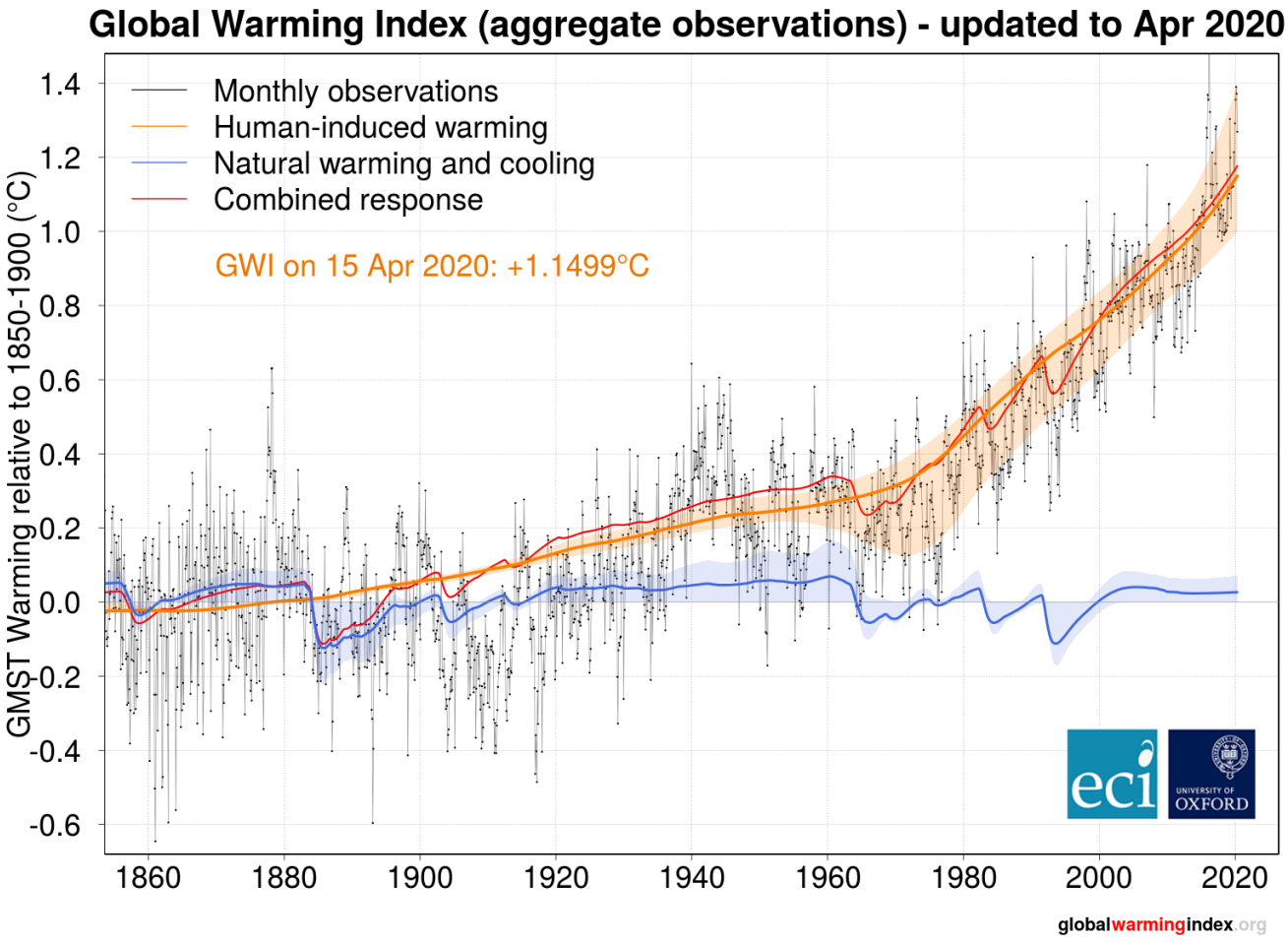
Determining the current level and rate of human-induced warming by combining observations and forcing



Human-induced warming appears to be accelerating:
<0.2°C/decade 1980-2010,
>0.2°C/decade now?

Driven by changing forcing

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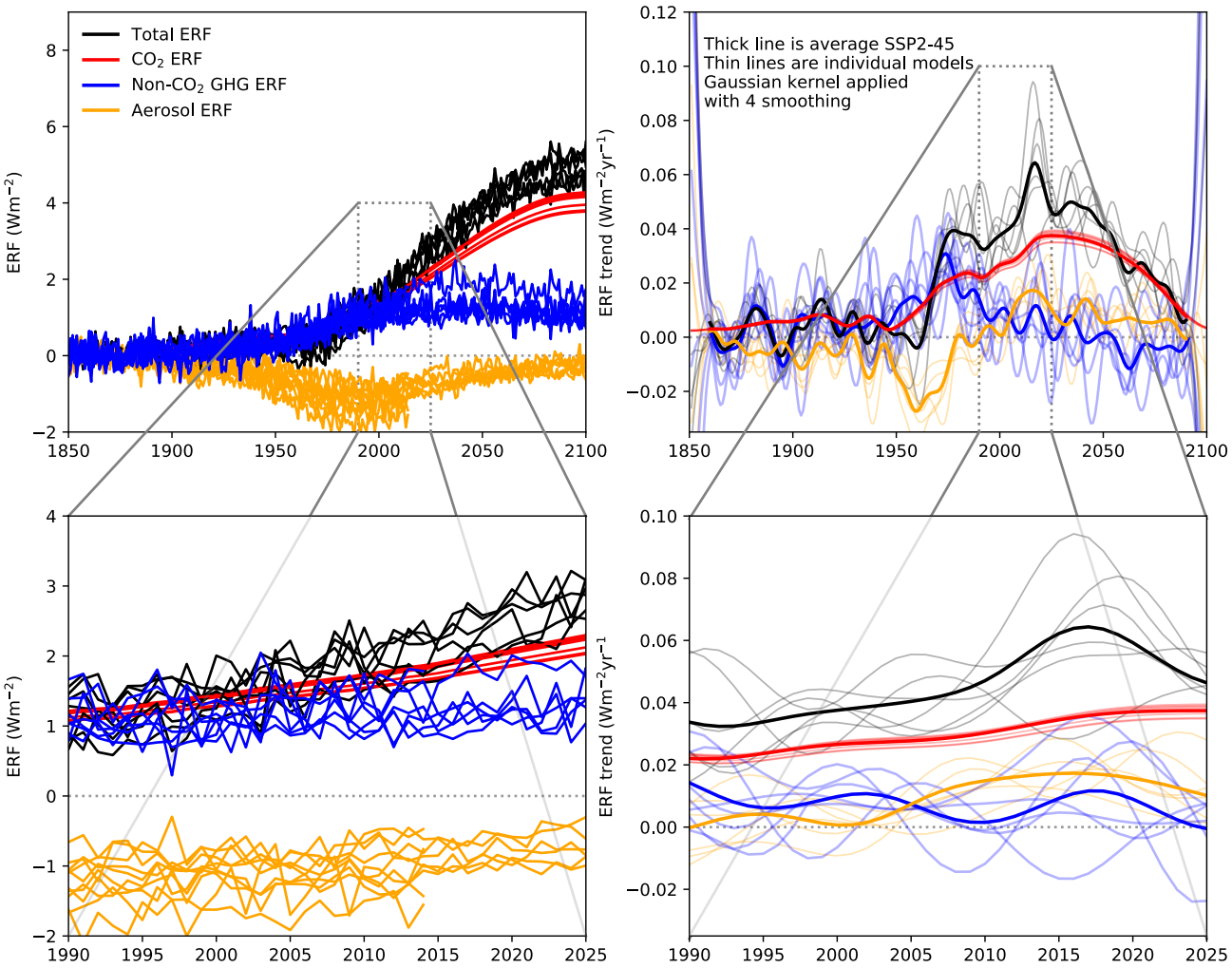
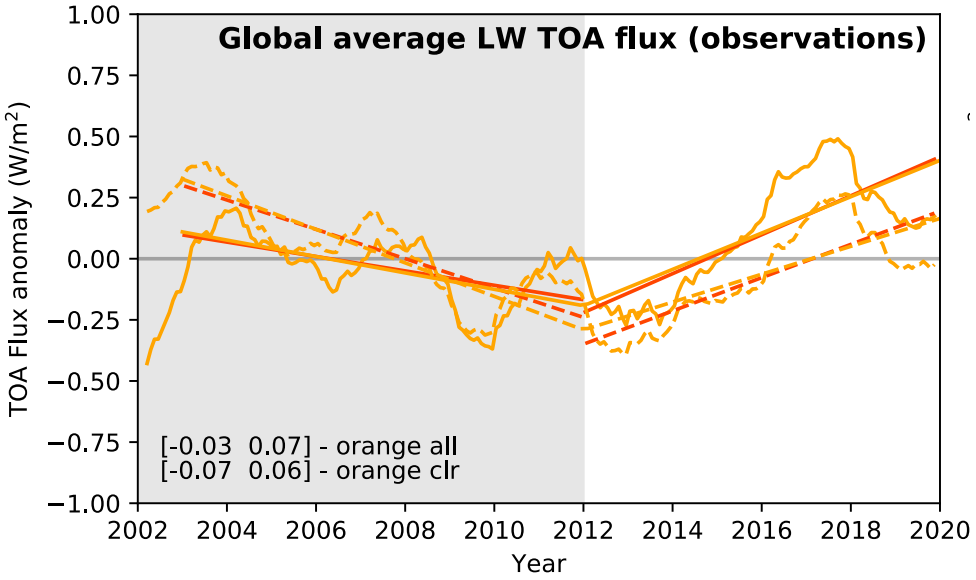
Radiative forcing in CMIP6 models

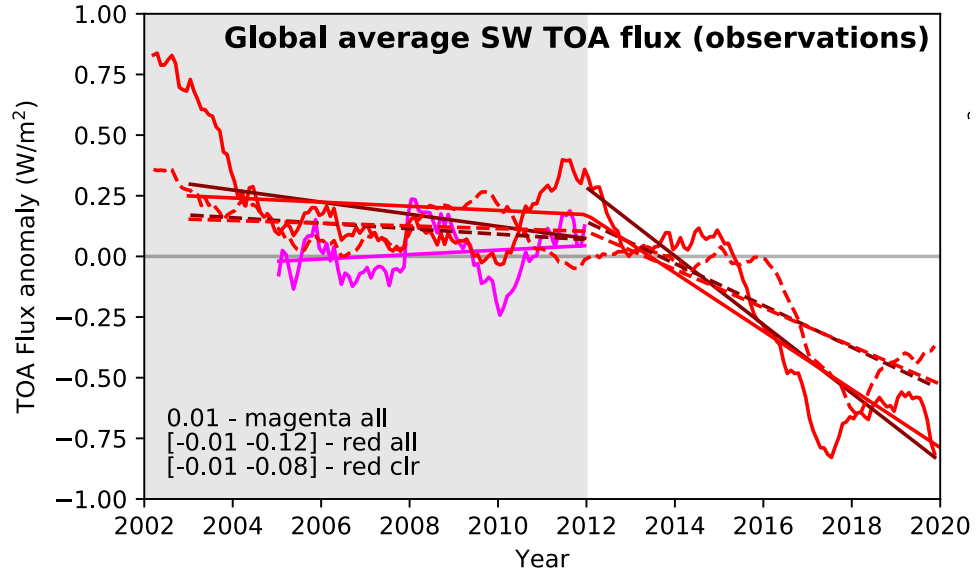


Level (left) and rate (right) of radiative forcing does indicate an increased rate of change after 2005, driven by aerosols. But is this supported by observations?

Trends in TOA flux observations also suggest an inflexion in 2010



Outgoing long-wave radiation reflects rising CO2 over 2002-2012, and rising surface temperatures 2012-2020.



Reflected short-wave radiation indicates falling global albedo since 2012…

…but is this an external forcing (aerosol cleanup), or a cloudiness response to changing surface temperatures?

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