



What is Climate Change?

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21-22 August 2019

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INTERGOVERNMENTAL PANEL ON climate change



What is Climate?

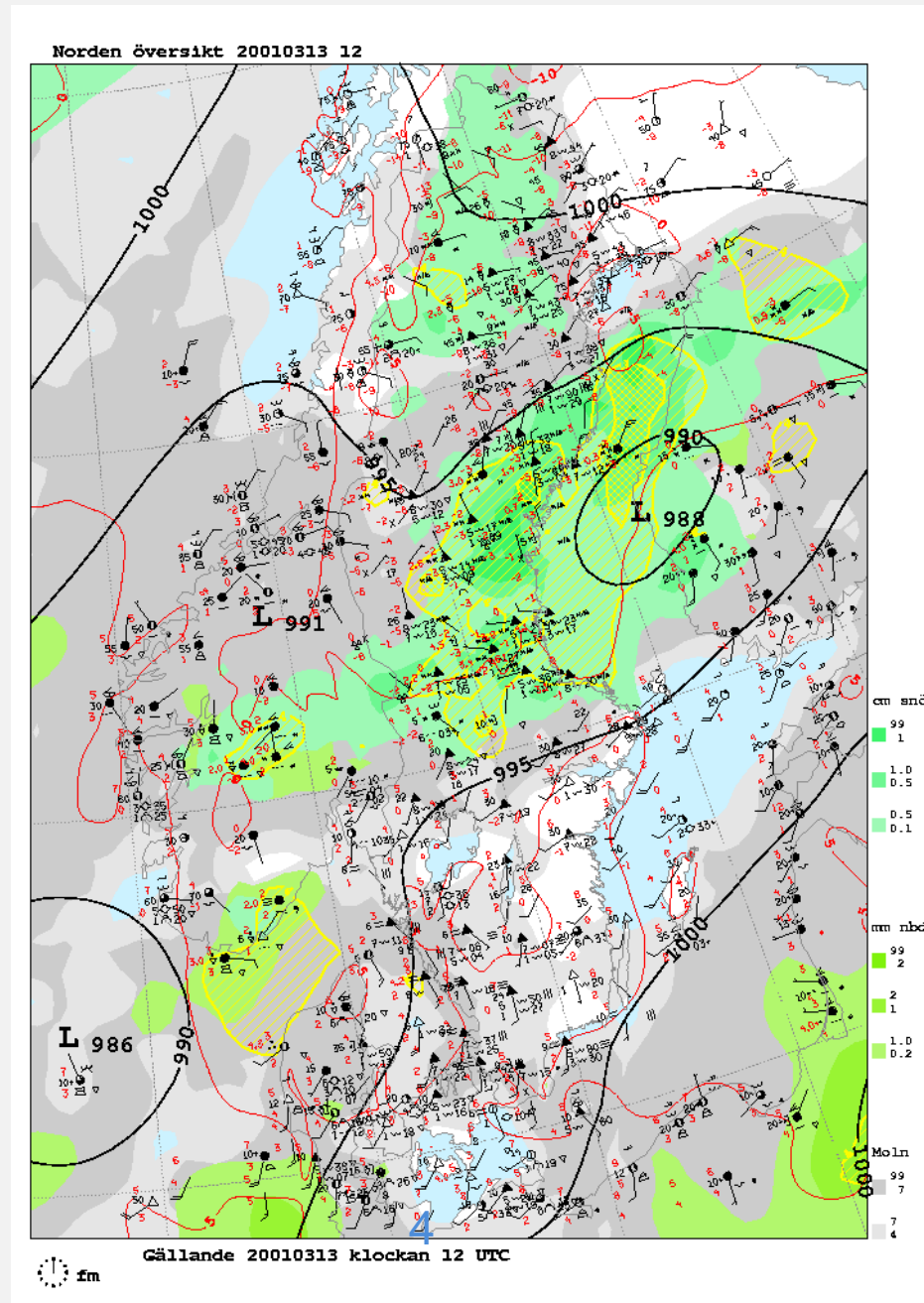


What is Climate?

Weather versus Climate

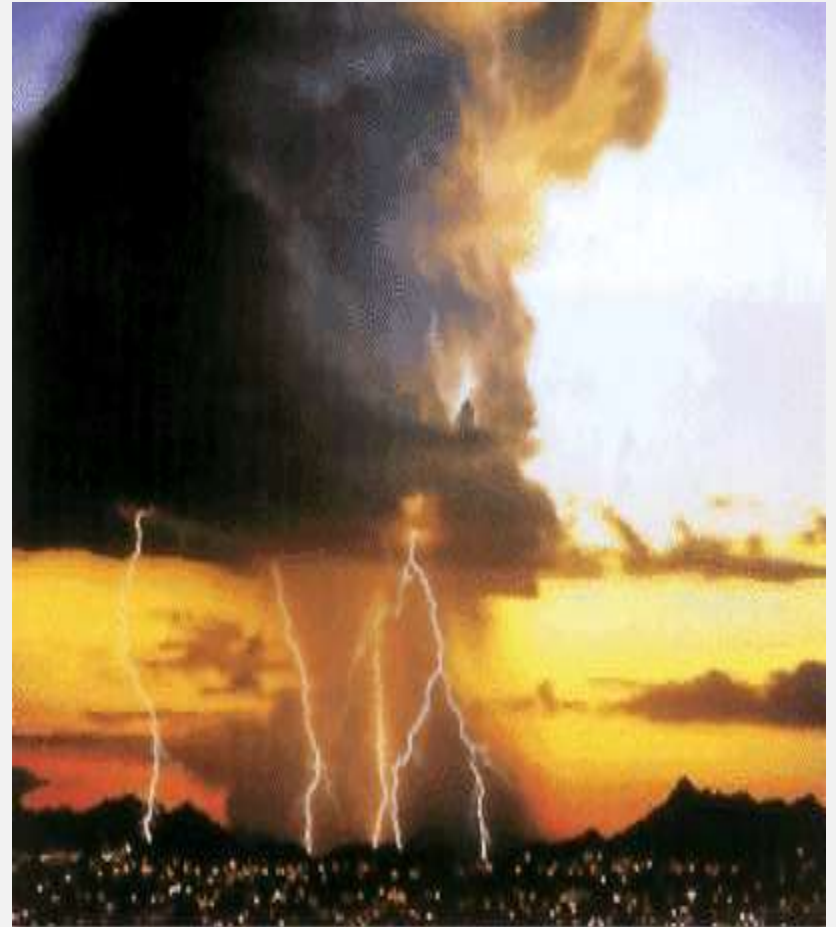
Weather is:

the state of the
atmosphere at a
given time (and
place)



Weather versus Climate

Weather occurs in the troposphere from day to day and week to week and even year to year..



Weather versus Climate

Climate is the sum of weather trends over long periods of time (centuries or even thousands of years).



Climate is what we
do expect.

Climate is what we
do expect.

Weather is what
we get.

Global Climate change

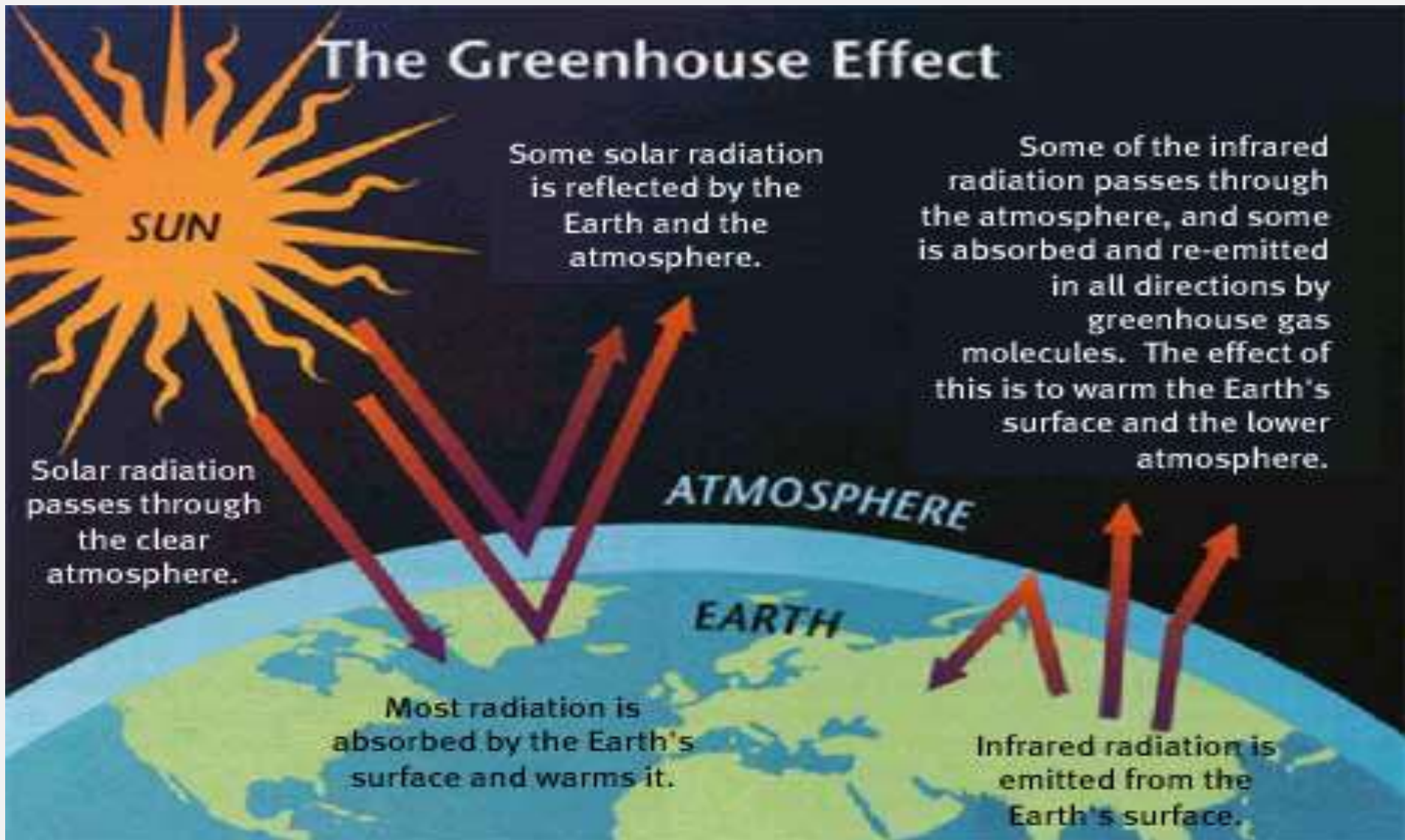
Significant long-term changes in the climate parameters

Global Climate Change → **global** warming

Weather systems do not respect geographical borders

Greenhouse Effect

Greenhouse Effect



Question

**Is greenhouse effect useful
or not?**

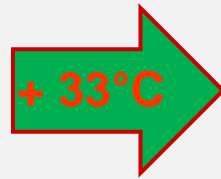
If the world had no atmosphere, it would be very cold

-18°C

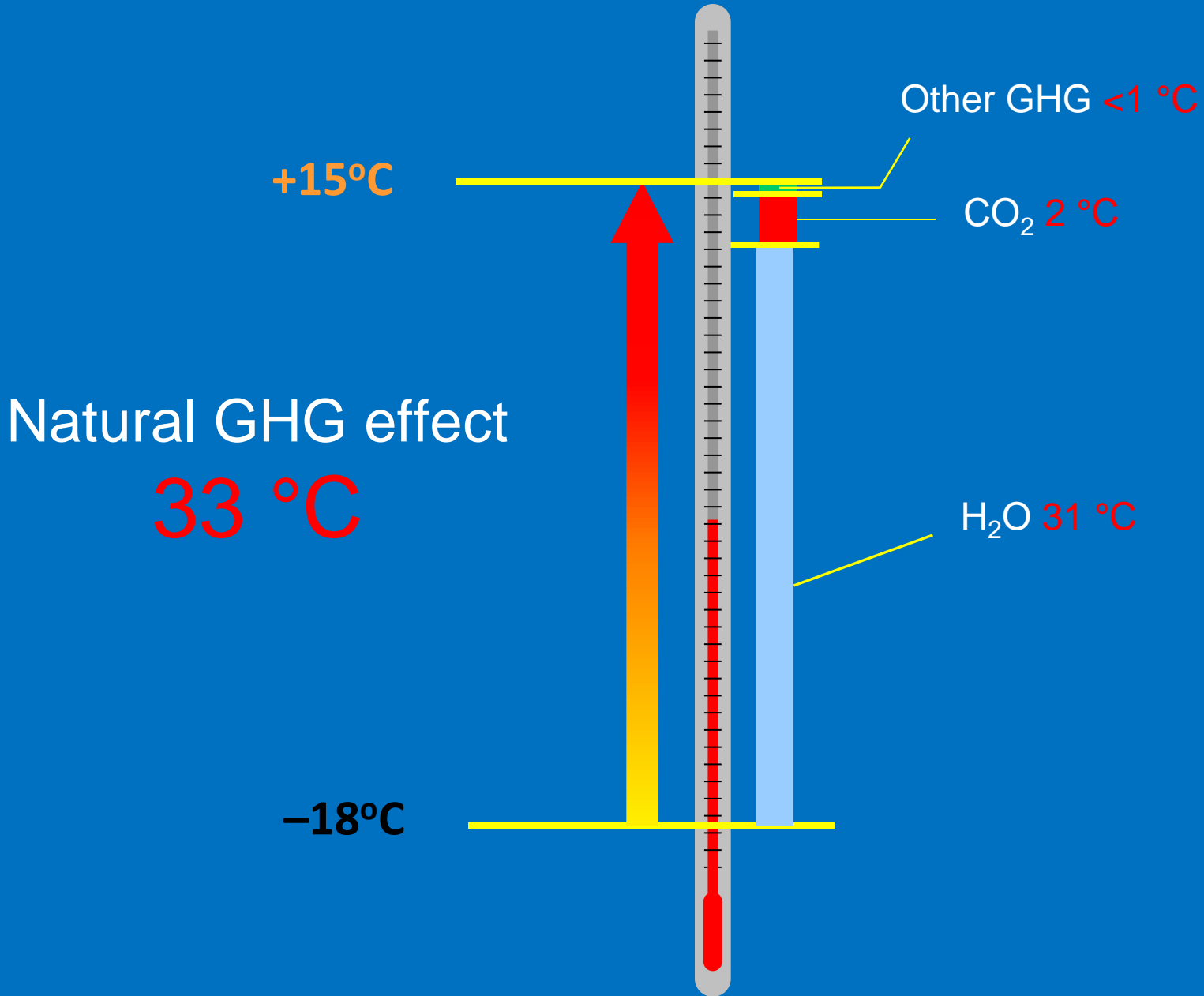
+15°C



Earth without air



Our planet



But the atmosphere is changing fast because of all the things people are doing (putting gases into the air)

Energy production remains the primary driver of GHG emissions

35%

Energy Sector



24%

Agriculture, forests and other land uses



21%

Industry



14%

Transport

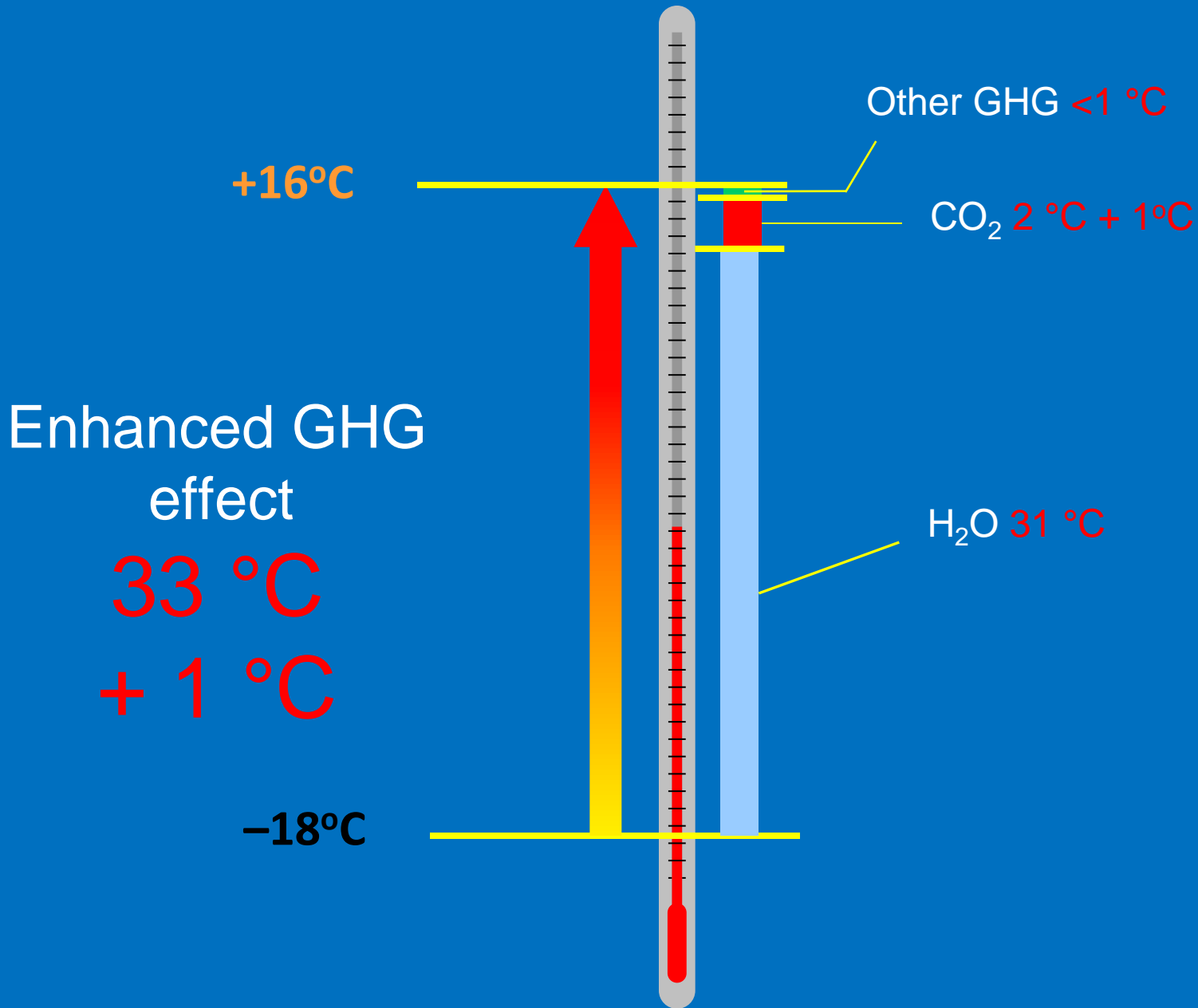


6.4%

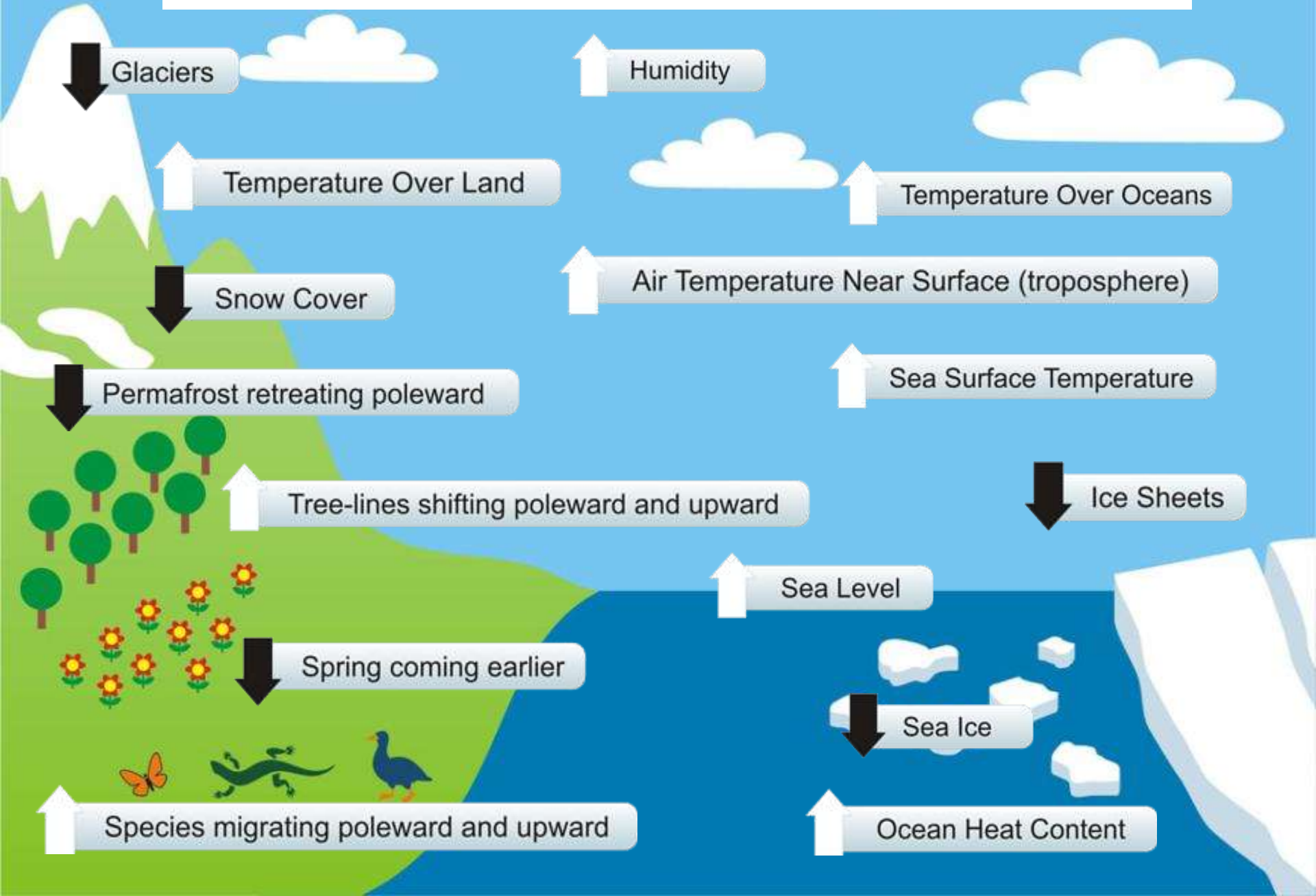
Building Sector



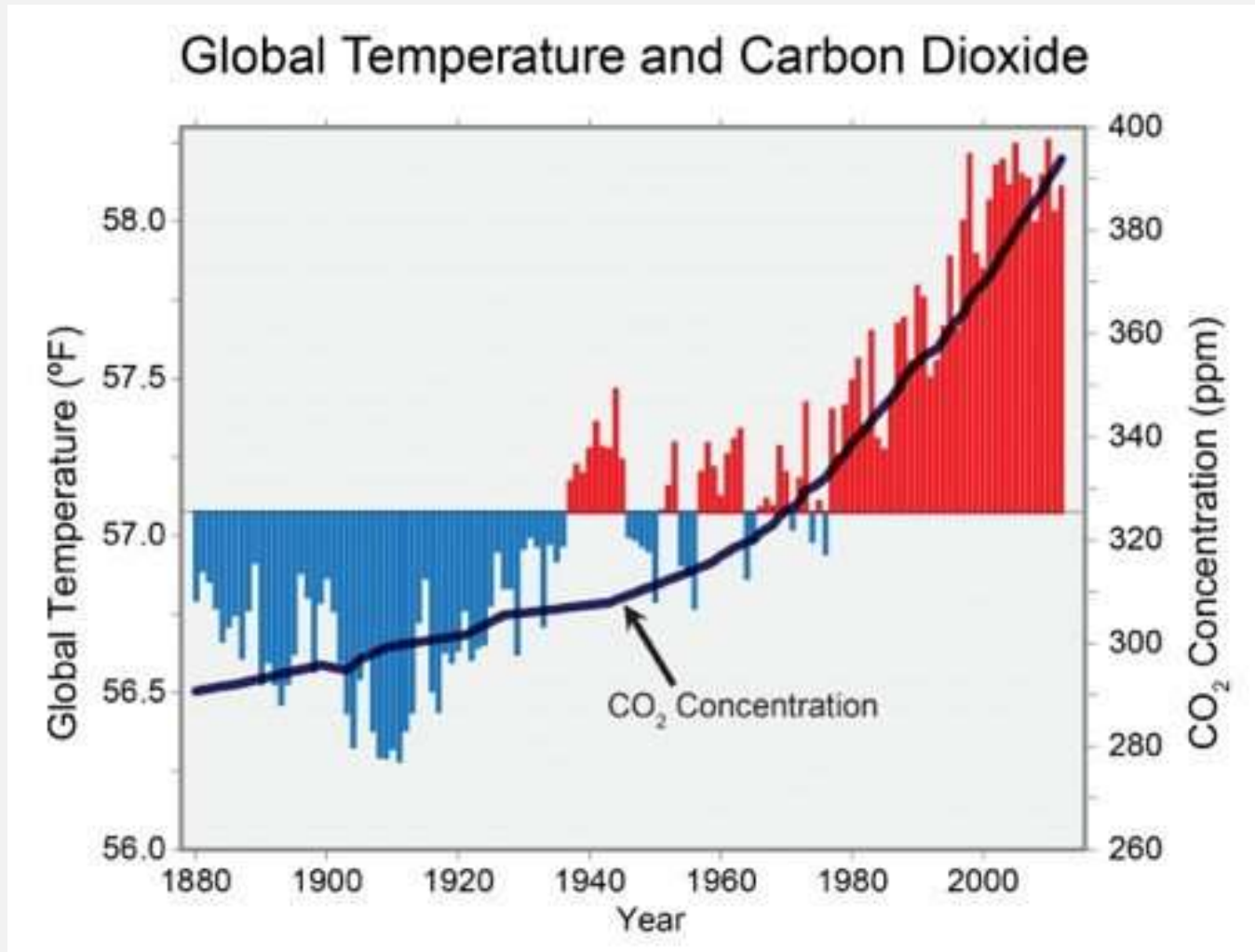
2010 GHG emissions



How do we know that the world is warming?



The increase in global temperature is following the atmospheric carbon dioxide concentration.

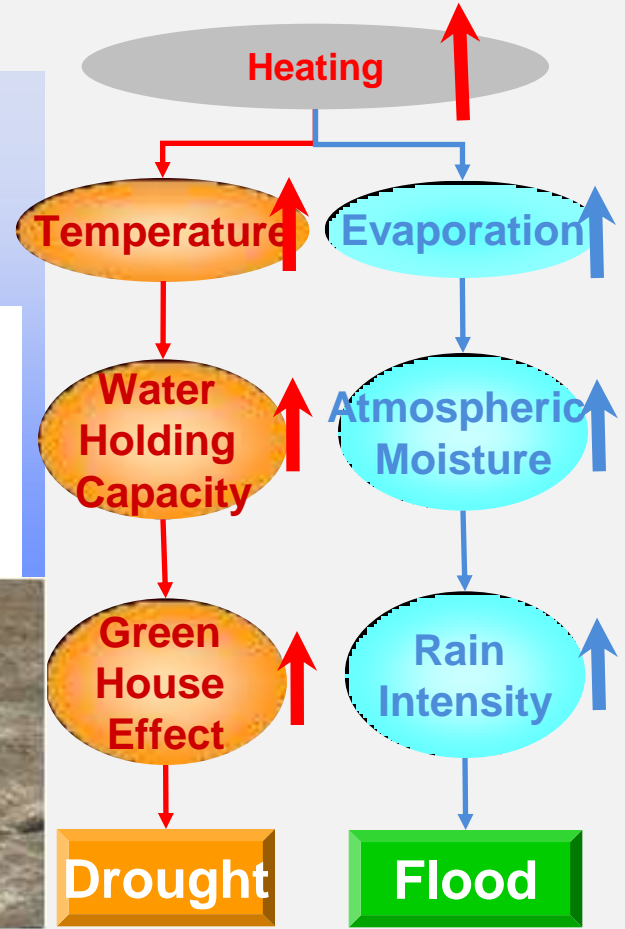
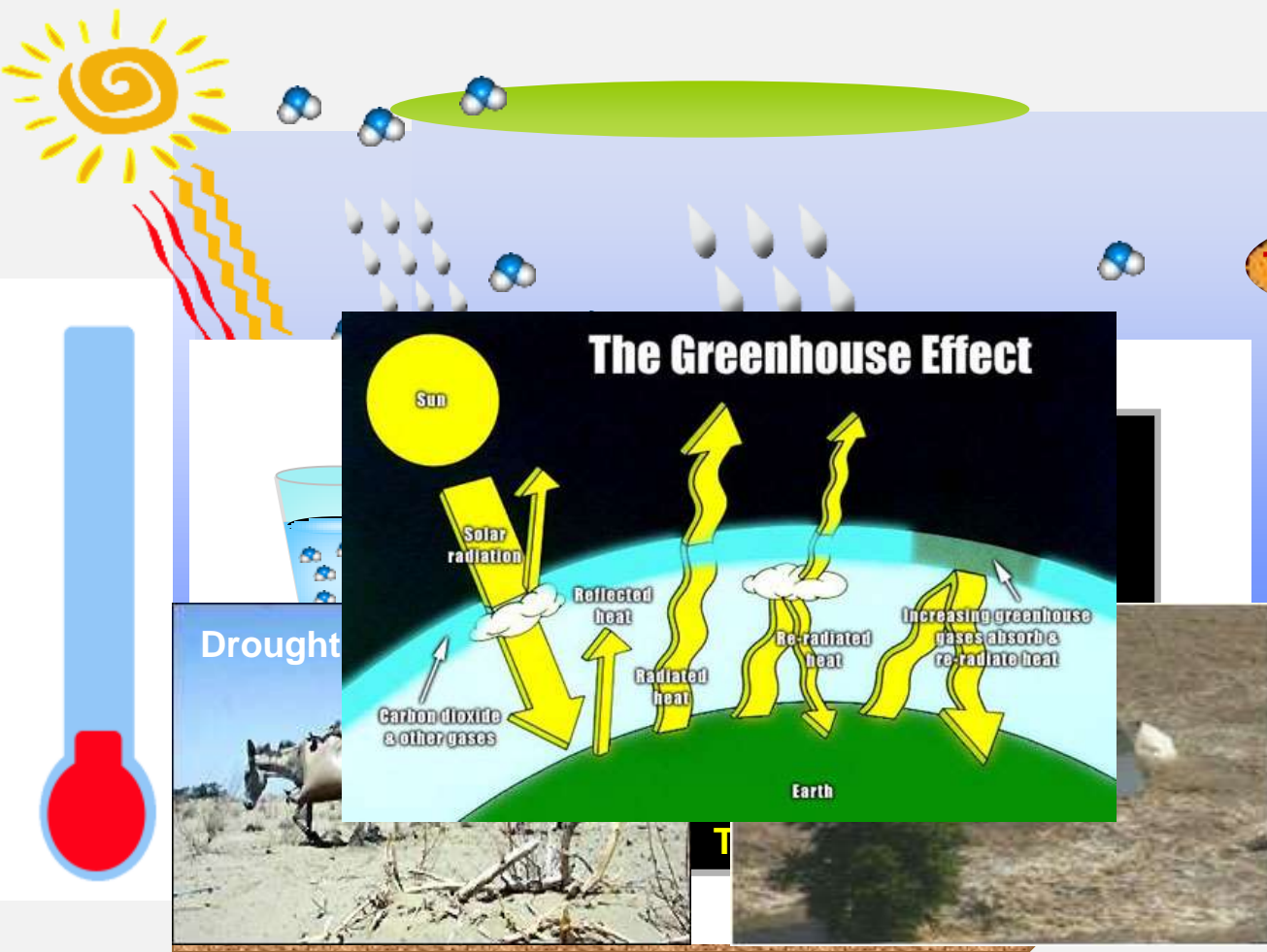


Source: <https://www.globalchange.gov>

Decadal Global Monthly Temperature
(w.r.t. Average 1951-1980)

Decadal Global Summer Temperature
in the Northern Hemisphere(w.r.t Average 1951-1980)

Global Warming And Hydrologic Cycle Connection

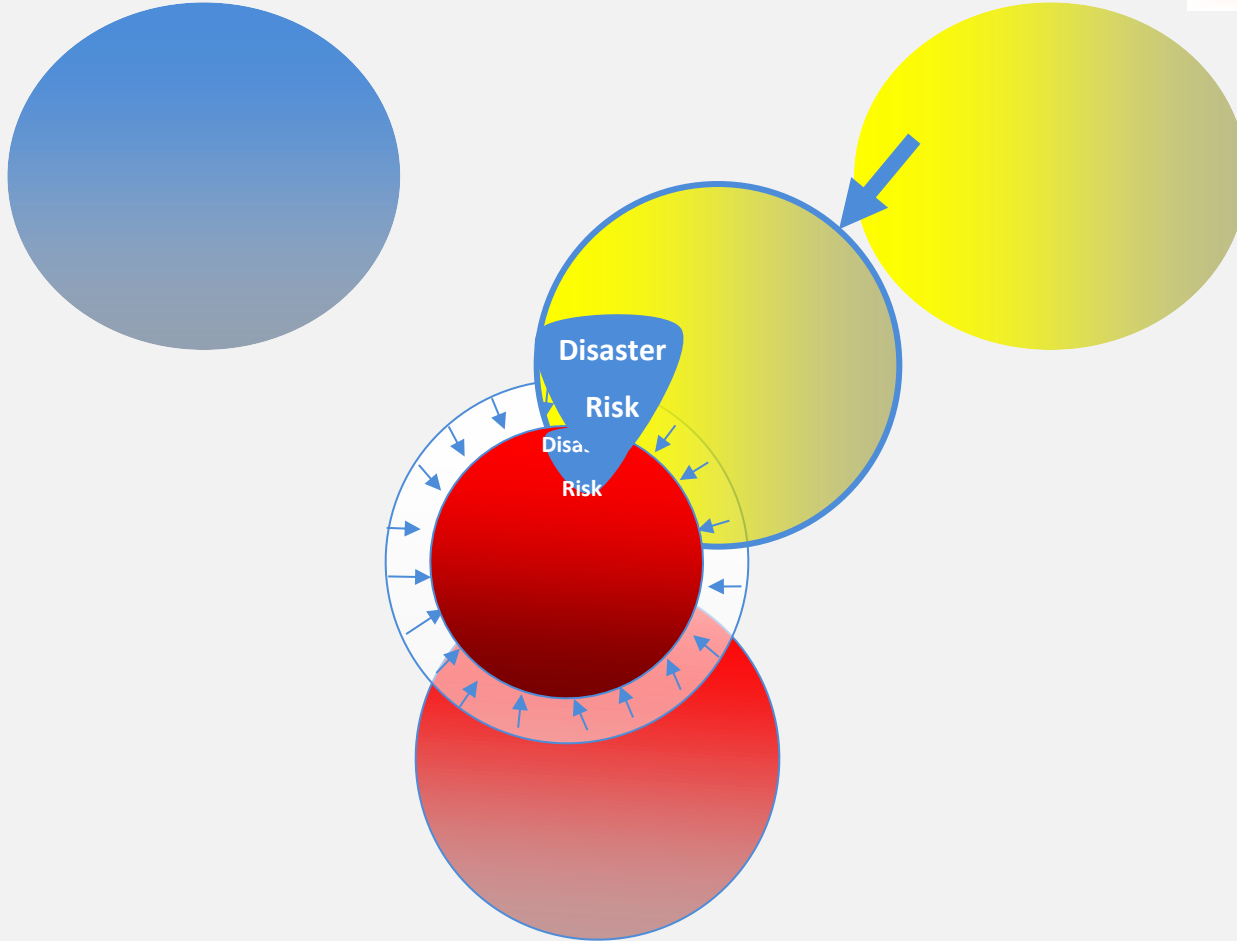


Disaster Risk = f (Hazard, Vulnerability, Exposure)

Hazard

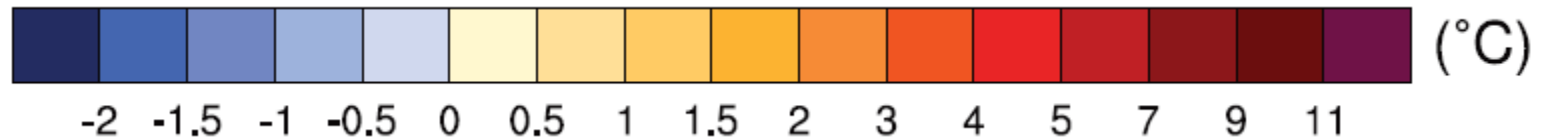
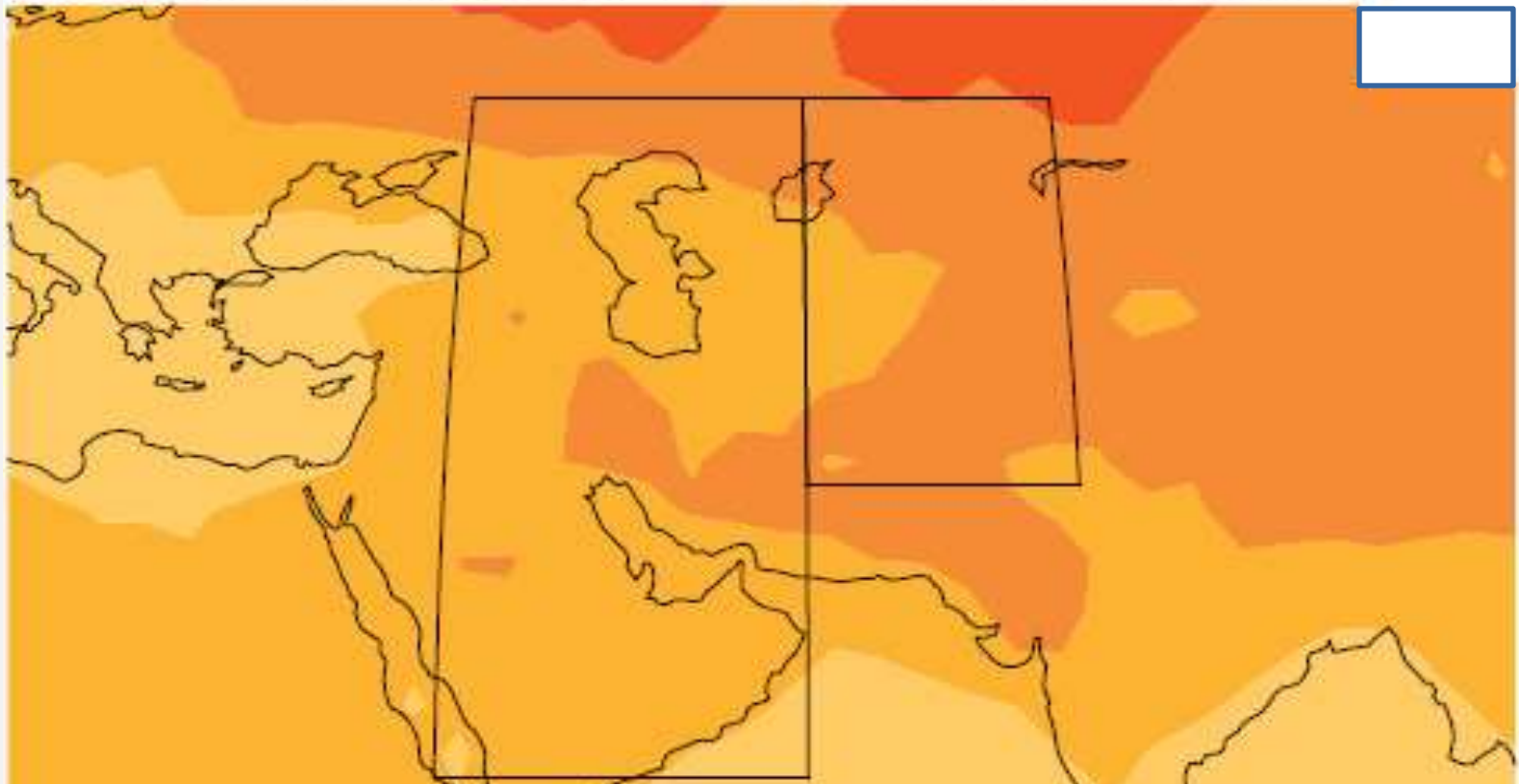
Exposure

Vulnerability



Temperature Change Map Asia – RCP4.5

Temperature change RCP4.5 In 2046-2065: December-February



The Fourth component

When Adaptation & Mitigation were used to combat adverse impacts of climate change and resilience also were used, if these aren't successful, the life in Earth would face fourth component; The PRESSURE! Ecosystems will be destroyed under unavoidable climate change pressure gradually.



THANK YOU FOR YOUR ATTENTION!

For more information:

Website: <http://ipcc.ch/>

IPCC Secretariat: ipcc-sec@wmo.int

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