



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Open Science in Climate research:

the good 👍

the bad 👎

the ugly 🗑️

29.9.2022

Anca Hienola
Finnish meteorological Institute





Air and water pollution

Droughts

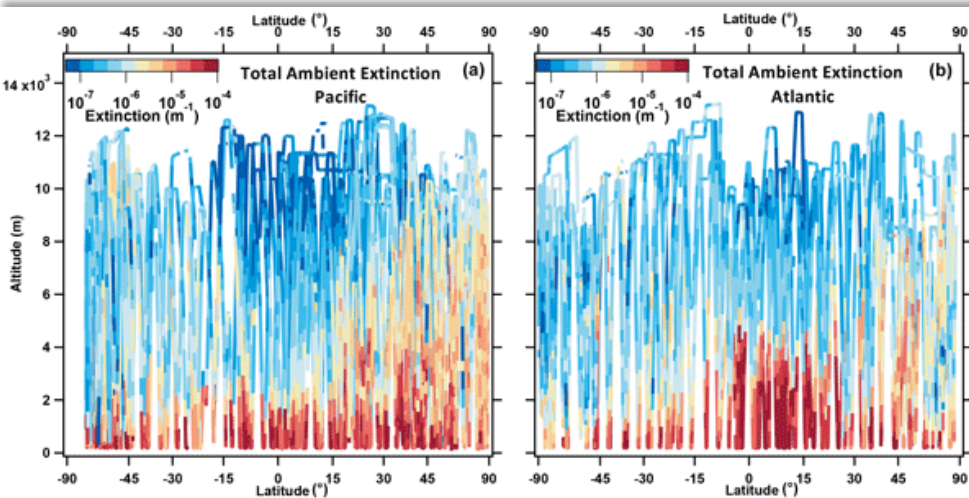
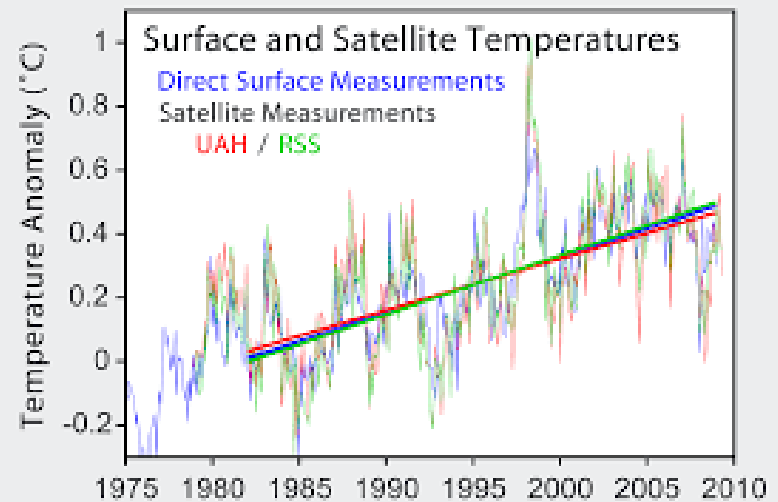
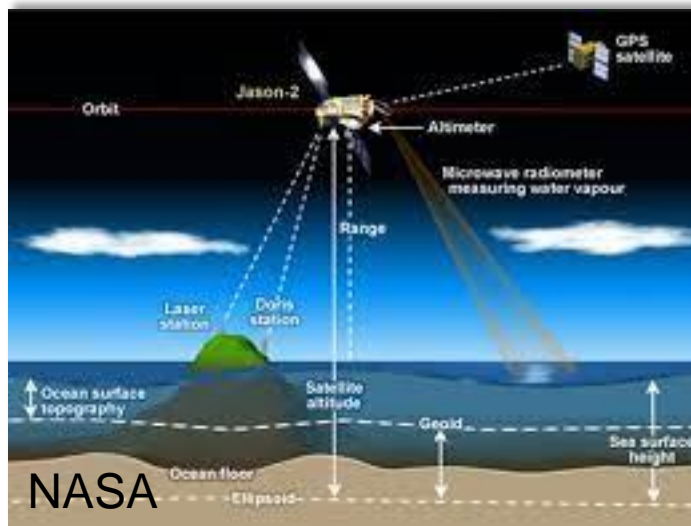
Diminished resources of water

Biodiversity loss

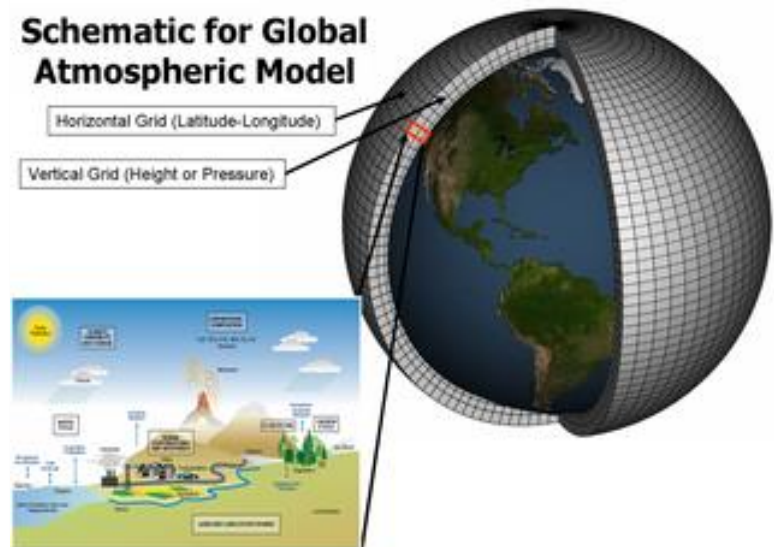
Deforestation/erosion



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE



Schematic for Global Atmospheric Model





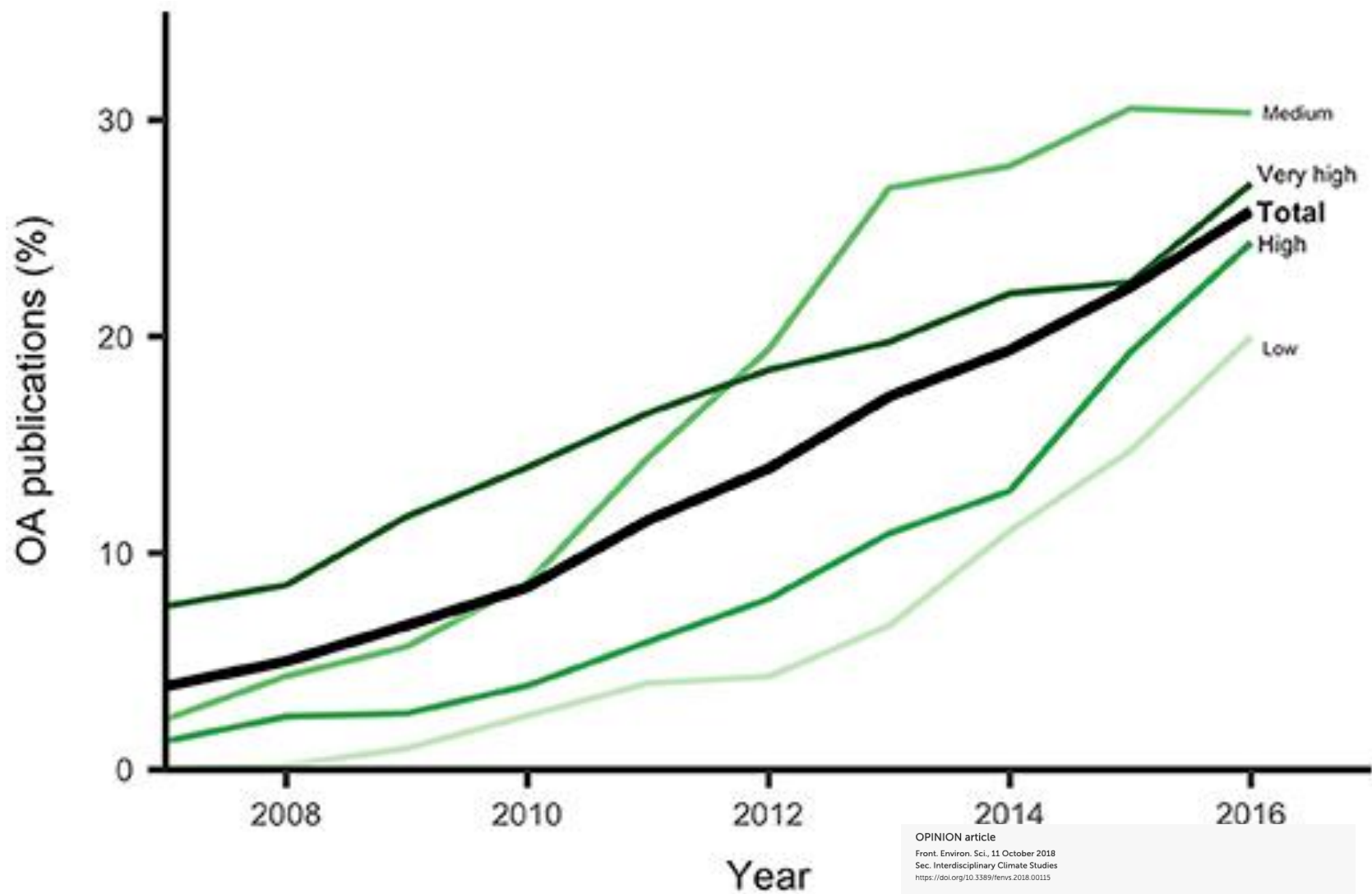
The good

...ish, normal, solid

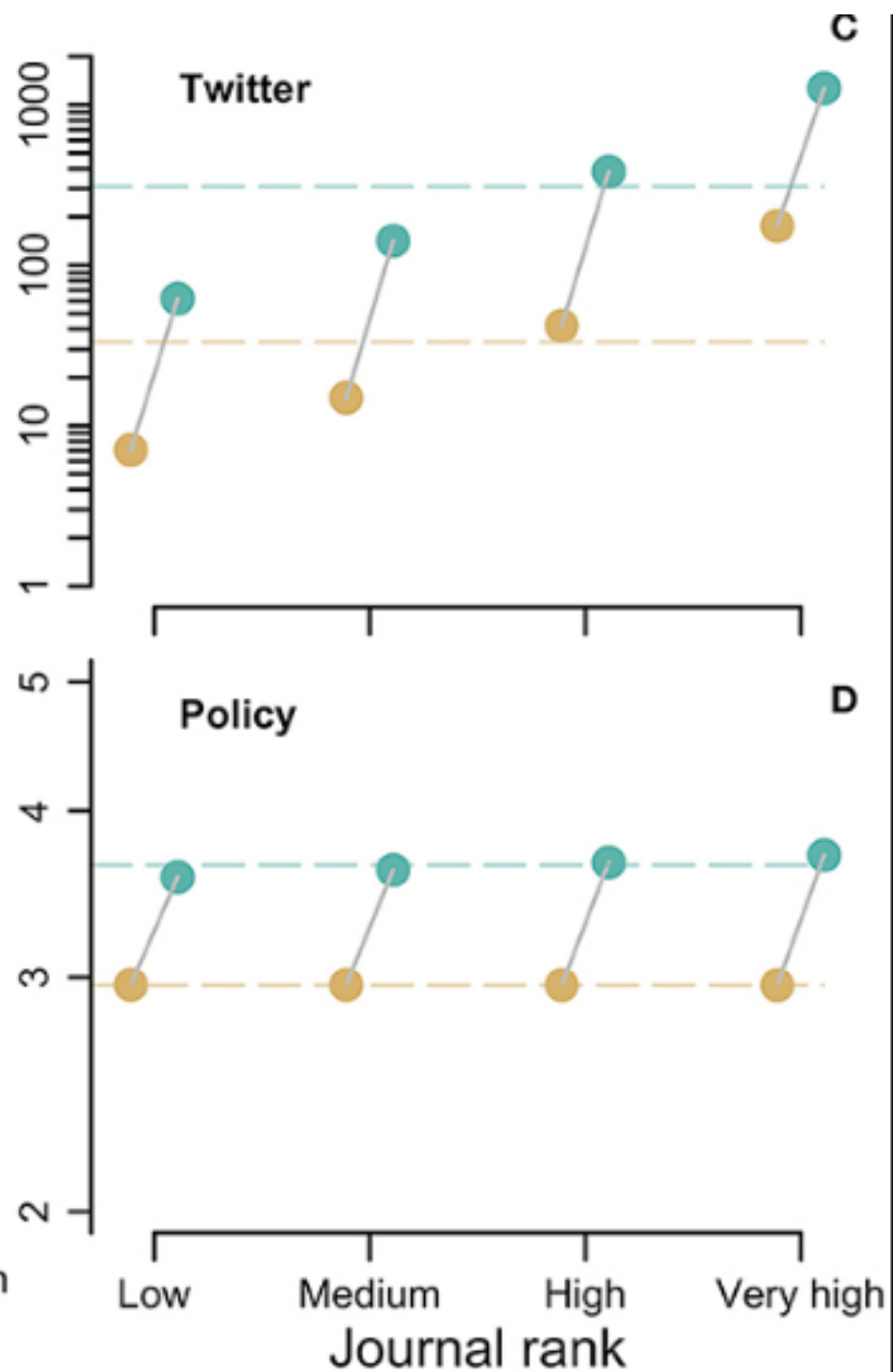
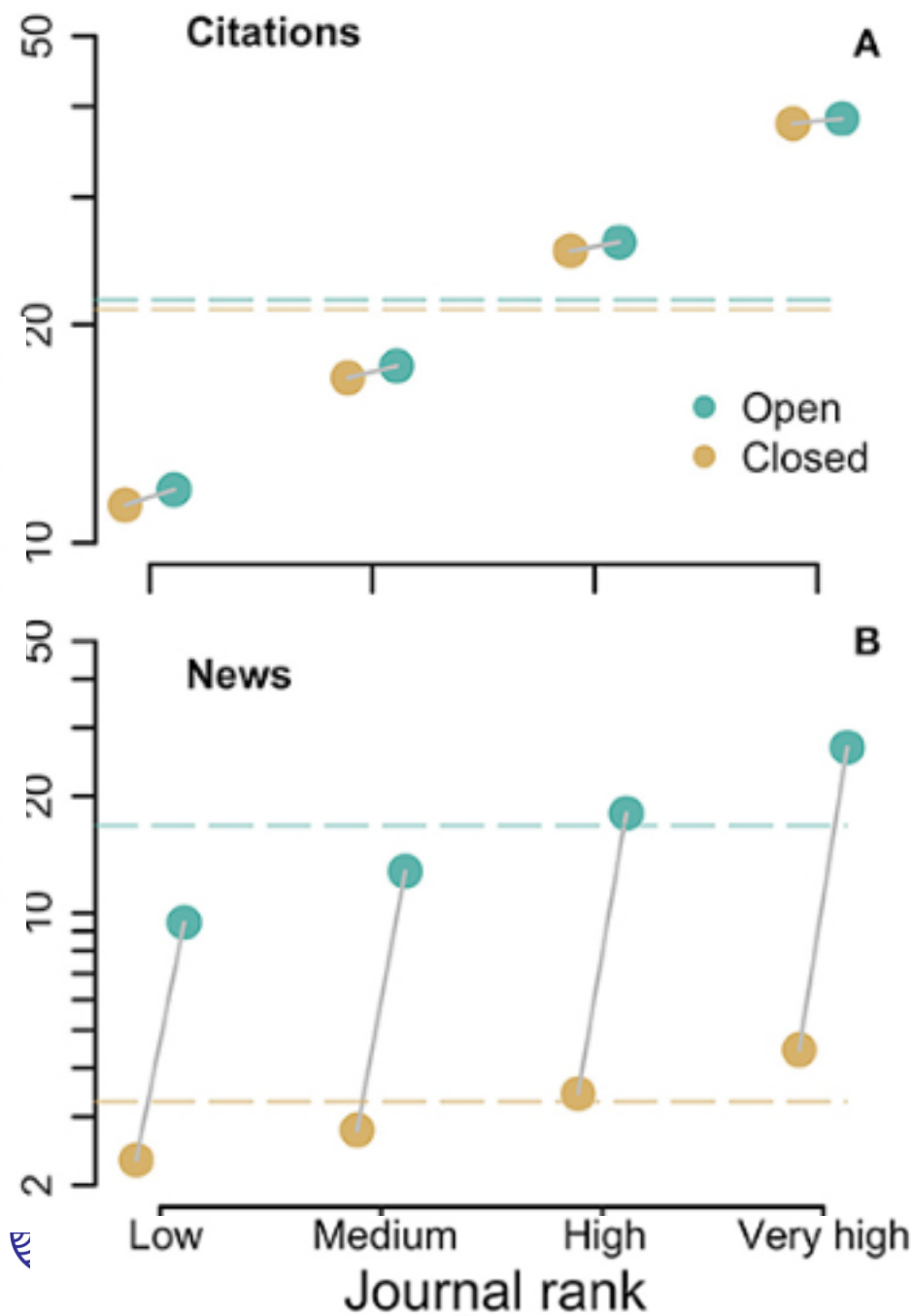


ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Open access



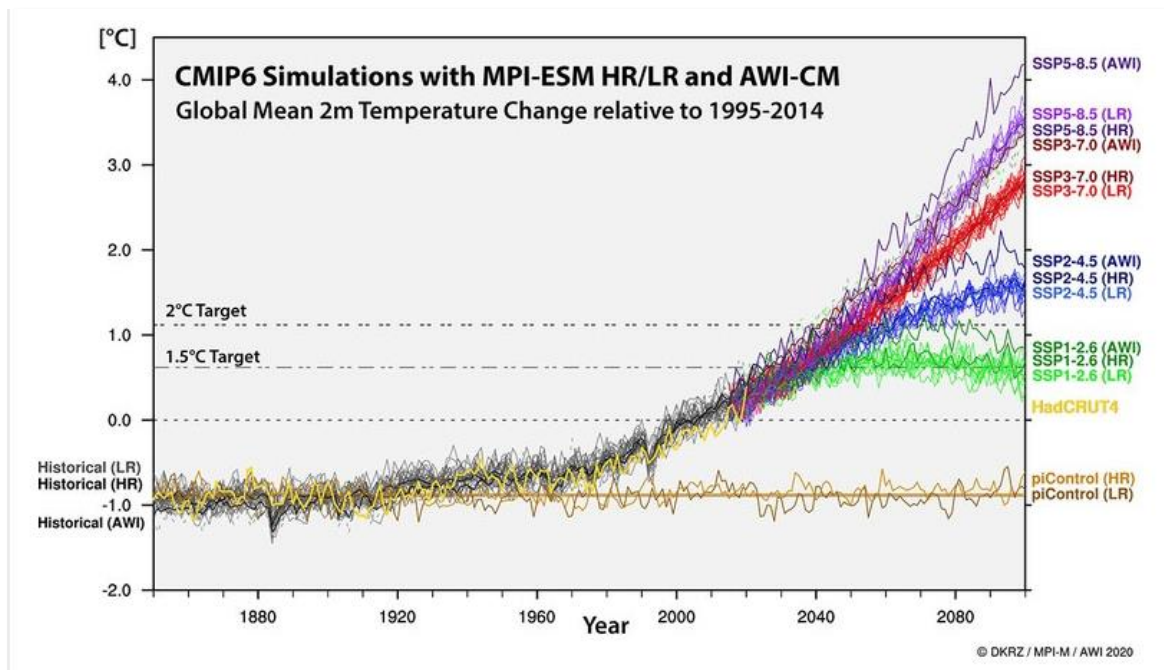
Mean citations/mentions



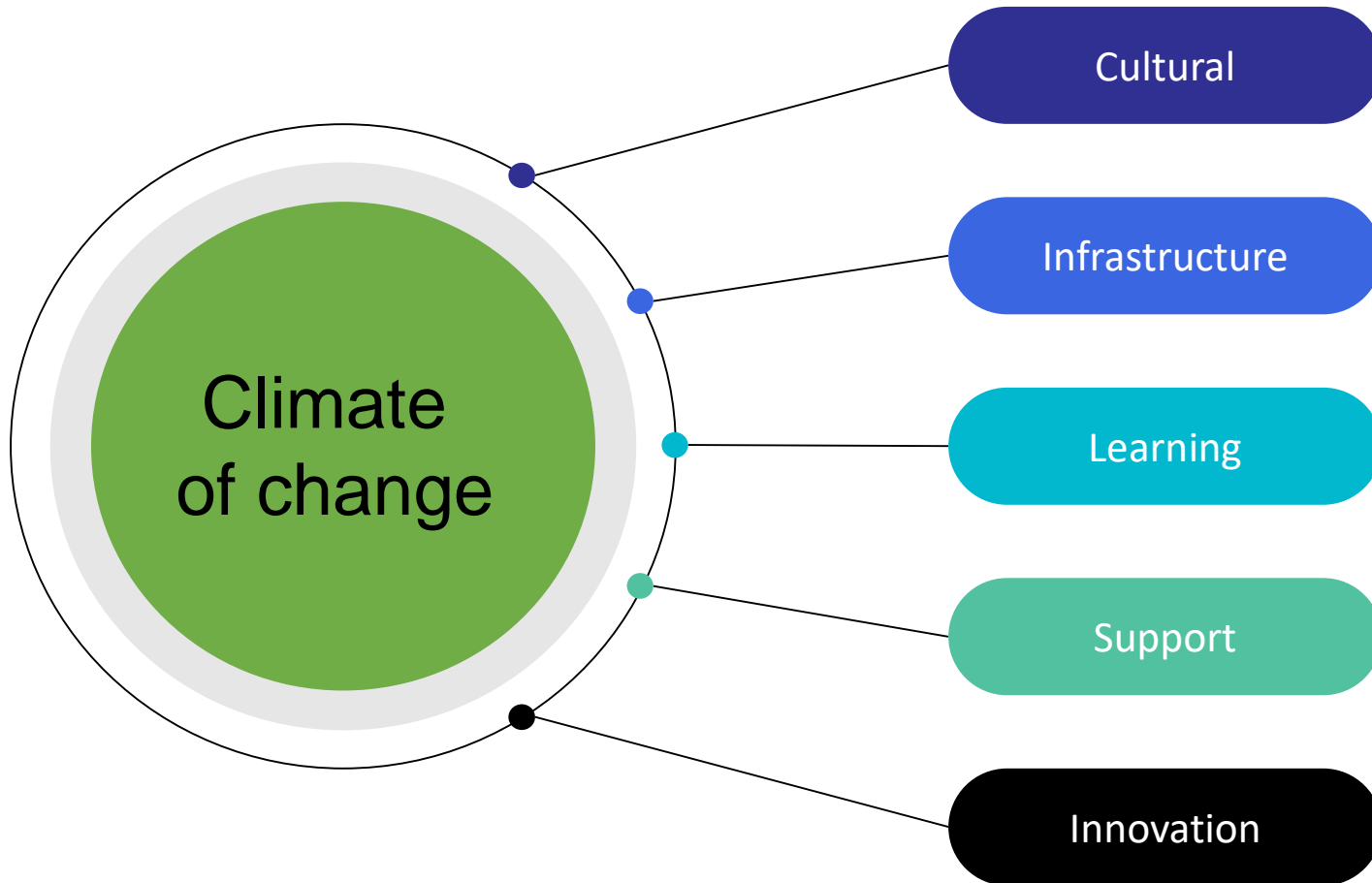
Open data



CMIP6 – Coupled model intercomparison Project



In the end, it's all about people!



The bad

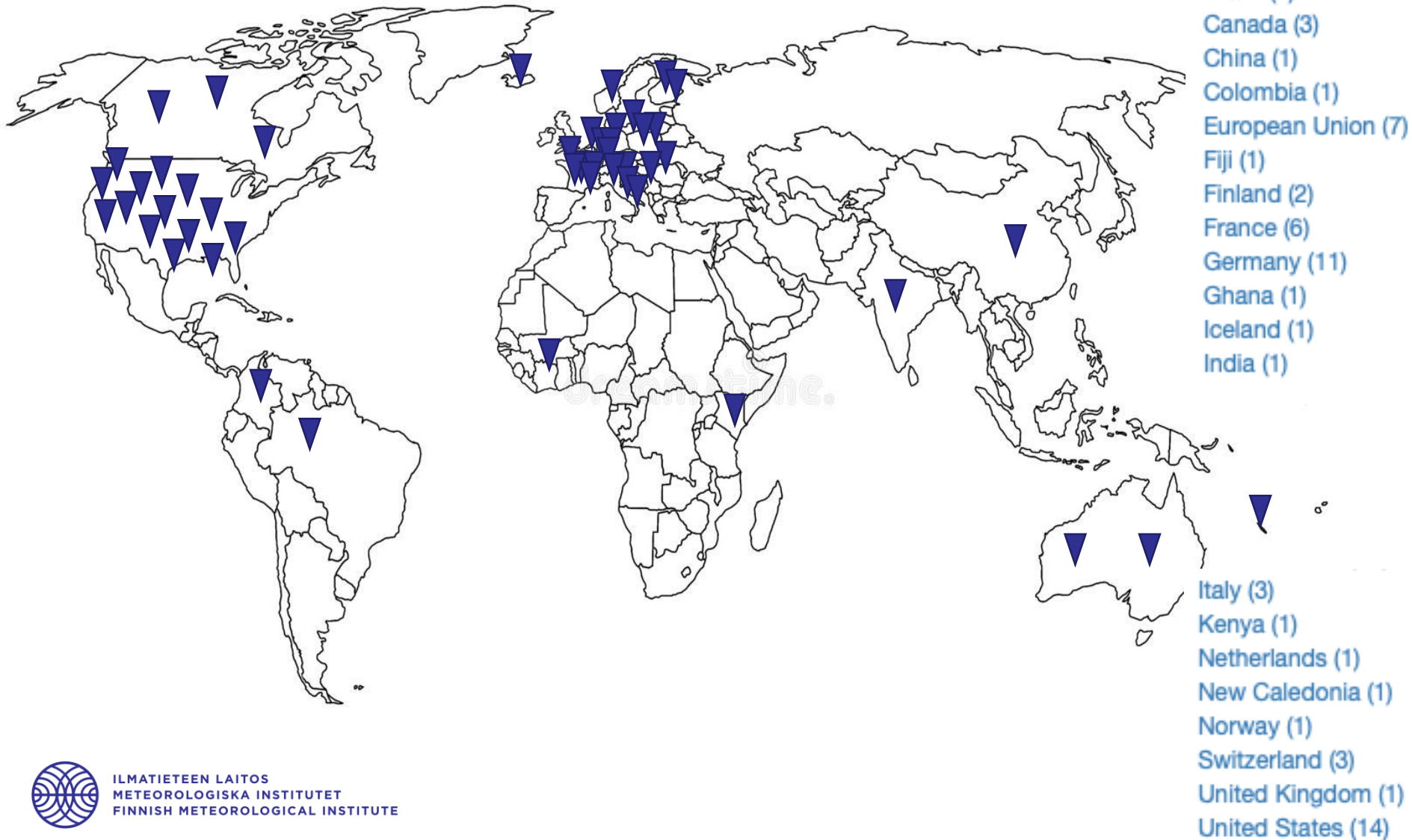
...ish, blah, bummer



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Climate data repositories around the world

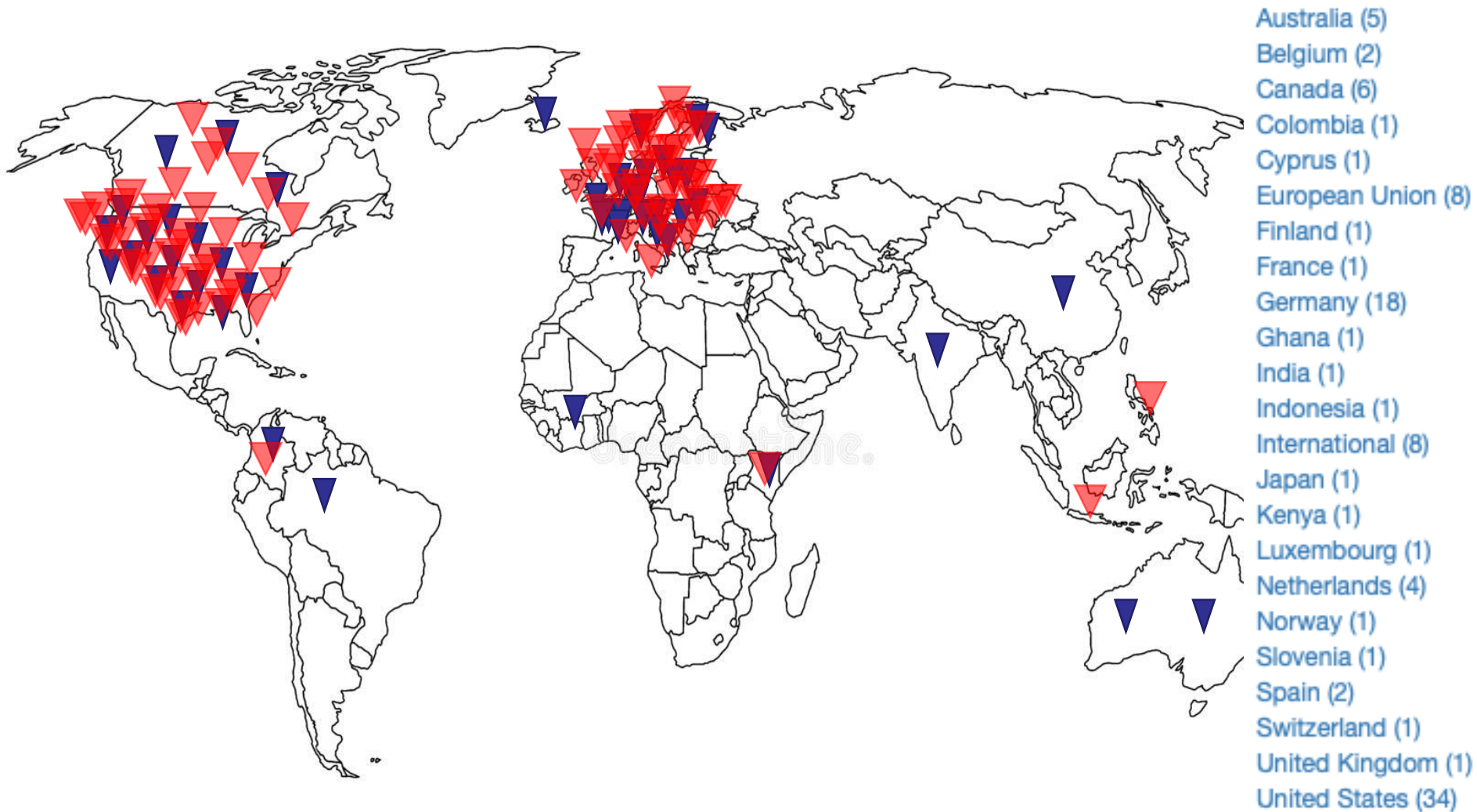
1. International climate data repositories - 38



Based on re3data.org

Climate data repositories around the world

1. Institutional climate data repositories - 101

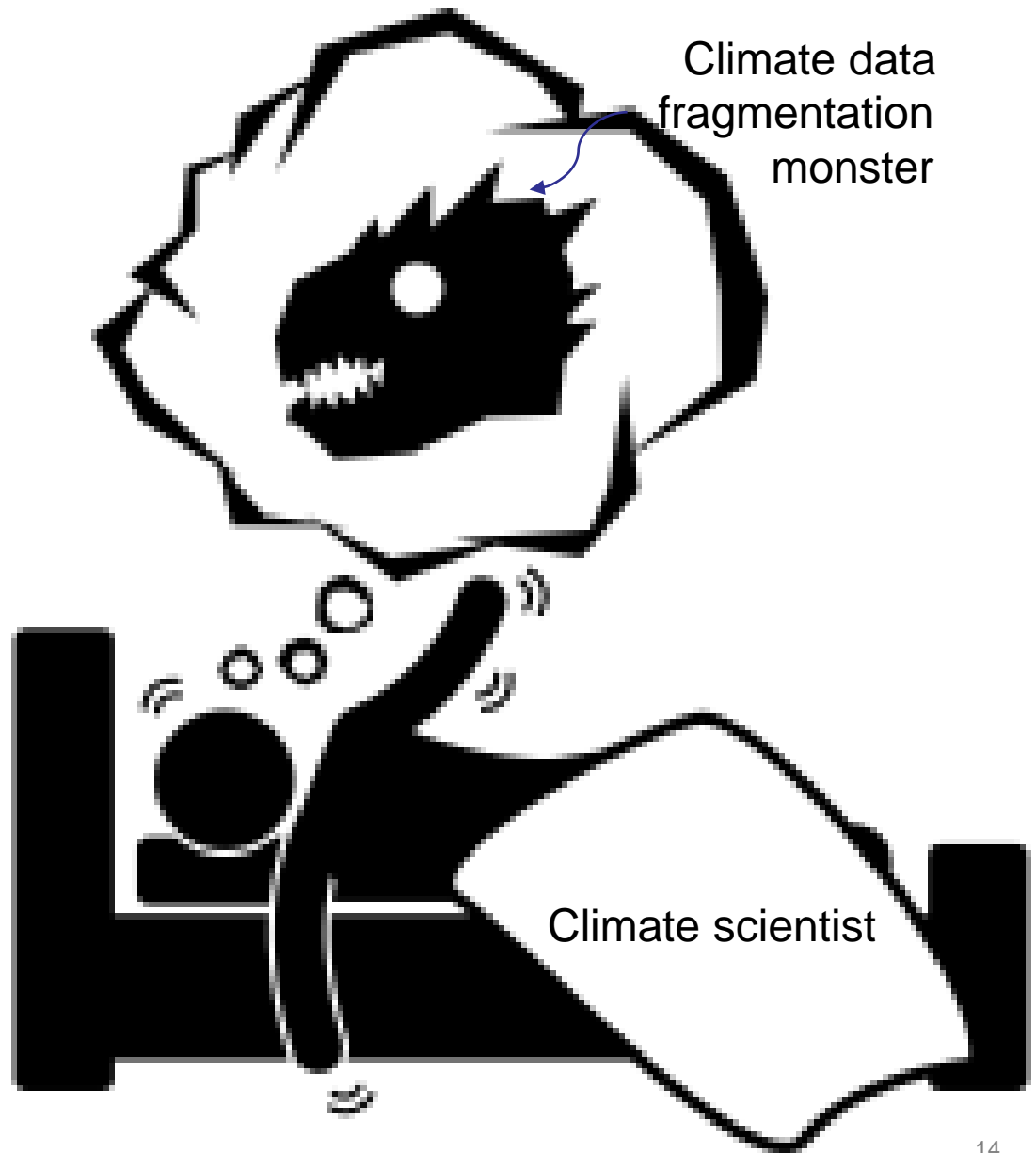



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Based on re3data.org

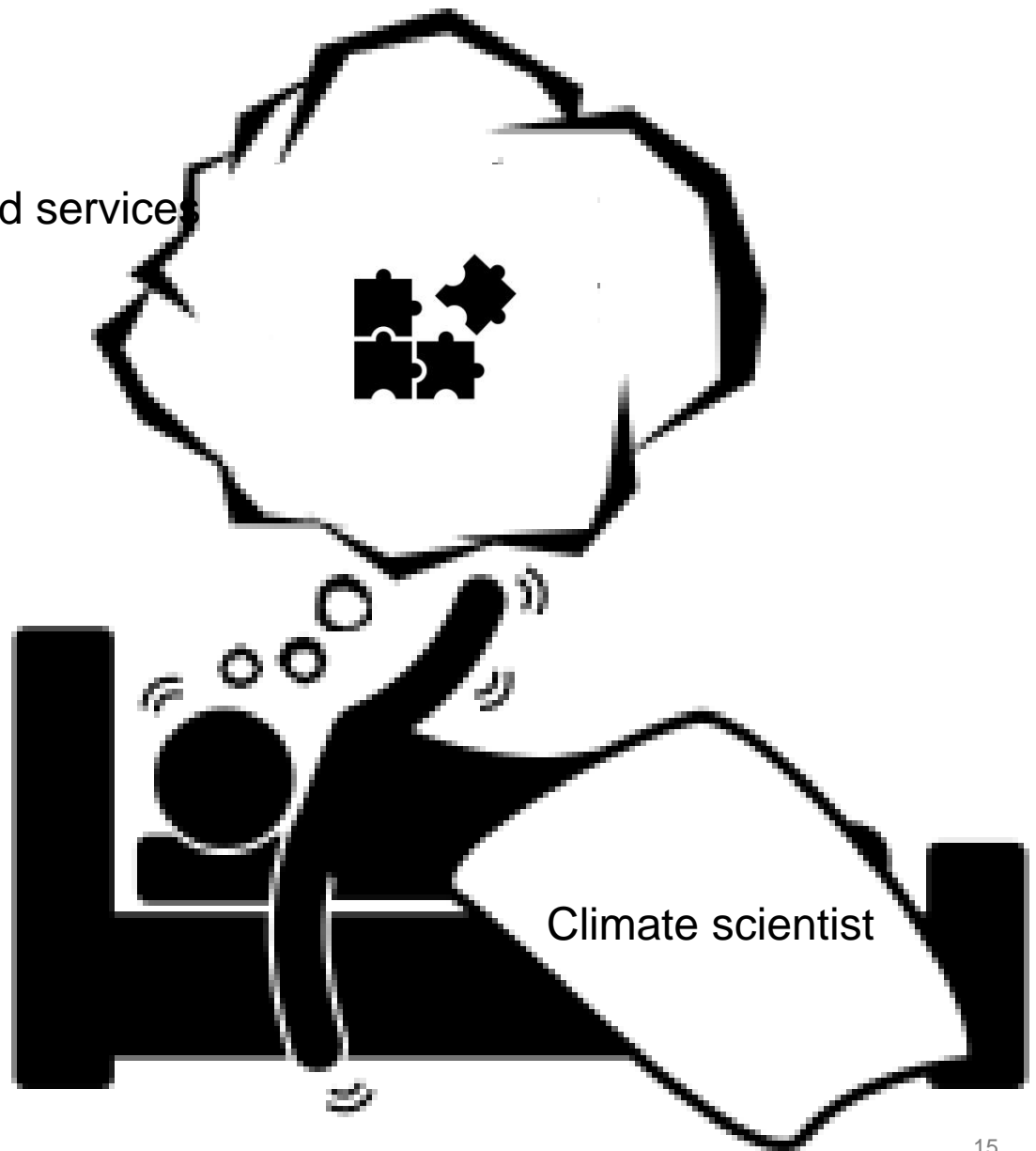


Fragmented access



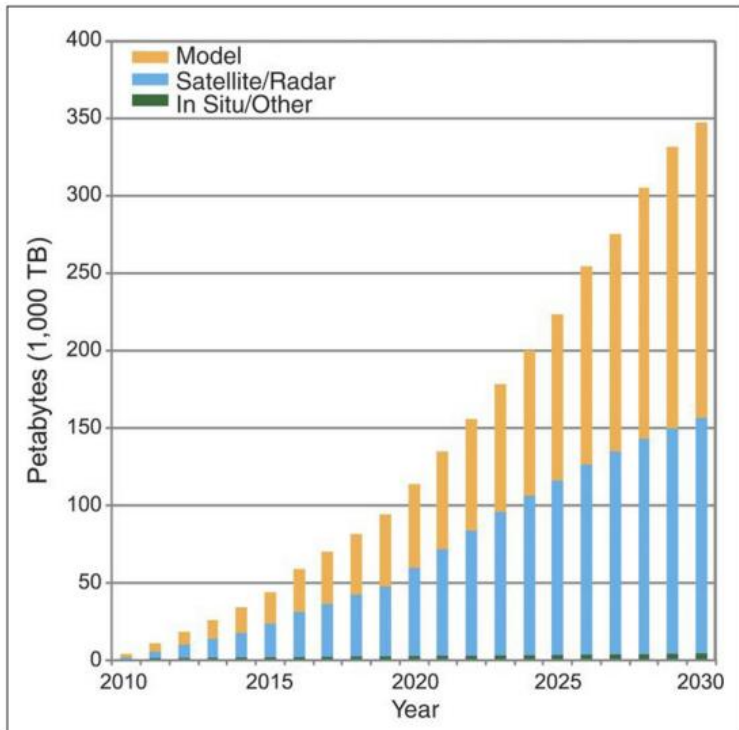


Non-interoperable data and services

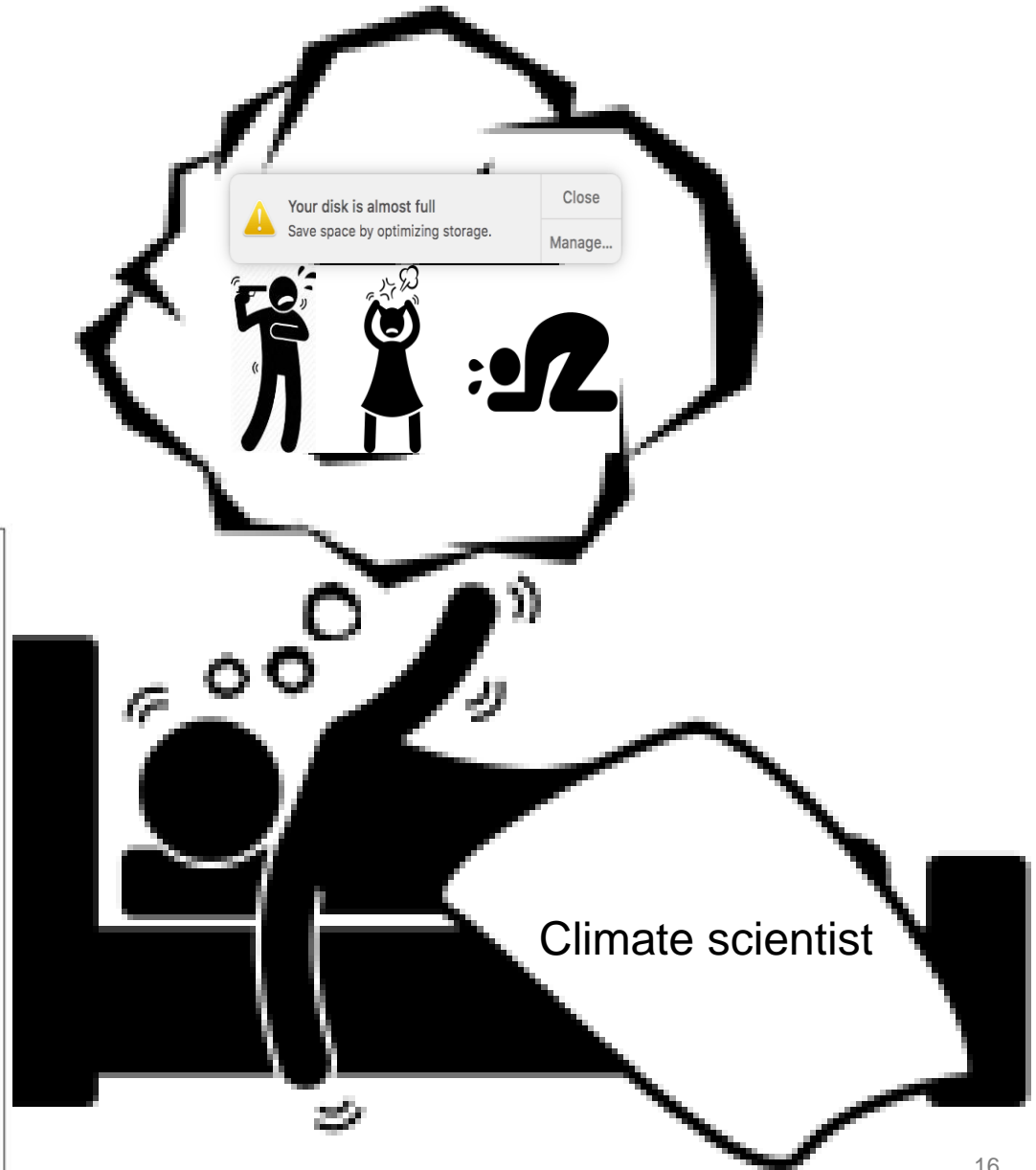




Data storage limitation

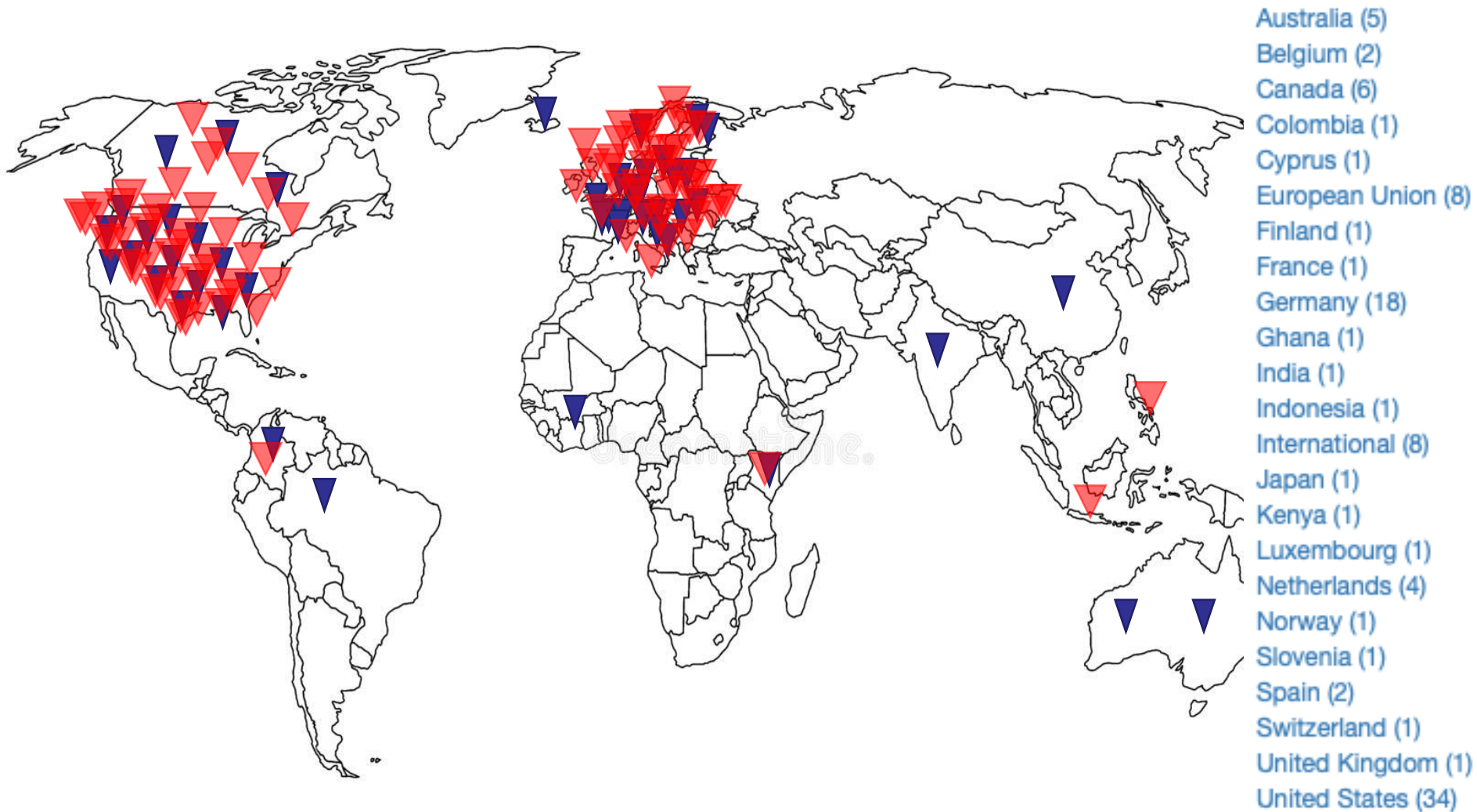


From Overpeck, J T et al. 2011



Climate data repositories around the world

1. Institutional climate data repositories - 101



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Based on re3data.org

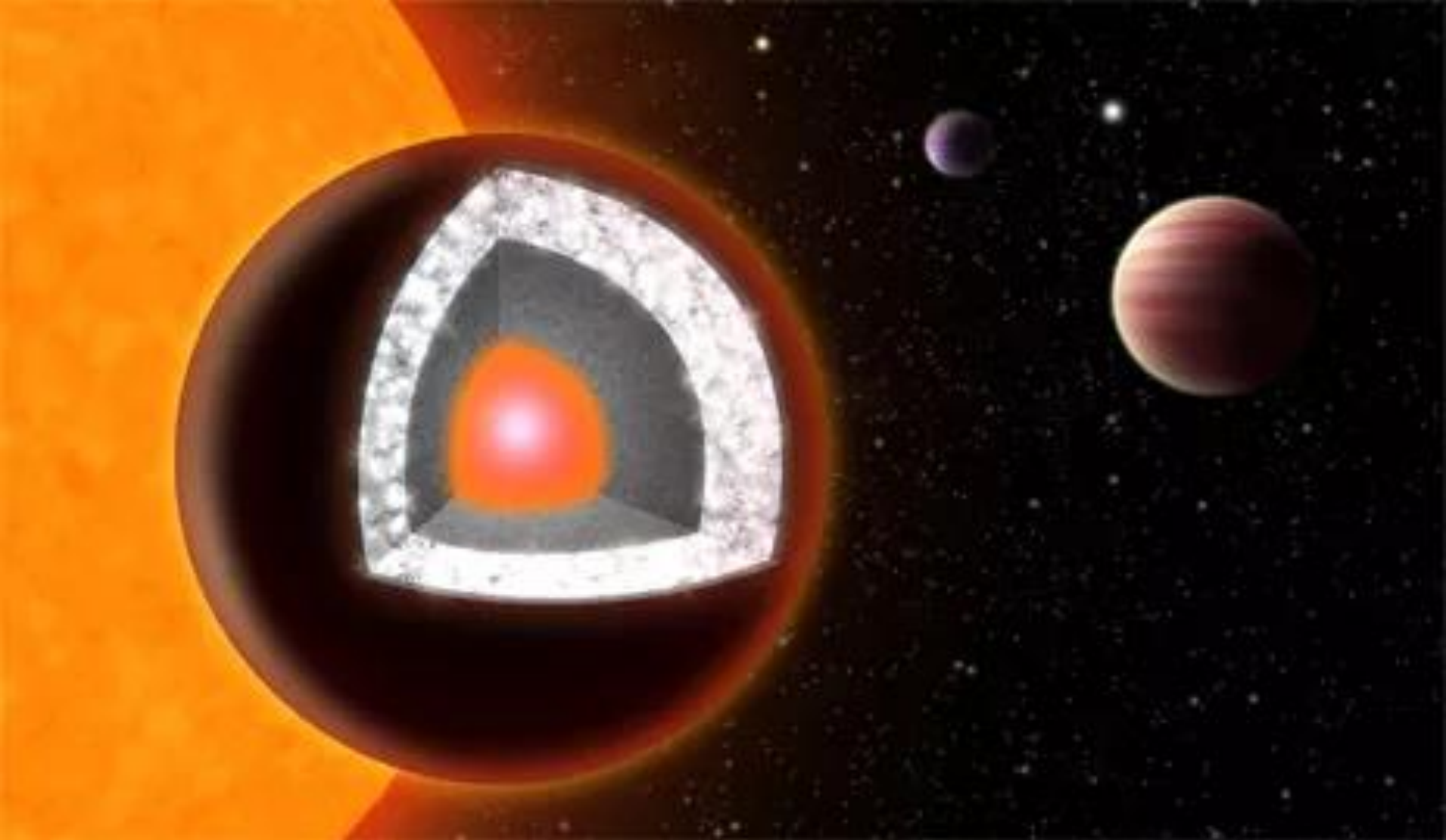


The ugly

... well, just ugly



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE





ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

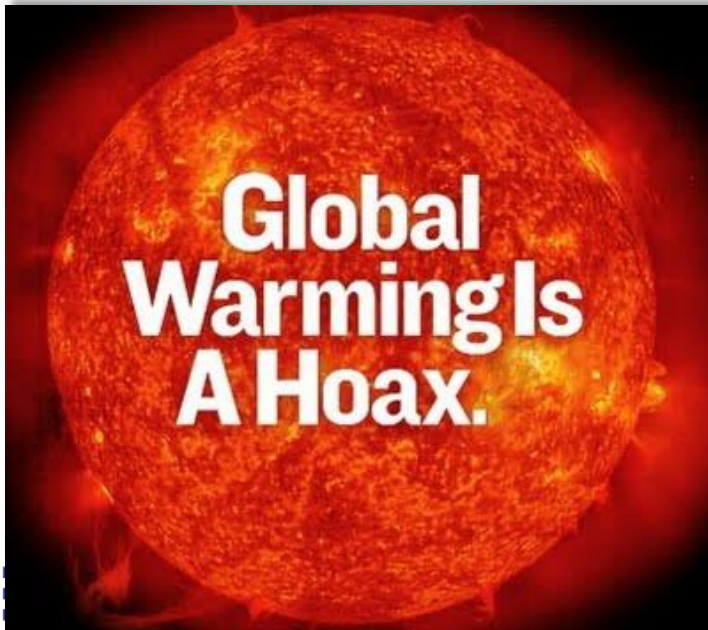


ACCESS



ACCESSIBILITY





QandA

#QandA

Show me
empirical
data

"The data has been corrupted, and we know the 1930s were warmer than today," Roberts said.

"What do you mean by corrupted?" Cox asked.

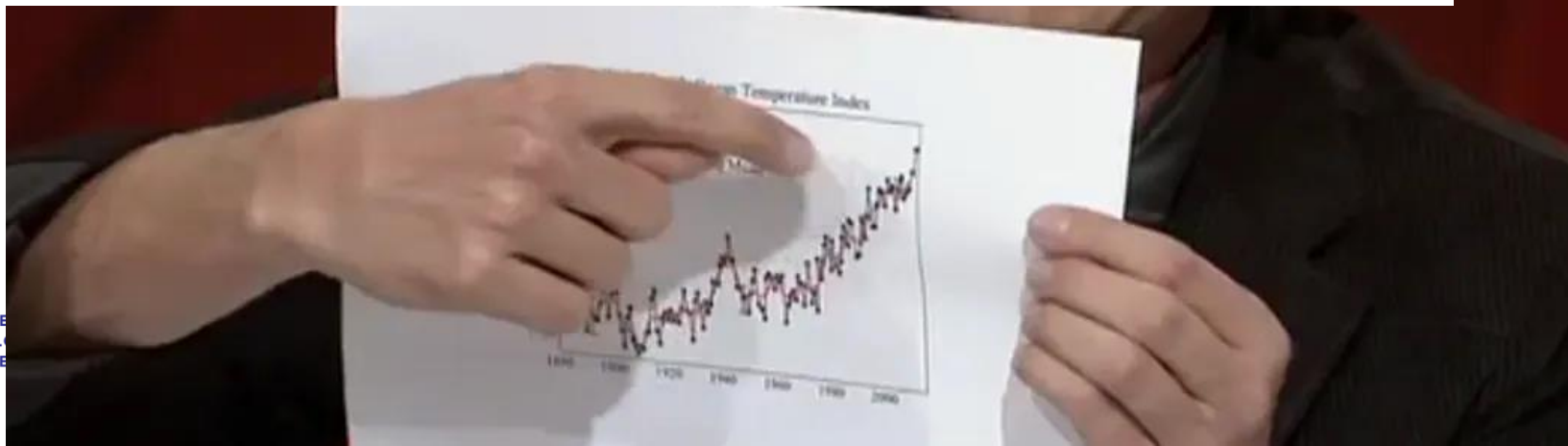
"It's been manipulated," Roberts said.

"By who?"

"By NASA," Roberts said.



ILMATIETEEN
METEOROL
FINNISH ME



*“Well, it’s a hoax.
I think the scientists are
having a lot of fun.”*

-DONALD TRUMP



PHOTO: GAGE SKIDMORE

Rolled back policies of climate mitigation

Withdraw from Paris climate agreement

Relaxed regulations for polluters

Abandoned the Clean Power Plan

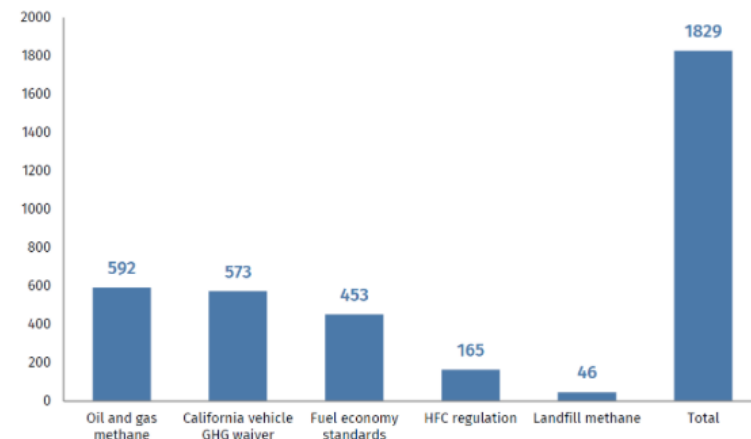
Approved Keystone XL pipeline

Scientists feared a “21st century book
Burning”



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Cumulative GHG emissions impact of regulatory rollbacks through 2035
Million metric tons of CO₂e



Source: Rhodium Climate Service



LIVE LONG(ER) AND PROSPER



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Thank you!

