

Welcome to this week's presentation and conversation
hosted by the
Canadian Association for the Club of Rome,
a Club dedicated to intelligent debate and action on global issues.

Post Anthropocene.

Our speaker today is Dr. Rosalind Warner, professor of Political Science at Okanagan College. She has ~30 y experience in international development, environmental politics, and Canadian government. She has researched topics like ecological modernization, global environmental governance, protected areas governance, environmental discourses, nature rights, health and security, and environment and trade. Covid-19 disrupted the world in unimaginable ways. Future disasters may be even worse. Some argue human societies have left the Holocene Epoch and entered the Anthropocene. How might our perceptions of the human-nature relationship now change, and how might we improve policy, governance, and planning?

Dr. Warner's presentation will be followed by a conversation, questions, and observations from the participants.

CACOR acknowledges that we all benefit from sharing the traditional territories of local Indigenous peoples (First Nations, Métis, and Inuit in Canada) and their descendants.



2022 July 06

Post-Anthropocene

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Overview

- Ancient Catastrophes
- The Anthropocene Today
- Present-Day Catastrophes
- Nature Entangled: The Future

Ancient Catastrophes

Archaeologists Are Seeing Cave Art in a New Light

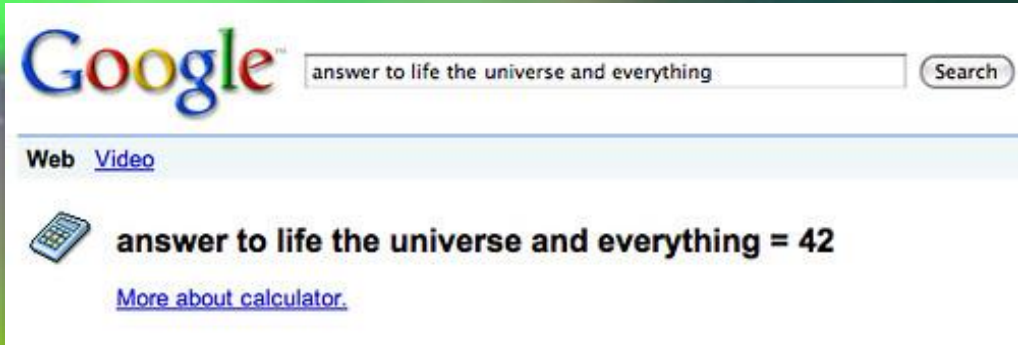
Prehistoric people may have created 'proto-cinema,' with galloping bison and tail-swishing horses.

BY BRIDGET ALEX • JULY 29, 2021

The oldest works of art in the world. In the Chauvet Cave in France. Perhaps the first graffiti of homosapiens.



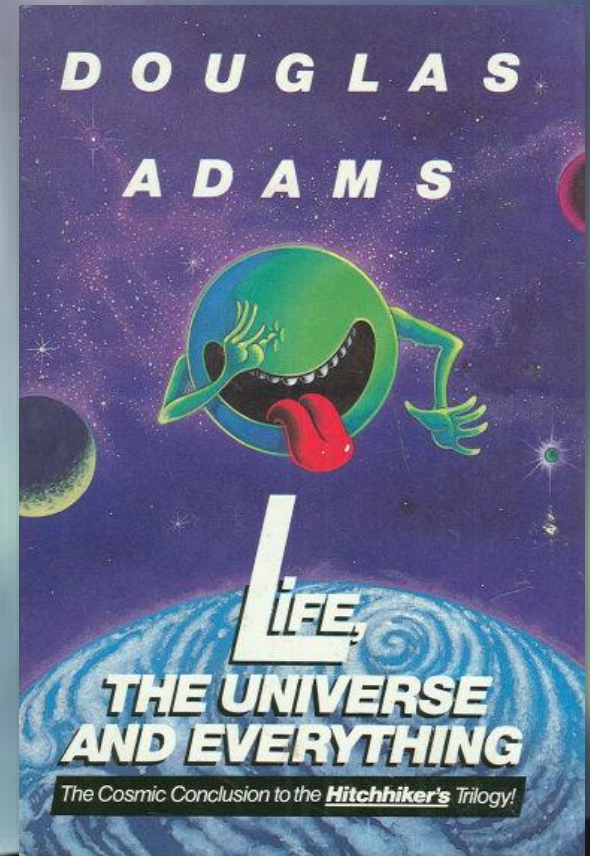
Cooper, A., Turney, C. S. M., Palmer, J., Hogg, A., McGlone, M., Wilmshurst, J., Lorrey, A. M., Heaton, T. J., Russell, J. M., McCracken, K., Anet, J. G., Rozanov, E., Friedel, M., Suter, I., Peter, T., Muscheler, R., Adolphi, F., Dosseto, A., Tyler Faith, J., ... Zech, R. (2021). A global environmental crisis 42,000 years ago. *Science*, 371(6531), 811–818. <https://doi.org/10.1126/SCIENCE.ABB8677>



[This Photo](#) by Unknown Author is licensed under [CC BY-NC-ND](#)

Adams Event

42,000



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The Worst Year to be Alive

- AD 536
- Iceland volcano exploded
- Fog of darkness for 18 months
- Temperatures fell
- Crops failed
- Plague of Justinian



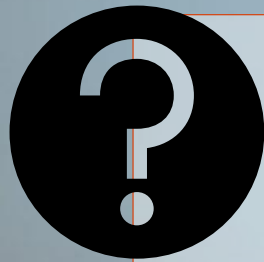
Astronomical and Geophysical

- Mass Extinction Events (5 in the last 500 million years)*
 - Geophysical changes, volcanic activity
 - Climatic changes over millennia
 - Asteroid bombardment
- Periodic:
 - Orbital changes
 - Gamma-ray bursts
 - Gravitational changes
 - Changes in the sun and moon
 - Our position in the Galaxy

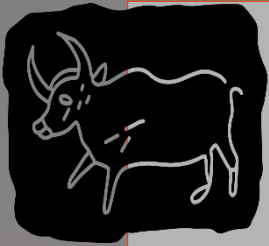
2022 Disaster Bingo		
More Covid	Asteroid	Volcano Eruption
Global Warming	Illuminati Take over Earth	
Nuclear War		Alien Invasion

*Errata: The Presentation slide included the time period of 5 million years – it should have read 500 million years

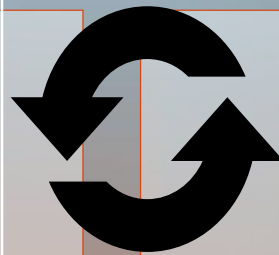
How would ancient peoples have viewed nature under these circumstances?



Mysterious Nature



Nature as Kin



Human-
Nonhuman Worlds

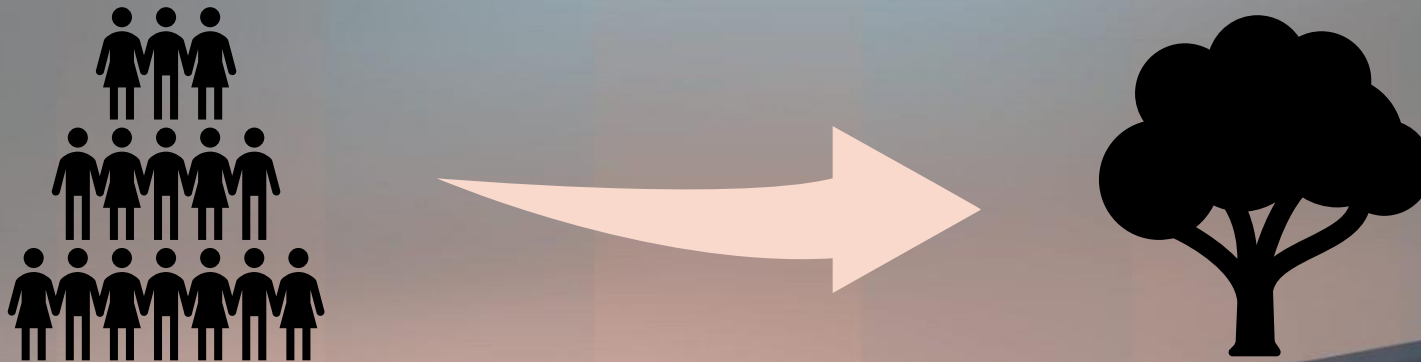
The Anthropocene

A Human-Dominated Geological Epoch

The Anthropocene Equation

- “The dominant external forces influencing the rate of change of the Earth System have been astronomical and geophysical during the planet’s 4.5-billion-year existence. In the last six decades, anthropogenic forcings have driven exceptionally rapid rates of change in the Earth System.”

Gaffney, O., & Steffen, W. (2017). The Anthropocene equation. *The Anthropocene Review*, 205301961668802. <https://doi.org/10.1177/2053019616688022>



The Great Acceleration

- “Since 1950, the human enterprise has experienced a remarkable explosion, the Great Acceleration. Whatever unfolds, the next few decades will surely be a tipping point in the evolution of the Anthropocene.”

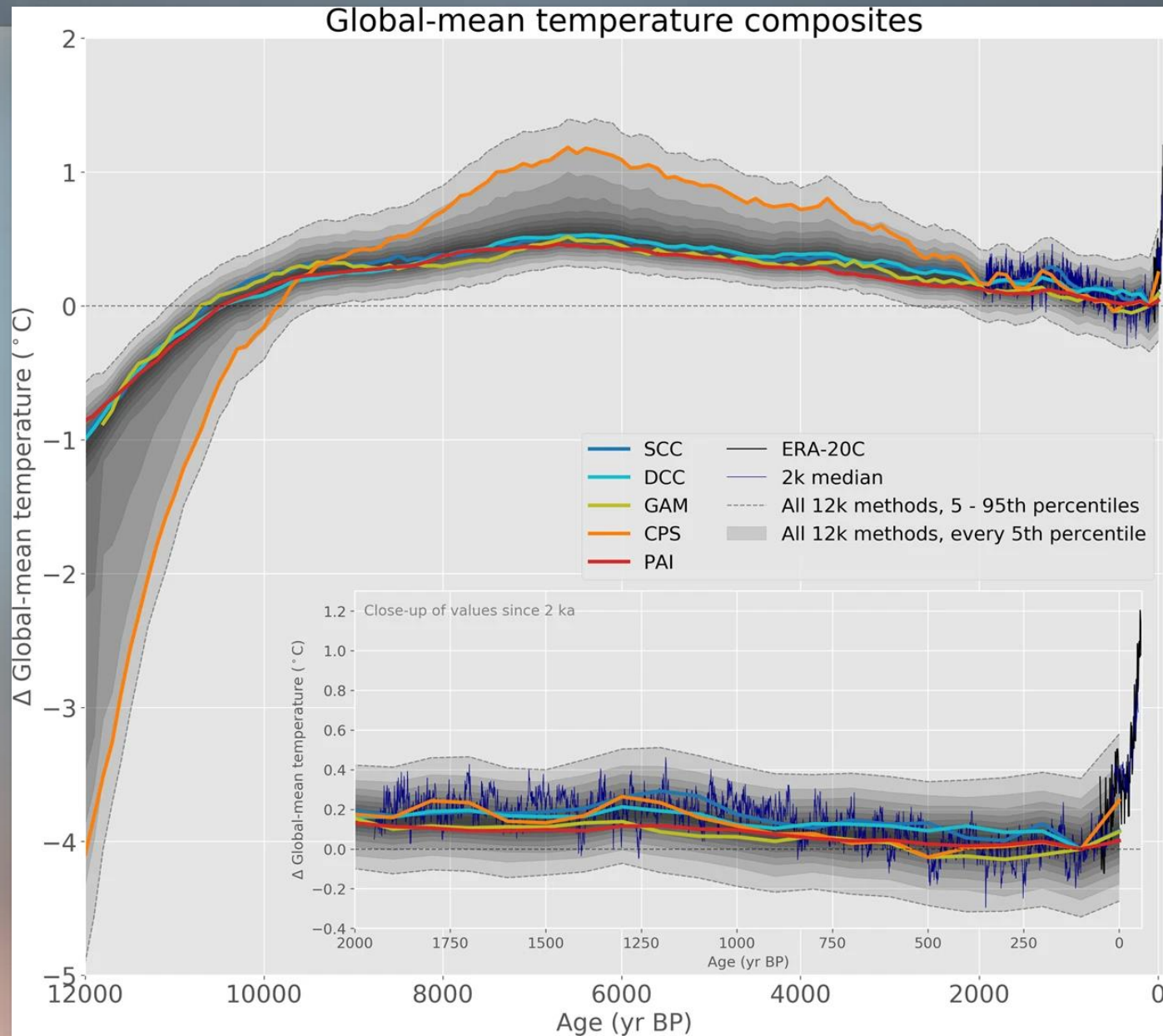
1950: 310 ppm 2022: 420 ppm

This is the highest level of Co₂...

“Not just in recorded history, not just since the invention of agriculture 10,000 years ago. *Since before modern humans existed millions of years ago*”

~Eric Holthaus

Climate is Anthropogenic



The Anthropocene

the time interval in which human activities now rival global geophysical processes



dora Landfill #3, Plastics Recycling, Nairobi, Kenya 2016 [Photo: © Edward
ky/courtesy Howard Greenberg and Bryce Wolkowitz Gallery, New York/Nichol
Gallery, Toronto]



Clearcut #1, Palm Oil Plantation, Borneo, Malaysia 2016 [Photo: © Edward
rtynsky/courtesy Howard Greenberg and Bryce Wolkowitz Gallery, New York/Nicholas
tivist Gallery, Toronto]

Cave paintings survived 42,000 years...

What would we leave behind to be found in 42,000 years?



What would we leave behind to be found in 42,000 years?



Filmmakers record an atomic bomb blast in Nevada in 1957. Credit: Galerie Bilderwelt/Getty

This place is not
a place of honour.

No highly esteemed deed
is commemorated here.

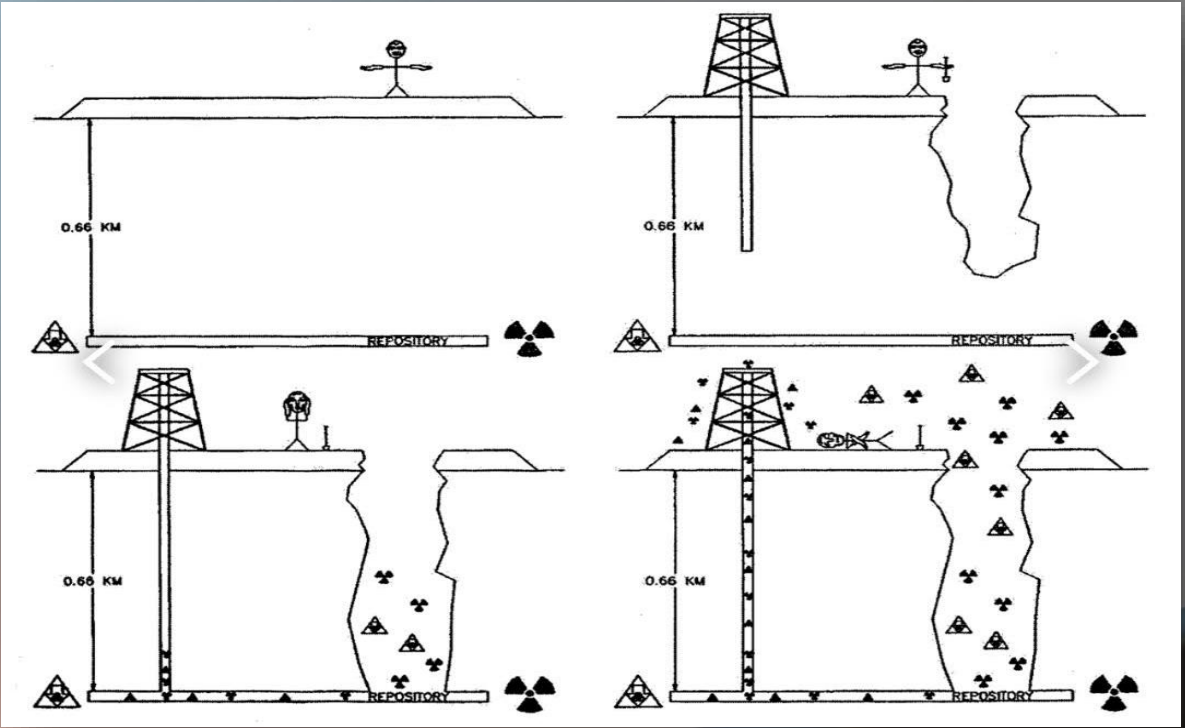
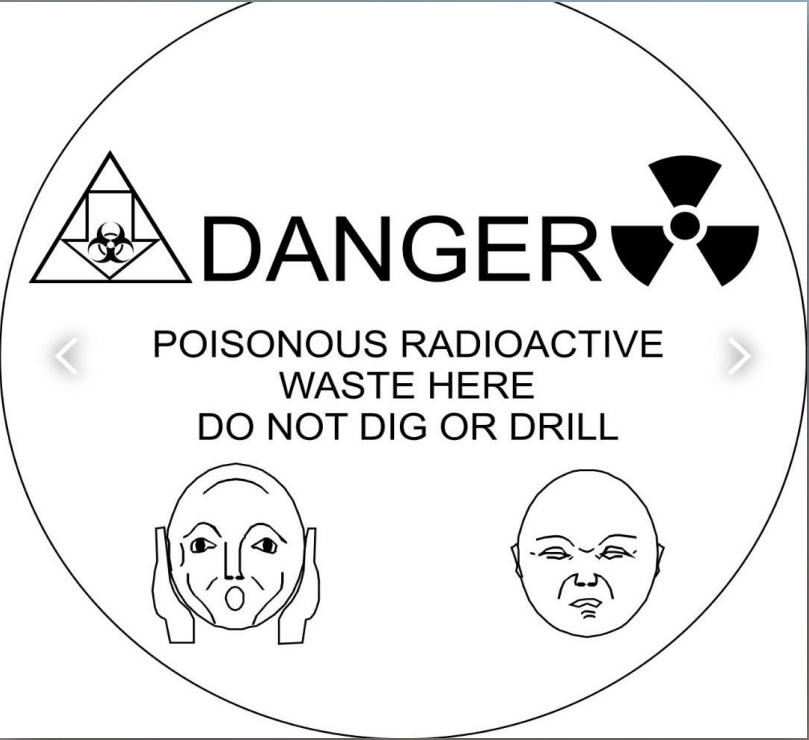
Nothing valued is here.

What is here is dangerous
and repulsive to us.

This message is a
warning about danger.

Cave paintings survived 42,000 years...

What would we leave behind to be found in 42,000 years?



Present-Day Catastrophes

Don't need to look too far....

NEWS | Health | Environment

Heat Killed 595 British Columbians This Summer

The death toll is far above what nearby US states experienced during an unprecedented 'heat dome' in late June.



Jen St. Denis, Yesterday | [TheTye.ca](https://www.thetyee.ca)

Jen St. Denis is The Tye's Downtown Eastside reporter. Find her on Twitter [@JenStDen](https://twitter.com/JenStDen).



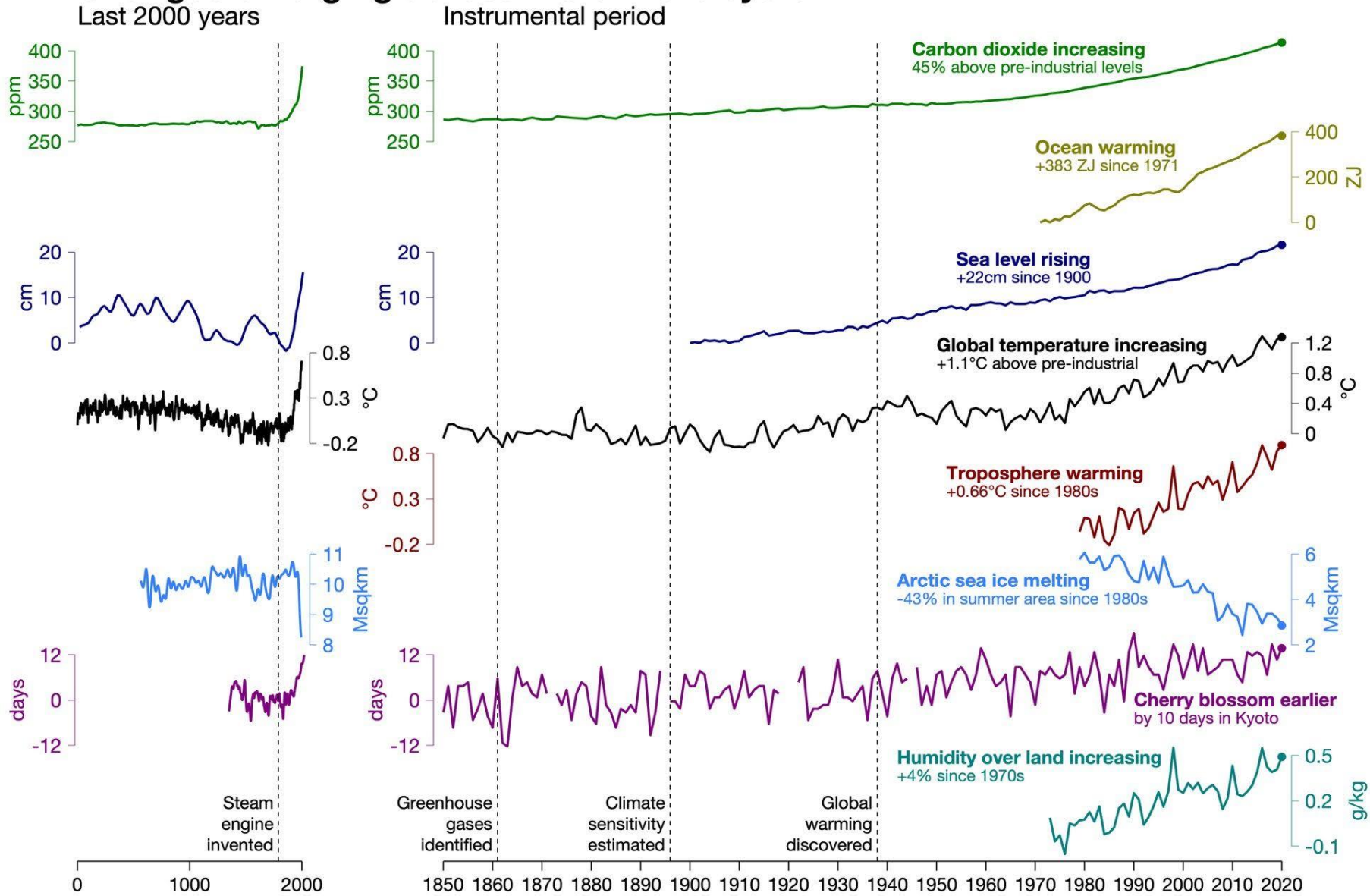
Lake Okanagan has already risen over the boat loading area and into the parking lot near downtown Kelowna. (Brady Strachan/CBC)

B.C. wildfire season worst in 60 years, still far from over: official

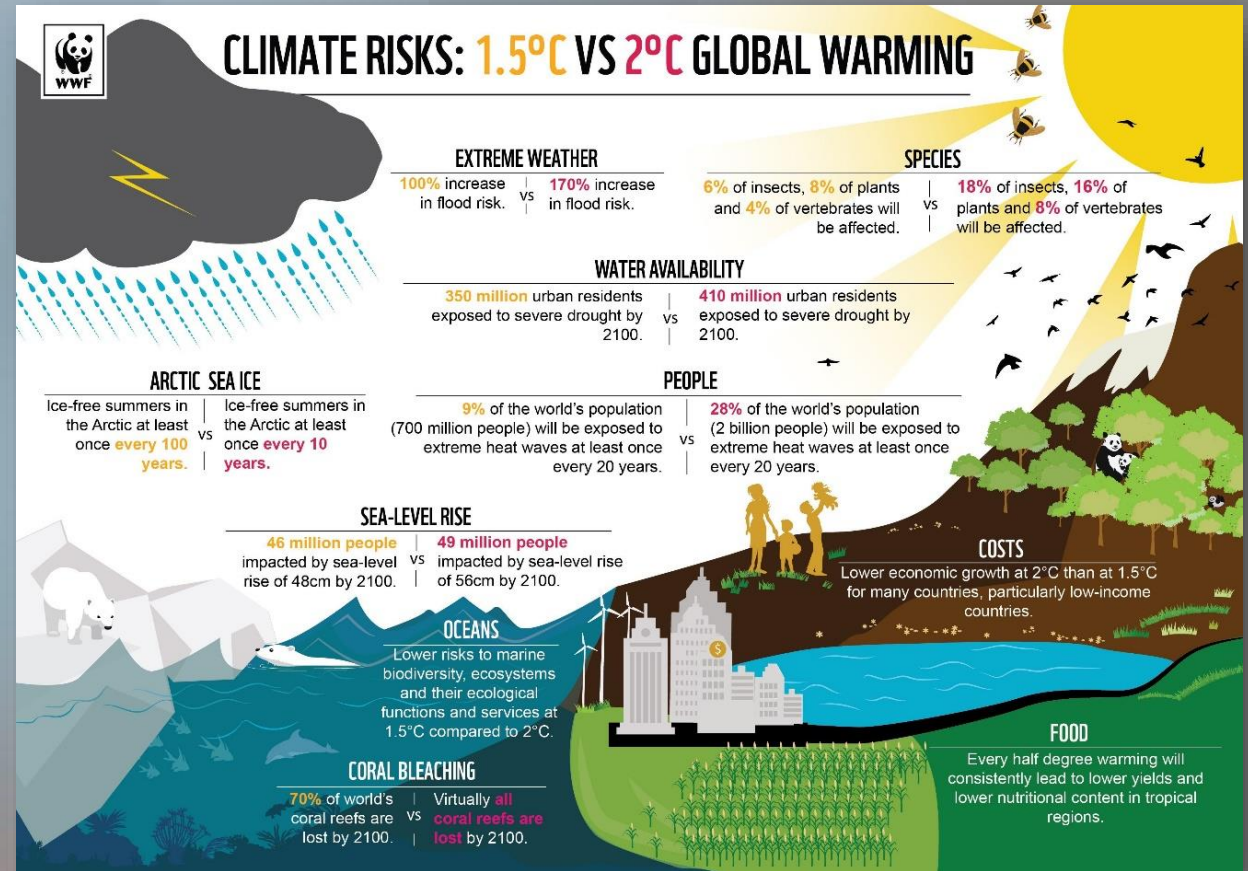
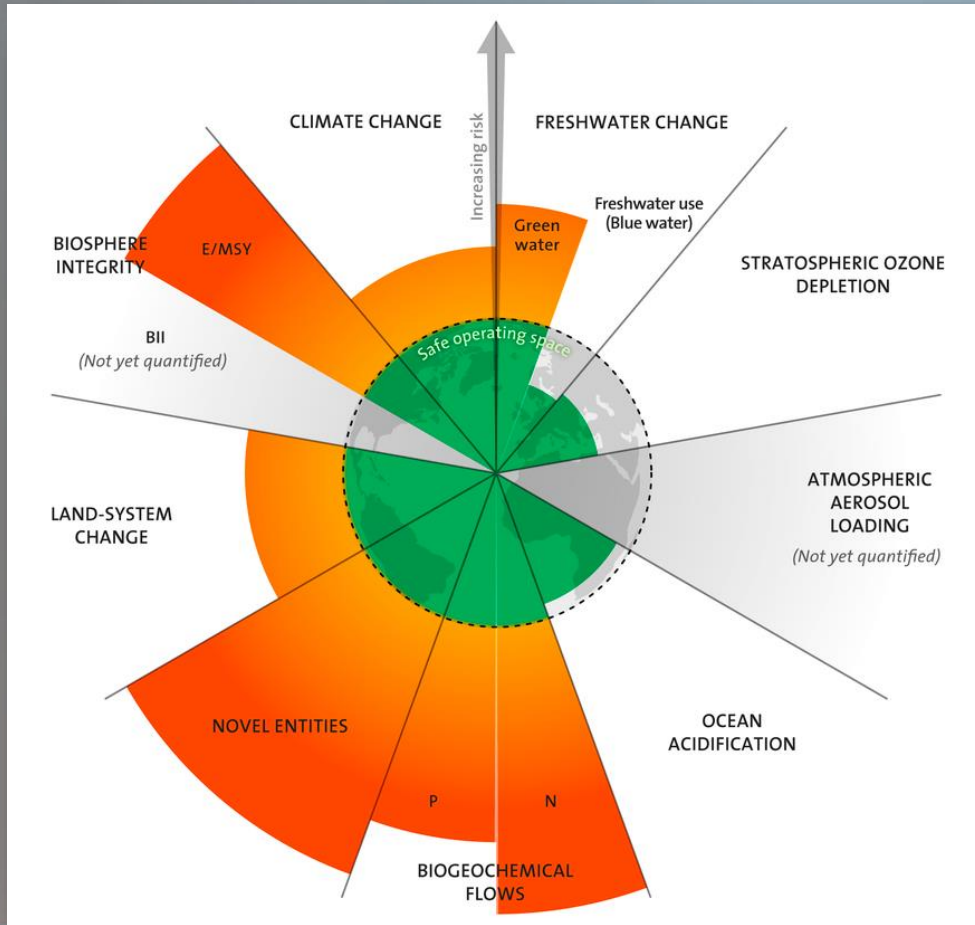
Flooding, mudslides wreak havoc across southern B.C.

By Staff The Canadian Press

Changes emerging across the climate system



Planetary Boundaries

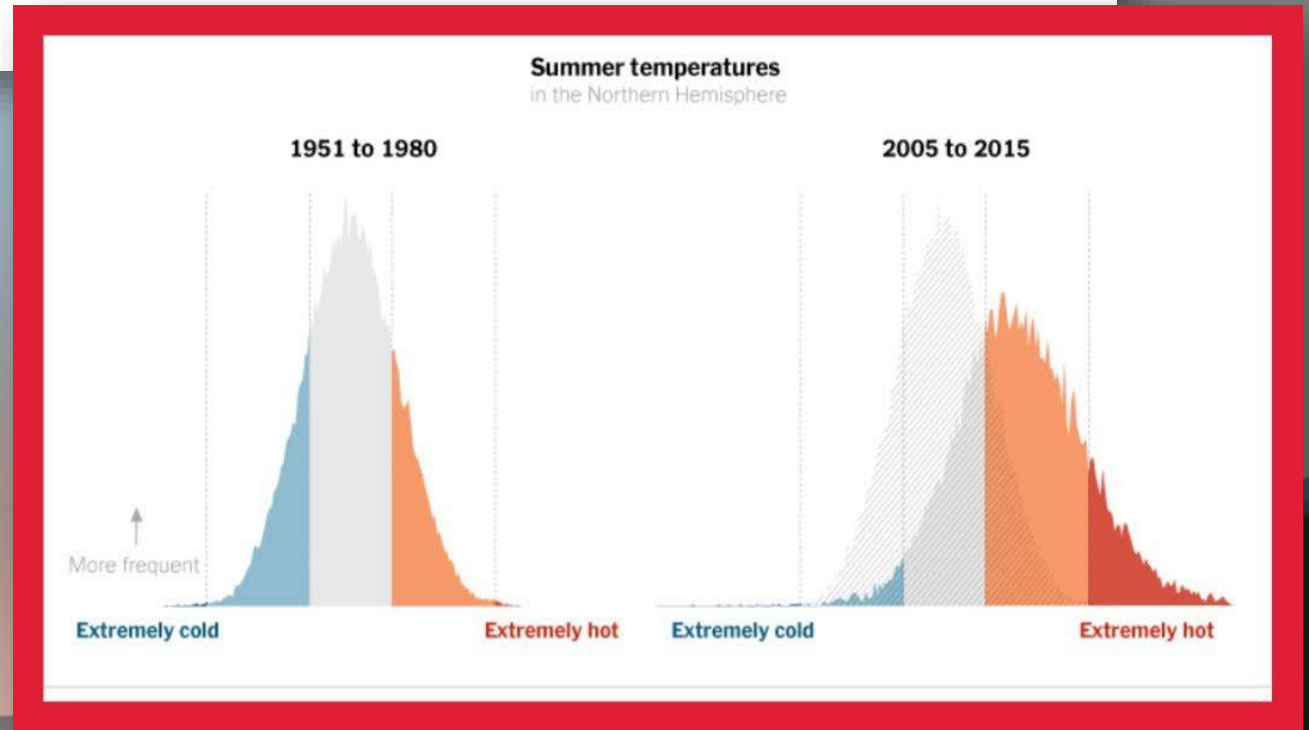
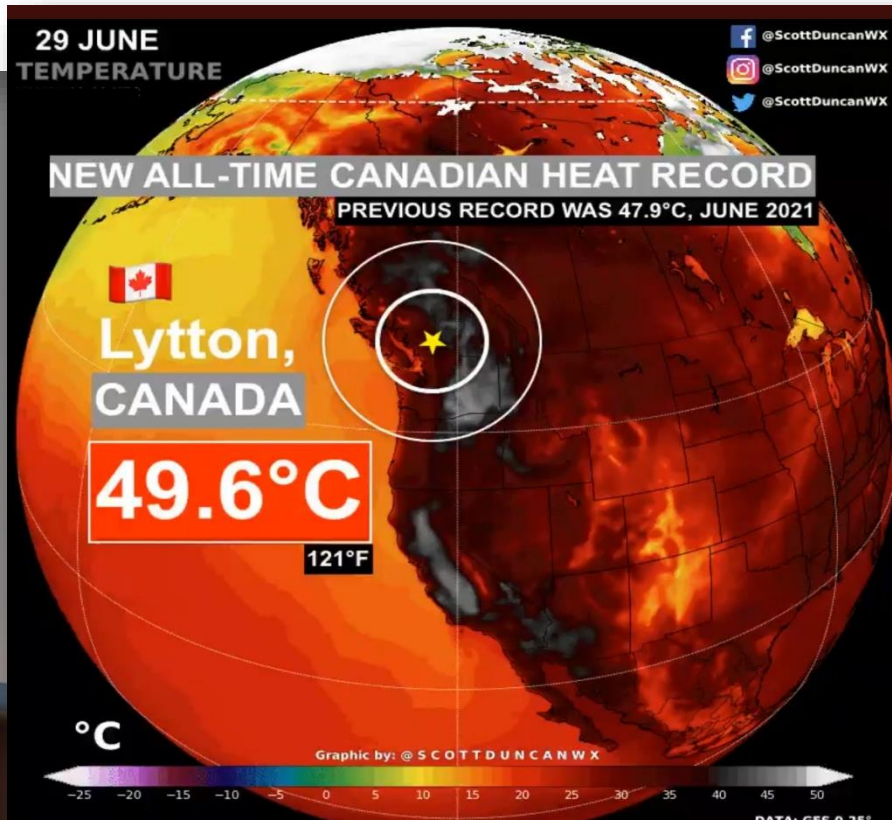


McKinsey Sustainability

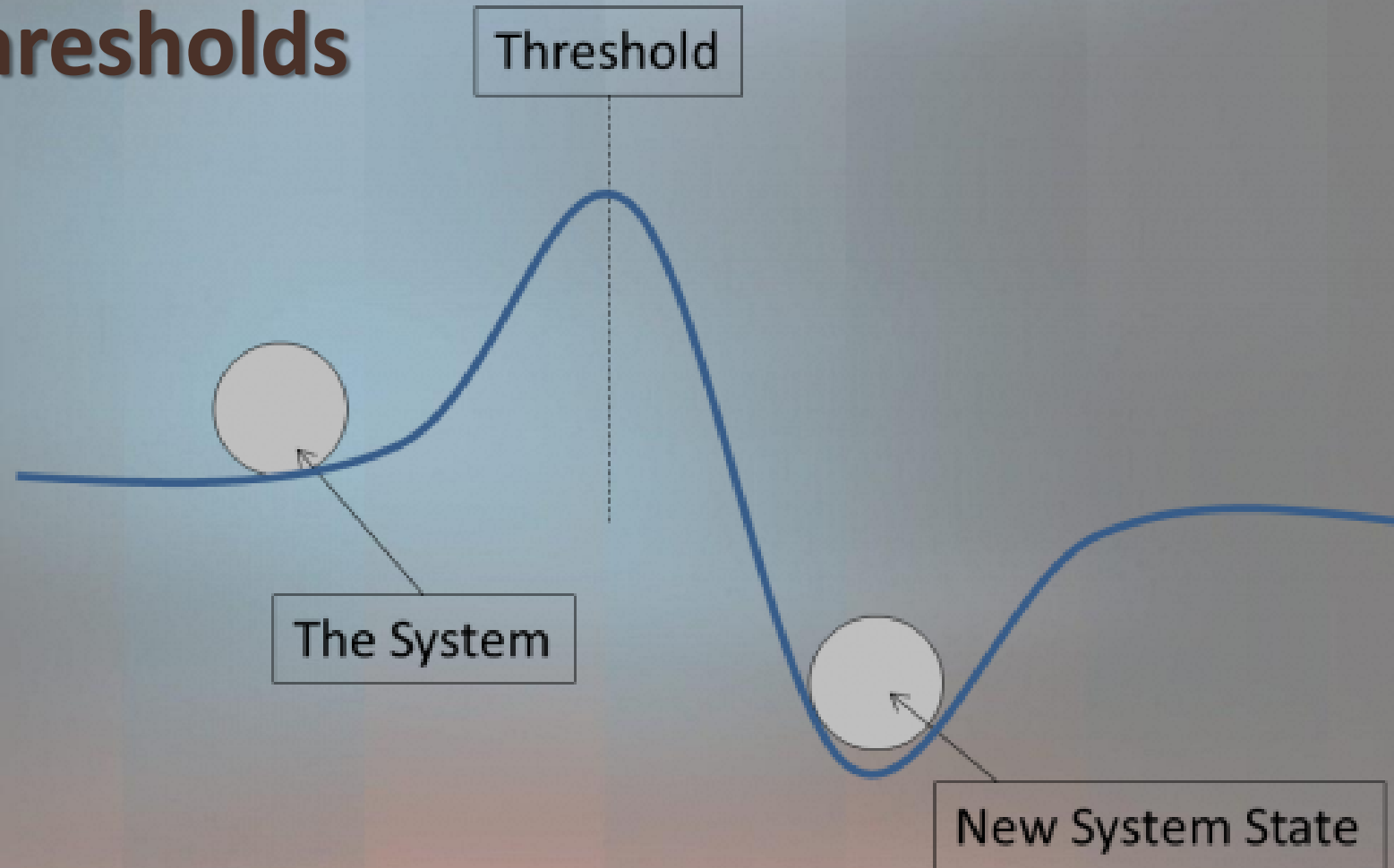
New Research

Study Measuring Earth's Vital Signs Warns of Climate Tipping Points

The authors say tropical coral reefs, the Amazon rainforest, and the West Antarctic and Greenland ice sheets may have passed dangerous tipping points

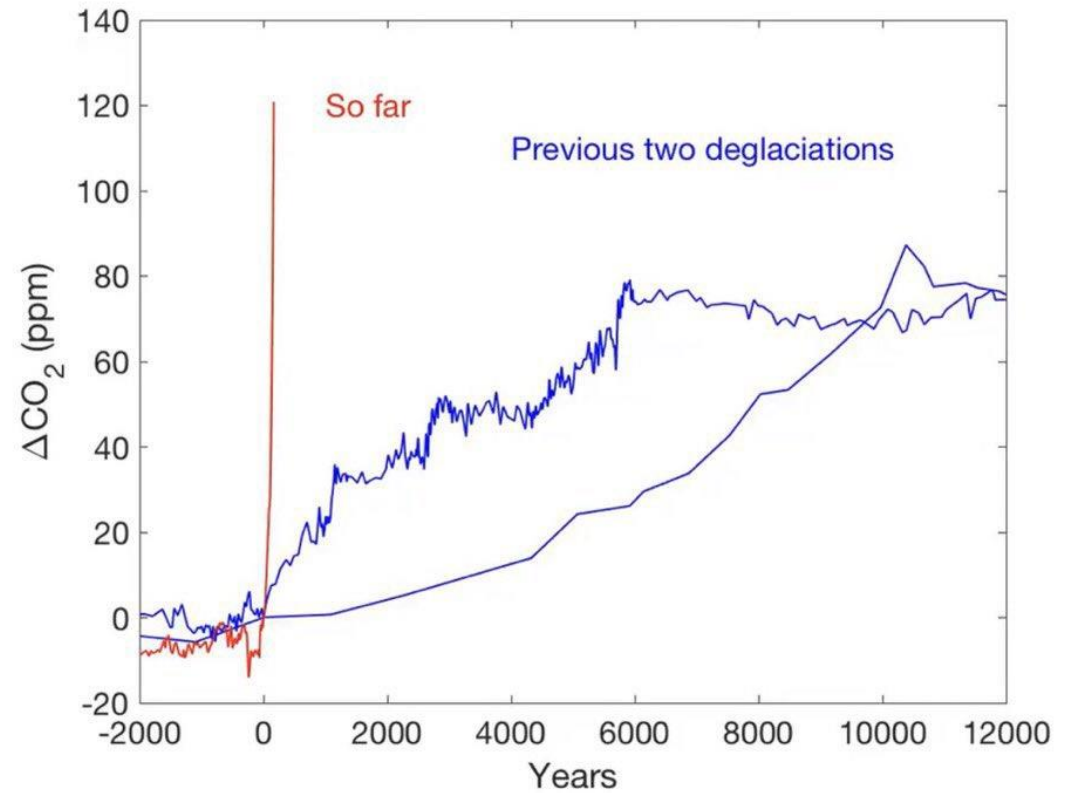
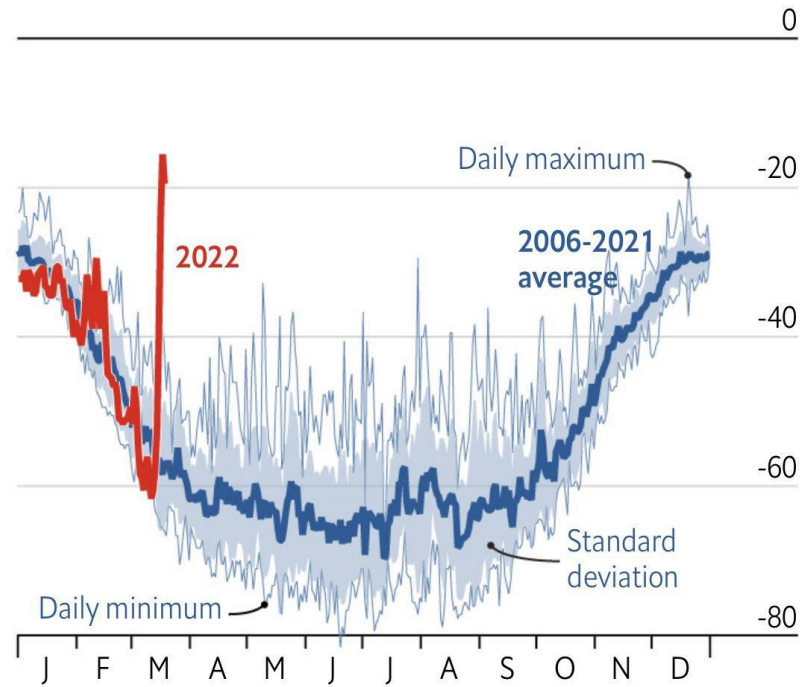


Ecological Thresholds

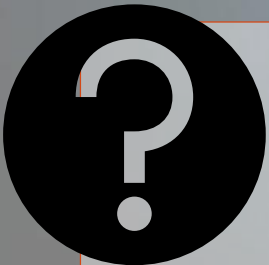


Climate Tipping Points

Antarctica, daily average temperature,
Concordia station, °C



How would modern peoples view nature under these circumstances?

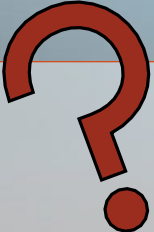


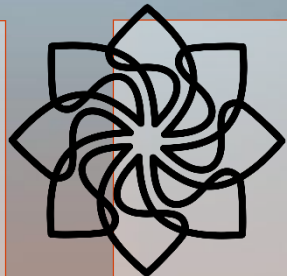
Mystic  is Nature



Nature  Kin



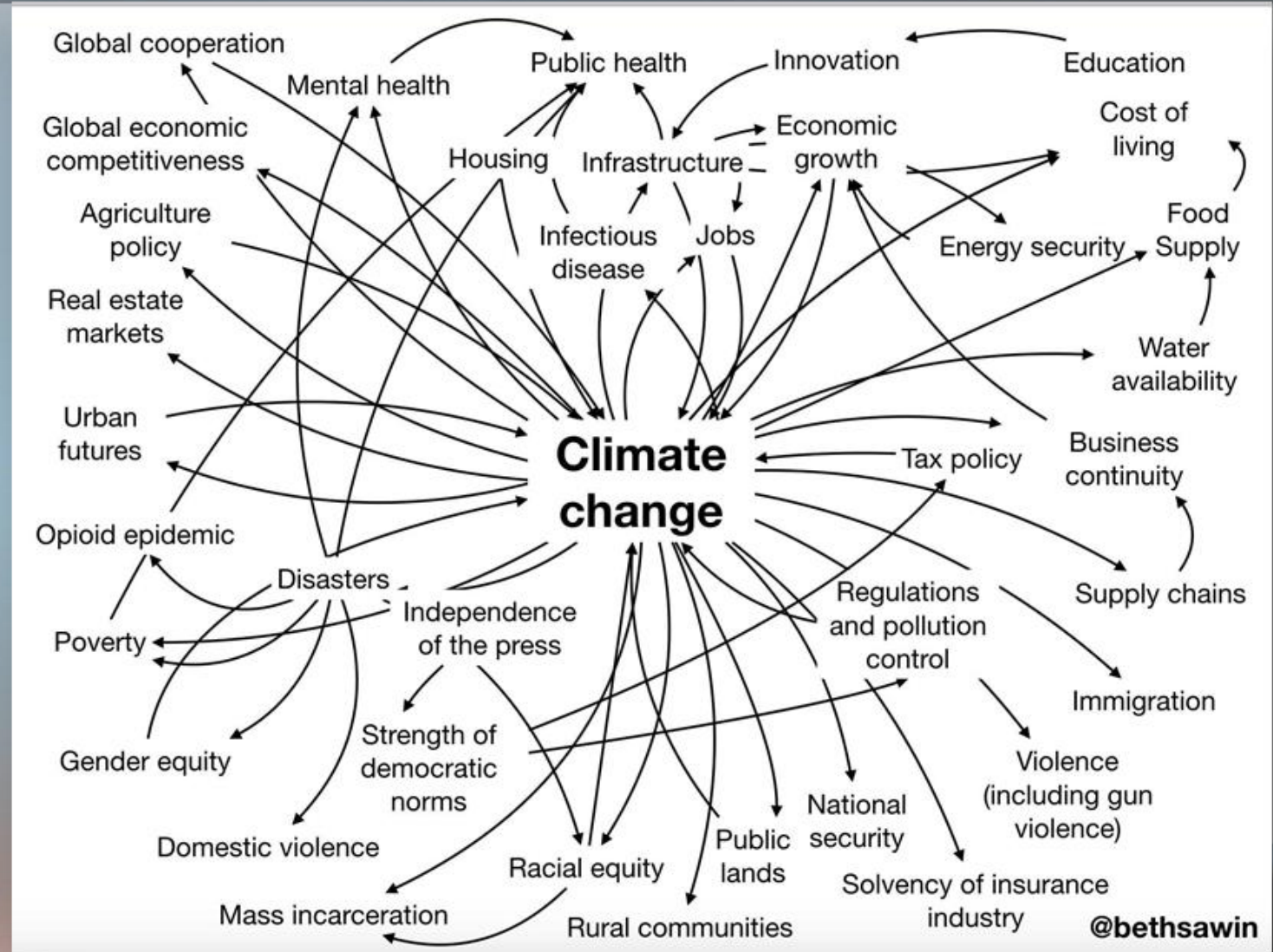
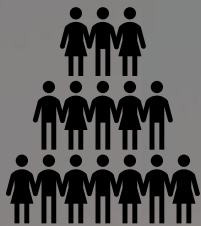
Human-
Nonhuman Worlds 



Complex Adaptive
System Dynamics

Complex Adaptive Systems

- Emergent properties (more than the sum of their parts)
- Cause-effect, feedback loops and flows



Human-Nature Entanglement

Post-Anthropocene

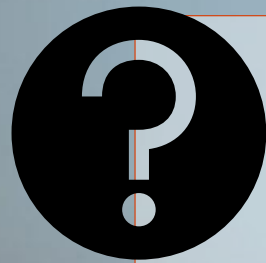
What is Entanglement?

Entanglement is an emergent property of two distant particles that appear to share the same state without communicating

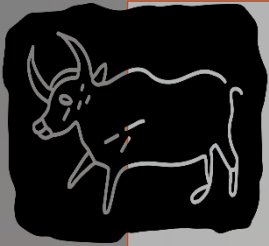


How to view nature under future circumstances?

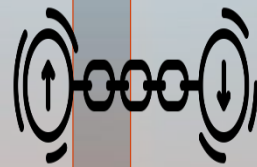
“the human enterprise is now a fully coupled, interacting component of the Earth System itself (Steffen)”



Mysterious
Nature



Nature as Kin



Entangled &
Complex Worlds

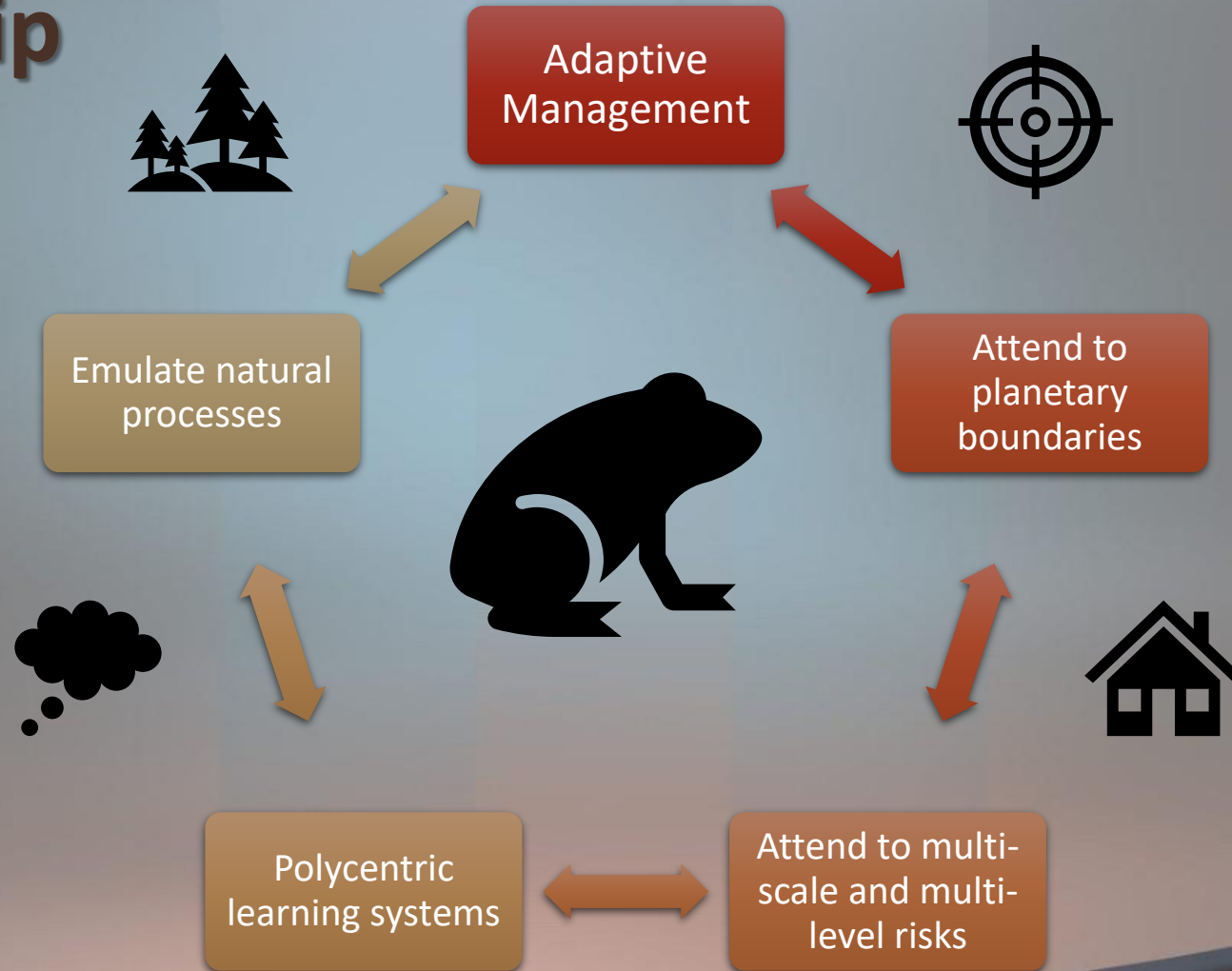
Tipping into a new system stasis?

Business as Usual cannot continue...

- “We are passing into a new phase of human experience and entering a new world that will be qualitatively and quantitatively different from the one we have known.”

Steffen, W., Persson, Å., Deutsch, L., Zalasiewicz, J., Williams, M., Richardson, K., Crumley, C., Crutzen, P., Folke, C., Gordon, L., Molina, M., Ramanathan, V., Rockström, J., Scheffer, M., Schellnhuber, H. J., & Svedin, U. (2011). The anthropocene: From global change to planetary stewardship. *Ambio*, 40(7), 739–761. <https://doi.org/10.1007/S13280-011-0185-X>

Towards Adaptive Management – Planetary Stewardship



Reducing Systemic Risk

Systemic risk results from the combination of **hazard, vulnerability and exposure** (UNDRR 2019, xii).



point of
Risk [risk]
danger
possibility

Back to the caves....

- ...what did we learn? How did we develop as humans?



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Post-Anthropocene

Thank you!
Questions?



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