The Climate Misinformation Landscape

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Markets vs. Mandates Conference

January 30, 2023

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"Climate Action" must strike a complex balance



- Certainties and Uncertainties of climate science
- Hazards and Risks of a changing climate
- Values and priorities
- Risk tolerance
- Intergenerational and geographical equities
- Efficacies/Costs of various responses

 Growing demand for reliable/affordable/"clean" energy

Why care about misinformation?



"Lack of transparency is a huge political advantage. It was really, really critical to getting the [ACA] passed. [At least one key provision was a] very clever **basic exploitation of the lack of economic understanding of the American voter."**

- J. Gruber, MIT (November, 2014)

Misrepresentation to persuade rather than inform

- Usurps the right of the public to make fully-informed decisions
- Distracts from more urgent needs
- Tarnishes science inputs to other important policy matters
- Depresses young people

Motivations for misinformation

- Media "If it bleeds, it leads"
- Factcheckers
- Politicians and government
 - "The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by an endless series of hobgoblins, most of them imaginary."
- Industry fear of "stakeholders"
- **NGOs** (including the IPCC) "existential threat" to their existence
 - "The truth is known. And it is sobering: The climate is in crisis. The consequences of inaction are extreme, irreversible, are already being felt deeply." – <u>Climate Imperative</u>
- Scientific Societies going with the flow; continuity of patronage
- Individual researchers funding/prominence/social acceptance

There is a receptive audience because of:

- The complexity/nuance of climate and energy
- The dominance of threat perception

The tactics of climate misinformation

- Sloppy nomenclature that confuses the non-scientist
 - "climate change" [scientific]: a change <u>due to natural and/or human causes</u>
 - "Climate Change" [UN and popular]: a change <u>due only to human causes</u>
- Use of terms like "denier" or "alarmist"
- "97 percent of scientists agree ..."
- Weasel words
 - "Might", "Could possibly...", "... as much as ...",
 - "... are projected to ...", "... cannot be ruled out"
- Extreme scenarios framed as Business As Ususal
- "Separate text from context and all that remains is a con."
 - No mention of uncertainty range or statistical significance
 - Failure to set a scale for very large or small numbers
 - No mention of historical comparisons (1-2 yrs = weather; >10 yrs = climate)

The "trend" artifice in assessment reports

CSSR on sea level

GMSL rose at a considerably faster rate 1993-2017 than the 1900-1990 average

No figure!



CSSR on heat waves

"the frequency of heat waves has increased since the mid-1960s (the Dust Bowl remains the peak period for extreme heat)"

2014 NCA on hurricanes

Hurricane activity has increased since the early 1980's





Parts of Greenland now hotter than at any time in the past 1,000 years, scientists say

New research in the northern part of Greenland finds temperatures are already 2.7 degrees warmer than they were in the 20th century

By Chris Mooney

January 18, 2023 at 11:00 a.m. EST

https://www.washingtonpost.com/climate-environment/2023/01/18/greenland-hotter-temperatures/



M. Hörhold et al. , Nature (2023)

Greenland is losing ice faster, but it's just weather SEK, WSJ 2/17/22

The Guardian, December 2019



Scale and speed of loss much higher than predicted, threatening inundation for hundreds of millions of people



Glaciers calving icebergs in south-west Greenland, which has lost 3.8tn tonnes of ice since 1992, and the rate of ice loss has risen from 33bn tonnes a year in the 1990s to 254bn tonnes a year in the past decade.



Mankoff et al.

AR6 obscures sea level variability

SPM A.1.7 Global mean sea level increased by 0.20 [0.15 to 0.25] m between 1901 and 2018. The average rate of sea level rise was 1.3 [0.6 to 2.1] mm yr⁻¹ between 1901 and 1971, increasing to 1.9 [0.8 to 2.9] mm yr⁻¹ between 1971 and 2006, and further increasing to 3.7 [3.2 to 4.2] mm yr⁻¹ between 2006 and 2018 (high confidence).



Figure SPM.8



AR5 WG1: It is very likely that the mean rate of global averaged sea level rise was 1.7 [1.5 to 1.9] mm/year between 1901 and 2010... and 3.2 [2.8 to 3.6] mm/year between 1993 and 2010. It is likely that similarly high rates occurred between 1920 and 1950.

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NOAA (2022) projections are extraordinary SEK, WSJ (2023)



Media (mis)representation of warming trends

https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-america/



Urban heat effects, changing air pollution levels, ocean currents, events like the Dust Bowl, and natural climate wobbles such as El Niño could all be playing some role, experts say.

Pakistan 2022 floods in historical context "Worst since 1961 ..."



https://mol.tropmet.res.in/monsoon-interannual-timeseries/

- Existential threat, climate crisis, climate emergency, climate disaster, ...
 Biden, Kerry, Sanders, Carney, Gates, Moniz, ...
- Code Red for humanity ... billions of people at immediate risk <u>Guterres</u>, 8/9/21
- "We are on a highway to climate hell with our foot still on the accelerator" - <u>Guterres</u>, 11/7/22
- We face all kinds of threats in our line of work, but few of them truly deserve to be called existential. The climate crisis does ... climate change is making the world more unsafe and we need to act.

– SecDef Austin, <u>Leaders Summit on Climate</u>, April 2021



















https://rogerpielkejr.substack.com/p/global-disasters-a-remarkable-story

... global average mortality and economic **loss rates that have dropped by 6.5 and nearly 5 times**, respectively, from 1980–1989 to 2007–2016.

- Formetta and Feyen (2019), Empirical evidence of declining global vulnerability to climate-related hazards

IPCC AR5 WG2 Chapter 10:

For most economic sectors, the impact of climate change will be small relative to the impacts of other drivers (medium evidence, high agreement). Changes in population, age, income, technology, relative prices, lifestyle, regulation, governance, and many other aspects of socioeconomic development will have an impact on the supply and demand of economic goods and services that is large relative to the impact of climate change.

All IPCC scenarios for the future involve substantial economic growth

Economic impact of warming in NCA2018

In the absence of more significant global mitigation efforts, climate change is projected to impose substantial damages on the US economy, human health, and the environment. Under scenarios with high emissions and limited or no adaptation, annual losses in some sectors are estimated to grow to hundreds of billions of dollars by the end of the century. -NCA2018, Chapter 29, Key Finding 2

- "Climate change will wallop the US economy" (<u>NBC News</u>)
- "Climate report warns of grim economic consequences" (Fox News)
- "Climate change could cost US billions" (<u>Financial Times</u>)
- "US climate report warns of damaged environment and shrinking economy" (<u>New York Times</u>)

How is this going to get fixed?

- Cogent, referenced written refutations
 - A killer figure in popular presentations
- Formal debates
- A "red team" scrub of assessment reports and their summaries
- It will fix itself

