Roger Pielke Jr.
@RogerPielkeJr
a year ago, 66 tweets, 29 min read Read on Twitter

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1⃣Last night I gave my first public lecture on extreme weather since being "investigated" by Rep. Raul Grijalva in 2015. In the lecture I tell a story and present updated, consensus science on extreme weather. Let's get started ...

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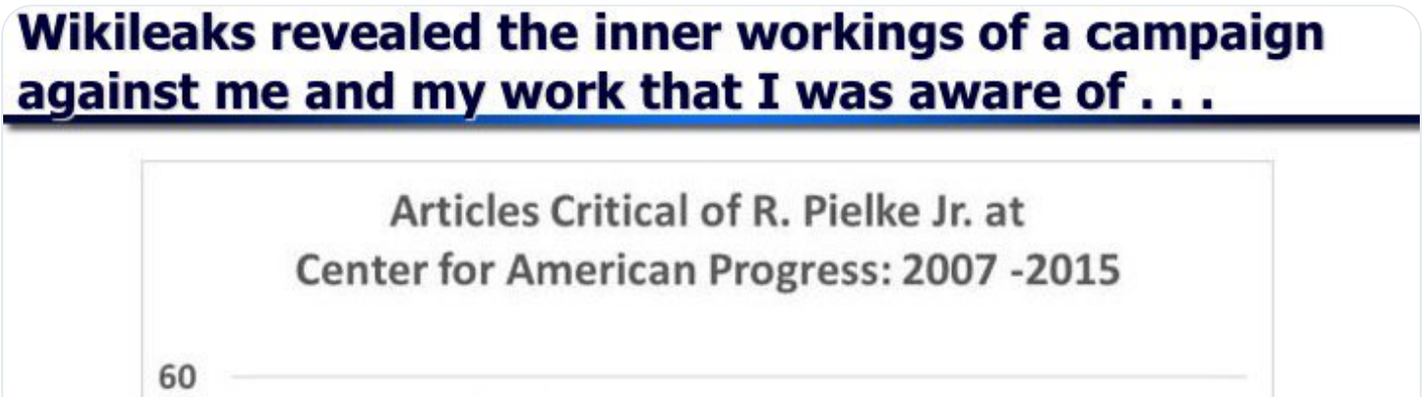
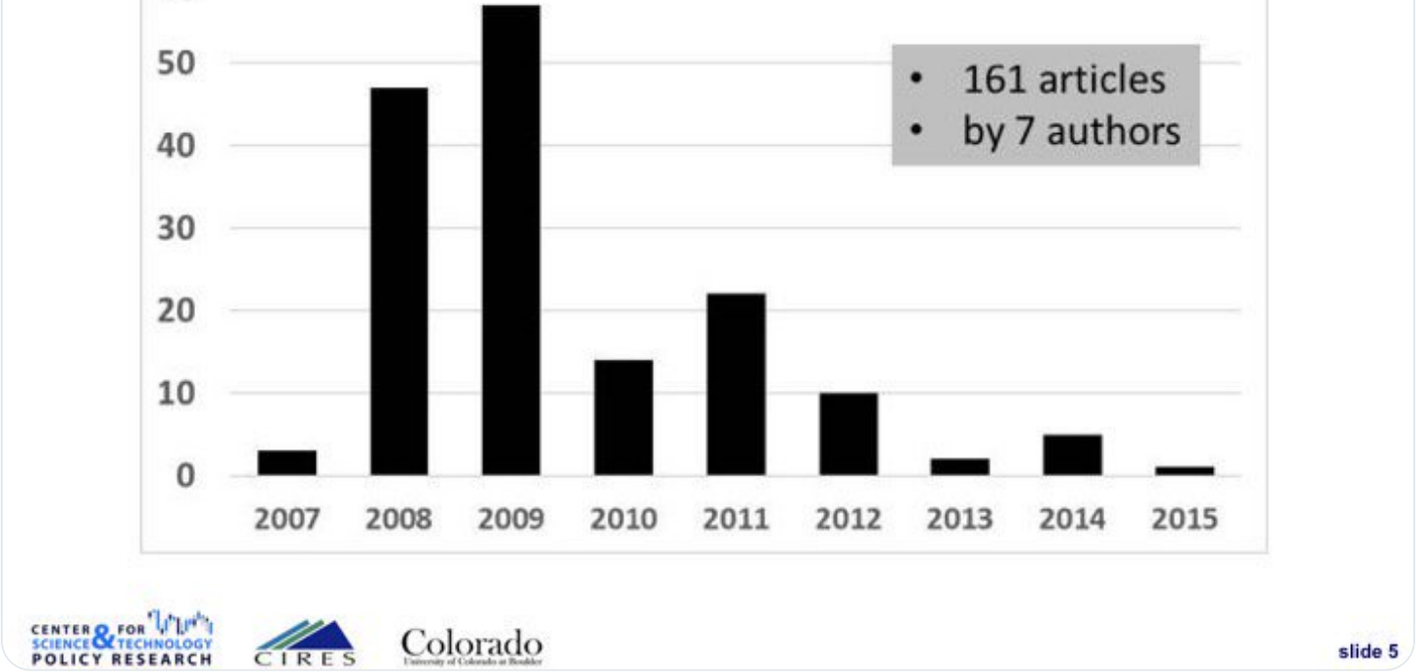
2⃣I started with a disclosure of everyone I've voted for in presidential elections since 1988. I also included who I supported in 1980 (John Anderson, of course), the first election I can remember actually following, when I was 12 and in 7th grade.

I start with the Wikileaks releases of John Podesta's emails in 2016.
I turned up in them. I know. It's nuts.
In them a staffer at the Center for American Progress emailed Podesta and billionaire Tom Steyer to brag about getting me removed as a writer for Nate Silver's 538.

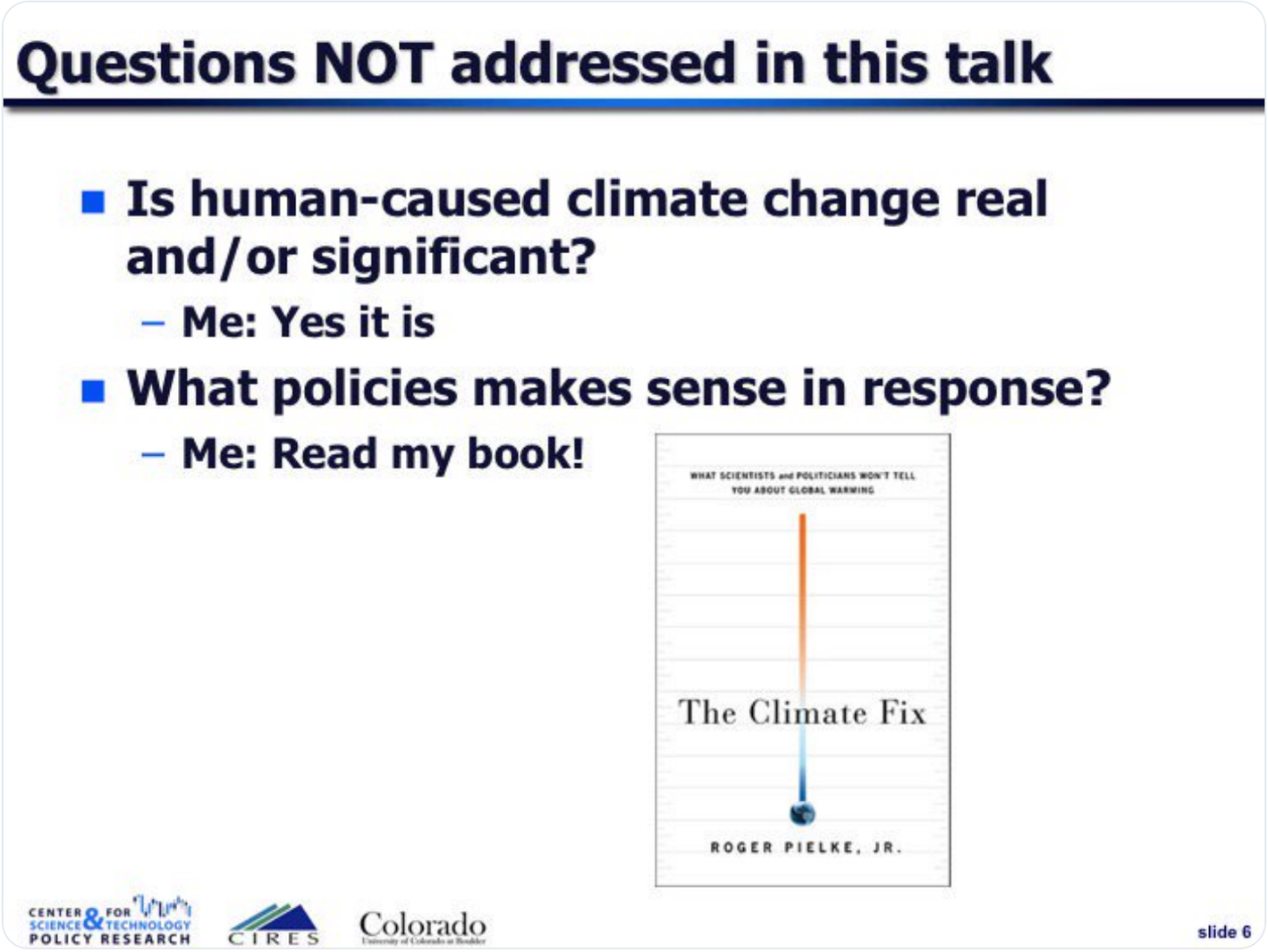
4The email revealed an organized campaign by CAP against me. It was one they had been pursuing for years. The CAP email opened a lot of people's eyes to some ugly behaviors.

5Beginning in 2007, CAP wrote more than 161 articles critical of me, many spreading false and incorrect representations of my views. They averaged an article a week in 2008 and 2009. The must have really thought I was important to put 7 different writers on my beat!



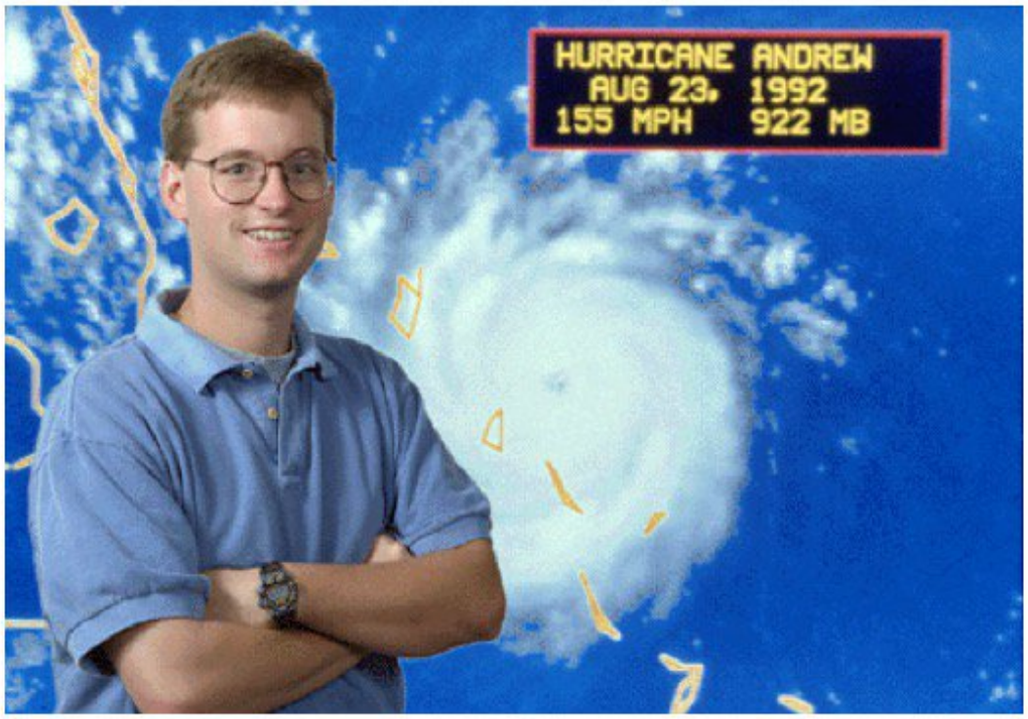


6 But before getting further on all that, let's start a bit further back. Before proceeding, here are two quick answers to questions that this talk does not dwell on.



7 I started studying extreme events in 1993 (that's me 25 yrs ago) when I began a post-doc at NCAR on a project focused on lessons learned in Hurricane Andrew & the Midwest floods of 1993. I worked for the one and only @MickeyGlantz who was one of my most significant mentors 🙏

I have studied extreme events & climate since 1993



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81 can actually tell you the apex of my career studying extreme events. On March 15, 2006 I received an award from the NAS & gave a lecture to a huge audience at the Smithsonian Natural History Museum in DC. My work was viewed to be important, novel and … legitimate.

The Apex of my Career – March 15, 2006

The National Academies of SCIENCES · ENGINEERING · MEDICINE

ROGER REVELLE LECTURE SERIES
PRESENTED BY THE OCEAN STUDIES BOARD

2006–Roger Pielke, Jr.

Roger Pielke, Jr. is a professor in the Environmental Studies Program and a fellow of the Cooperative Institute for Research in the Environmental Sciences (CIRES) at the University of Colorado. At CIRES, Dr. Pielke directed the Center for Science and Technology Policy Research from 2001-2007. From 1993-2001 he was a scientist at the Environmental and Societal Impacts Group at the National Center for Atmospheric Research in Boulder, Colorado, where he studied societal responses to extreme weather events, policy responses to climate change, and U.S. science policy. Dr. Pielke's research focuses on the relation of scientific information and public and private sector decision-making. His current areas of interest include the politicization of science, decision making under uncertainty, and policy education for scientists. Dr. Pielke chaired the American Meteorological Society's Committee on Societal Impacts 1999-2002, and has served on the Science Steering Committee of the World Meteorological Organization's World Weather Research Programme and the Board on Atmospheric Sciences and Climate of the National Research Council, among other advisory committees. Dr. Pielke received his B.A. in mathematics, M.A. in public policy and Ph.D. in political science from the University of Colorado.

Disasters, Death and Destruction: Accounting for Recent Calamities

The recent devastation caused by Hurricane Katrina, the Indian Ocean tsunami, and South Asian earthquake has kept natural disasters at the focus of our attention. The past decades have seen a spectacular series of catastrophes around the world with ever increasing economic losses and horrific loss of life. The recent spate of disasters has created two common perceptions among decision makers and the general public. First, there is a sense that the economic impacts associated with extreme events have increased in recent years. Second, given that a human influence on the climate system has been well established, a perception exists that the recent increase in weather-related disasters like floods and hurricanes is in some way related to changes in climate. These perceptions beg two questions:

WELCOME

In 1999, the Ocean Studies Board (OSB) launched the Roger Revelle Commemorative Lecture to highlight the important links between ocean science and public policy. The series was named in honor of the late Roger Revelle, a leader in the field of oceanography for over 50 years who spearheaded efforts to investigate the mechanisms and consequences of climate change. In recognition of the critical importance of education in linking science and public policy, the OSB has partnered with the National Science Resources Center and the Smithsonian's National Museum of Natural History to bring the Revelle Lecture to a broader audience. The lecture is held annually in conjunction with the OSB meeting in Washington, DC.

About Roger Revelle

SPONSORS

- National Science Foundation (NSF)
- The Office of Naval Research (ONR)
- The U.S. Geological Survey (USGS)
- The National Aeronautics and Space Administration (NASA)
- The National Oceanic and Atmospheric Administration (NOAA)
- The Smithsonian Science Education Center
- The Smithsonian Institution
- The Gordon and Betty Moore Foundation

9 Two months later, An Inconvenient Truth came out, focused on politicizing extreme weather in the climate debate. Extreme weather had always been part of the debate, but it was becoming more central as advocates tried to make climate more relevant to the public.

10 That same May, 2006 I was busy organizing a major international workshop in partnership with @MunichRe in Hohenkammer, Germany. We wanted to assess the science of disasters and climate change as input to the upcoming IPCC AR4 report.

Münchener Rück
Munich Re Group

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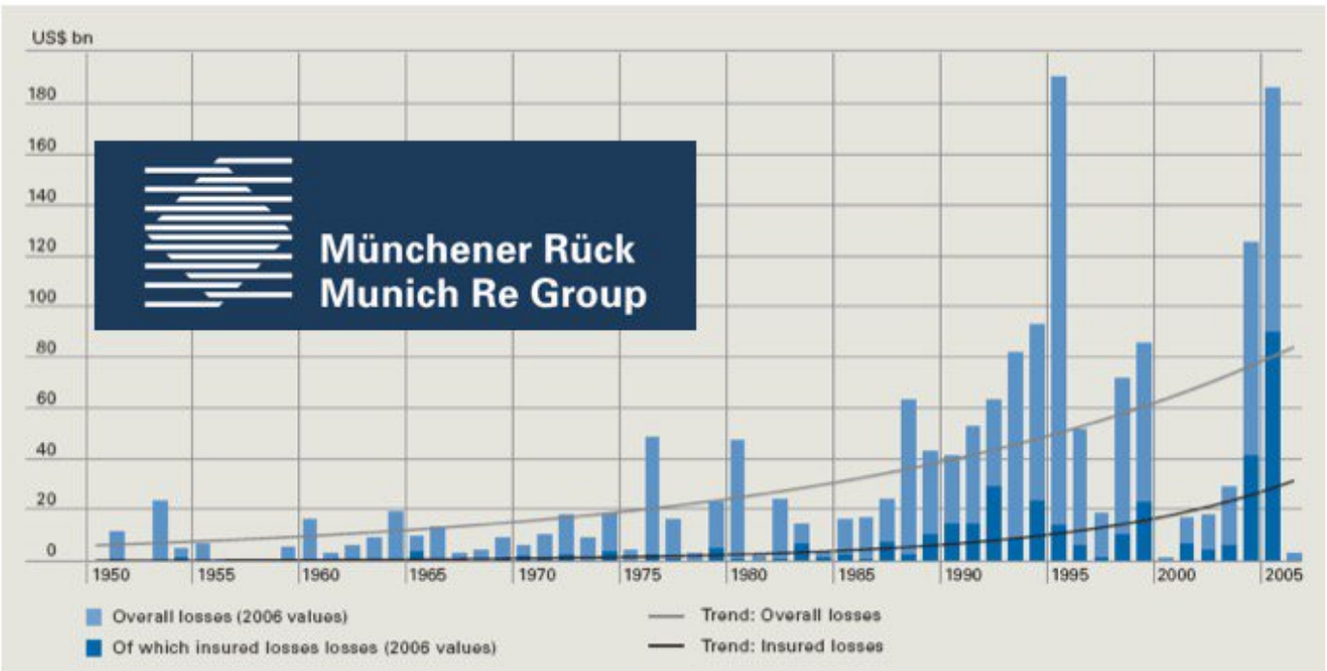
Our focus was sharp. We wanted to assess scientific understandings on the causes of the trend shown in the data below. Why were disasters getting more costly? We started by thinking that we'd produce a "consensus dissensus" report, but we wound up all in 100% consensus.

Increasing global losses



Münchener Rück
Munich Re Group

Source: Munich Re 2007

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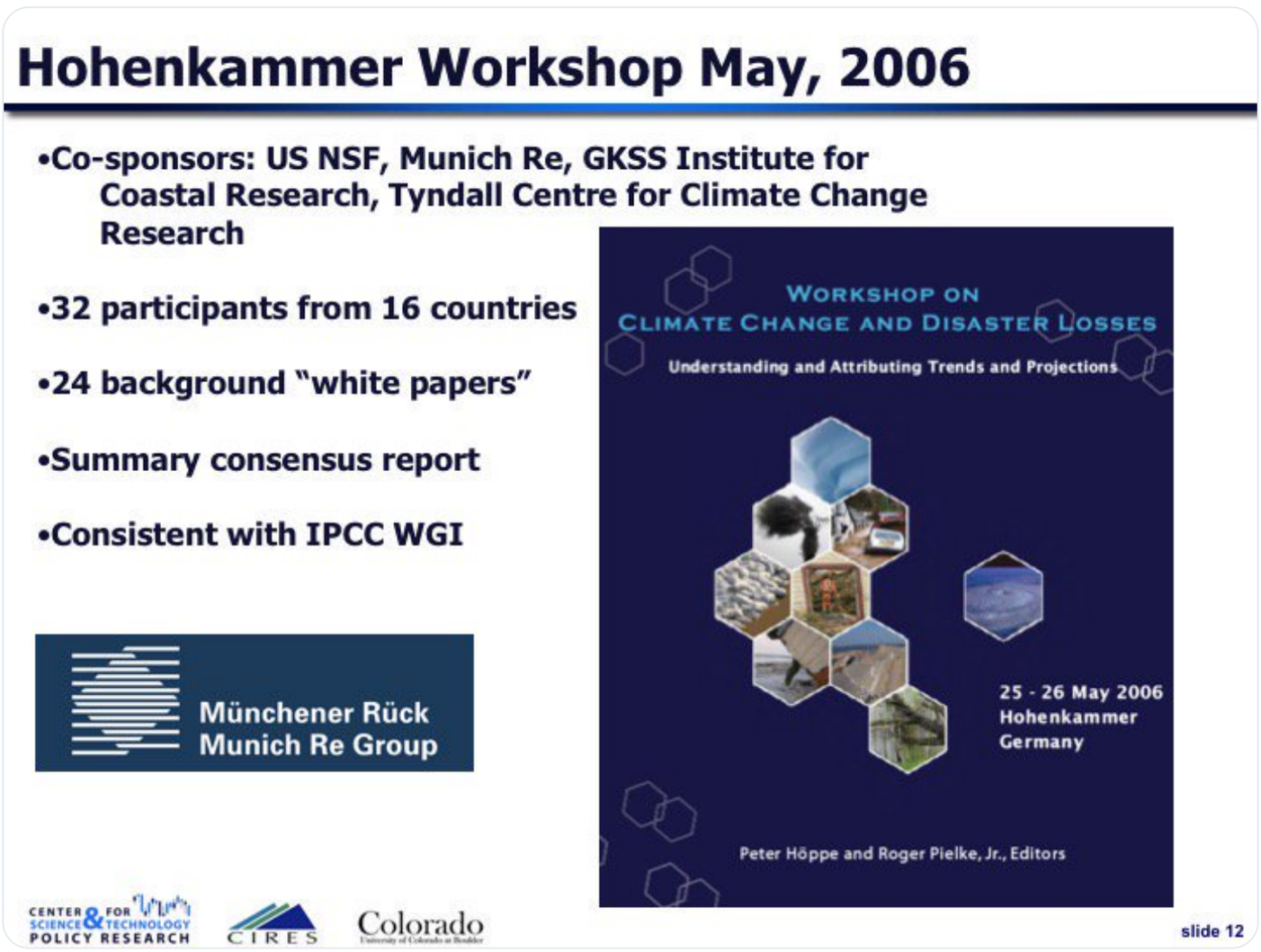
12 The Hohenkammer workshop (page archived here: sciencepolicy.colorado.edu/research_areas...) involved 32 participants & we comissioned 24 background papers. We produced a summary published in Science (

Confronting Disaster Losses

G lobal costs of weather-related disasters have increased from an annual average U.S.$8.9 billion (1977-1986) to U.S.$45.1 billion (1997-2006). In coming decades, the number of people at risk from ex...

http://science.sciencemag.org/content/318/5851/753

) including the workshop's 20 consensus statements.



13 The three consensus statements most relevant to this talk are below, with a key takeaway highlighted in red. If increasing disaster losses were the result of climate change due to GHG emissions, we could not detect that. It was not a close call, it was unanimous.

Hohenkammer Workshop May, 2006

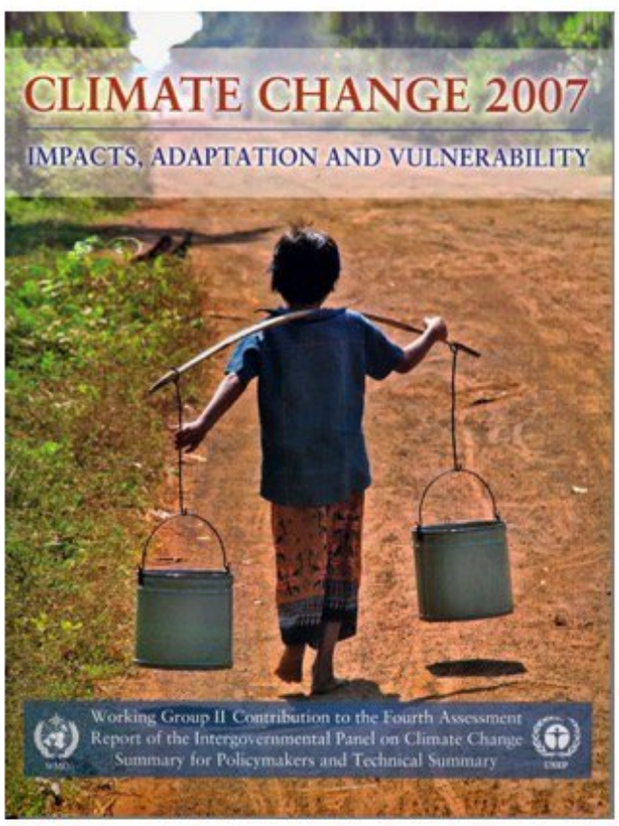
- Analyses of long-term records of disaster losses indicate that societal change and economic development are the principal factors responsible for the documented increasing losses to date.

- Because of issues related to data quality, the stochastic nature of extreme event impacts, length of time series, and various societal factors present in the disaster loss record, **it is still not possible to determine the portion of the increase in damages that might be attributed to climate change due to GHG emissions**

- In the near future the quantitative link (attribution) of trends in storm and flood losses to climate changes related to GHG emissions is unlikely to be answered unequivocally.

14 So when the IPCC AR4 came out, I excitedly looked to see what role our efforts in Hohenkammer played in their report.

IPCC AR4 2007

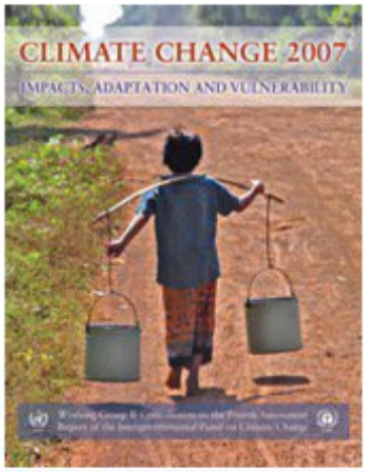


15 went to Section "1.3.8.5 Summary of disasters and hazards" only to be blindsided. The report cited "one study" that was apparently at odds with what we had concluded in our assessment. How could 32 experts have all missed this "one study"? What fools we were (I thought).

IPCC 2007: Reliance on "one study"

1.3.8.5 Summary of disasters and hazards

Global losses reveal rapidly rising costs due to extreme weather-related events since the 1970s. One study has found that while the dominant signal remains that of the significant increases in the values of exposure at risk, once losses are normalised for exposure, there still remains an underlying rising trend.



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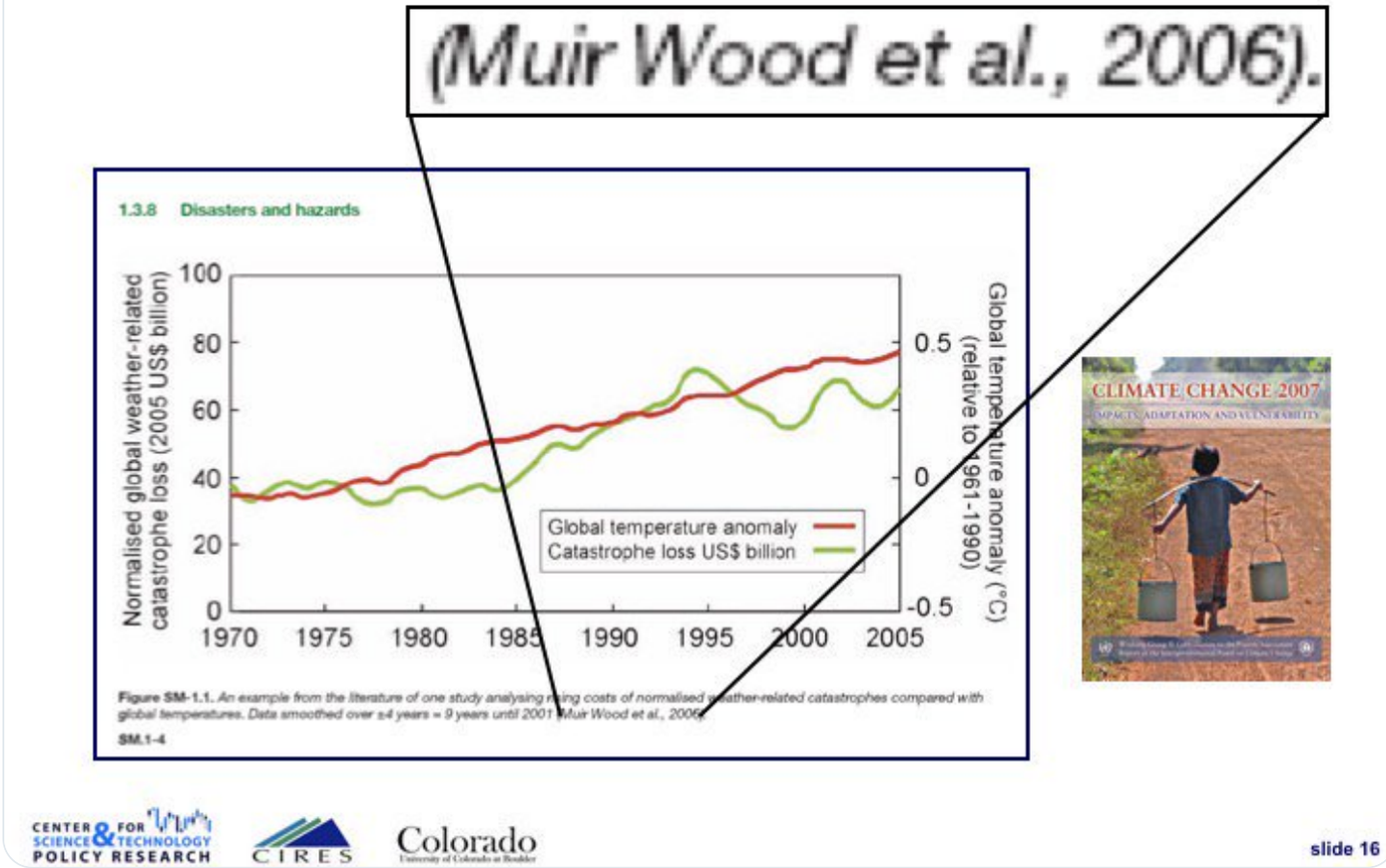
slide 15

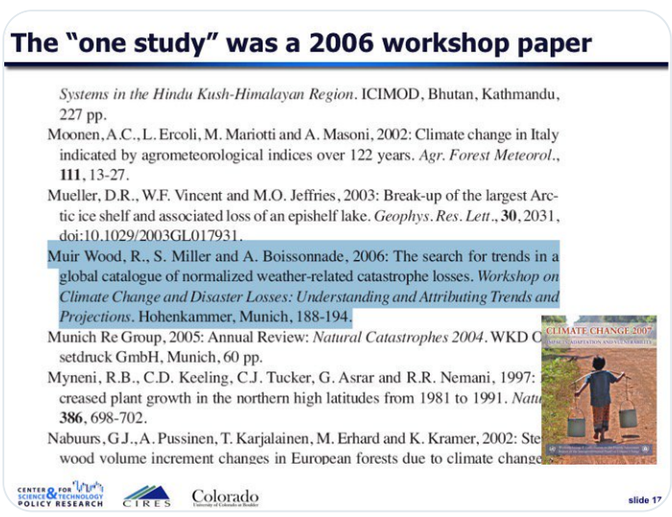
16 Looking closer, the IPCC AR4 included a mysterious graph that seemed to link rising global temperatures with increasing catastrophe losses. It was mysterious because I'd never seen it before. It was referenced to Muir-Wood et al. 2006, which seemed familiar . . .

Relies on "one study" -- What is that "one study"?



17&18 The paper was the one listed below ...

Hey! That was one of the papers we had commissioned for the Hohenkammer workshop. But I knew it did not include that mysterious graph nor any analysis of temperatures and disasters. That is really weird, I thought.



19 Long story short. The graph was slipped into the IPCC by one of its authors (& Hohenkammer workshop attendee) who miscited it to the white paper in order to circumvent the IPCC deadline for publications. He expected the figure and analysis to appear in a future publication.

•In February 2010 during a public debate at the Royal Institution in London, Robert Muir-Wood revealed that he had created the graph, included it in the IPCC and then ***intentionally miscited it*** in order to circumvent the IPCC deadline for inclusion of published material.

•IPCC Lead Author Muir-Wood (and RMS) said that the graph should never have been included in the report

•In 2006 Risk Management Solutions (the company that employs RM-W) predicted that the risk of US hurricane damages had increased by 40%, necessitating much higher insurance and reinsurance premiums ($82 billion according to Sarasota Herald Tribune)

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20 That future paper was eventually published, well after the IPCC AR4 came out. And what did it say? Have a seat and read the below. That is right. It said the opposite of what had been claimed in the IPCC AR4. Whoopsy.

What the mis-cited source for the IPCC graph actually said when finally published in 2008

"We find insufficient evidence to claim a statistical relationship between global temperature increase and normalized catastrophe losses."

Miller et al. 2008
(RM-W was a co-author)

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21 That seemed like a big deal & it was
The Sunday Times (@Jonathan__Leake) did a very good news story on it.
I was called by @larsonchristina (then at FP) who asked if she could interview me.

Sure I said.

That resulted in the hit job below, turning me into a climate "denier."

22The Center for American Progress amplified the hit job & continued a campaign of delegitimization of me & my work. It was relentless.

In 2015 Pulitzer Prize winner Paige St. John quoted me innocuously, only to have others calling for her to be fired for doing so. She wrote:

theguardian

Mother Jones
SMART, FEARLESS JOURNALISM

MEDIA MATTERS FOR AMERICA

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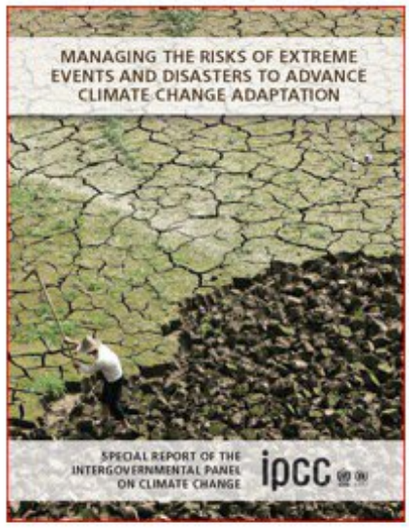
slide 22

23 But science goes on. In 2012 the IPCC Special report on Extreme (SREX) arrived at the eact same conclusion as we had at Hohenkammer. Of course they did, that is what the science, evidence, data all show. Key conclusion:

IPCC 2012 SREX on disaster losses

"Long-term trends in economic disaster losses adjusted for wealth and population increases have not been attributed to climate change, but a role for climate change has not been excluded (medium evidence, high agreement)."

IPCC SREX 2012



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24 Despite the IPCC consensus aligned w/ (& indeed drawing upon my & colleagues work) the delegitimization efforts intensified.
In 2015 I was the subject of an Congressional "investigation" (w/ 6 other academics), accused of secretly taking Exxon money. (Cue evil music here)

The "investigation" of me 2015

The New York Times

SCIENCE

Lawmakers Seek Information on Funding for Climate Change Critics

By JOHN SCHWARTZ FEB. 25, 2015

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FAR FROM THE MADDING CROWD
MAY 1

Democratic lawmakers in Washington are demanding information about funding for scientists who publicly dispute widely held views on the causes and risks of climate change.

Prominent members of the United States House of Representatives and the Senate have sent letters to universities, companies and trade groups asking for information about funding to the scientists.

The letters came after evidence emerged over the weekend that Wei-Hock Soon, known as Willie, a scientist at the Harvard-Smithsonian Center for Astrophysics, had failed to disclose the industry funding for his academic work. The documents also included correspondence between Dr. Soon and the companies who funded his work in which he referred to his papers and testimony as "deliverables."

In letters sent to seven universities on Tuesday, Representative Raúl M. Grijalva, an Arizona Democrat who is the ranking member of the House committee on natural resources, sent detailed requests to the academic

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251 cannot describe how penal, professionally & personally, it is to be identified as the subject of a congressional investigation.
I suppose that was the entire point.
(Note: I never have taken any money from energy companies. I was of course cleared in the "investigation.")

Local media coverage piled on

Daily Camera
CU NEWS

News - Business - Sports - Entertainment - Lifestyle - Opinion - Recreation - Milest

HOT TOPICS: L'Atelier moving to Denver Palo Parkway housing Pearl Street bank ban Editorial: MacInty

SWEETHEART DANCE • NORTH BOULDER RECREATION CENTER

Home CU News Story

CU-Boulder's Roger Pielke Jr. targeted by congressman over research funding

Prof calls probe a politically motivated 'witch hunt'

By Gloria Dickie
For the Camera

POSTED: 02/26/2015 08:52:52 AM MST | UPDATED: ABOUT A YEAR AGO

A University of Colorado professor who's been a polarizing figure in the climate change debate is being investigated by a Democratic congressman from Arizona over whether he's received research funding from fossil fuel companies.

Both professor Roger Pielke Jr. — who denies claims that he's a climate change skeptic — and the CU administration on Wednesday said that's absolutely not the case.

"Professor Pielke is a highly regarded faculty member who is clearly operating under the principles of academic freedom, which we strongly defend," CU Provost Russell Moore said. "We stand behind him. His research has been funded by the National Science Foundation, National Oceanic and Atmospheric Administration and other credible organizations.

Roger Pielke Jr., a University of Colorado professor, says he's under investigation by a U.S. congressman for potential conflicts of interest in his

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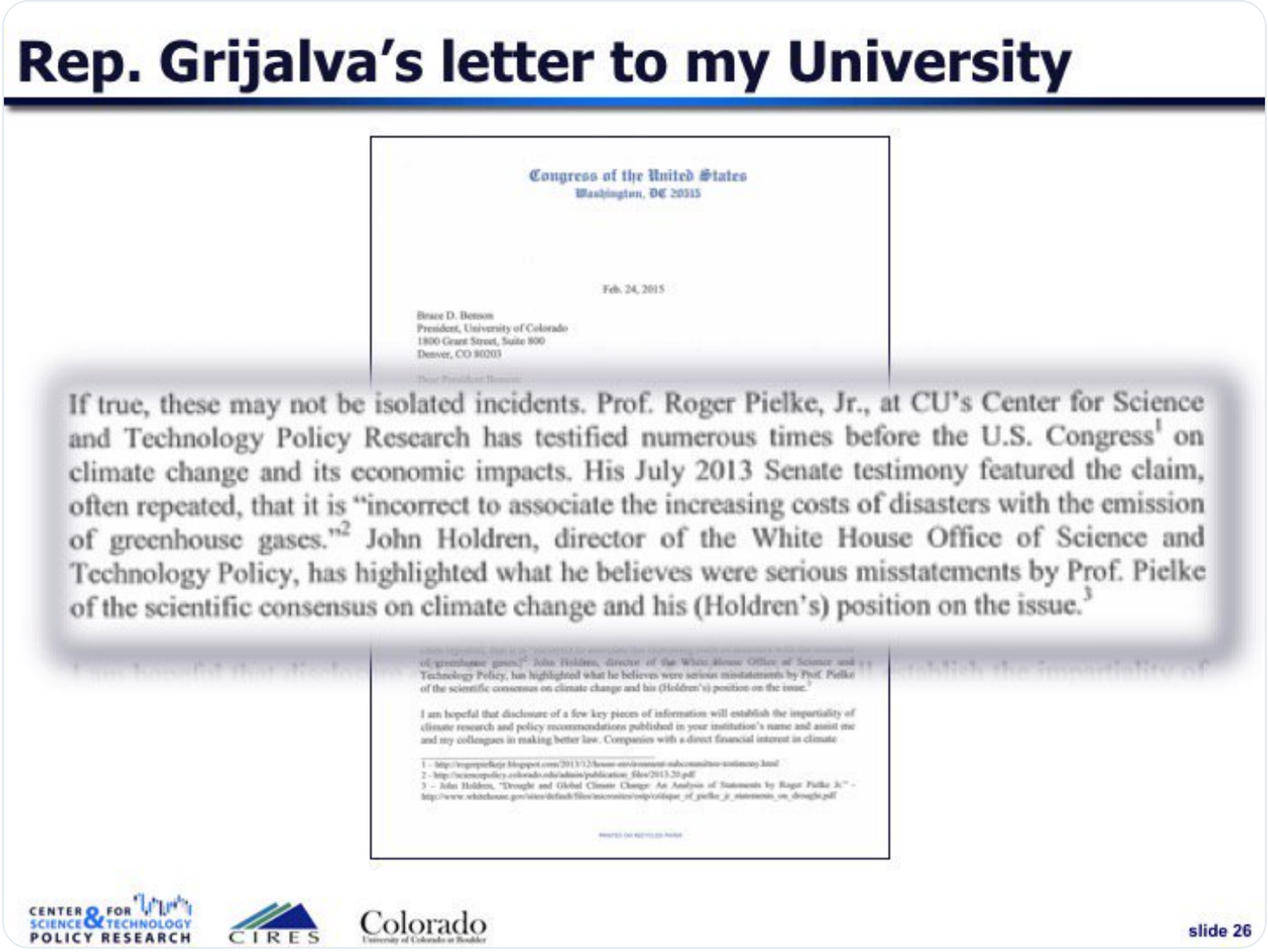
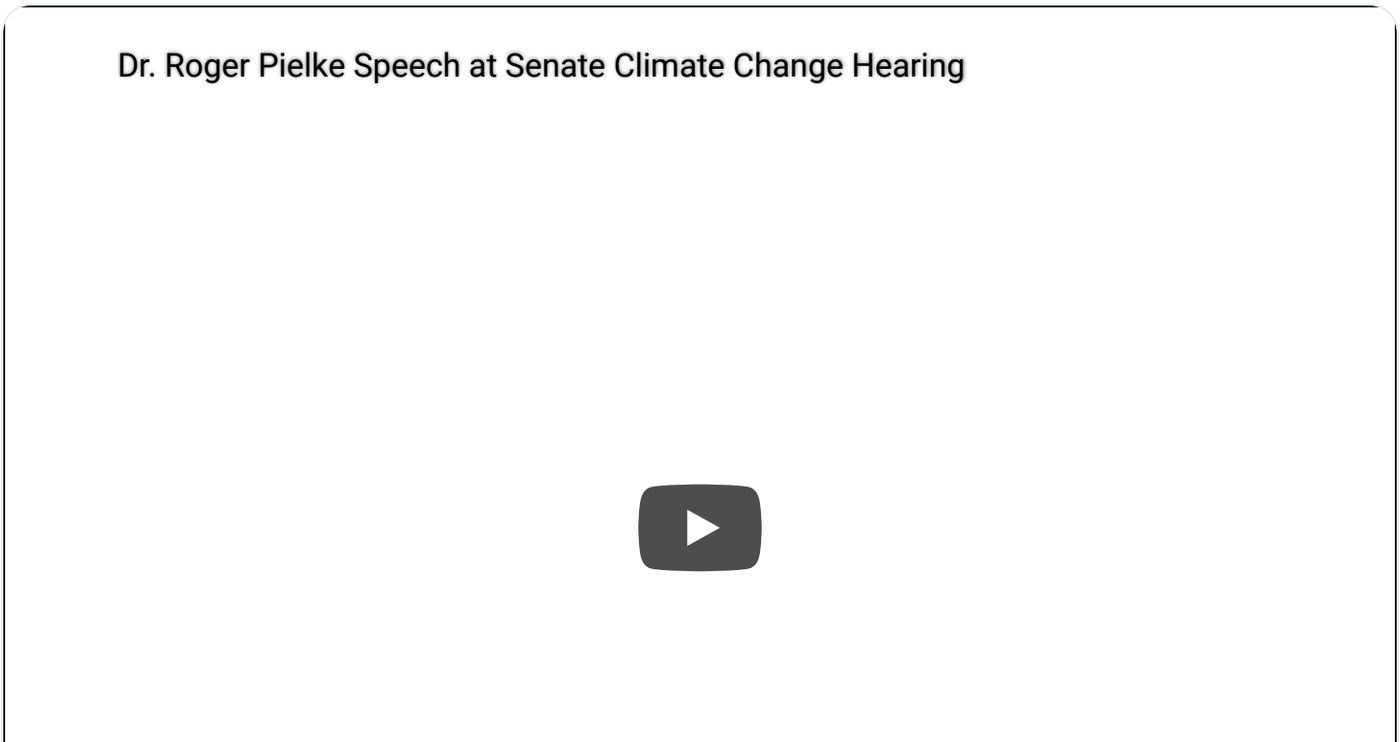
26 The basis for the "investigation" was ostensibly that the President's science advisor, John Holdren thought I had made "serious misstatements." Here is the letter Rep. Grijalva sent to my university president as part of the investigation.

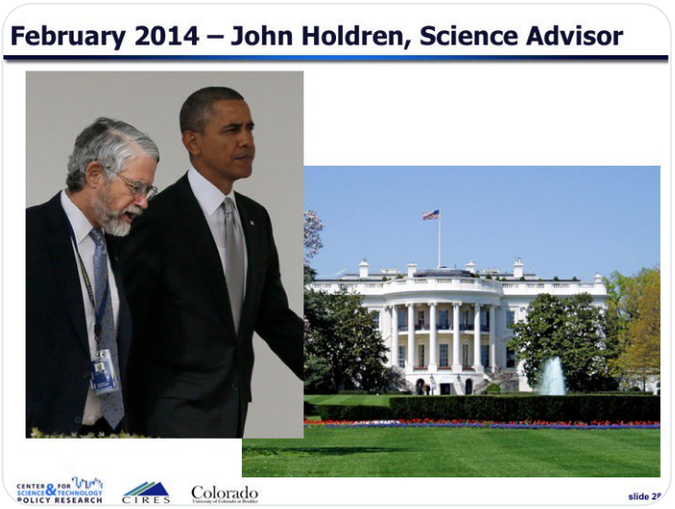


27 The reality is Dr. Holdren got caught out, as we say in Colorado, a little forward on his skis, in comments abt disasters & climate change, articulating the Al Gore version not the IPCC. I had testified to the IPCC version before the Senate in 2013 (

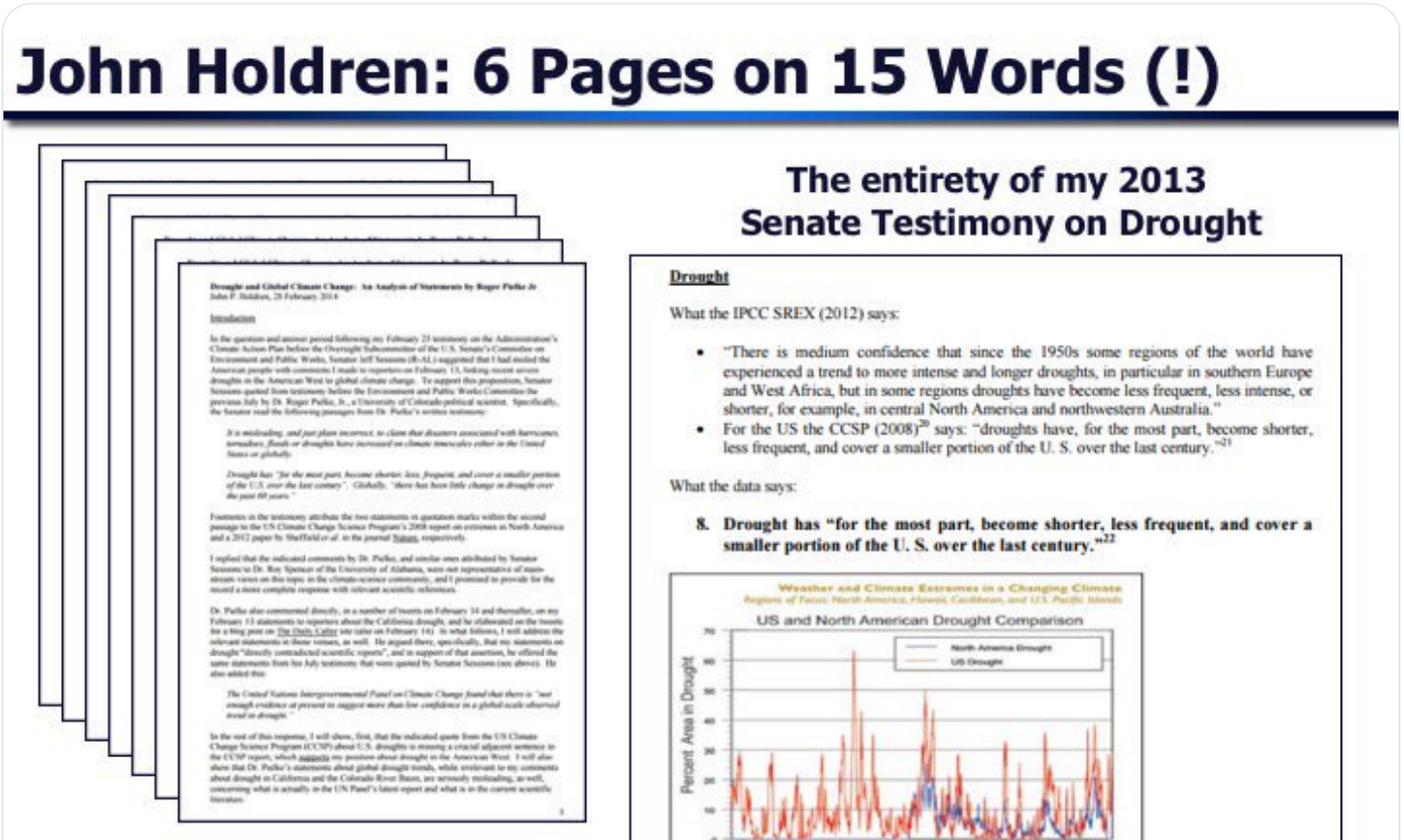


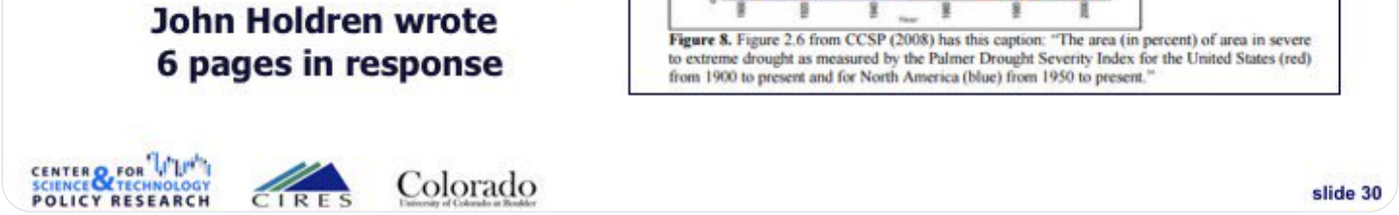
)

28&29 In February 2014, Dr. Holdren made some strong (and scientifically dubious) statements about the linkage of the CA drought and climate change, which he was confronted with before the Senate a few weeks later.

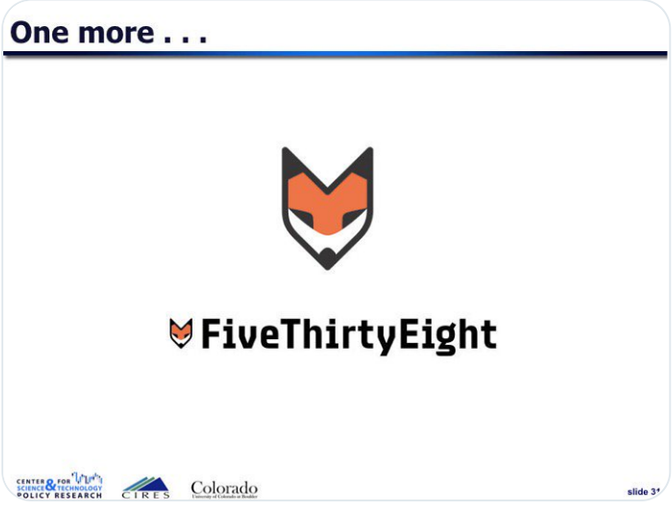


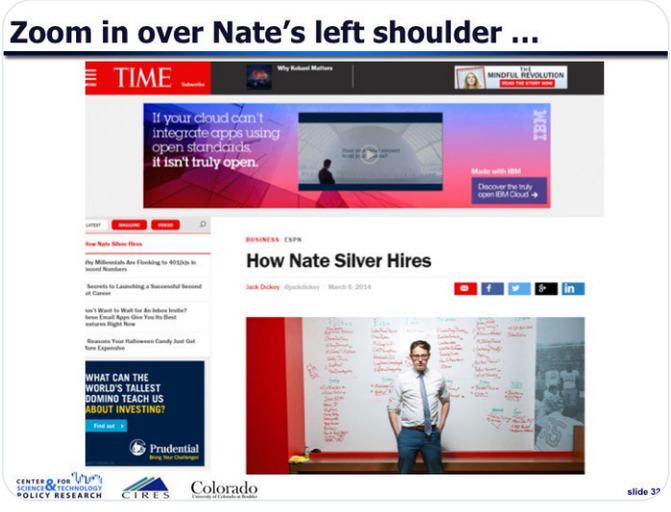
30 My 2013 testimony, relying on IPCC, was cited to Dr Holdren & he freaked. He wrote a protest-too-much 6-page screed about me (which reads like a bad blog post) and posted it on White House website.
I guest it served its purpose, it led to me being investigated by Congress.





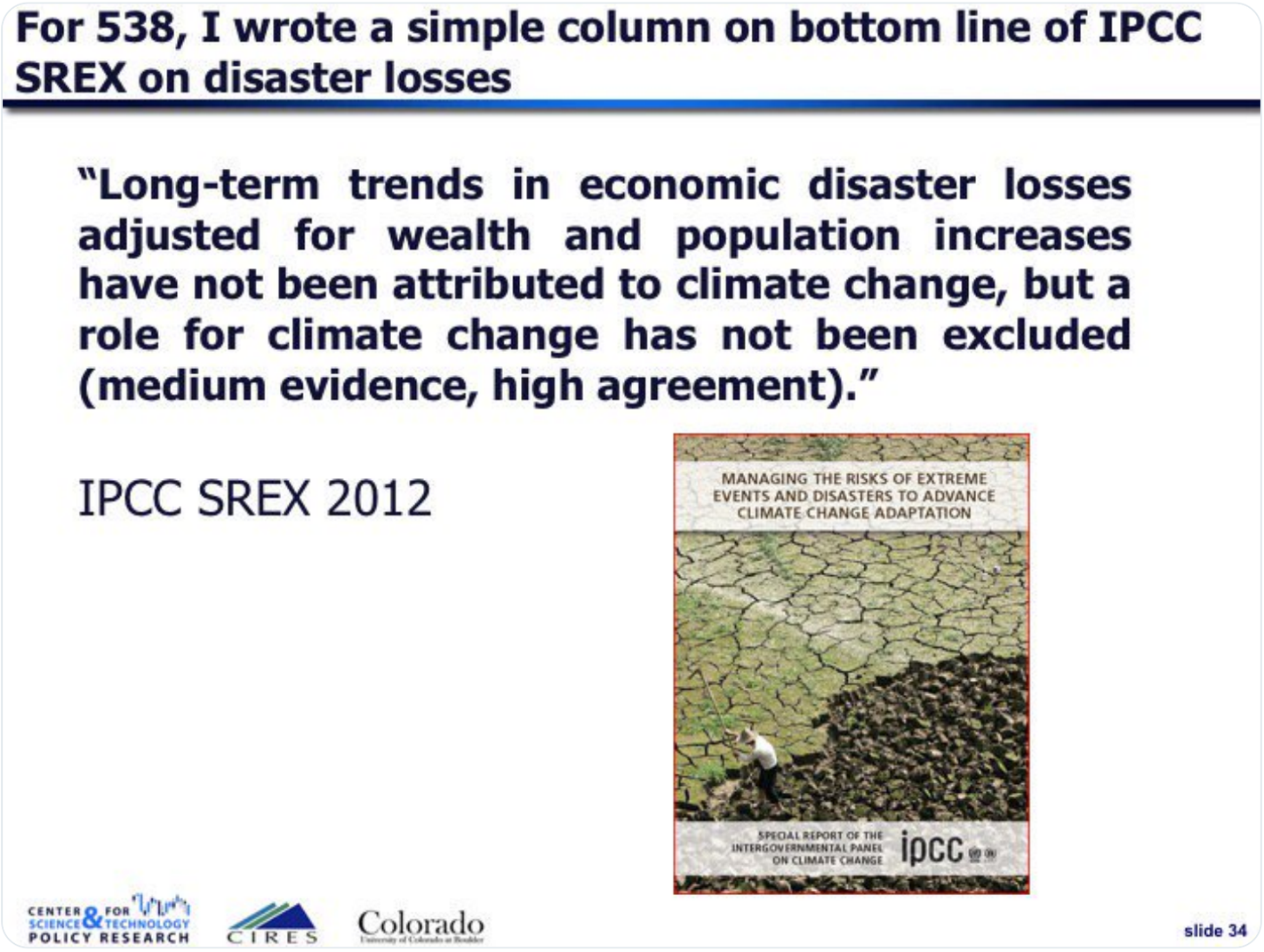
31&32 OK one more, to close the loop with Wikileaks where we started this sordid series. In 2015 I was hired to write for Nate Silver's 538. I was hoping to write about sports, they asked me to write some science stuff also. No problem, I said.





33 You can see in the figure below, from that Time photo, high above Nate's left shoulder is "Climate Change Disaster." In retrospect, it was an accurate descriptor of what came next.

341 proposed to 538 to write abt the SREX summary statement on disaster losses (below), which wasn't new, but was solid science, supported by data & peer-reviewed science. Plus I had written about it many times before. A nice uncontroversial starting point. Ha, that is funny.



355 538 has some very good editors and I thought that the piece came out really well. It is still solid today. Here it is (

Disasters Cost More Than Ever — But Not Because of Climate ...
In the 1980s, the average annual cost of natural disasters worldwide was $50 billion. In 2012, Superstorm Sandy met that mark in two days. As it tore through Ne...
https://fivethirtyeight.com/features/disasters-cost-more-than-ever...

)

Little did I know that CAP was on the case, behind the scenes.

NATURAL DISASTERS | 7:22 AM | MAR 19, 2014

Disasters Cost More Than Ever — But Not Because of Climate Change

By ROGER PIELKE JR.

In the 1980s, the average annual cost of natural disasters worldwide was $50 billion. In 2012, Superstorm Sandy met that mark in two days. As it tore through New York and New Jersey on its journey up the east coast, Sandy became the second-most expensive hurricane in American history, causing

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36 There was a major freakout, no doubt partly motivated by Nate's enemies in the media (who could care less about me), plus the CAP kneecappers working behind the scenes, plus assorted trolls who like a good witch burning.
It was wild. It was pretty lonely for a long while.

When journalists attack ...

The online magazine Salon explained that I was "the target of a furious campaign of criticism from other journalists in the field, many of whom say he presents data in a manipulative and misleading way." Salon called for me to be fired, and labeled me a "climate change denialist." Paul Krugman, a Nobel Prize winning economist and New York Times columnist labeled me a "known irresponsible skeptic."

DAILY KOS | SALON | National Journal | Slate | THE NEW REPUBLIC | The New York Times | theguardian

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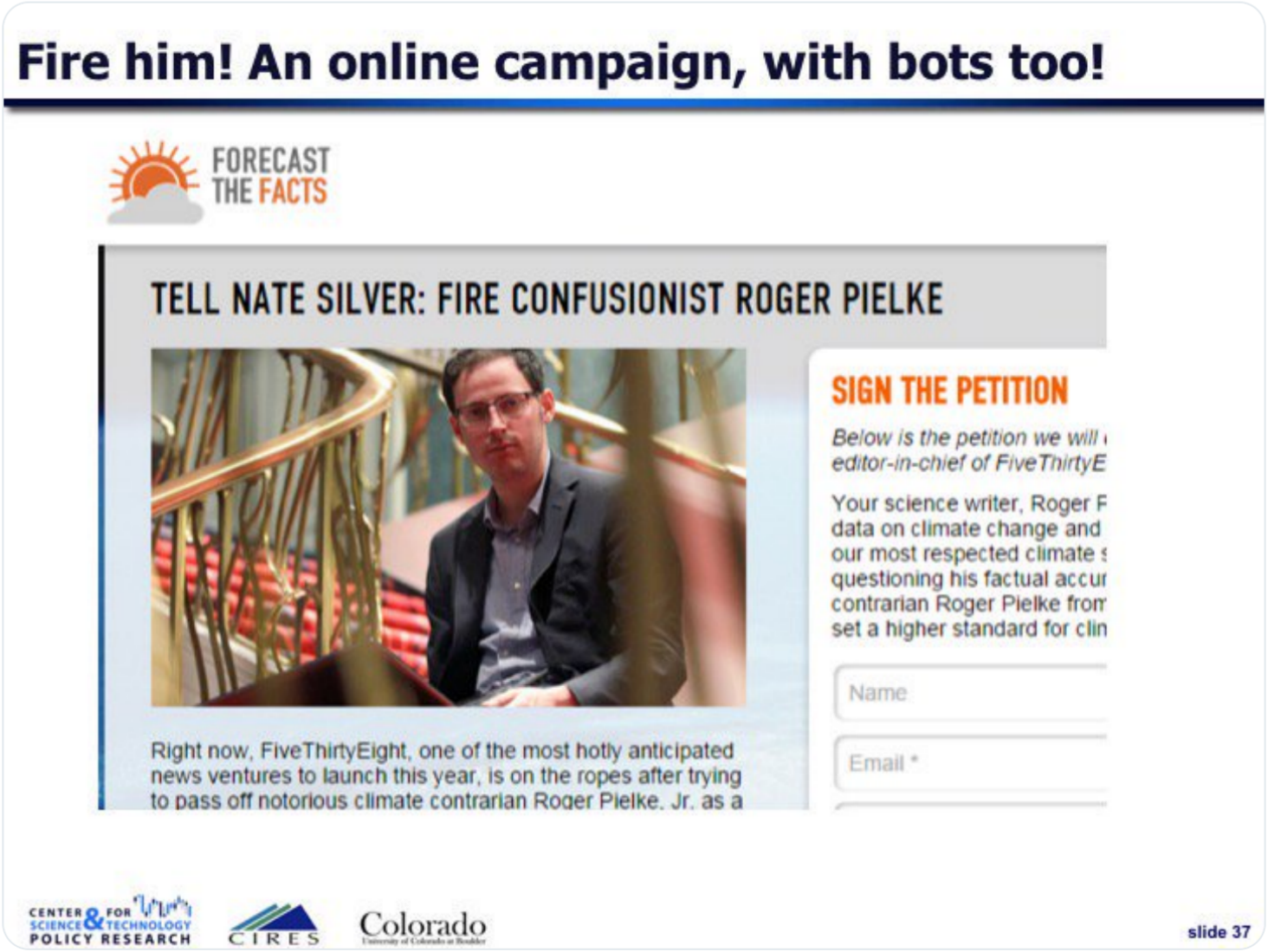
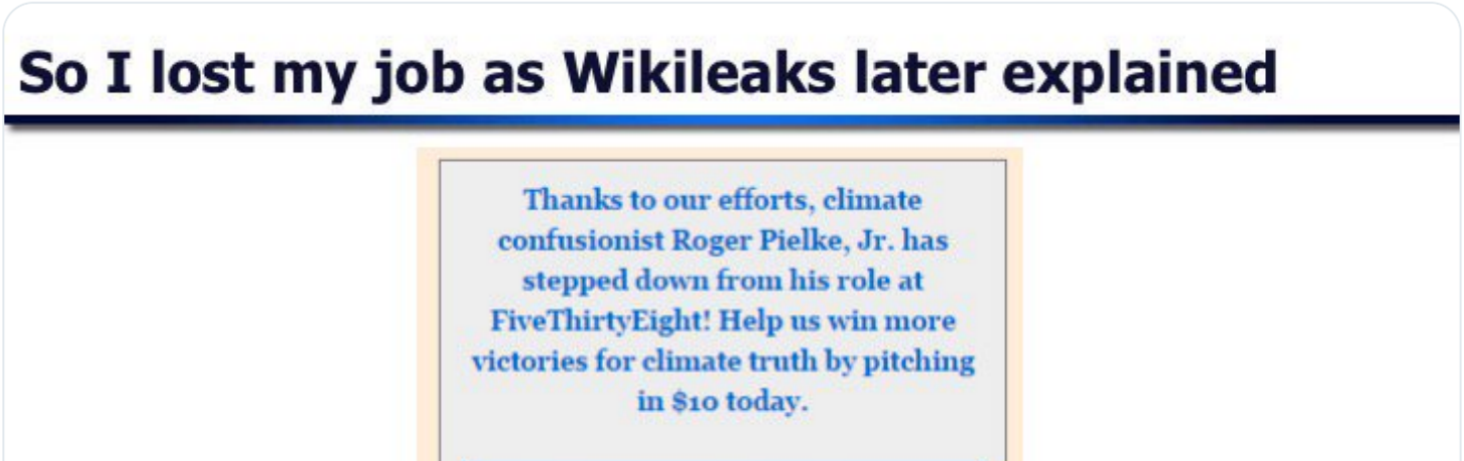
37 There was a CAP-funded internet campaign. Oddly, almost all of the participants

in that campaign have disappeared off of Twitter 9I've looked). I suspect many were what we now call bots (they had long numbers on their handles). But it worked, props to them.



I lost my job at 538. I became a fundraising ad for CAP (below). I did find this offensive. $10? Only $10? WTF? My scalp is worth 2 maybe 3 times that. Anyway, score a "Victory for Climate Truth!"



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➡INTERMISSION⬅
That was the story part.
When I return, likely in the AM, we will turn to science & evidence. I'll present the latest assessment report findings & updated data on trends in global & US weather extremes. The science is still cool even with the drama
Cheers!🙏

OK, let's pick this up, leave the drama behind and move on to some science, data, evidence. Here is the focus of Part 2:

Let's look at some data

- The latest science on trends in extreme events
  - Hurricanes (tropical cyclones)
  - Tornadoes
  - Floods
  - Drought
  - Other (temps, extreme precip)

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40As I prepared my summer 2013 testimony, President Obama said this on his weekly radio address. I knew it was incorrect and that helped motivate me to write a short book on the subject. I voted for him, twice (and would have 3x!), but that was no excuse to bite my tongue.

My initial motivation for writing the short book: Listening to Pres Obama's June 29, 2013 Radio Address

"[W]hile we know no single weather event is caused solely by climate change, we also know that in a world that's getting warmer than it used to be, all weather events are affected by it – more extreme droughts, floods, wildfires, and hurricanes. . .

And Americans across the country are already paying the price of inaction in higher food costs, insurance premiums, and the tab for rebuilding."

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41Of course, everyone these days likes to politicize the weather. Here is Senator Inhofe in the Senate with a snowball. I don't know what he is saying but I'd wager its wrong. My expertise is in disasters and climate change, so let's look at the science in that area.

Of course, both parties play politics with the weather

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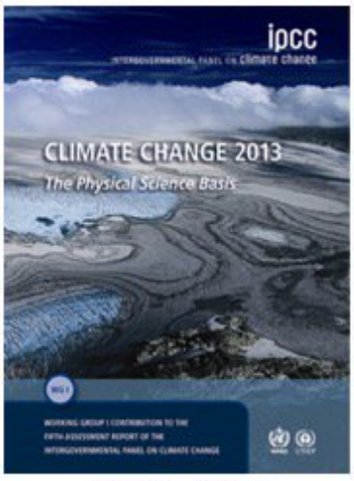
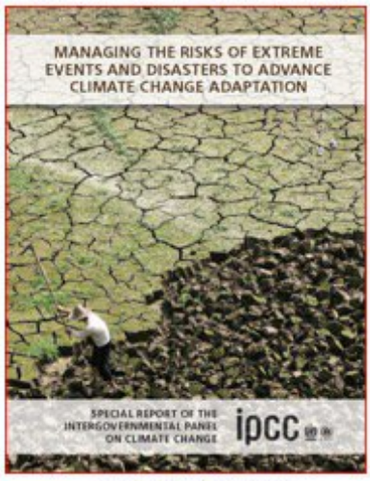
42 Here are the assessment reports that I draw from, the most recent IPCC reports and the US National Climate Assessment released late last year. I'll also share updated primary data from multiple official sources. Buckle in ...

A note on references

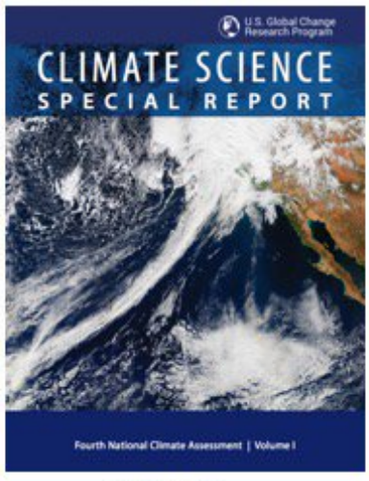
- IPCC = Intergovernmental Panel on Climate Change
- IPCC AR5 = 5th assessment report in 2013/14
- IPCC SREX = Special Report on Extreme Events in 2012
- US NCA = US National Climate Assessment 2017



IPCC AR5



IPCC SREX



US NCA

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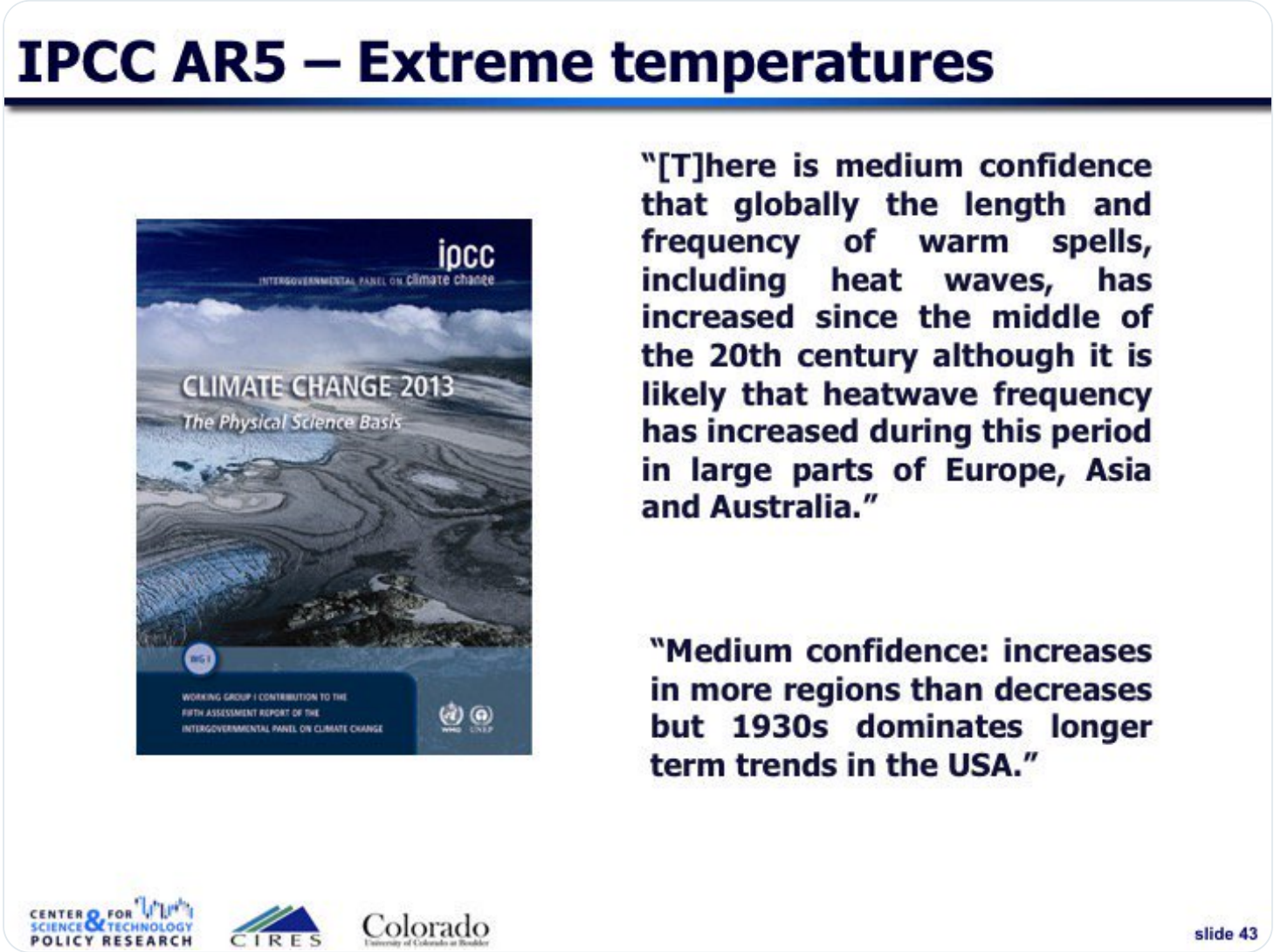
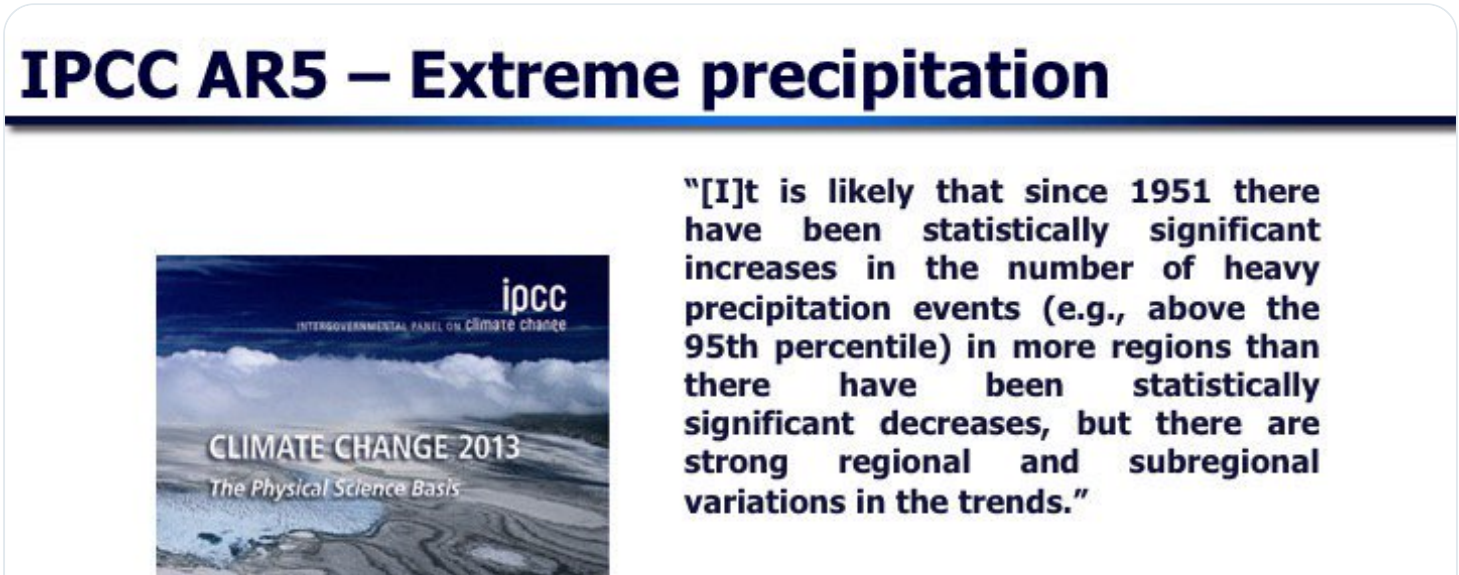
43 The strongest evidence for long-term increases in the incidence of extreme weather can be found with heat waves, globally (but as we shall see, not in the US).

Even here the science is rather nuanced and the confidence expressed by the IPCC is "medium".



44 There is also some evidence that extreme precipitation has increased in some places around the world. IPCC again is quite nuanced and expresses "medium" confidence. Be careful, "extreme precipitation" is a technical term and does not equal flooding.



"[T]here is medium confidence that anthropogenic forcing has contributed to a global scale intensification of heavy precipitation over the second half of the 20th century in land regions where observational coverage is sufficient for assessment."

Note: "Likely" = >66%

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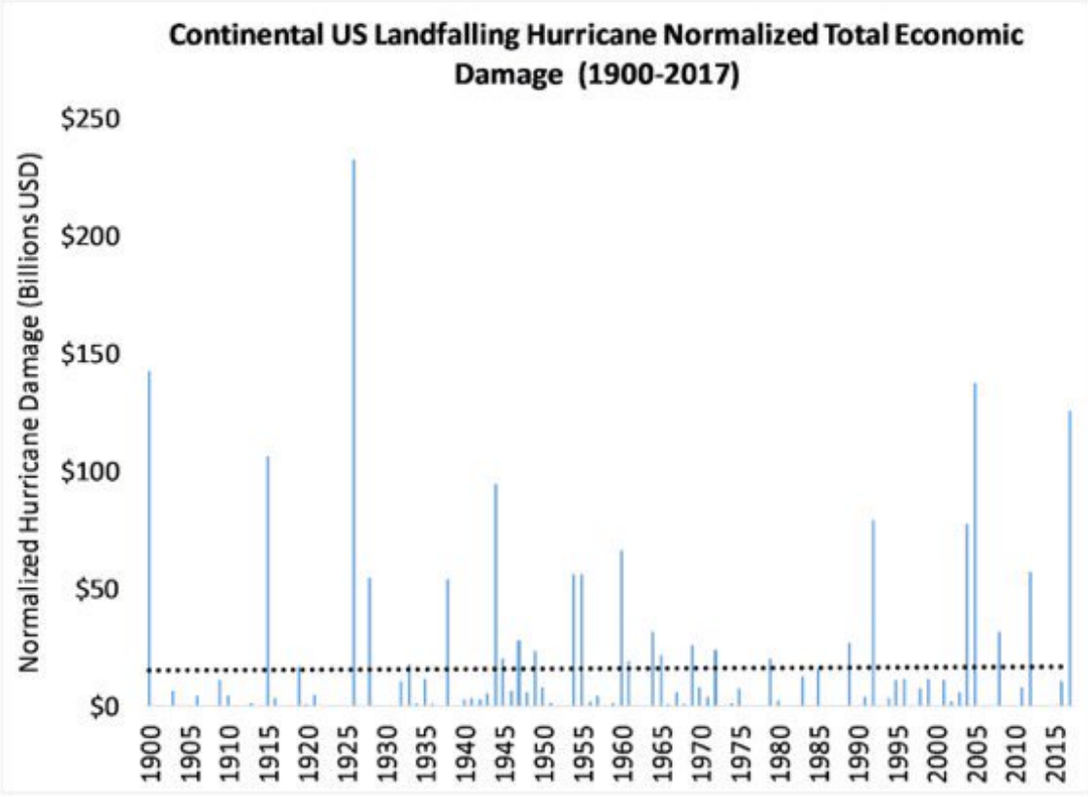
45 Next hurricanes, a very popular extreme.
Here is the most recent published update of our normalized hurricane loss dataset (from journals.ametsoc.org/doi/abs/10.117...) which shows that after adjusting for more people & wealth, losses show no trend. But is is accurate? Let's check next...

Normalized hurricane losses 1900-2017



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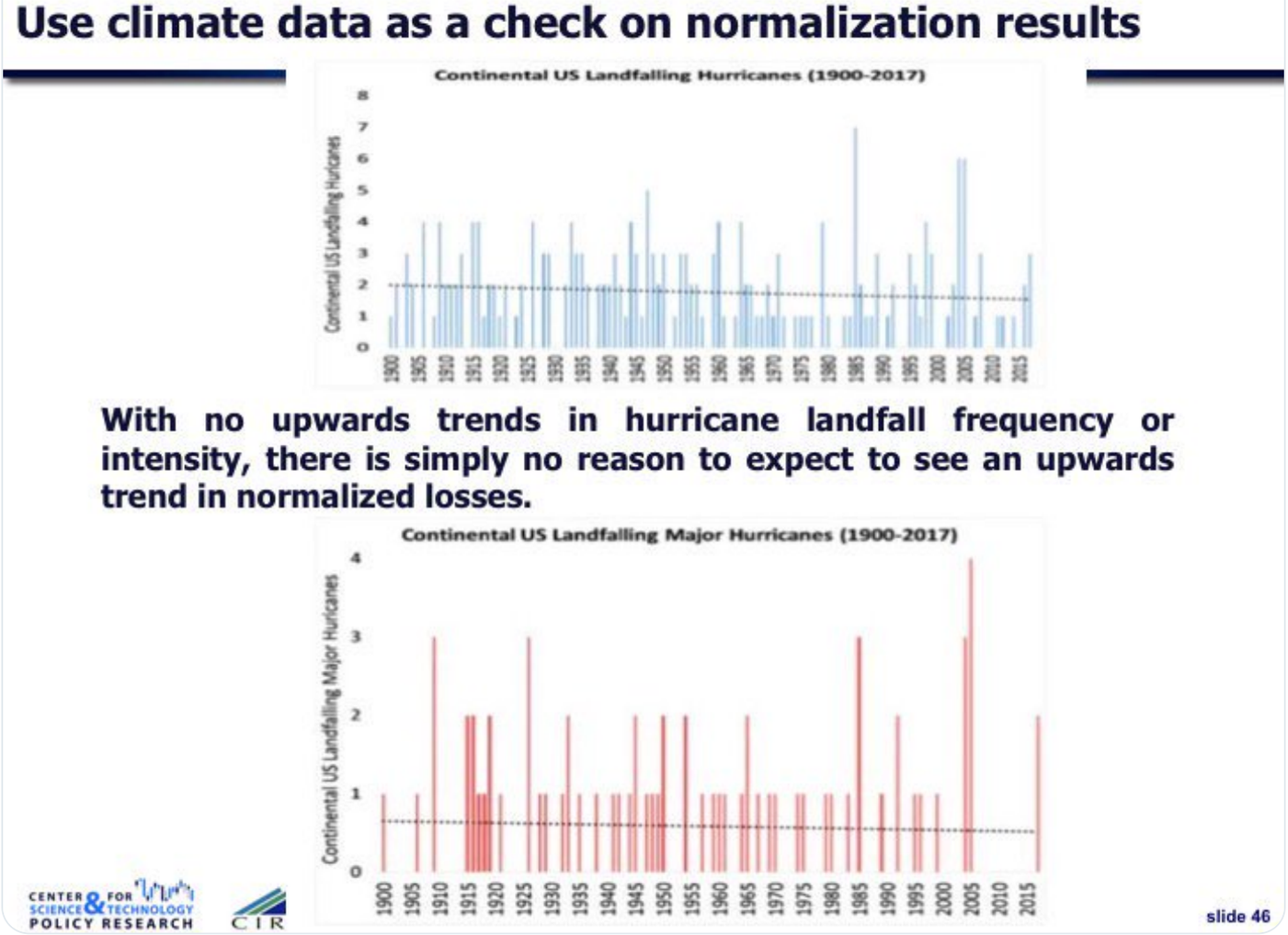
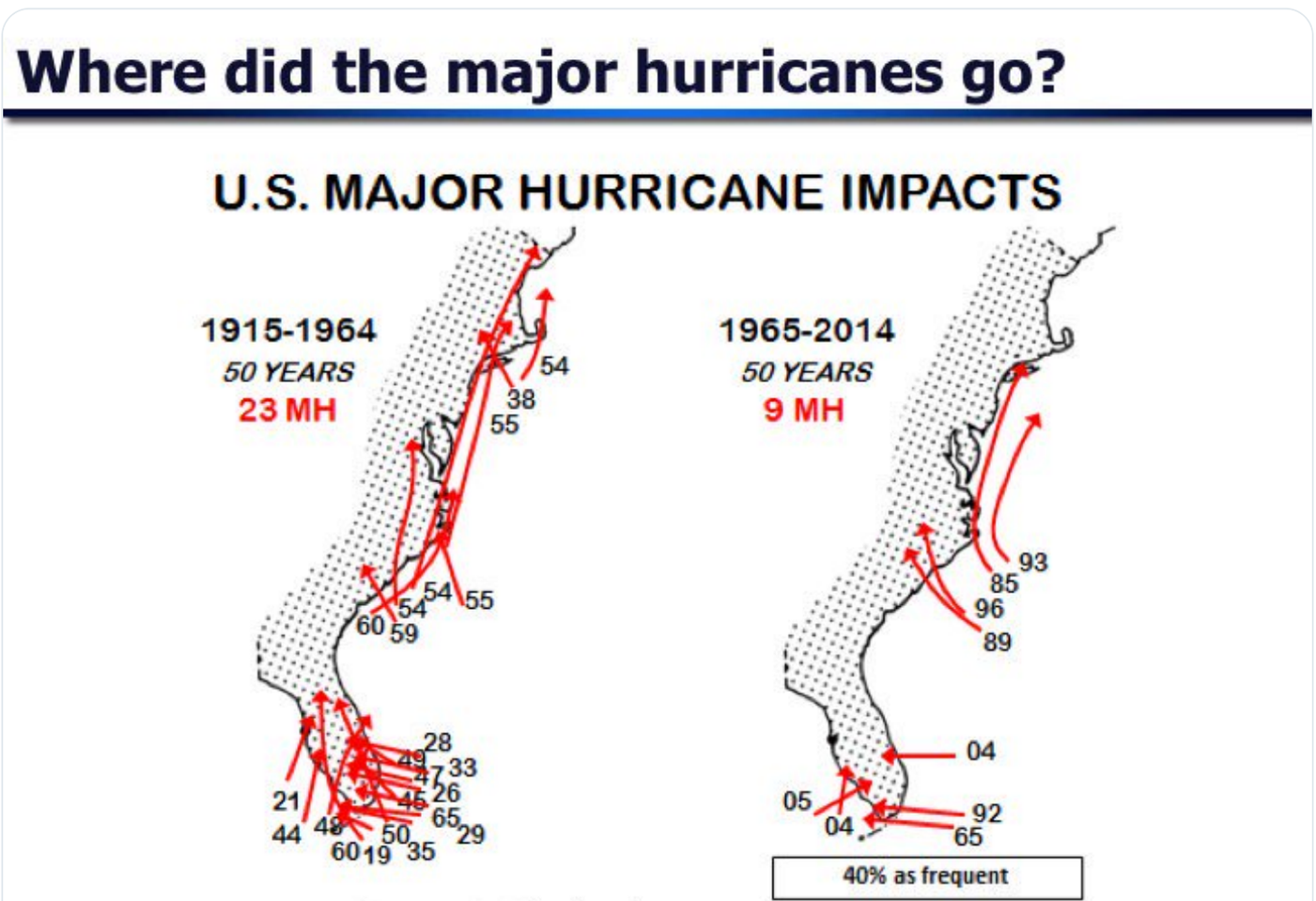
46 We use climate data to evaluate our economic normalization.
Trends in independent datasets should match up, if they don't, there is a bias.
Below are trends in US hurricanes & Cat3+
No trends in either. A good match.
Our normalization is unbiased compared to climate data🙏

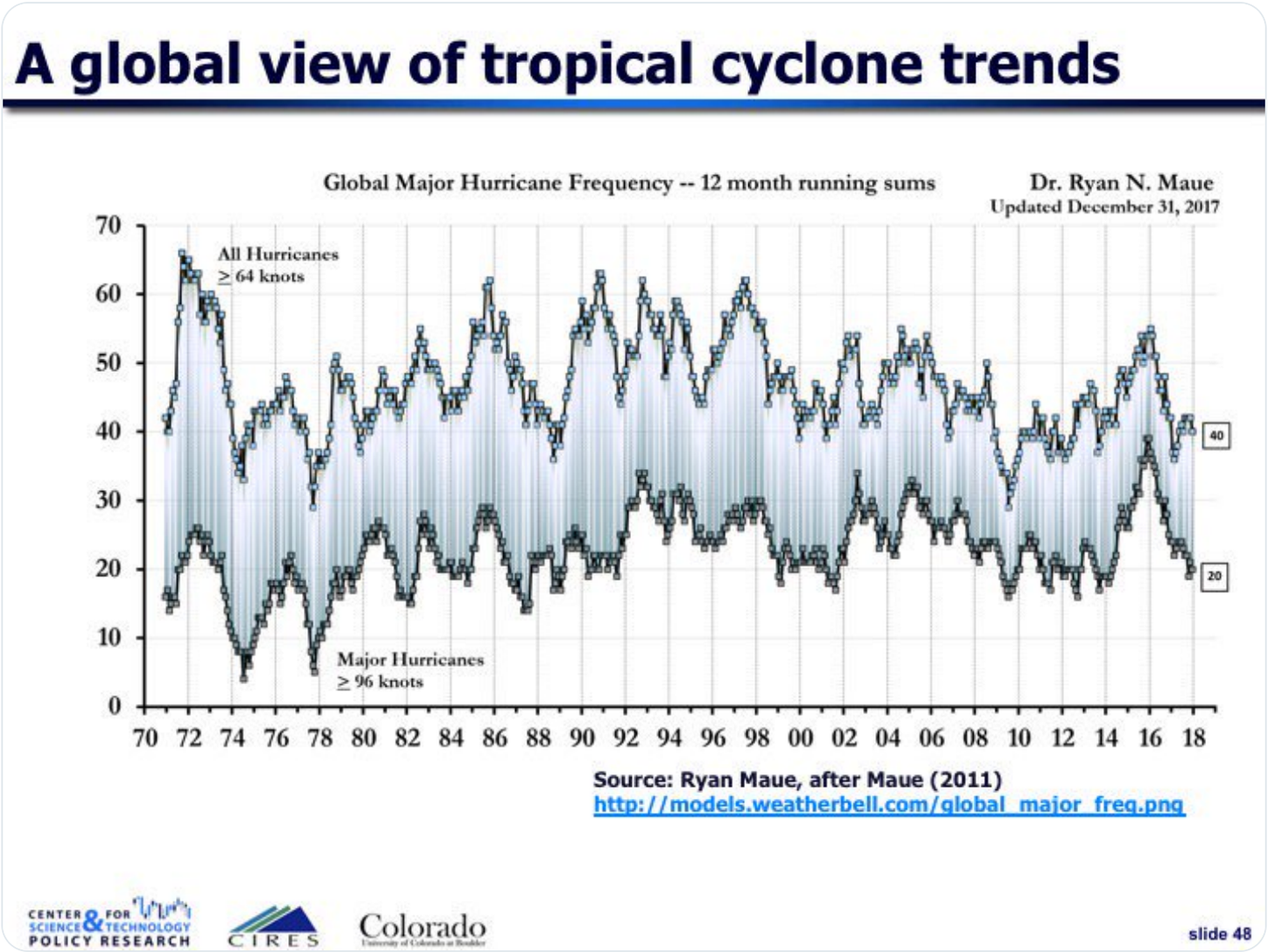


41 This figure from @philklotzbach (a classic W Gray viz) shows FL and US east coast major hurricanes.

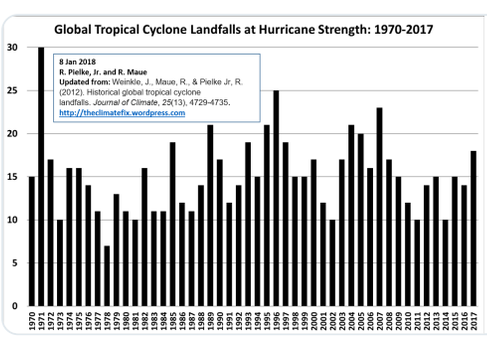
Over the past half-century, the US has been lucky compared to the more distant past, even with the big storms of recent years.



48 The Atlantic has just a small subset of tropical cyclones & those that hit the US an even smaller subset. So here is global data on TCs from @RyanMaue since 1970. Lots of variability, no clear trend.



49 Here is data on all tropical cyclones of hurricane force that hit land, updated (thx @RyanMaue) to 2017 from our 2012 paper (journals.ametsoc.org/doi/abs/10.117...) Discussed in more detail here:

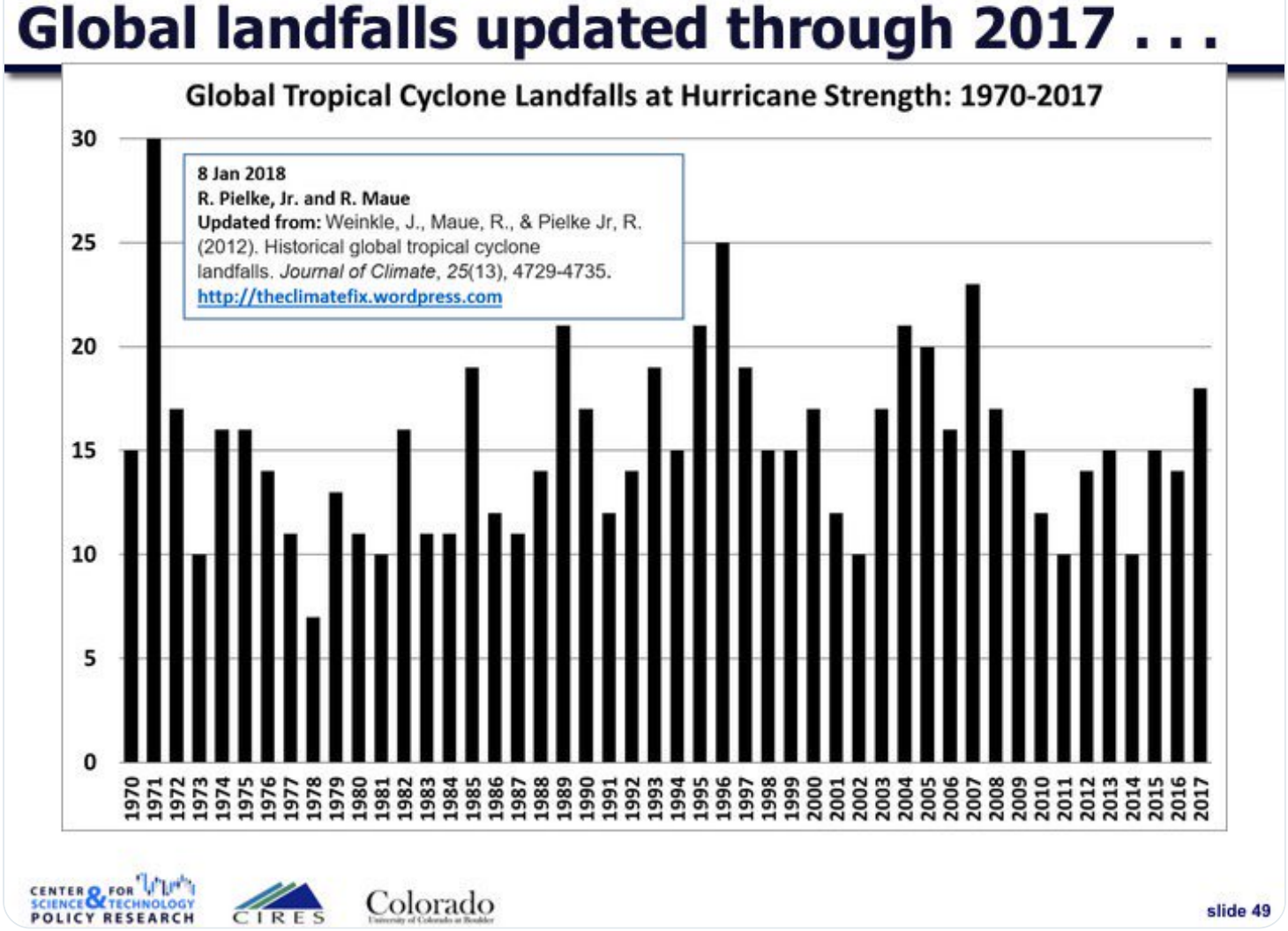


Global Tropical Cyclone Landfalls 1970–2017

In 2012, Jessica Weinkle, Ryan Maue and I published a paper that compiled data on landfalls of hurricane-strength tropical cyclones around the world. While many individual basins have data further ...

https://theclimatefix.wordpress.com/2018/01/09/global-tropical-c...

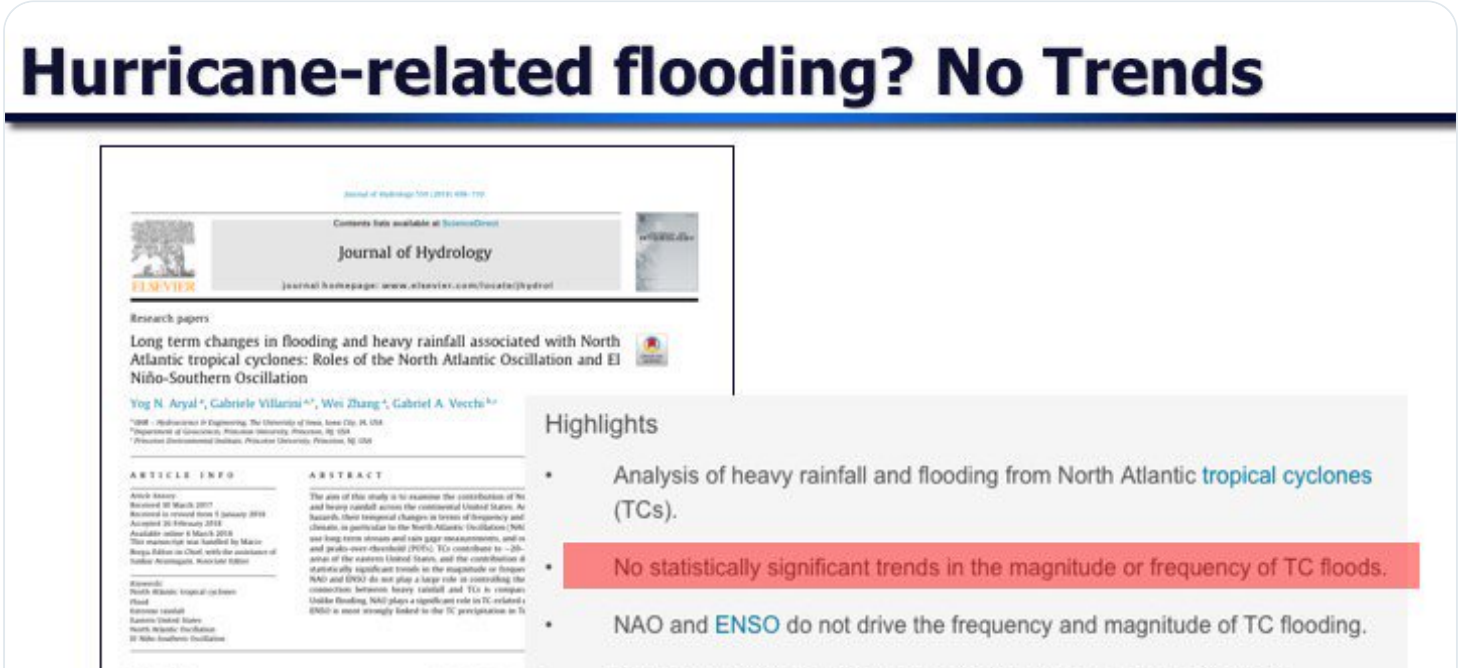
Global data dates to 1970 but goes back further for individual basins



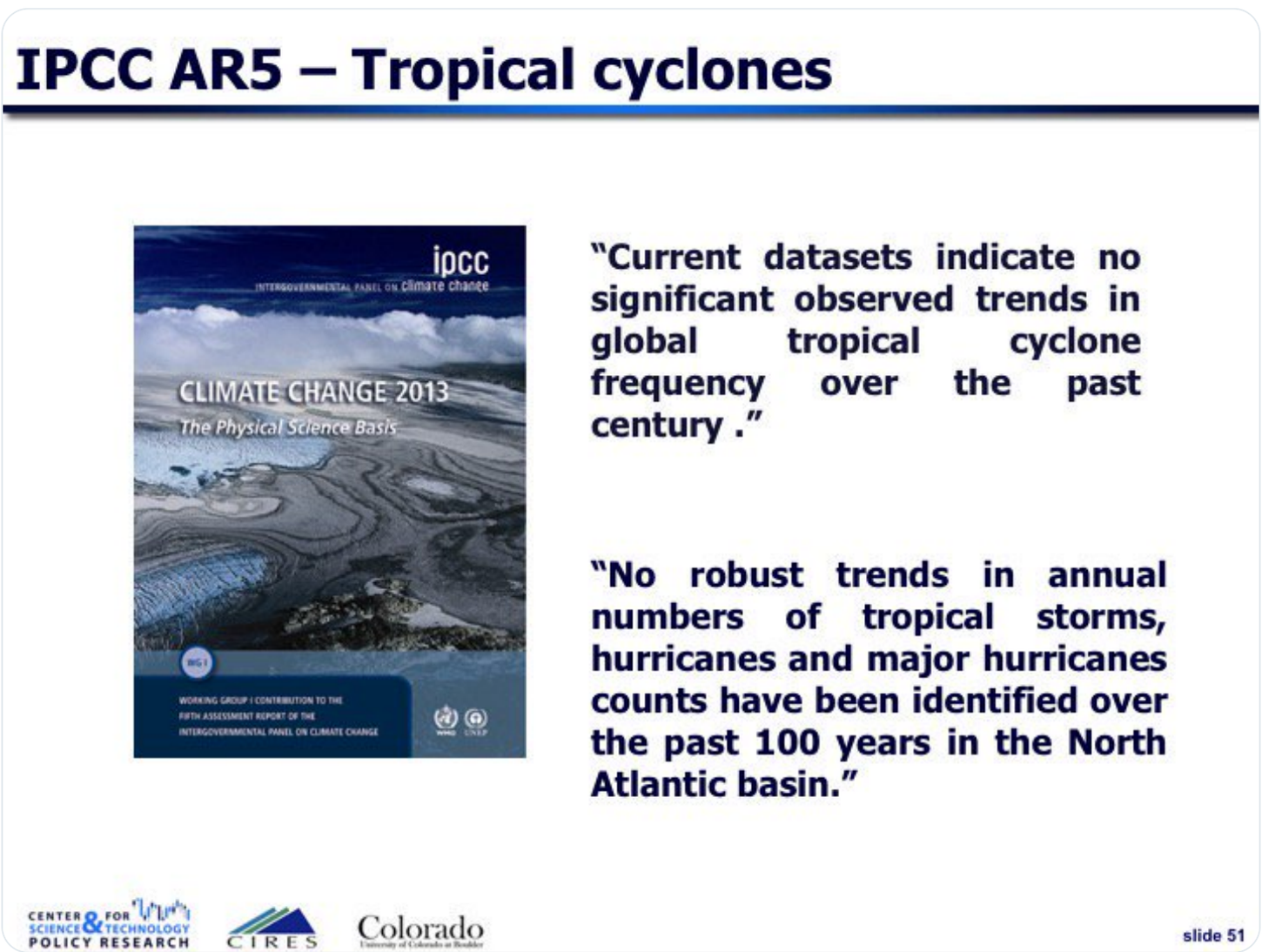
What about flooding related to landfalling hurricanes? (we documented this can be a big deal: ascelibrary.org/doi/abs/10.106...)

A paper out this month looks at TC flooding in the US (ascelibrary.org/doi/abs/10.106...)

They find no trends.



51 These data are robust & explain why the IPCC concluded that there is not compelling evidence for increasing TCs worldwide or in the US, or increasing intensities of TCs. They may yet increase in freq & strength, but not as yet. It's not a difficult call.



52 How about floods? Similarly, IPCC found no evidence to support claims of increasing floods globally.

More recent evidence supports this conclusion, e.g.:

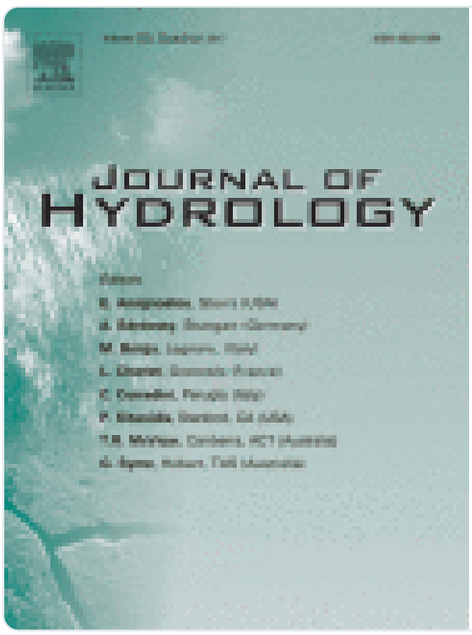
→ agupubs.onlinelibrary.wiley.com/doi/full/10.10...

→

Detection of trends in magnitude and frequency of flood pea...

(2018). Detection of trends in magnitude and frequency of flood peaks across Europe. Hydrological Sciences Journal: Vol. 63, No. 4, pp. 493–512.

https://www.tandfonline.com/doi/abs/10.1080/02626667.2018.14...



Climate-driven variability in the occurrence of major floods a...

Concern over the potential impact of anthropogenic climate change on flooding has led to a proliferation of studies examining past flood trends. Many ...

https://www.sciencedirect.com/science/article/pii/S002216941730...

IPCC AR5 – Floods

"In summary, there continues to be a lack of evidence and thus low confidence regarding the sign of trend in the magnitude and/or frequency of floods on a global scale."

53 A group of authors of the IPCC SREX with expertise in flooding summarized their views in a 2014 paper (

Flood risk and climate change: global and regional perspectives
(2014). Flood risk and climate change: global and regional perspectives. Hydrological Sciences Journal: Vol. 59, No. 1, pp. 1–28.
https://www.tandfonline.com/doi/full/10.1080/02626667.2013.85...

) with their bottom line conclusions below:

IPCC SREX co-authors – Floods

"a direct statistical link between anthropogenic climate change and trends in the magnitude/frequency of floods has not been established...

There is such a furore of concern about the linkage between greenhouse forcing and floods that it causes society to lose focus on the things we already know for certain about floods and how to mitigate and adapt to them."

Zbigniew et al. 2014
Hydrological Sciences Journal

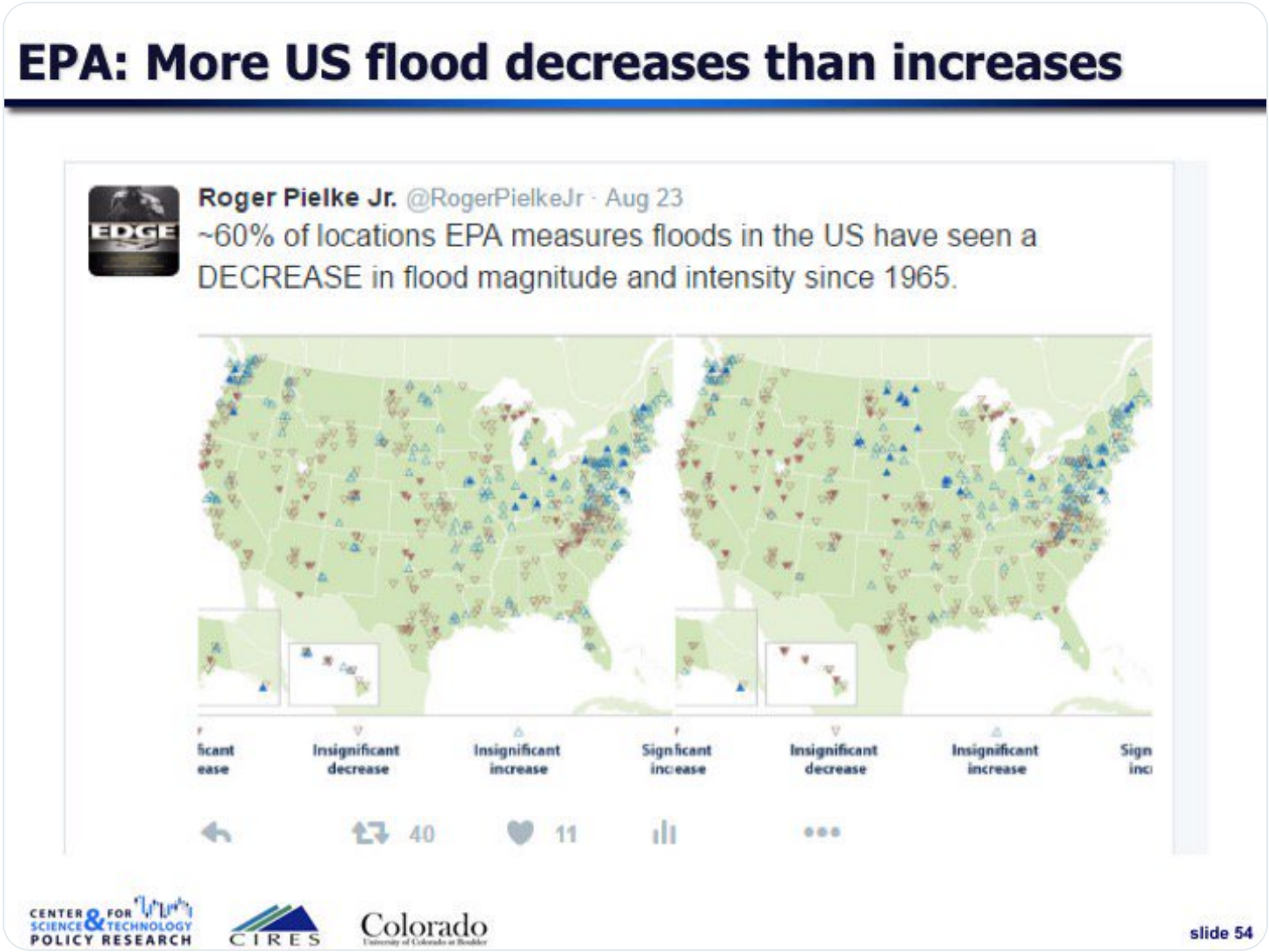
54 Data shared by EPA (via USGS) indicates that more places in the US have seen

decreases in floods than increases. Here is that EPA page:

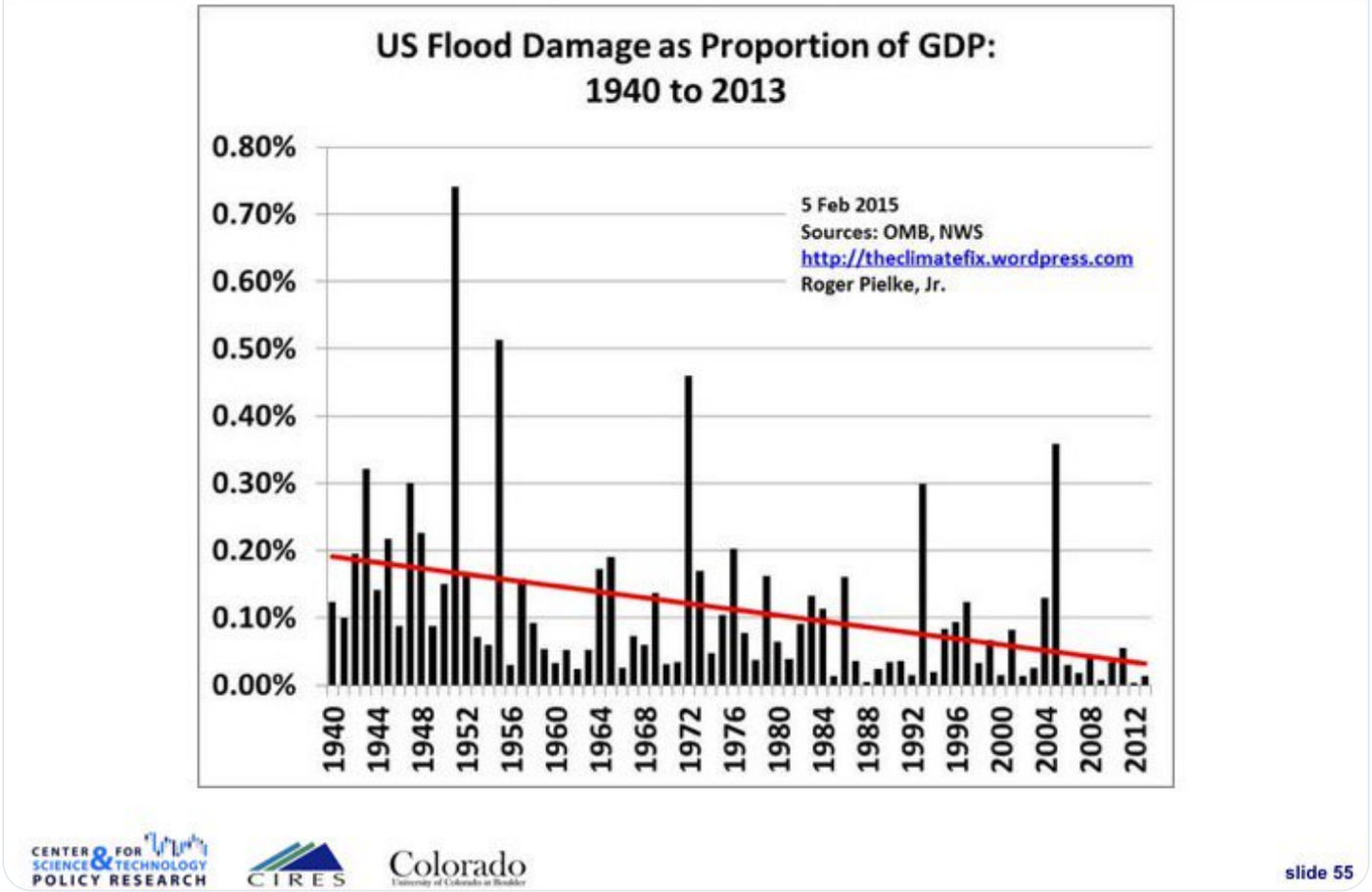
Climate Change Indicators: River Flooding | US EPA

This indicator examines changes in the size and frequency of river flood events in the United States.

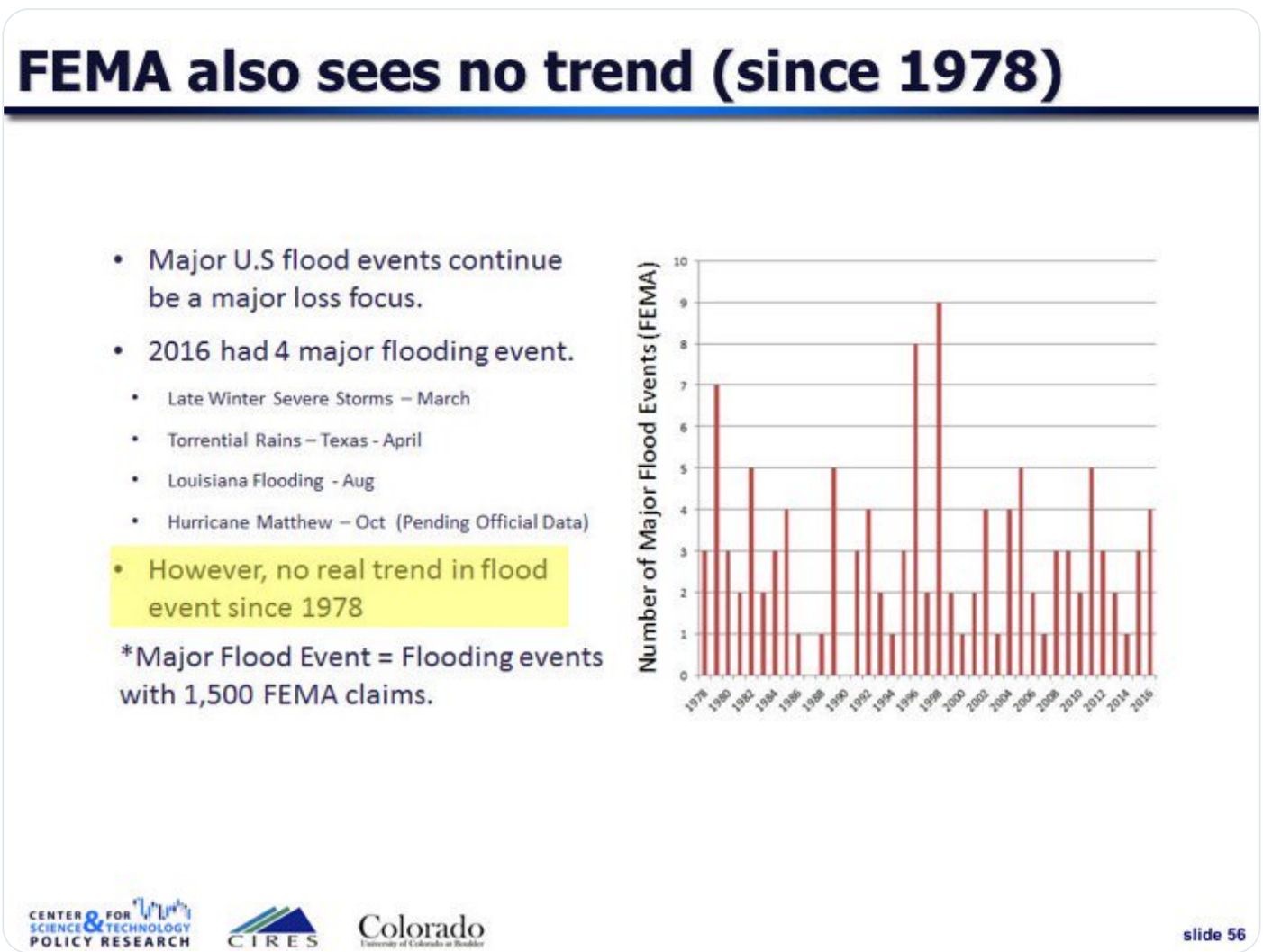
https://www.epa.gov/climate-indicators/climate-change-indicators...



If we look at flood losses as a proportion of US GDP there is some good news to report, it has dropped significantly. The mix of reasons (e.g., climate, flood policy, development patterns, GDP composition) are complex, but this is very good for the US.

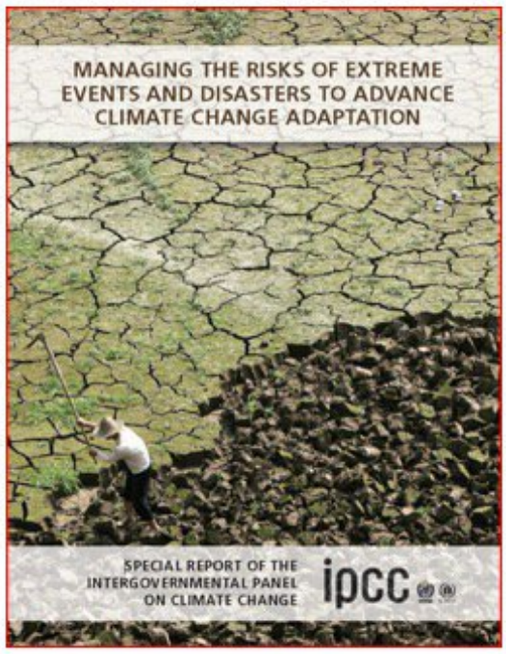


56 FEMA data also reflects the lack of increases in US flooding↓



57 The IPCC SREX found no evidence of increasing tornadoes or hail. Long-term data for these phenomena is not great (to put it mildly).

IPCC SREX – Tornadoes



"There is low confidence in observed trends in small spatial-scale phenomena such as tornadoes and hail."

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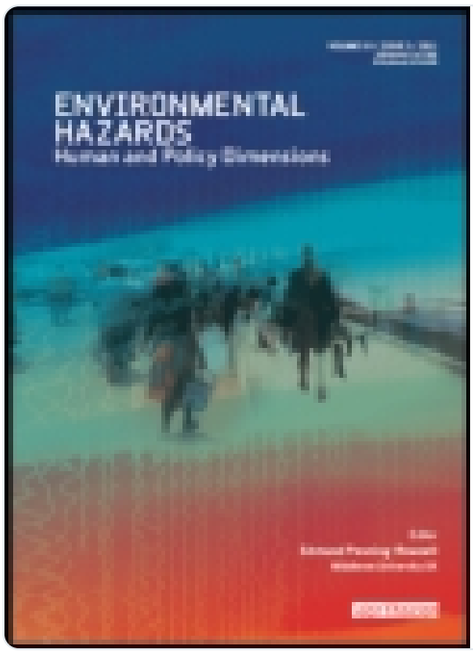
58 Below is updated data on normalized US tornado losses, from our 2013 paper (here:



Normalized tornado damage in the United States: 1950–2011

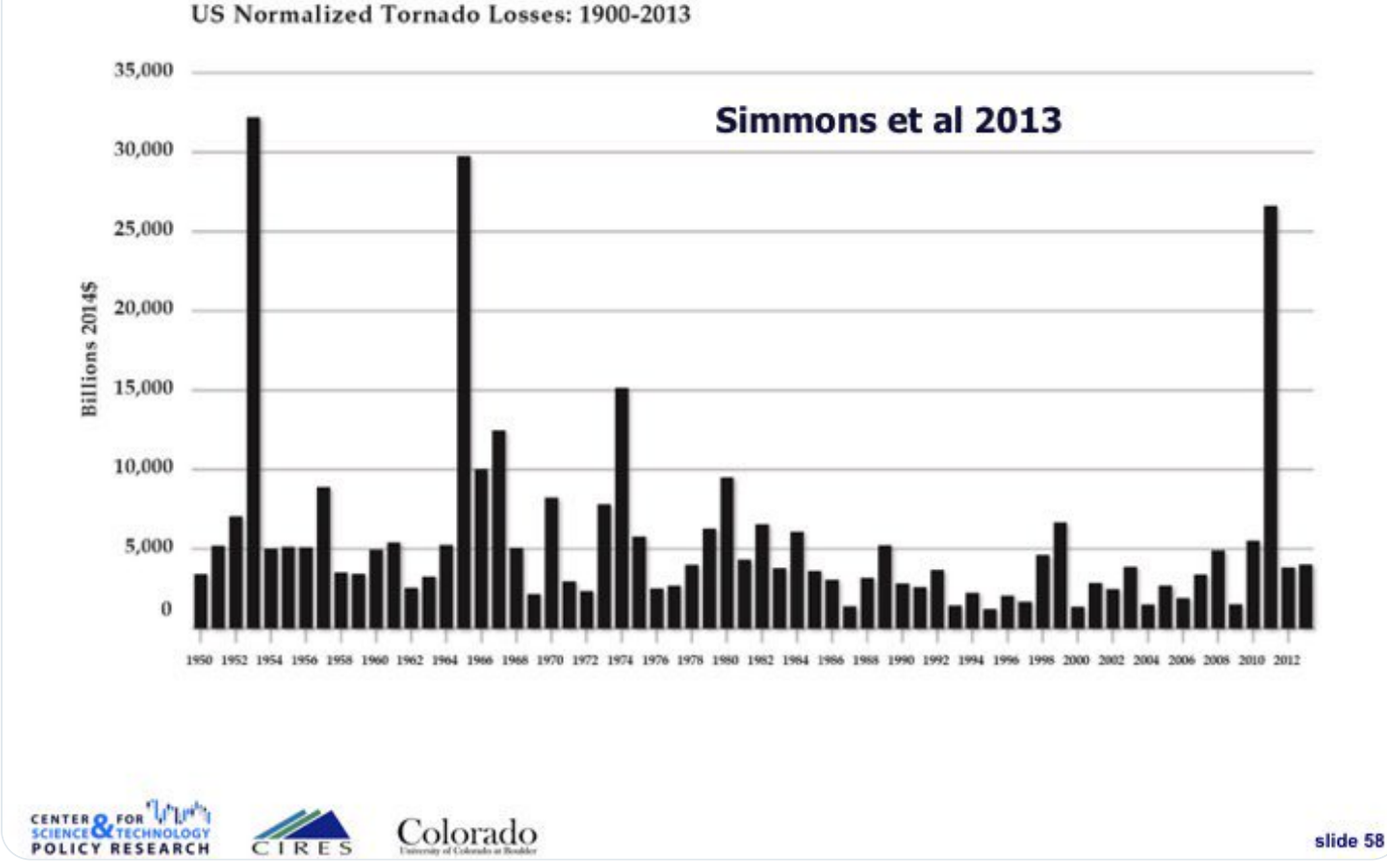
(2013). Normalized tornado damage in the United States: 1950–2011. Environmental Hazards: Vol. 12, No. 2, pp. 132–147.

https://www.tandfonline.com/doi/abs/10.1080/17477891.2012.73...

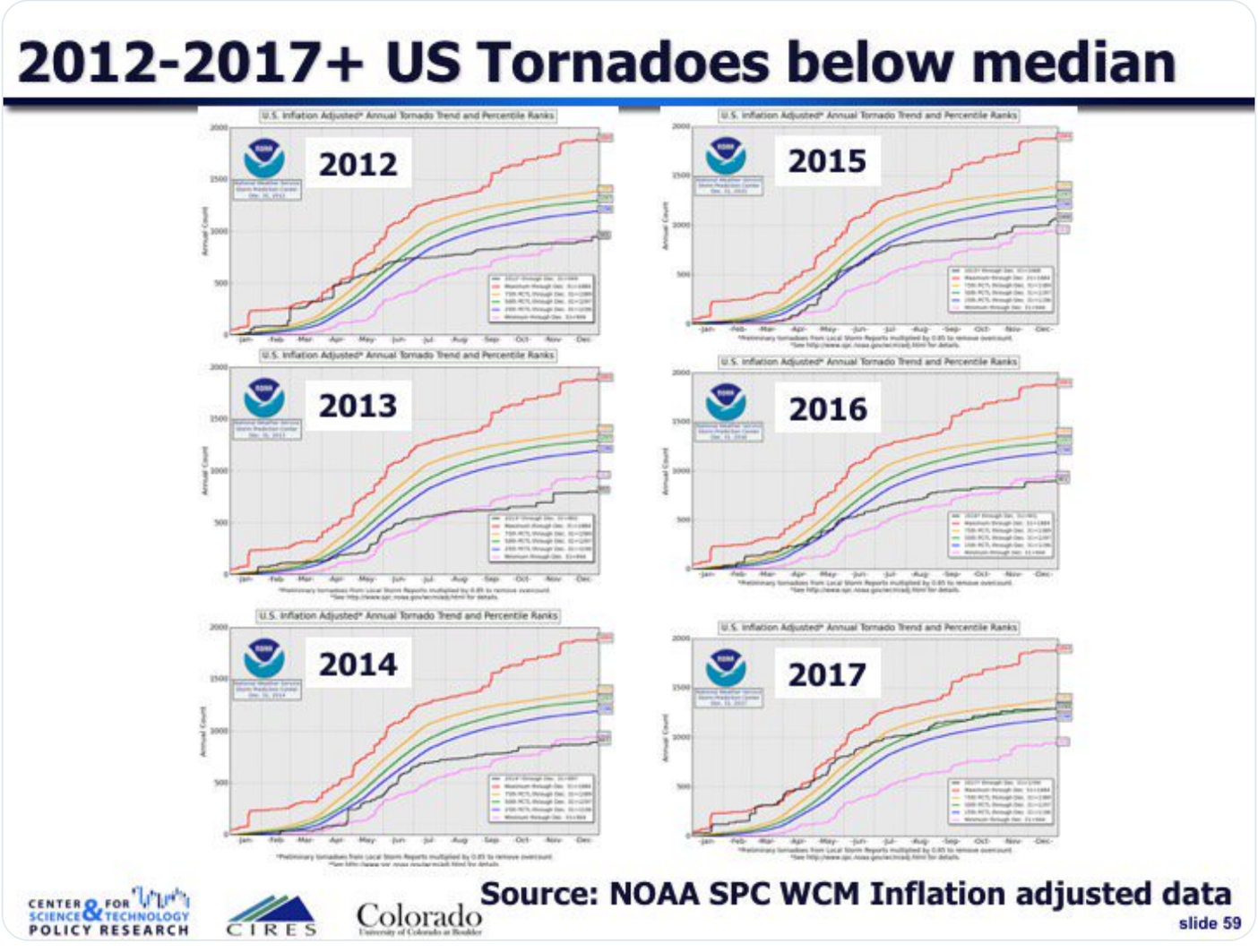
)

As with hurricanes, we compared the normalization to climate data & are confident that it is unbiased. Some big years, but no increasing trend.

Normalized Tornado Losses in the US

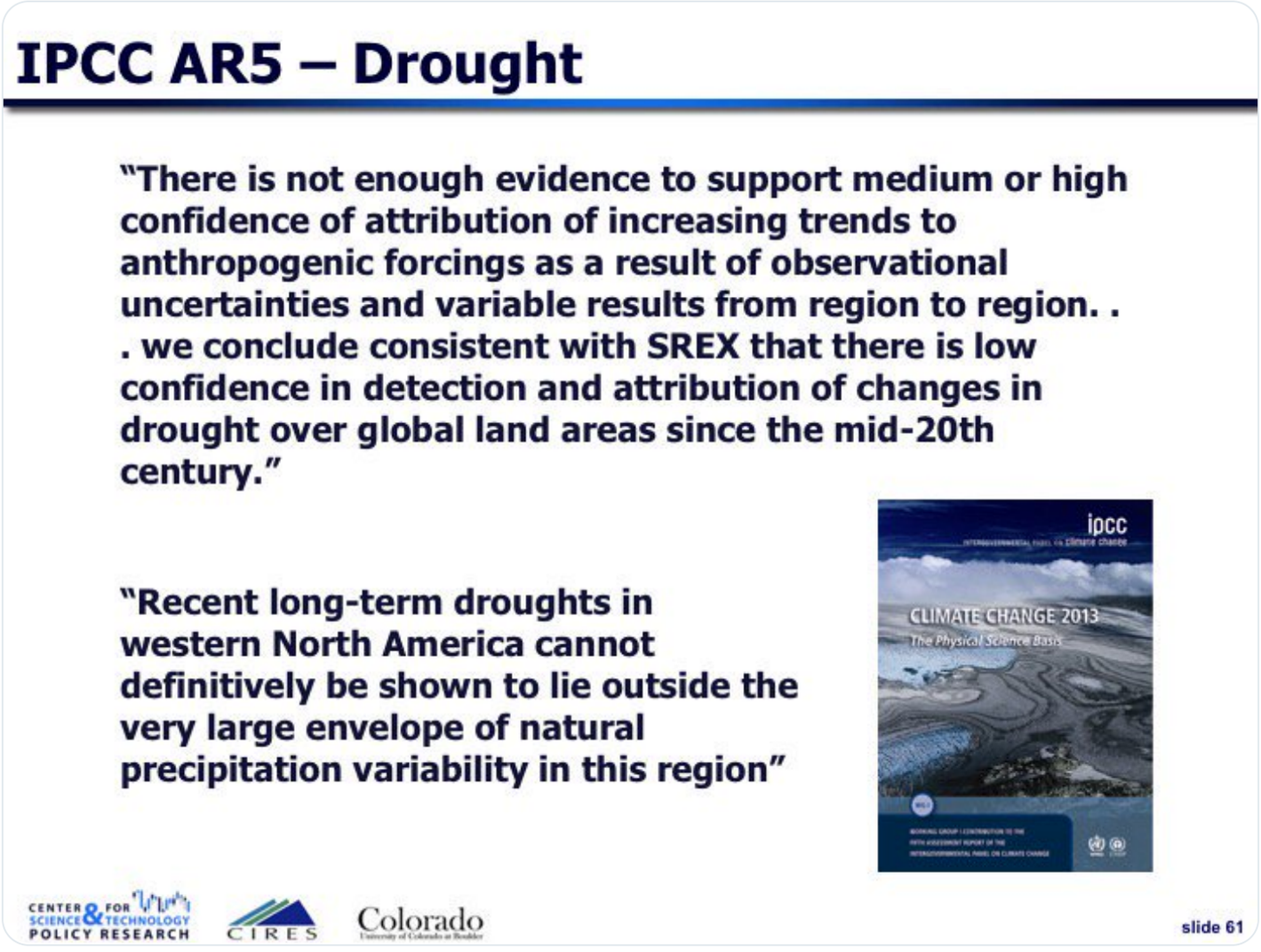


59 Here is data from 2012-2017 on tornadoes from NOAA WCM (here: spc.noaa.gov/wcm/). There is legitimate debate about this data & inflation-adjustments, but it is safe to conclude that overall 2012-2017 tornado incidence was below long-term average. Lucky us, once again.



60⃣According to NOAA, 2018 has started out pretty average, you can track US tornado counts daily (thx @NOAA🙏) here almost daily: spc.noaa.gov/wcm/adj.html

61⃣Drought. Lots of people are surprised to learn what the IPCC has concluded on drought. Little evidence to suggest that it has increased worldwide or in the US. Please read the below and then we will next look at some data & a more recent assessment report.



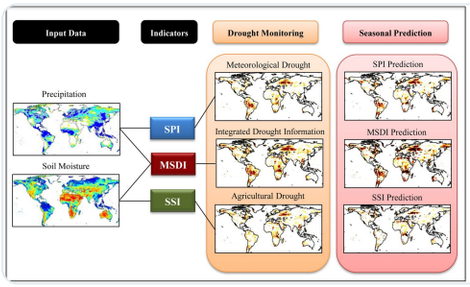
62⃣&63⃣

➡️Here is some data for the US (via EPA

Climate Change Indicators: Drought | US EPA
This indicator measures drought conditions of U.S. lands.
https://www.epa.gov/climate-indicators/climate-change-indicators...

...)

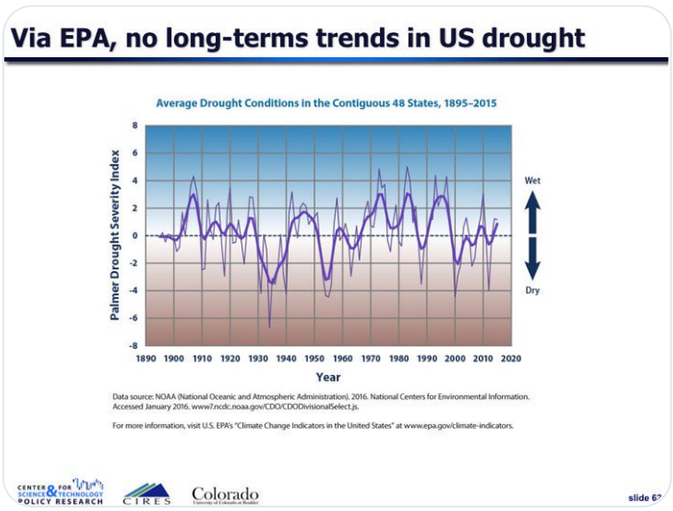
→And here also is a global perspective via satellite data (Hao et al

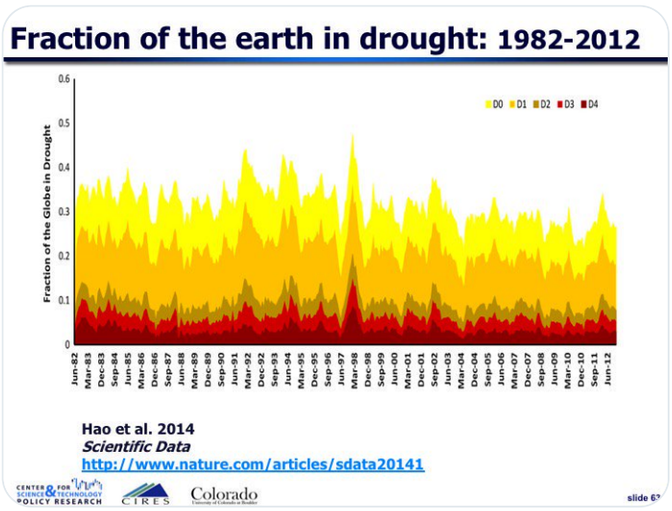


Global integrated drought monitoring and prediction system
Data Descriptor
https://www.nature.com/articles/sdata20141

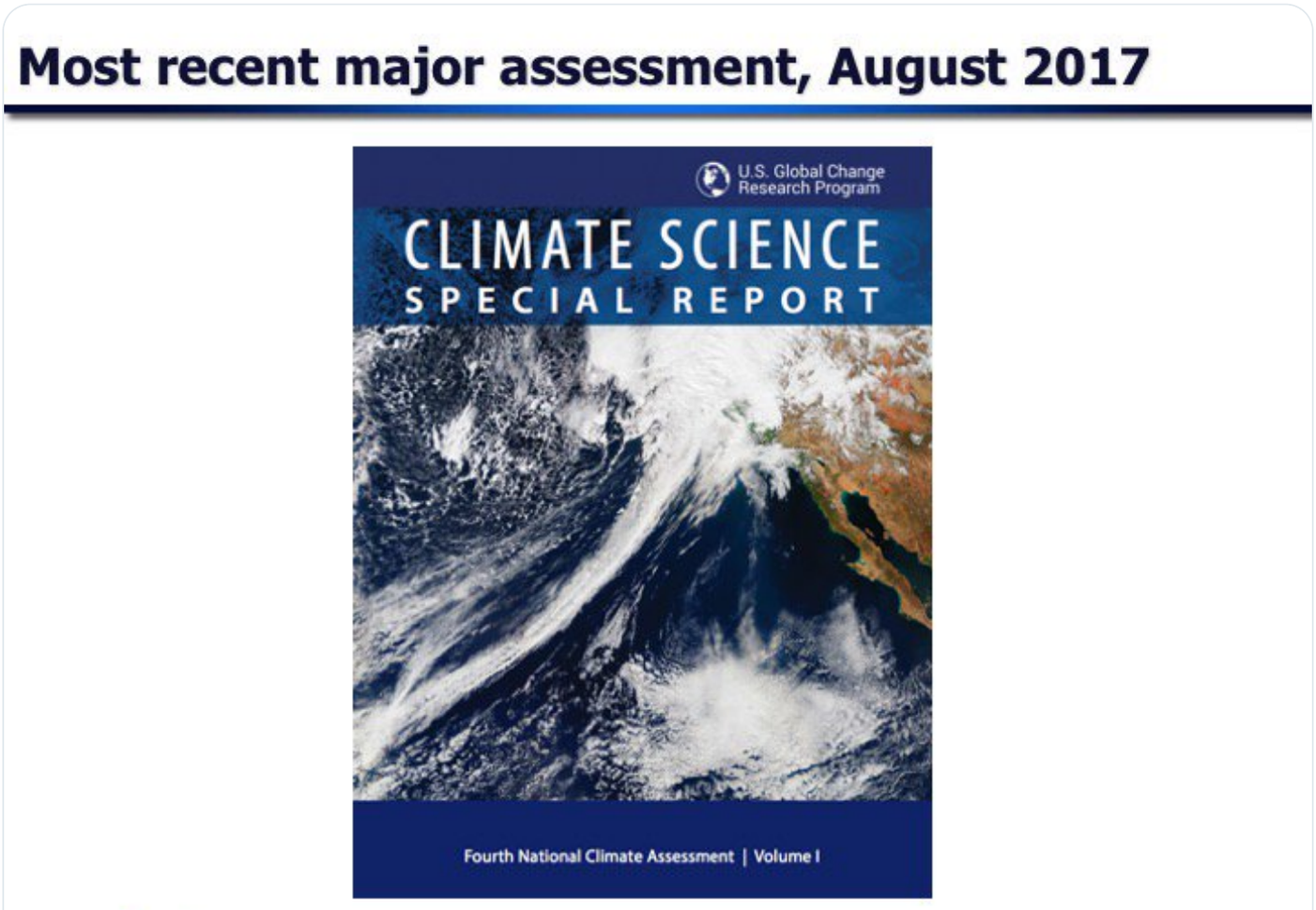
...)

No clear trends, which helps to explain why the IPCC concluded as it did.





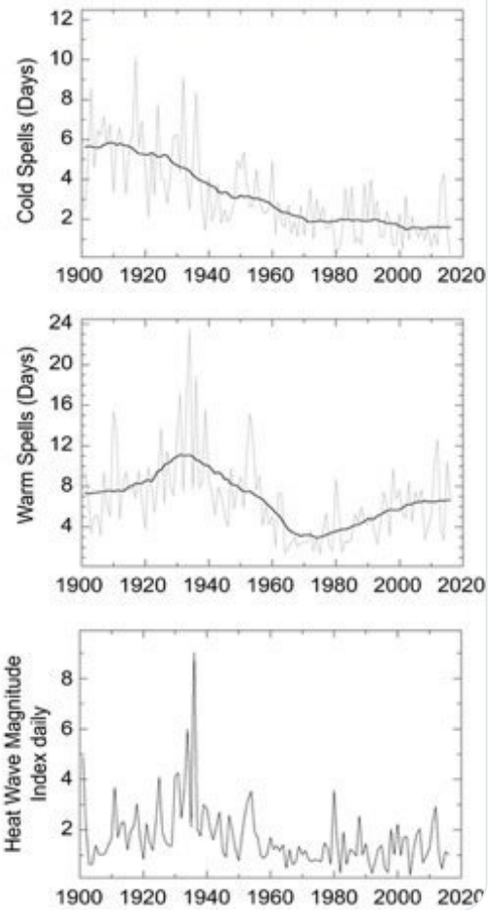
64The most recent climate assessment report is the US National Climate Assessment released last year by the Trump admin, but most work was done under Obama. The report's release was accompanied by a lot of media attention. Few actually read it. I did so you don't have to. . .

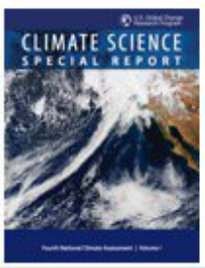


65 Below are some direct quotes from the assessment & a graph it included on temperature extremes in the US. Cold snaps down, heat waves down (!) & warm spells down then up. Winter storms up since 1950 ... more in next slide ...

US National Climate Assessment 2017

- "[IPCC AR5] concluded that it is very likely that human influence has contributed to the observed changes in frequency and intensity of temperature extremes on the global scale since the mid-20th century. . . In general, however, results for the contiguous United States are not as compelling as for global land areas . . ."
- Hurricanes: "there is still low confidence that any reported long-term (multidecadal to centennial) increases in TC activity are robust"
- Tornadoes: "A particular challenge in quantifying the existence and intensity of these events arises from the data source"
- Winter storms: "Analysis of storm tracks indicates that there has been an increase in winter storm frequency and intensity since 1950"





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66 Here are more bottom-line conclusions from the 2017 US NCA. These conclusions support everything I've reported in this long talk so far. They are also contrary to a lot of media reporting & statements by activist scientists.
This is what the science says & it's solid⬇

US National Climate Assessment 2017

- Drought: "drought statistics over the entire CONUS have declined ... no detectable change in meteorological drought at the global scale"
- Drought: "Western North America was noted as a region where determining if observed recent droughts were unusual compared to natural variability was particularly difficult"
- Flooding: "IPCC AR5 did not attribute changes in flooding to anthropogenic influence nor report detectable changes in flooding magnitude, duration, or frequency"
- In the US: "increasing & decreasing flooding magnitude but does not provide robust evidence that these trends are attributable to human influences... no formal attribution of observed flooding changes to anthropogenic forcing has been claimed"

•Precipitation: "a number of precipitation metrics over the continental United States has been examined; however trends identified for the U.S. regions have not been clearly attributed to anthropogenic forcing"

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67 So after this massive thread we come to the conclusions.

Have disasters become more costly because of human-caused climate change?

The answer is clear: [→]No[←]

It's not a welcome conclusion in some powerful circles.

But it is what the science says.

Summary of a robust scientific consensus

Have disasters become more costly because of human-caused climate change?

Only one answer to this question is strongly supported by the available data, the broad scientific literature and the assessments of the IPCC and US NCA:

No.**

There is exceedingly little evidence to support claims that disasters have become more costly because of human caused climate change.

(**But be careful saying that)

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68 After the Wikileaks release revealed the behind-the-scenes campaign against me, the elected (4Ds & 5Rs) @CUBoulder Board of Regents voted unanimously in support of academic freedom, motivated by my experiences (

CU board shows support for faculty, students' academic free...
DENVER — The University of Colorado's Board of Regents reaffirmed its support for academic freedom on Thursday in light of recently released emails that showed that a liberal group targ...

http://www.dailycamera.com/cu-news/ci_30558681/cu-board-sho...

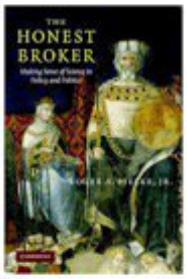
)

It was a strong statement of support🙏

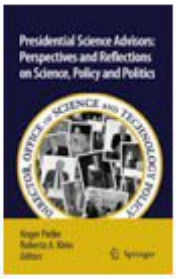
69 Thanks for reading along. Feel free to share comments, I'll read them all.

THE END🙏

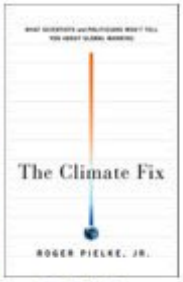
- pielke@colorado.edu
- Blog: http://leastthing.blogspot.com
- About me: http://rogerpielkejr.com/



2007

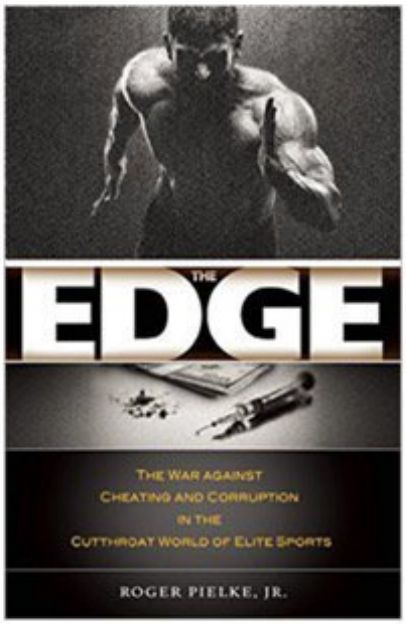


2010



2011

2014



2016

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slide 72

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see all

Roger Pielke Jr.
@RogerPielkeJr

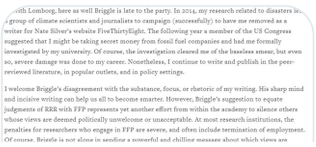
5 months ago

I have a letter @ISSUESinST responding to @adambriggle call to sanction researchers (i.e., me, @BjornLomborg) whose research -even though "logically, or empirically, flawless" (his words)- may be used by his political opponents to diminish public fear related to climate change.⬇

"Fear Mongering and Fact Mongering" (*Issues*, Fall 2018), Adam Briggle notes that he was a graduate student in one of my classes some 15 years ago. In fact, he was much more than that; he remains one of the most talented thinkers and writers whom I have had the pleasure to teach in my career. So, when he writes, I read with interest.

Briggle argues that we should consider augmenting the standard definition of research misconduct (falsification, fabrication, and plagiarism, or FFP) with a new category of misconduct, which he calls the "responsible rhetoric of research" (RRR). To illustrate violations of RRR, he cites two researchers whose work, in his view, illustrates irresponsibility.

The first is Bjorn Lomborg, whose "sins" are well-documented. His book *The Skeptical Environmentalist*, published in 2003, argued that the state of the environment was better than often portrayed. Like Julian Simon before and Hans Rosling since, Lomborg is part of a longstanding


With Lomborg, here as well Briggle is late to the party. In 2014, my research related to disasters led a group of climate scientists and journalists to campaign (successfully) to have me removed as a writer for Nate Silver's website FiveThirtyEight. The following year a member of the US Congress suggested that I might be taking secret money from fossil fuel companies and had me formally investigated by my university. Of course, the investigation cleared me of the baseless smear, but even so, severe damage was done to my career. Nonetheless, I continue to write and publish in the peer-reviewed literature, in popular outlets, and in policy settings.

I welcome Briggle's disagreement with the substance, focus, or rhetoric of my writing. His sharp mind and incisive writing can help us all to become smarter. However, Briggle's suggestion to equate judgments of RRR with FFP represents yet another effort from within the academy to silence others whose views are deemed politically unwelcome or unacceptable. At most research institutions, the penalties for researchers who engage in FFP are severe, and often include termination of employment. Of course, Briggle is not alone in sending a powerful and chilling message about which views are

Read 6 tweets

Roger Pielke Jr.
@RogerPielkeJr

6 months ago

Thread Some good news today on climate & sea level rise in a new study by two of my former colleagues @CIRESnews @CUBoulder - Nerem & Fasullo 2018, Observations of the Rate and Acceleration of Global Mean Sea Level Change, BAMS ametsoc.net/eee/2017a/ch5_...

NF18 find that sea level is rising at 3.01 mm/yr and accelerating at a rate of 0.0738 mm/yr. How do those values compare with projections?

Read 8 tweets

Roger Pielke Jr.
@RogerPielkeJr

6 months ago

A thread on transparency and conflict of interest in climate research. Should climate researchers be held to the same standards as scientists funded by industry when it comes to disclosure of financial interests tied to research & advisory committee service? Buckle up.

Professor Katharine Hayhoe of Texas Tech &

leading public spokesperson on the recently released US National Climate Assessment

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Related threads

Anna Lind-Guzik
@alindguzik

a year ago

People, including Trump last night, have been joking about Melania's disappearance, but I don't find it funny. Maybe you'll understand why if I tell you about a time that I disappeared against my will.

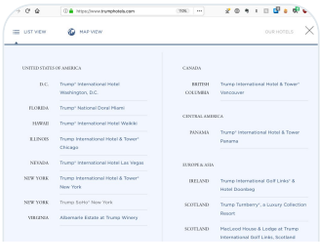
From ages 5 until 17, I lived part-time in a stunning hilltop house in Palo Alto with a clear view of Hoover Tower. When I was still a toddler, my abuser wrangled Mondays and every

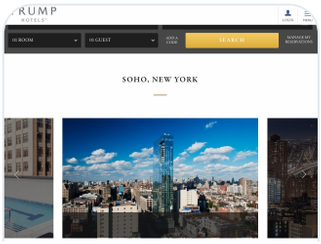
Read 24 tweets

Zach Everson
@Z_Everson

a year ago

Trump Hotels' website still lists Trump SoHo New York among its properties in the Our Hotels menu. Select its name though to access its page and there's a message about it being renamed bit.ly/2EPCSy1





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Michael Skolnik
@MichaelSkolnik

2 years ago

Last night was an historic night for America. Let's celebrate the history makers! A thread. (h/t @Phil_Lewis_)

Danica Roem became the FIRST transgender state lawmaker in the United States, when she unseated Virginia Del. Bob Marshall, the Republican who introduced the "bathroom bill" that would have prohibited transgender students from using the bathroom of their choice.

Read 24 tweets

Zach Everson
@Z_Everson

2 years ago

President and Mrs. Trump are dining at the Trump Hotel DC right now.

It's a 7:41 drive from the White House to the Trump Hotel DC (with a motorcade; slower for you).

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