

The story your editors & professors warned you about

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Covering climate change is the opposite of what journalists look for

- It's incremental
- It's slow.
- It's complex.
- It seems distant in the future.
- It doesn't lend itself to anecdotes
- It not emotional.

So what is the IPCC report issued in late March in Japan?

- It's the second of three reports, done every seven years or so, through the United Nations, World Meteorological Organization.
- It's all based on peer-reviewed science.
- 300 authors from 70 countries; 1729 expert reviewers.
- Cited more than 12,000 scientific publications.
- "The most solid evidence you can get in any scientific discipline," says head of WMO.

In full report

The word “risk” is
mentioned 6,073
times in 2,610
pages*

*Always helps to use word search functions in pdf

From page 12 of report: The key list

- The key risks that follow, all of which are identified with high confidence, span sectors and regions. Each of these key risks contributes to one or more RFCs.
- i. Risk of death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small island developing states and other small islands, due to storm surges, coastal flooding, and sea-level rise.
- ii. Risk of severe ill-health and disrupted livelihoods for large urban populations due to inland flooding in some regions.
- iii. Systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services such as electricity, water supply, and health and emergency services.
- iv. Risk of mortality and morbidity during periods of extreme heat, particularly for vulnerable urban populations and those working outdoors in urban or rural areas.

More...

- v. Risk of food insecurity and the breakdown of food systems linked to warming, drought, flooding, and precipitation variability and extremes, particularly for poorer populations in urban and rural settings.
- vi. Risk of loss of rural livelihoods and income due to insufficient access to drinking and irrigation water and reduced agricultural productivity, particularly for farmers and pastoralists with minimal capital in semi-arid regions.
- vii. Risk of loss of marine and coastal ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for coastal livelihoods, especially for fishing communities in the tropics and the Arctic.
- viii. Risk of loss of terrestrial and inland water ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for livelihoods. Many key risks constitute particular challenges for the least developed countries and vulnerable communities, given their limited ability to cope.

UN PANEL: 8 REASONS TO WORRY ABOUT GLOBAL WARMING

- YOKOHAMA, Japan (AP) — If you have already read "12 Pieces of Practical Advice from Housecats," now you can move on to "8 Reasons to Worry about Global Warming."
- A United Nations panel of scientists is joining the list craze with what they call eight "key risks" that are part of broader "reasons for concern" about climate change.
- It's part of a massive report on how global warming is affecting humans and the planet and how the future will be worse unless something is done about it. The report is being finalized at a meeting this weekend by the Intergovernmental Panel on Climate Change.
- They assembled the list to "make it understandable and to illustrate the issues that have the greatest potential to cause real harm," the report's chief author, Chris Field of the Carnegie Institution of Science in California, said in an interview.
- But a draft of the list — called by the acronym RFCs — includes science-heavy language, caveats and uses lowercase Roman numerals, for example using iv instead of 4.
- A boiled-down version of what the scientists say the warmed-up future holds for Earth if climate change continues:

<http://bigstory.ap.org/article/un-panel-8-reasons-worry-about-global-warming>

- 1. Coastal flooding will kill people and cause destruction.
- 2. Some people will go hungry because of warming, drought and severe downpours.
- 3. Big cities will be damaged by inland flooding.
- 4. Water shortages will make the poor even poorer in rural areas.
- 5. Crazy weather, like storms, can make life miserable, damaging some of the things we take for granted, like electricity, running water and emergency services.
- 6. Some fish and other marine animals could be in trouble, which will probably hurt fishing communities.
- 7. Some land animals won't do much better and that's not good for people who depend on them.
- 8. Heat waves, especially in cities, will kill the elderly and very young.
- So far, the scientists haven't come up with the next step, common on Facebook pages: The interactive quiz to determine which global warming problem you most resemble.

Impacts continued

- It is already happening now
- More people than ecosystems
- No one is immune
- May be an economic issue (costs in future as much as 2 pct global income)
- Will have more negative than positive effect on food
- Pockets of poverty and hotspots of hunger
- More extreme weather in general
- Wildfires.
- Health issues

Impacts continued

- There's a fairness issue. Poor hurt more than rich.
- There's a whole new level of risk; added "extremely high"
- Big risk of "tipping points" like Greenland melt
- For the first time it mentions violence, worsening civil war, mass migrations, inter-country violence
- Oceans acidifying, problems marine ecosystems
- Problems with land ecosystems
- Affecting Arctic
- Indigenous communities at risk

That's more than two dozen
different ideas to fit into a single
story
so let's you and I try to write the
lede (only top two grafs)

The wrong question to ask

- Did Climate Change CAUSE Extreme X?
- Only after months of painstaking modeling, statistical calculations can scientists do a formal attribution study saying there was a man-made climate factor in a weather extreme. And even then it's a percentage increase in likelihood.

The right questions to ask

- What were the factors in Extreme X that may have been altered by anthropogenic global warming?
- And how were they altered?

Superstorm Sandy

- Sandy's numbers: \$65 billion in damage in US; 159 dead in US; Second costliest US hurricane; Deadliest US storm outside southeast US
- 54 deaths in Haiti, 11 in Cuba, 3 in Dominican Republic, 2 in Bahamas, 1 in Jamaica, 1 in Canada (? , yes really)
- Sandy's track was a 1 in 714 year scenario (Hall and Sobel, GRL May 2013)
- Oh, and it approached US as a category 1 minor (in wind speed strength) storm

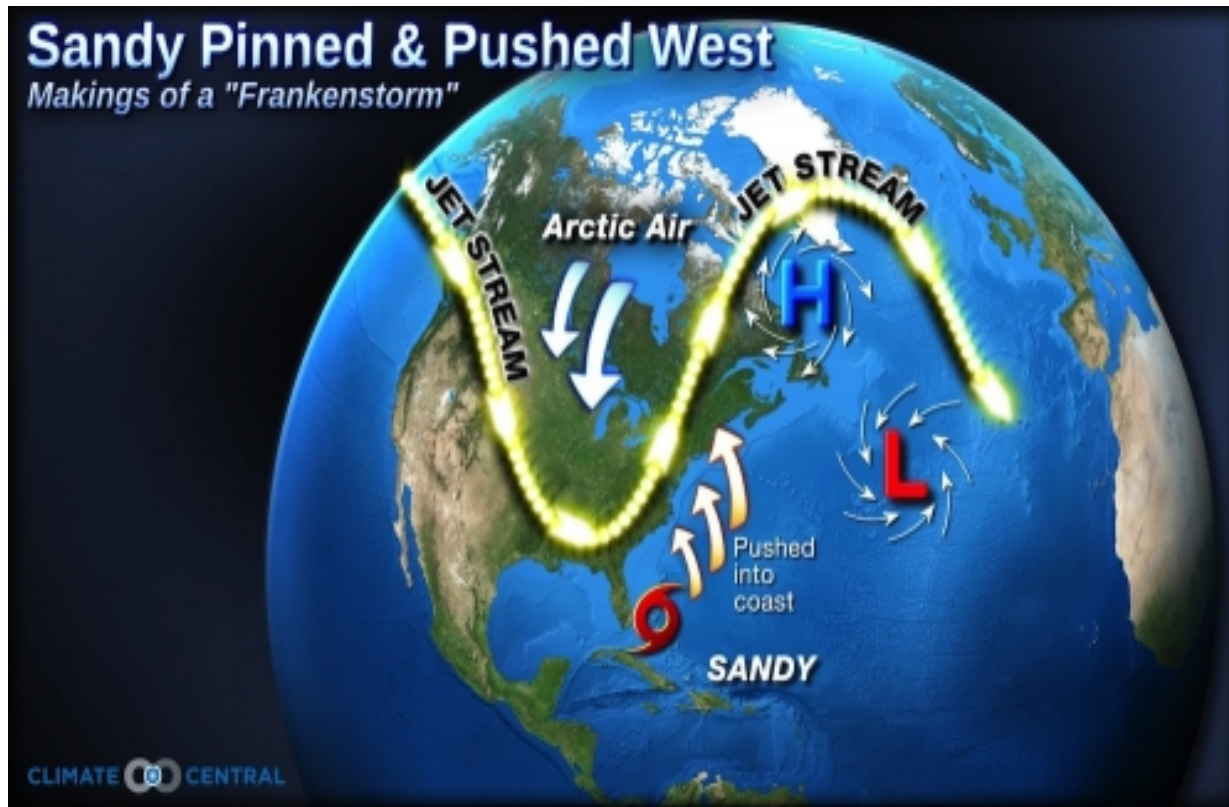
The climate change to ingredients to Sandy (not cause)

- Much of this you can find here:
<http://bigstory.ap.org/article/scientists-look-climate-change-superstorm>
- Sea Level in New York has risen one foot in the past century. More flooding.

Sea surface temperatures

- Add to that the temperature of the Atlantic Ocean, which is about 2 degrees warmer on average than a century ago, said Katharine Hayhoe, a climate scientist at Texas Tech University. Warm water fuels hurricanes. And Sandy zipped north along a warmer-than-normal Gulf Stream that travels from the Caribbean to Ireland, said Jeff Masters, meteorology director for the private service Weather Underground. (Borenstein, AP)
- Sea surface temperatures hit record highs off the New Jersey and New England coasts this summer, and warmer water can help maintain a hurricane, or hurricane-like hybrid storm, much farther north than they would typically be able to survive at this time of year. Sandy is tapping into energy from both the ocean and the jet stream, as [researcher Adam Sobel explained](#). (Andrew Freedman, Climate Central, pre-storm hit)

But my favorite ingredient: The Jet Stream



Jet stream last few years gone wild

- The jet stream usually rushes rapidly from west to east in a mostly straight direction. But lately it's been wobbling and weaving like a drunken driver, wreaking havoc as it goes. The more the jet stream undulates north and south, the more changeable and extreme the weather.
- Consider these unusual occurrences over the past few years:
 - — The winter of 2011-12 seemed to disappear, with little snow and record warmth in March. That was followed by the winter of 2012-13 when nor'easters seemed to queue up to strike the same coastal areas repeatedly.
 - — Superstorm Sandy took an odd left turn in October from the Atlantic straight into New Jersey, something that happens once every 700 years or so.
 - — One 12-month period had a record number of tornadoes. That was followed by 12 months that set a record for lack of tornadoes.
- And here is what federal weather officials call a "spring paradox": The U.S. had both an unusually large area of snow cover in March and April and a near-record low area of snow cover in May. The entire Northern Hemisphere had record snow coverage area in December but the third lowest snow extent for May.

But mainstream climate scientists split about whether this is natural or climate change

- Jennifer Francis in 2013, noting that the previous year set a record low for summer sea ice in the Arctic: "It's been just a crazy fall and winter and spring all along, following a very abnormal sea ice condition in the Arctic. It's possible what we're seeing in this unusual weather is all connected."
- Elizabeth Barnes, Geophysical Research Letters, later in 2013: "This work highlights that observed trends in midlatitude weather patterns are complex and likely not simply understood in terms of Arctic amplification alone."

Quick Climate Quiz

- What is climate change supposed to mean in terms of Atlantic hurricanes?
- A. More, stronger hurricanes
- B. Fewer, weaker hurricanes
- C. More, weaker hurricanes
- D. Fewer, stronger hurricanes
- E. No known effect.

Quiz Question 2

- Climate change will do what to tornadoes:
- A. More tornadoes with climate change.
Because of More Moisture, Instability in Air.
- B. Less tornadoes with climate change.
Because of less Wind Shear.
- C. We just don't know.

1988 (then the hottest year on record)

- Global Warming Has Begun, Expert Tells Senate
- By PHILIP SHABECOFF, Special to the New York Times
Published: June 24, 1988
- The earth has been warmer in the first five months of this year than in any comparable period since measurements began 130 years ago, and the higher temperatures can now be attributed to a long-expected global warming trend linked to pollution, a space agency scientist reported today.
- Until now, scientists have been cautious about attributing rising global temperatures of recent years to the predicted global warming caused by pollutants in the atmosphere, known as the "greenhouse effect." But today Dr. James E. Hansen of the National Aeronautics and Space Administration told a Congressional committee that it was 99 percent by a buildup of carbon dioxide and other artificial gases in the atmosphere.

Good 2-minute video analogy from Natl Center for Atmospheric Research

- https://www.youtube.com/watch?feature=player_embedded&v=MW3b8jSX7ec
- **Steroids, baseball, and climate change**
- **What do home runs and weather extremes have in common?**

Twenty-five years later

- NOAA: World in 2013 was 4th hottest on record
- By **SETH BORENSTEIN** January 21, 2014 5:12 PM
- WASHINGTON (AP) — The sweltering year of 1988 first put global warming in the headlines and ended up as the hottest year on record. But on Tuesday, it was pushed out of the top 20 warmest by 2013.
- Last year tied for the fourth hottest and 1988 fell to 21st.

Want to know more?

My email is sborenstein@ap.org

Or follow me on Twitter at @borenbears

My most recent stories are at:

<http://bigstory.ap.org/content/seth-borenstein>

Many more good reporters are members of the Society of Environmental Journalists:

www.sej.org