

2018 Climate Reporting Report-out

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Fall 2018 Climate Reports

- IPCC Special Report on Global Warming of 1.5c
 - Assess impacts of 1.5c (rel to 2c) and how to limit warming to 1.5c
- Fourth National Climate Assessment
 - US-specific, region- and sector-specific focus
- The Lancet Countdown
 - Tracks indicators of health/CC impacts, response and engagement across time



Fourth National Climate Assessment

- Focus on env/health/econ impacts
 - Warming/acidifying oceans, rising sea levels, temps, precipitation, severe storms, flooding
 - Geographic differentiation, interconnectedness
 - Prioritizing adaptation for vulnerable pop.
- Structure
 - 16 national-level topics
 - 10 region-specific chapters
 - 1 chapter ea: mitigation/adaptation



NCA-4: Impact variability

Impacts: “In the Arctic, annual average temperatures have increased more than twice as fast as the global average, accompanied by thawing permafrost and loss of sea ice and glacier mass. Arctic-wide glacial and sea ice loss is expected to continue; by mid-century, it is very likely that the Arctic will be nearly free of sea ice in late summer. Permafrost is expected to continue to thaw over the coming century as well, and the carbon dioxide and methane released from thawing permafrost has the potential to amplify human-induced warming, possibly significantly.”

NCA-4: Adaptation example

- Increasing heavy rains leading to soil erosion and nutrient loss on Midwestern croplands
 - Iowa State prairie strips in farm fields to reduce soil and nutrient loss, increase biodiv.
- Colorado river basin drought red Lake Mead 50%
 - 7 state govts, US&Mex fed govt pushed user water conservation
- Drought, high temps threaten Texas water supply
 - Expansion of public water supply desalination plants

NCA-4: Adaptation approaches

Current	Needed
Address <u>current</u> climate variability and <u>recent</u> extreme events	Prepare for <u>future</u> change and emergent threats
Adaptive – capacity building, making infrastructure less sensitive to climate impacts	Avoidance – land use change, prev building in high-risk locations, retreating from at-risk coastal areas
Reactive – in recovery mode	Proactive – Assess costs of actions and co-benefits, prioritize vulnerable populations
Singular focus – i.e. just address sea level rise	Comprehensive – exploit synergies and co-benefits; meet community goals
M&E lacking	M&E!

NCA-4: Adaptation example

- Since Hurricane Sandy NYC has:
 - Relocated HH from flood-prone areas
(reduce exposure)
 - Raised structured higher to avoid flooding
(reduce sensitivity)
 - Train bldg code/land use officials on est of flood risk
(increase adaptive capacity)

NCA-4 Resources

- Full report: nca2018.globalchange.gov 1,524 pages
- “Report in Brief”: https://nca2018.globalchange.gov/downloads/NCA4_Report-in-Brief.pdf 196p
- Summary findings: https://nca2018.globalchange.gov/downloads/NCA4_Ch01_Summary-Findings.pdf 7p
- Overview: https://nca2018.globalchange.gov/downloads/NCA4_Ch01_Overview.pdf 38p
- FAQ: 67p
<https://nca2018.globalchange.gov/chapter/appendix-5/>
- Adaptation: <https://nca2018.globalchange.gov/chapter/28/>
- Mitigation: <https://nca2018.globalchange.gov/chapter/29/>
- Northwest: <https://nca2018.globalchange.gov/chapter/24/>

The Lancet Countdown:

tracking progress on health and climate change

- Established to provide an independent global monitoring system dedicated to tracking the health dimensions of the impacts of, and the response to, climate change
- Tracks 41 indicators across 5 domains:
 - Climate change impacts, exposures and vulnerability
 - Adaptation, planning and resilience for health
 - Mitigation actions and health co-benefits
 - Finance and economics
 - Public and political engagement

Lancet Indicators

- **Indicator 1.3 - Health effect of heatwaves:**
 - 2017 = 157m heatwave exp. events (139m in 2016)
 - Ave person experienced + 1.4 days of heatwaves/yr in 2017 v. 2000
- **Indicator 3.3 - Zero-carbon emission electricity:**
 - 157 GW of RE installed in 2017, (143 GW in 2016)
 - 70 GW of fossil fuel capacity installed

Lancet Resources

- Lancet full article: 36p
<http://www.lancetcountdown.org/the-report/>
- Lancet indicator summary (Elisa)

Lancet summary sheet – 41 indicators across 5 domains		
Climate change impacts, exposures, and vulnerability		
Indicator 1.1	vulnerability to the heat-related risks of climate change	<i>Rising ambient temperatures place vulnerable populations at increased risks across all WHO regions. Populations in Europe and the East Mediterranean are particularly at risk, with 42% and 43% of their populations older than 65 years vulnerable to heat exposure</i> Vulnerability to extremes of heat has steadily risen since 1990 in every region, with 157 million more people exposed to heatwave events in 2017 compared with 2000,
Indicator 1.2	health effects of temperature change	<i>The mean global temperature change to which humans are exposed (the temperature increase in populated zones) is more than double the global average change, with temperatures rising 0.8° C versus 0.3° C</i>
Indicator 1.3	health effects of heatwaves	<i>in 2017, an additional 157 million heatwave exposure events occurred globally, representing an increase of 18 million additional exposure events compared with 2016</i> The average person experienced an additional 1.4 days of heatwaves per year in 2017 v. 2000
Indicator 1.4	change in <u>labour</u> capacity	<i>In 2017, 153 billion hours of <u>labour</u> (3.4 billion weeks of work) were lost because of heat, an increase of 62 billion hours (3.2 billion weeks of work) lost relative to 2000</i>
Indicator 1.5	health effects of extremes of precipitation (flood and drought)	<i>Changes in extremes of precipitation exhibit clear regional trends, with South America and southeast Asia among the regions most exposed to flood and drought.</i> This indicator highlights increased exposure in large areas of South America, northern and southern Africa, and southeast Asia, with many areas experiencing a full 12 months of drought throughout the year. Prolonged drought remains one of the most dangerous environmental determinants of premature mortality, resulting in reduced crop yields, food insecurity, and malnutrition (which in turn leads to life-long stunting, wasting, and eventually death when experienced by young children). The spread of water-borne disease, reduced

IPCC - SR 1.5 Resources

- IPCC full report: <https://www.ipcc.ch/sr15/>
 - ∞ pages
- SR15 FAQ: 23 pages
https://report.ipcc.ch/sr15/pdf/sr15_faq.pdf
- Summary for policy makers:
<https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/>
- Technical summary:
<https://www.ipcc.ch/sr15/technical-summary/>