

# Extreme weather event attribution science and climate change litigation



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Philippines Commission on Human Rights

National Inquiry on Climate Change



# An introduction to ClientEarth

- ClientEarth is a non-profit environmental law organisation
- We use law, science and policy to tackle key environmental challenges
- We have conducted legal research into climate change litigation around the world
- We have also conducted research into the implications of climate-related financial risk for company reporting and directors' duties

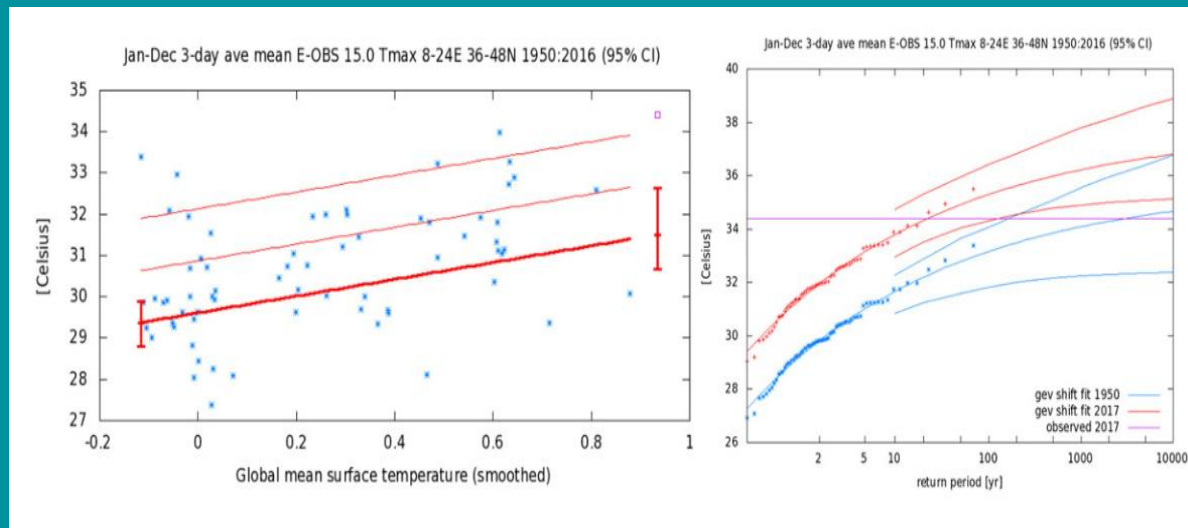
# Event attribution science: Objectives

- To understand what causes extreme weather events and how human greenhouse gas emissions change those events
- To better understand the causes of extreme heat, rain, drought or storms caused by climate change
- To respond to the public's question 'is this climate change?', by answering the more scientifically correct question 'how has climate change made this event stronger, or more likely to occur?'



# Event attribution science: Methodology

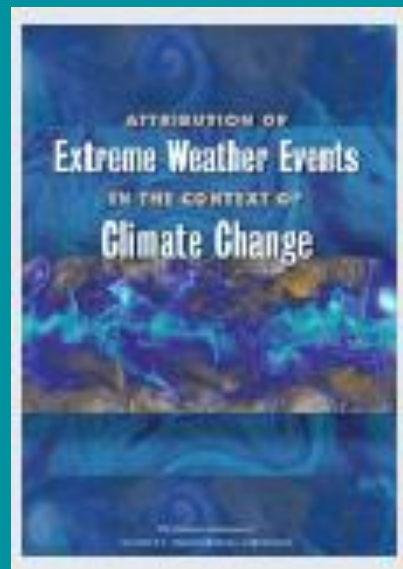
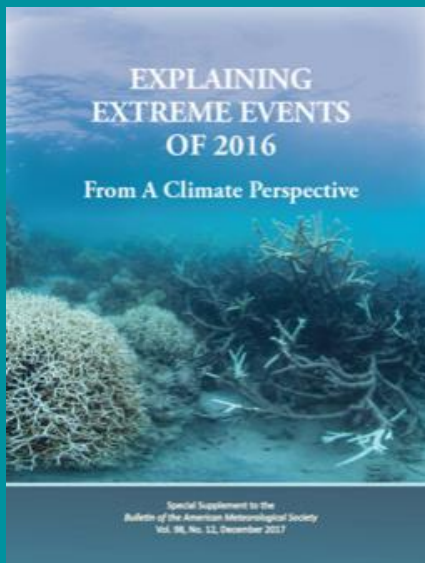
- Define the event and gather information relating to the event from observations
- Compare the chance/strength of observations and modelled simulations of the 'real world' with models simulating the world without human greenhouse gas emissions (the 'counterfactual world')
- Calculate a risk ratio, by comparing the chances of the event occurring in the 'real world' v 'the counterfactual world'



Source: World Weather Attribution, Analysis of Euro-Mediterranean Heat Summer 2017 (<https://wwa.climatecentral.org/>)

# Event attribution science: Peer review

- *Explaining Extreme Events from a Climate Perspective*, Special Supplement to the Bulletin of the American Meteorological Society
- National Academies of Sciences, Engineering, and Medicine, *Attribution of Extreme Weather Events in the Context of Climate Change* (The National Academies Press 2016)



# Event attribution science: Results of some recent studies

- **Sept 2017 Hurricane Harvey, US:** Heavy rainfall made approx. 3 times more likely, and 15 % more intense, although still a very rare event
- **2015-17 Drought in Western Cape, SA:** Chance of this rare event (1 in 100 year drought) has increased by a factor of 3.3. In a world with 2 degrees of warming, droughts like this will be 6 times more likely
- **July 2018 Heatwave in Northern Europe:** Rare high temperatures across the region made at least 2 and up to 5 times more likely because of climate change (rapid study not yet peer reviewed)

# Event attribution science: Relevance for law

- Provides evidence of specific and quantifiable harm at the regional or sub-regional level
- Evidence of improved *foreseeability* of strength and expected chance of certain events
- Legal duty holders:
  - **Governments** including local authorities and contracted infrastructure providers (airports, roads, flood preparation);
  - **Professionals** (engineers, architects) often contracting to the above; and
  - **Companies** (eg heatwaves/storms affecting employees, assets and supply chains).

# Economic impacts of climate change on economy and companies

*"The combination of the weight of scientific evidence and the dynamics of the financial system suggest that, in the fullness of time, climate change will threaten financial resilience and longer-term prosperity..."*

*Climate change is the Tragedy of the Horizon."*

-- Mark Carney, Governor of the Bank of England, Speech to Lloyd's of London, September 2015





# Taxonomy of climate risk for companies

- Climate related financial risks may arise for companies from:
  - **Physical risks:** As demonstrated by event attribution science, and predictive climate science;
  - **Transition risks:** corporate losses could arise if markets shift due to regulation or technological disruption; and
  - **Litigation risks:** Litigation arising from the above risks themselves, or from tort / compensation claims.

# Task-force on Climate-related Financial Disclosures (TCFD)

- Investor-led and seen as industry standard
- Final Recommendations Report, suggests listed companies' disclosures cover the following areas:
  - **Governance:** how the board manages climate risks and opportunities
  - **Strategy:** describes the impact of climate change on the company and its strategy
  - **Risk management:** Describe how the company manages climate risks; and
  - **Metrics and Targets:** includes data including on emissions and targets
- Recommends a 2-degree scenario analysis

# Directors' duties

- Duties require directors to act in best interests of their company, and with reasonable prudence, due diligence and skill.
- In some jurisdictions (UK, Brazil, Canada), explicit requirement to consider stakeholder interests and to consider role as 'good corporate citizen'
- It is not acceptable to *fail* to manage reasonably foreseeable material climate risks
- Existing legal duties *do not prevent* company directors from considering human rights and environmental impacts in business decisions

# Recommendations for effective human rights due diligence on climate change

An effective human rights due diligence process in the context of climate change should:

- Ensure that the company has a strong governance framework;
- Make a commitment to reporting on climate-related risks in accordance with the TCFD recommendations;
- Include a robust analysis (developed in consultation with stakeholders) of the company's operations in 2-degree compliant scenario; and
- Describe how the company will reduce emissions in line with well below 2-degree temperature goal, in order to respect human rights.

# Thank You

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