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WWA SUPPORTS FINDINGS OF NEW NATIONAL ACADEMIES REPORT:

Attribution of Extreme Weather Events in the Context of Climate Change

PRINCETON, N.J. March 11 — The World Weather Attribution (WWA) program – a partnership of Climate Central, University of Oxford, University of Melbourne, Royal Netherlands Meteorological Institute and Red Cross Red Crescent Climate Centre – welcomes the National Academies of Sciences, Engineering and Medicine report [Attribution of Extreme Weather Events in the Context of Climate Change](#). The report reflects a consensus on the current state of the science of attribution of extreme weather events to human-caused climate change and natural variability. In short, it states that the science on attribution has advanced to the point that the notion “we cannot attribute any single event to climate change” is no longer true. The report goes on to say that in many cases, it is now possible to make quantitative statements about the extent to which human-induced climate change has influenced either the magnitude or the probability of occurrence of specific classes of extreme events.

“This report makes clear that most heat waves, and some heavy rainfall events and droughts can, in fact, be scientifically tied to climate change,” said Heidi Cullen, Climate Central’s Chief Scientist. In her [New York Times editorial](#), Cullen drew a similarity between the Surgeon General’s landmark 1964 report linking smoking to an increased risk of lung cancer, and the Academies report connecting global warming to the increased risk and severity of certain classes of extreme weather.

“The attribution of the increasing frequency and intensity of heat waves to human-caused climate change has raised awareness that climate change is happening now and already affecting some extreme events,” said David Karoly, Professor of Atmospheric Science at the University of Melbourne.

“The report reaffirms the importance of an evidence-based approach to the attribution of extreme weather events,” explained Myles Allen, Professor of Geosystem Science at the University of Oxford. Allen was the first to propose probabilistic extreme event attribution as a means to quantify how much additional greenhouse gas levels in the atmosphere had increased or decreased the probability of occurrence of a particular extreme event.

The report states that confidence in linking specific extreme events to climate change is highest for heat waves and cold events, followed by heavy rainfall and certain types of drought. The report notes that there is little, if any, confidence in the attribution of tornadoes, hurricanes and wildfires. “Even though the influence of rising greenhouse gases is, quite literally, all around us, it is only making some extreme weather events more likely to occur. Others may have been made less likely, others unaffected, or it may be too early to tell. And the answer doesn’t just depend on the type of event, but context, like the state of El Nino. This is why we do what we do,” added Allen.

WWA applies a unique scientific approach that combines observational data, analysis of a range of models, peer-reviewed research, and on-the-ground reports. The Academies report stresses the importance and value of bringing multiple scientifically appropriate approaches together. “It’s important to analyze the event in different ways, using both observations and different climate models,” said Geert Jan van Oldenborgh, researcher at the Royal Netherlands Meteorological Institute. “That way we know when we can make a robust statement on the influence of climate change, and when we cannot do that yet.”

The report stresses the importance of clear communication around attribution. A vital part of WWA is researching the best ways to communicate the science of attribution to ensure that this relatively novel information is well understood and usable to governments, businesses and the general public. “If the public are being asked to do something about climate change, they deserve to know what climate change is doing to them,” said Friederike Otto, Senior Researcher at the University of Oxford. “Attribution is important for planning, to avoid the all-too-human tendency to blame any extreme weather event on climate change, and assume we will therefore see more of the same in future.”

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About World Weather Attribution

World Weather Attribution is a new international effort designed to sharpen and accelerate the scientific community’s ability to analyze and communicate the possible influence of climate change on extreme-weather events such as storms, floods, heat waves and droughts.

Recognizing society’s interest in reducing the human, economic, and environmental costs of weather-related disasters, WWA aims to deliver timely and reliable information on how patterns of extreme weather may be affected by climate change.

The program — a partnership of Climate Central, the University of Oxford Environmental Change Institute (Oxford ECI), the Royal Netherlands Meteorological Institute (KNMI), the University of Melbourne, and the Red Cross Red Crescent Climate Centre (the Climate Centre) — was initiated in late 2014 after discussions within the scientific community concluded that the science of extreme-event attribution could be operationalized. Climate Central coordinates the program and provides its secretariat.

Climate Central is a non-profit research and journalism organization providing authoritative, science-based information to help the public and policymakers make sound decisions about climate and energy.