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NEW PROJECT: WORLD WEATHER ATTRIBUTION

PRINCETON, N.J. – Climate Central is pleased to announce a new initiative called **World Weather Attribution** that will seek to perform “extreme weather autopsies” immediately after an extreme weather event occurs, when the world’s media is still asking “was this event caused by climate change?” With our partner at Oxford University’s Environmental Change Institute, we are working on a tool that will look at the role of global warming in extreme weather events around the globe — not months later, as has been the case; but in real-time using the citizen science distributed infrastructure climateprediction.net

Identifying a human fingerprint in individual extreme weather events – a field known as attribution science – has been a goal of the scientific community for more than a decade. In 2004, Stott et al. published a paper in the journal *Nature* showing that climate change at least doubled the risk of the record-breaking European heat wave that killed more than 70,000 people in the summer of 2003. Since the publication of that paper, improvements to climate models have led to tremendous advances in the field of attribution science.

Since 2012, the Bulletin of the American Meteorological Society (BAMS) has published an annual review of extreme weather events from a climate perspective, further solidifying that scientific thinking on this issue has evolved and it is now widely accepted that attribution statements about individual weather or climate events are possible, provided proper account is taken of the probabilistic nature of attribution.

The **World Weather Attribution** project aims to identify the human fingerprint in certain types of extreme weather events, including sea level rise and its contribution to storm surges, extreme heat events, heavy rainfall events/flooding, and drought. And it will do so using volunteers’ computing power. The simulations provided by volunteers around the world and designed by the climateprediction.net team at the University of Oxford will be part of a tested communications and outreach effort led by Climate Central.

Oxford’s climateprediction.net is one of largest research projects studying the Earth’s climate and climate change. For the past 10 years it has performed a large number of research projects using distributed volunteer computing and moved from the studies of understanding the climate system to the study and attribution of the changing risk of extreme weather and climate-related events.

Weather@home is the regional climate-modeling project of climateprediction.net, which uses crowdsourced computing to run very large ensembles of regional climate simulations to determine whether the risk of recent extreme weather events had been altered by climate change.

“We are now planning a more ambitious project using seasonal forecasts to compare extreme weather events as they happen with the very same weather events in a world that might have been without climate change,” said Heidi Cullen, Climate Central’s Chief Scientist. “The goal is to give a first, scientifically based answer to the question whether and to what extent climate change played a role in the probability of occurrence of the event in real time.”

The **World Weather Attribution** project aims to build the capacity to identify 1-in-50-year and 1-in-100-year events around the world and determine whether climate change increased the likelihood of that event. By adding this real-time capability, we hope to better answer pressing questions about the role of human activity in extreme weather. There are four possible outcomes of our attribution analysis. First, global warming increased the likelihood of the event. Second, global warming did not play a role in the event. Third, global warming reduced the likelihood of the event. And fourth, our model was unable to reproduce the event. Our goal is to objectively and transparently assess the event in question and equip journalists and scientists with the tools to provide the larger global warming context when it is available.

