



Our ref: 13/1670

19 December 2013

RE: Request for Information

Thank you for your email dated 21 November 2013 to the Department of Energy & Climate Change (DECC), where you requested the following information:

The Daily Mail reported on 21 November 2013:

"A spokesman from the Department of Energy and Climate Change said: 'We cannot currently say whether Haiyan was or was not affected by climate change.'

'But scientific evidence shows that extreme weather events are most certainly intensifying and this is expected to continue as global warming proceeds.'"

Please supply the scientific evidence which justifies this statement; "scientific evidence shows that extreme weather events are most certainly intensifying "

We have considered your request in accordance with the Environmental Information Regulations 2004 ('the EIRs') as the information you have sought disclosure of, does in our view, fall within the definition of 'environmental information' as stated in the EIRs.

The scientific evidence you requested is available and is accessible to you, as it is already in the public domain. This evidence can be obtained from amongst others, the following sources:

- The Intergovernmental Panel on Climate Change's (IPCC) recently published Working Group I contribution to its Fifth Assessment Report (AR5)¹

¹ IPCC, 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. See Table SPM.1. <http://www.ipcc.ch/report/ar5/wg1/>

- Scientific papers published in the Bulletin of the American Meteorological Society (BAMS) in both 2012 and 2013, on the subject of explaining extreme events from a climate perspective^{2,3}
- The IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)⁴
- Scientific papers published on the anthropogenic contributions to the 2003 European heatwave⁵ and the England and Wales flood risk in Autumn 2000⁶.

The AR5 report shows there is growing evidence that some types of extreme weather events are intensifying. It concludes that since the mid-20th century:

- it is very likely that the frequency and/or duration of heat waves have likely increased in large parts of Europe, Asia and Australia; and
- there are likely more land regions where the number of heavy precipitation events has increased than where it has decreased, and the frequency or intensity of heavy precipitation events has likely increased in North America and Europe.

The AR5 report also concludes that it is virtually certain there have been increases in intense tropical cyclone activity in the North Atlantic, since 1970. Lack of data or studies limits the ability to draw conclusions on how the intensity of some types of extreme weather events has changed in other regions.

A number of the scientific papers (some referenced above) have shown an increased risk of certain extreme weather events happening as a result of climate change due to human-caused greenhouse gas emissions. The AR5 report concludes it is likely that human influence has more than doubled the probability of occurrence of some observed heat waves in some locations.

² Peterson *et al* (Eds) 2013. Explaining Extreme Events of 2012 from a Climate Perspective. Special Supplement to the *Bull. Amer. Meteor. Soc.*, **94** (9), S1–S74. <http://www.ametsoc.org/2012extremeeventsclimate.pdf>

³ Peterson, T.C., Stott, P. A., Herring, S. (Eds) 2012. Explaining Extreme Events of 2011 from a Climate Perspective. *Bull. Amer. Meteor. Soc.*, **93**, 1041–1067. doi: <http://dx.doi.org/10.1175/BAMS-D-12-00021.1>

⁴ IPCC, 2012: Summary for Policymakers. In: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* [Field *et al*, (eds.)]. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 1-19. <http://ipcc-wg2.gov/SREX/>

⁵ Stott, P.A., Stone, D.A., Allen, M. R. 2004. Human contribution to the European heatwave of 2003. *Nature* **432**, 610-614 doi:10.1038/nature03089.

⁶ Pall *et al*, 2011. Anthropogenic greenhouse gas contribution to flood risk in England and Wales in autumn 2000. *Nature* **470**, 382–385. doi:10.1038/nature09762.

Appeals Procedure

If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. Internal review requests should be submitted within 40 working days of the date of receipt of the response to your original email and should be sent to the Information Rights Unit at:

Information Rights Unit (DECC Shared Services)
Department for Business, Innovation & Skills
1 Victoria Street
London
SW1H 0ET
E-mail: foi.requests@decc.gsi.gov.uk

Please remember to quote the reference number above in any future communications.

If you are not content with the outcome of the internal review, you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF

Yours sincerely

**Climate Science Observation and International Team
Science and Innovation Group**

