

Climate change science

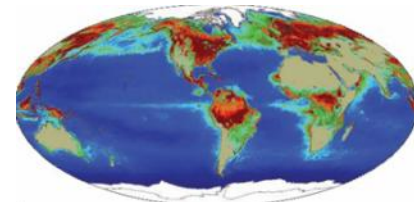
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www.global-ecology.org

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Year 2060: The search for a breakthrough technology to solve climate change continues.

IT'S A TIME MACHINE WE HOPE WILL TAKE US BACK 50 YEARS WHEN WE SHOULD HAVE PUT A PRICE ON CARBON.

WE BETTER HURRY!

NO! THAT'S THE GREAT THING ABOUT THIS TECHNOLOGY!

TALS

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Article 2 of the UNFCCC

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

Article 2 of the UNFCCC

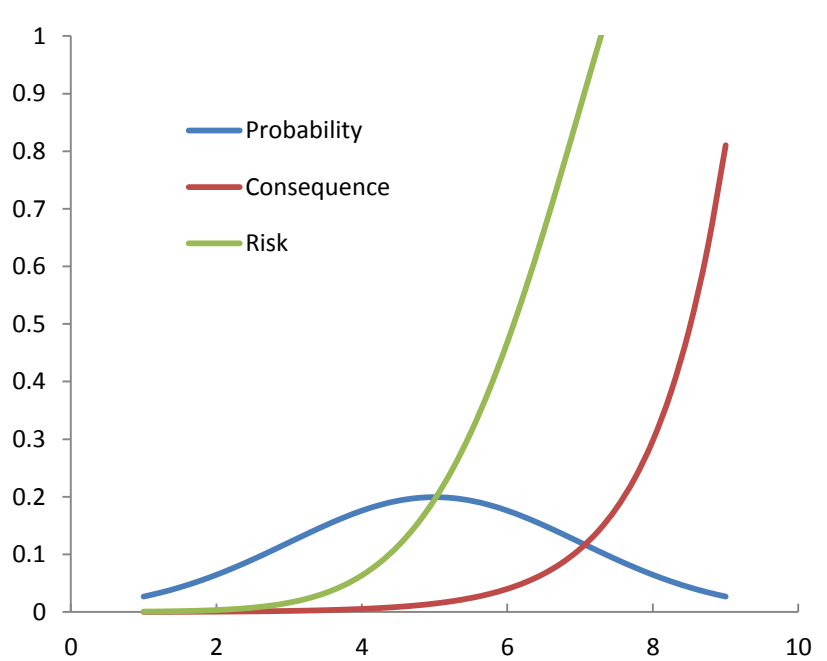
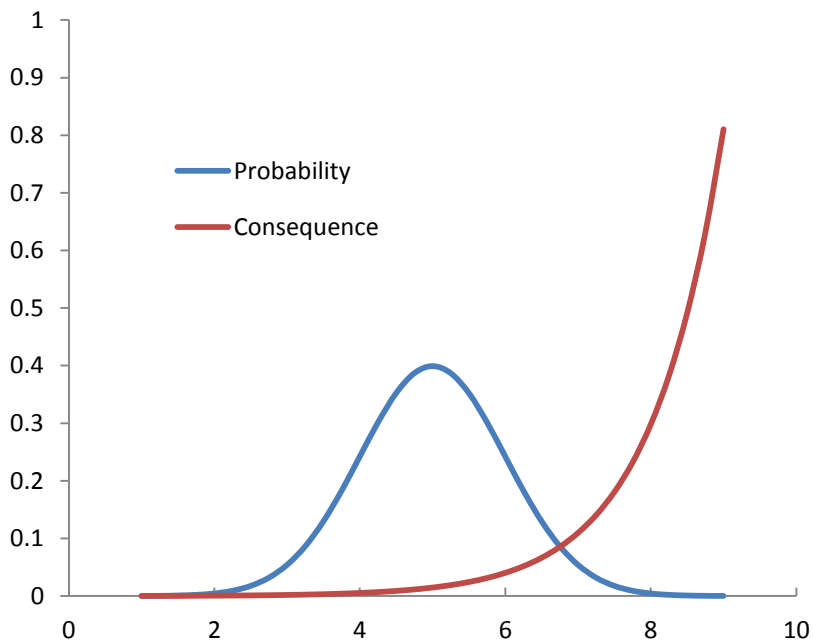
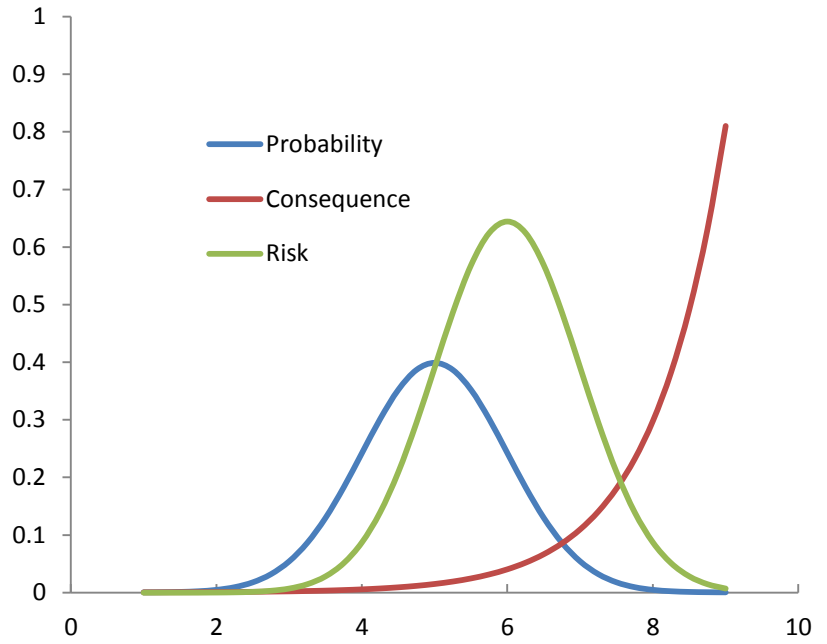
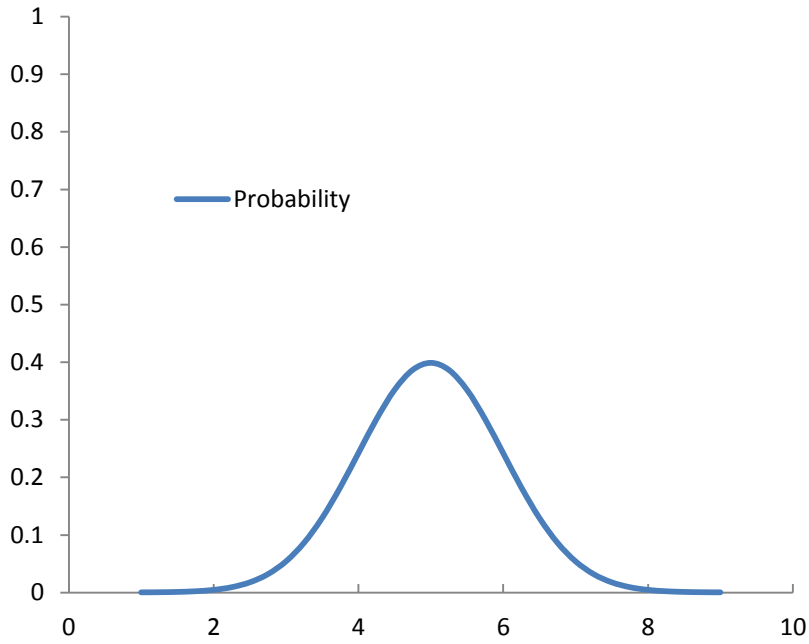
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Risk = probability x consequence

- Loaded dice
- Car driving toward a cliff in the fog
- Dumping nails on the road of life

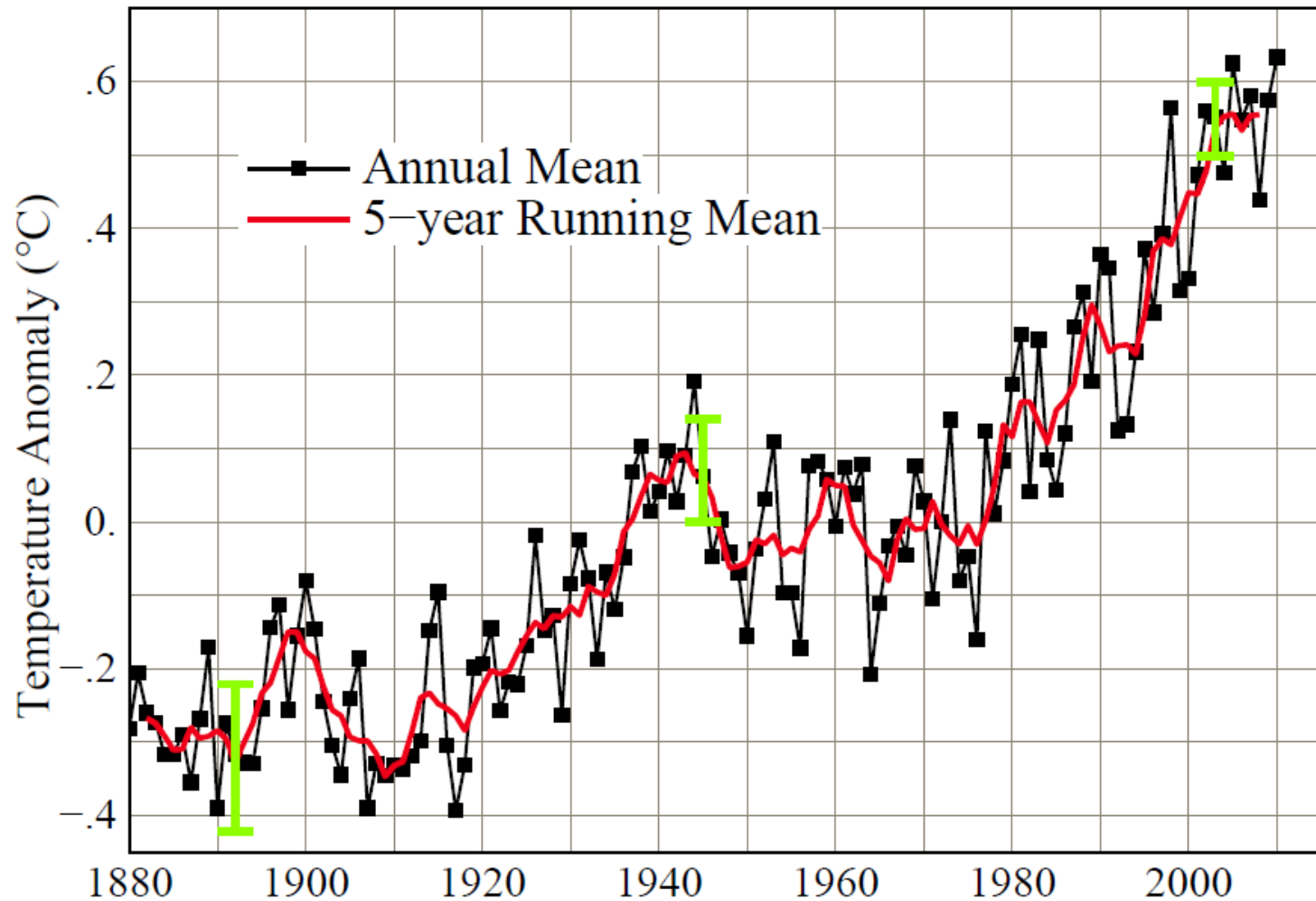


Special challenges of climate change

- Gradual, delayed onset
- Emerges against a variable background
- “Permanent” impacts
- Global, differentiated impacts
- Contrasting historical and future responsibility
- Contrasting responsibility and vulnerability

“Warming of the climate system is unequivocal”

Global Land–Ocean Temperature Index



Black : annual mean, global met stations

Red: 5-year running mean, global met stations

NASA Goddard Institute for Space Studies, updated through 2010

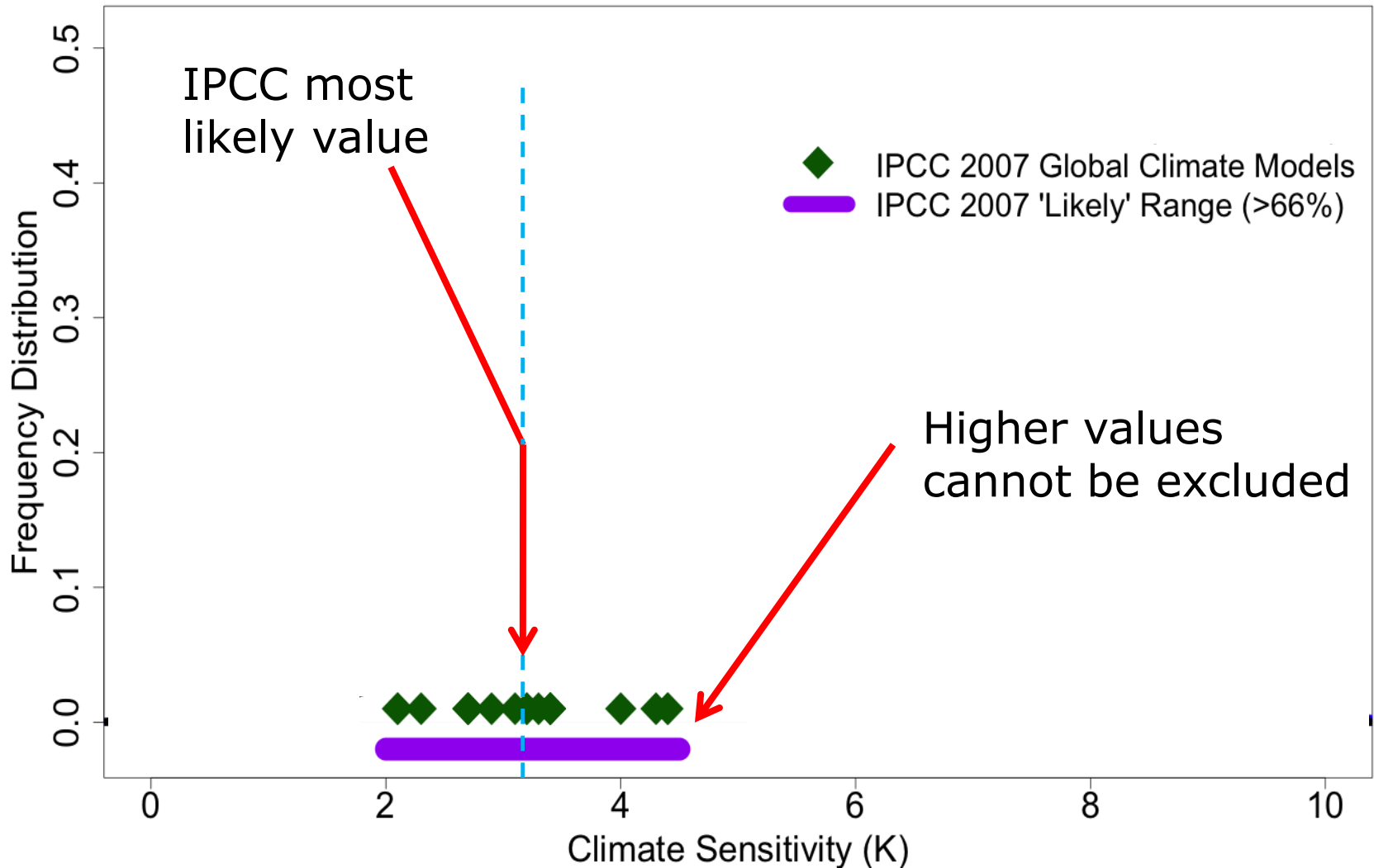
THE
LONDON, EDINBURGH, AND DUBLIN
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JOURNAL OF SCIENCE.

[FIFTH SERIES.]

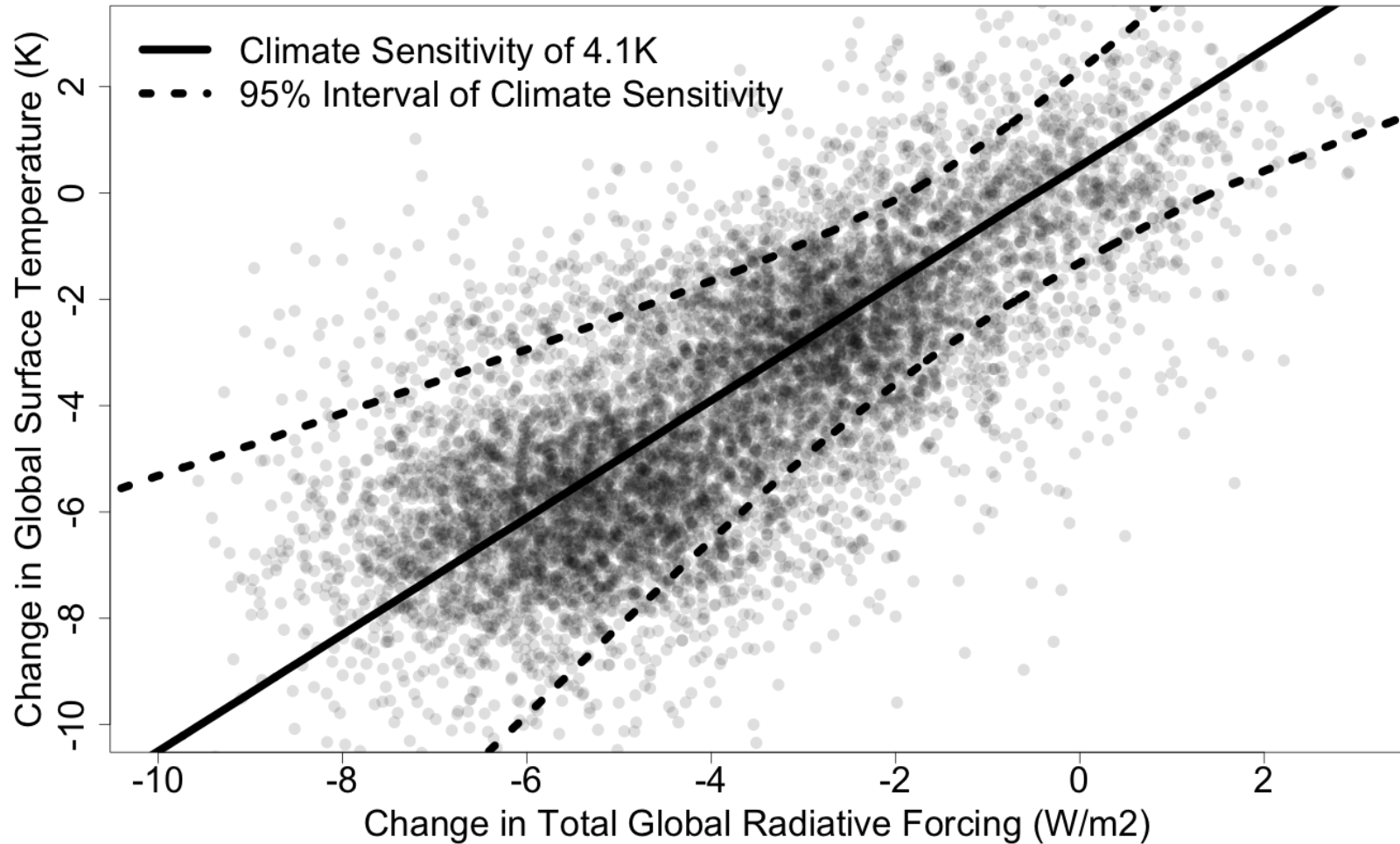
APRIL 1896.

XXXI. *On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground.* By Prof. SVANTE ARRHENIUS*.

Climate sensitivity: Uncertainty in a key parameter



Climate sensitivity from a comprehensive paleoclimate reconstruction



Climate sensitivity: Uncertainty in a key parameter

