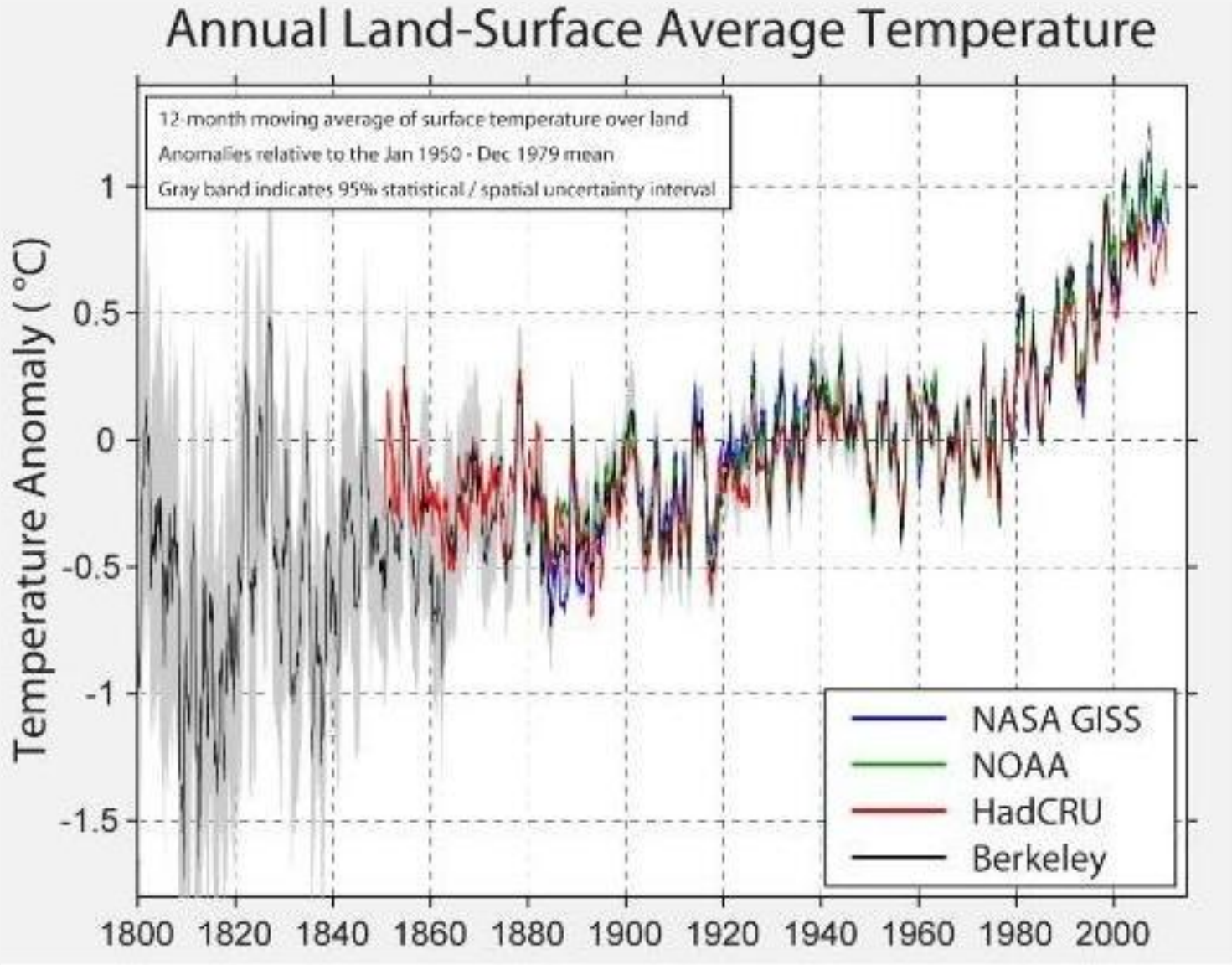

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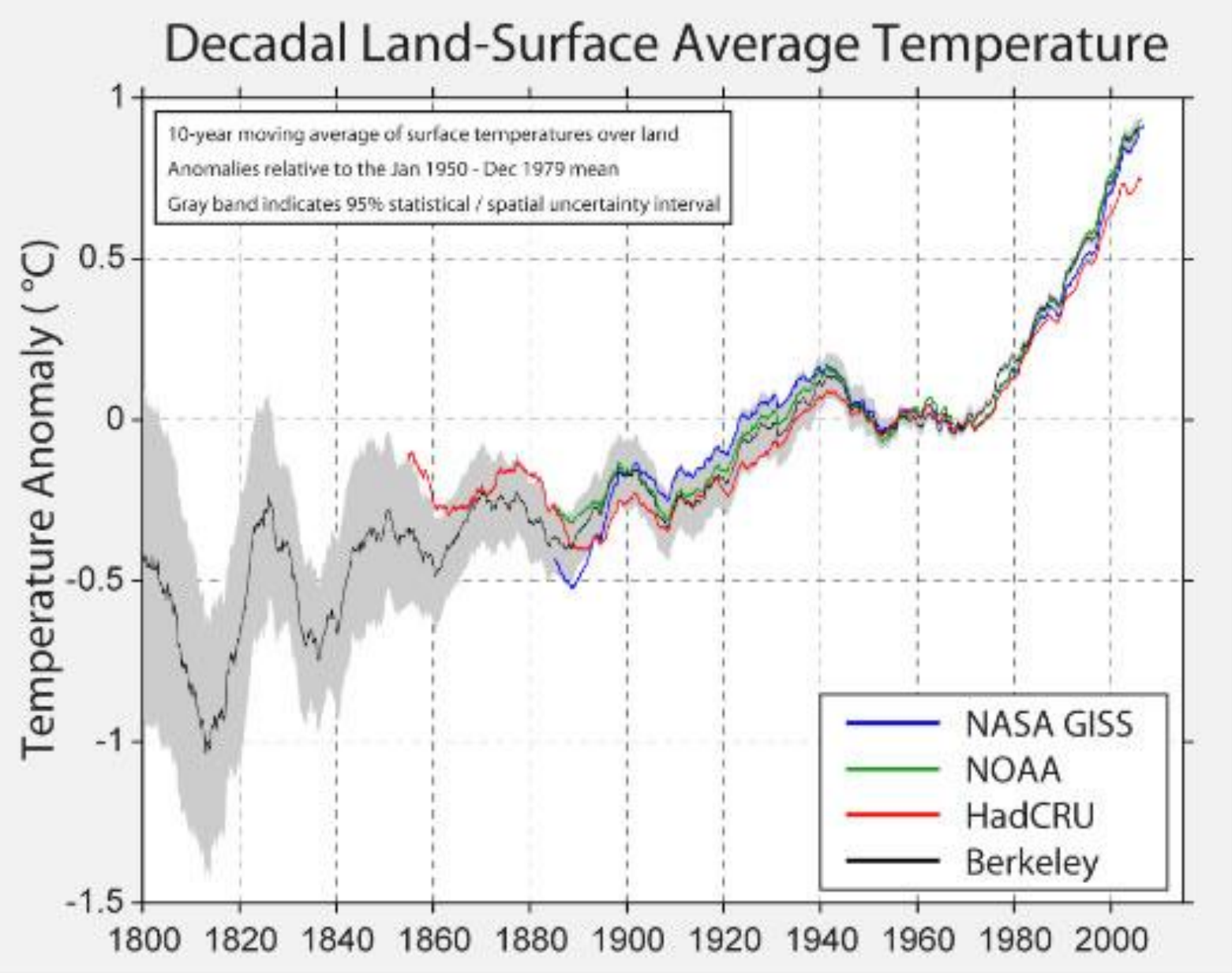

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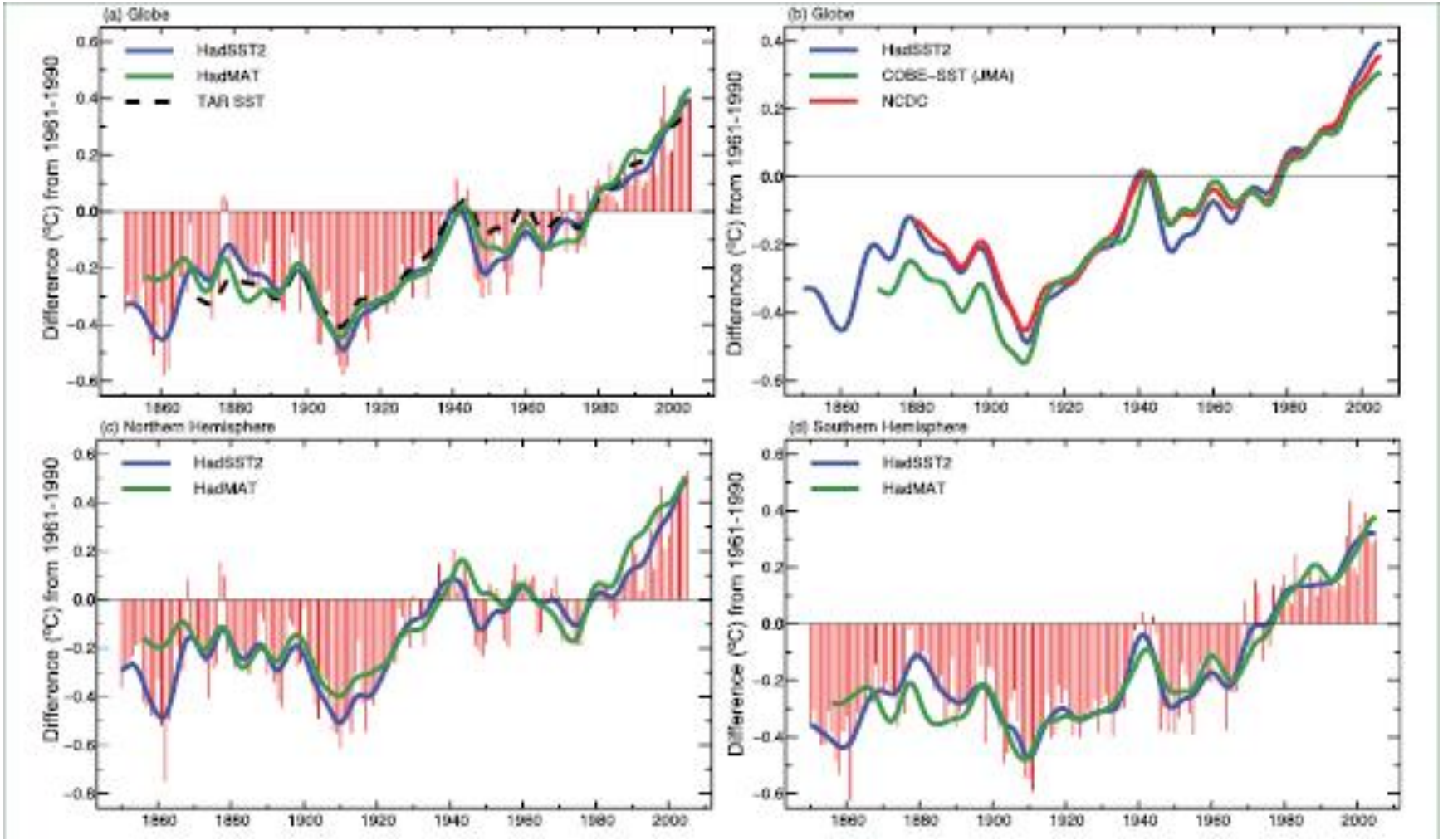
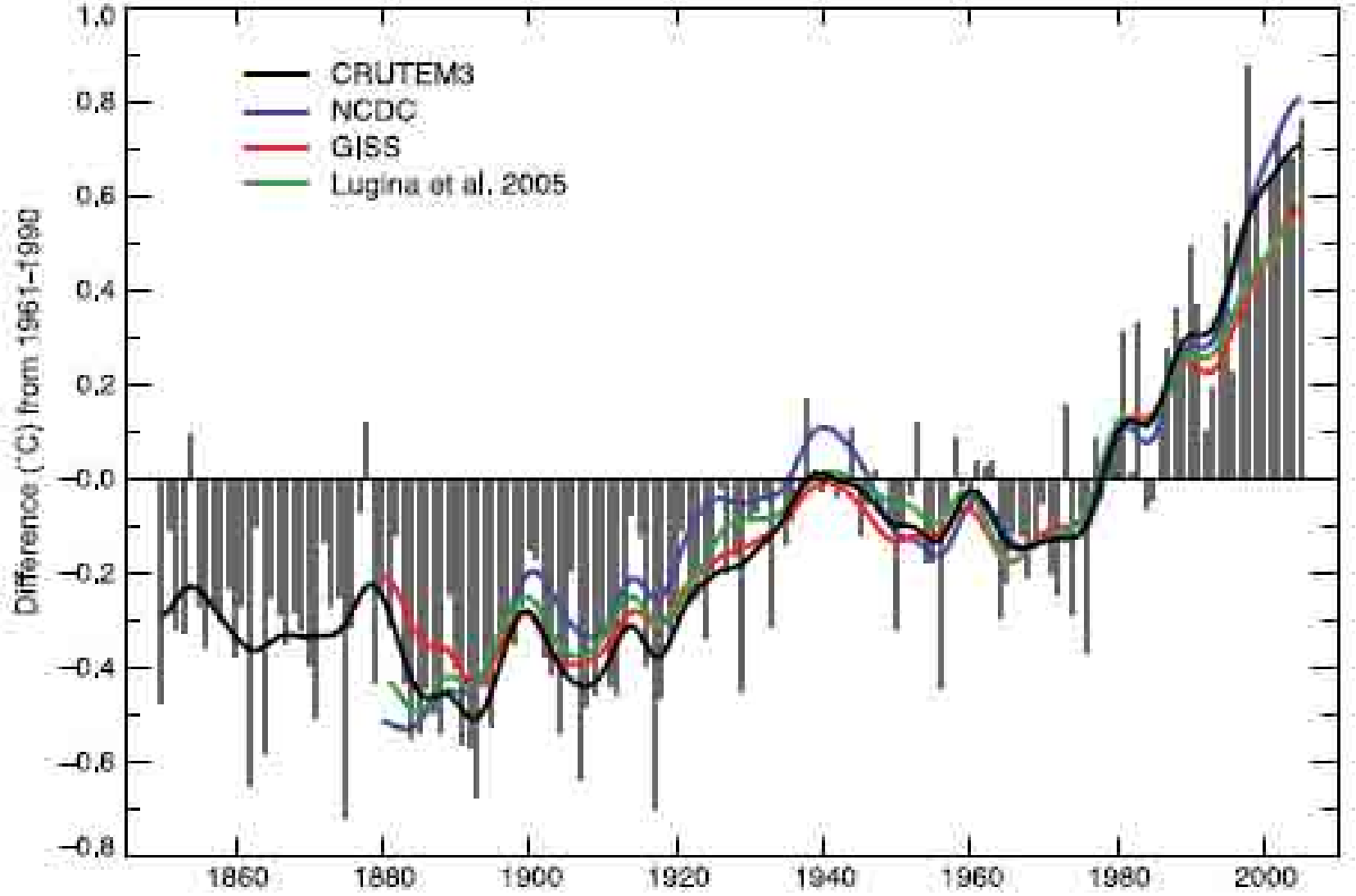


Climate Change 2007: The Physical Science Basis. Working Group I Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Figure 3.4. Cambridge University Press. Used with permission.

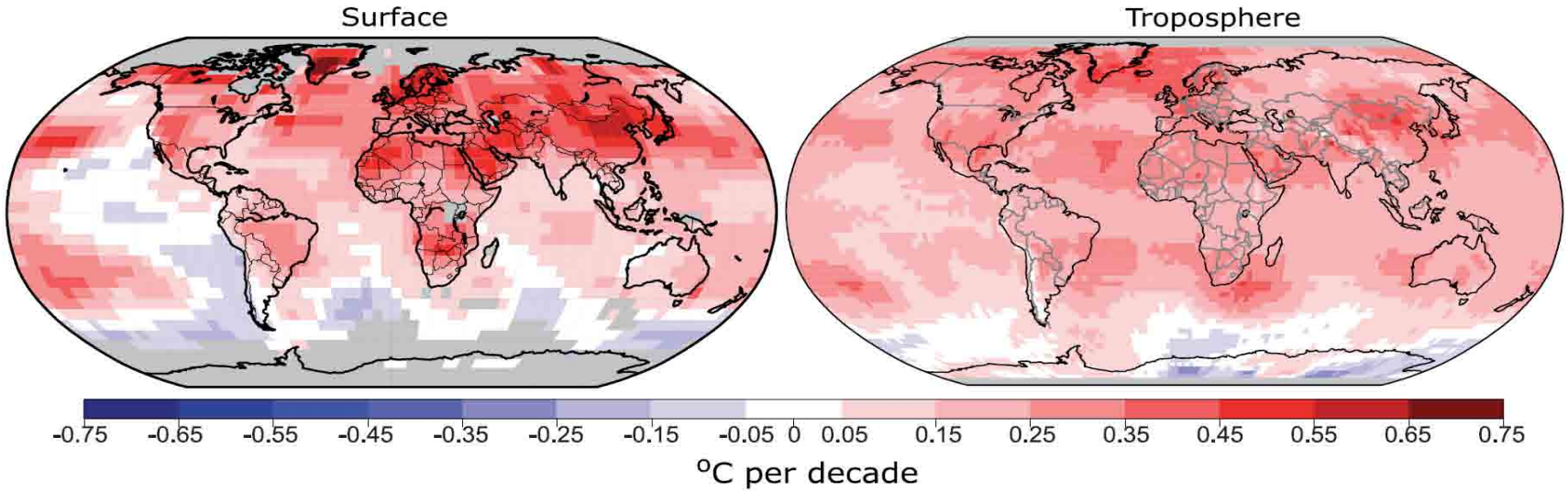
Estimates of Global Mean Surface Temperature from the Combined Land-Sea Instrumental Record



Climate Change 2007: The Physical Science Basis. Working Group I Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Figure 3.1. Cambridge University Press. Used with permission.

Distribution of temperature change, 1901-2005

Surface vs Satellite



Climate Change 2007: The Physical Science Basis. Working Group I Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, FAQ 3.1, Figure 1. Cambridge University Press. Used with permission.

(From IPCC AR4 WG1 report, 2007, FAQ 3.1, Figure 1). Patterns of linear global temperature trends from 1979 to 2005 estimated at the surface (left), and for the troposphere (right) from the surface to about 10 km altitude, from satellite records. Grey areas indicate incomplete data. Note the more spatially uniform warming in the satellite tropospheric record while the surface temperature changes more clearly relate to land and ocean.

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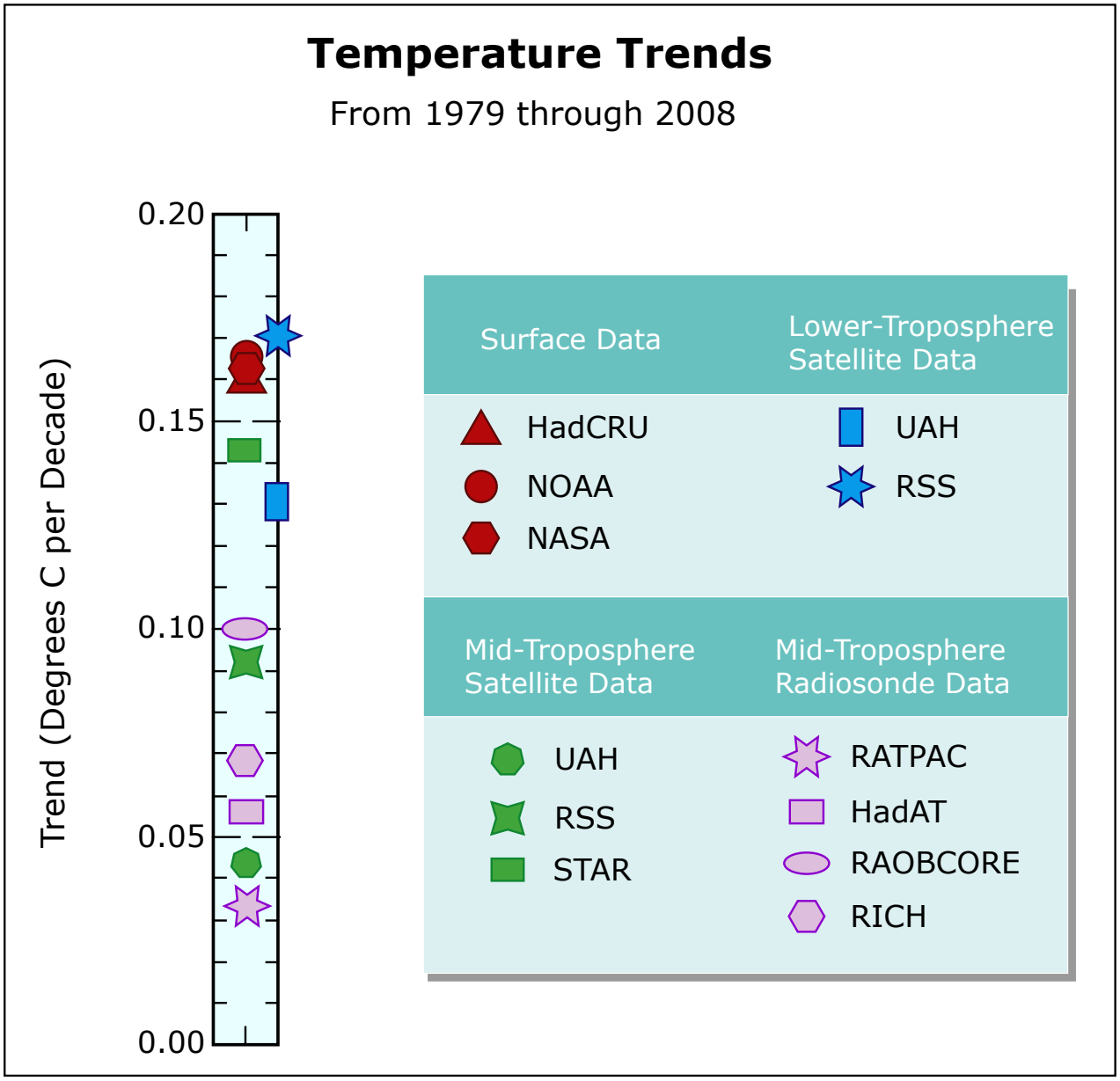
Satellite vs. Surface



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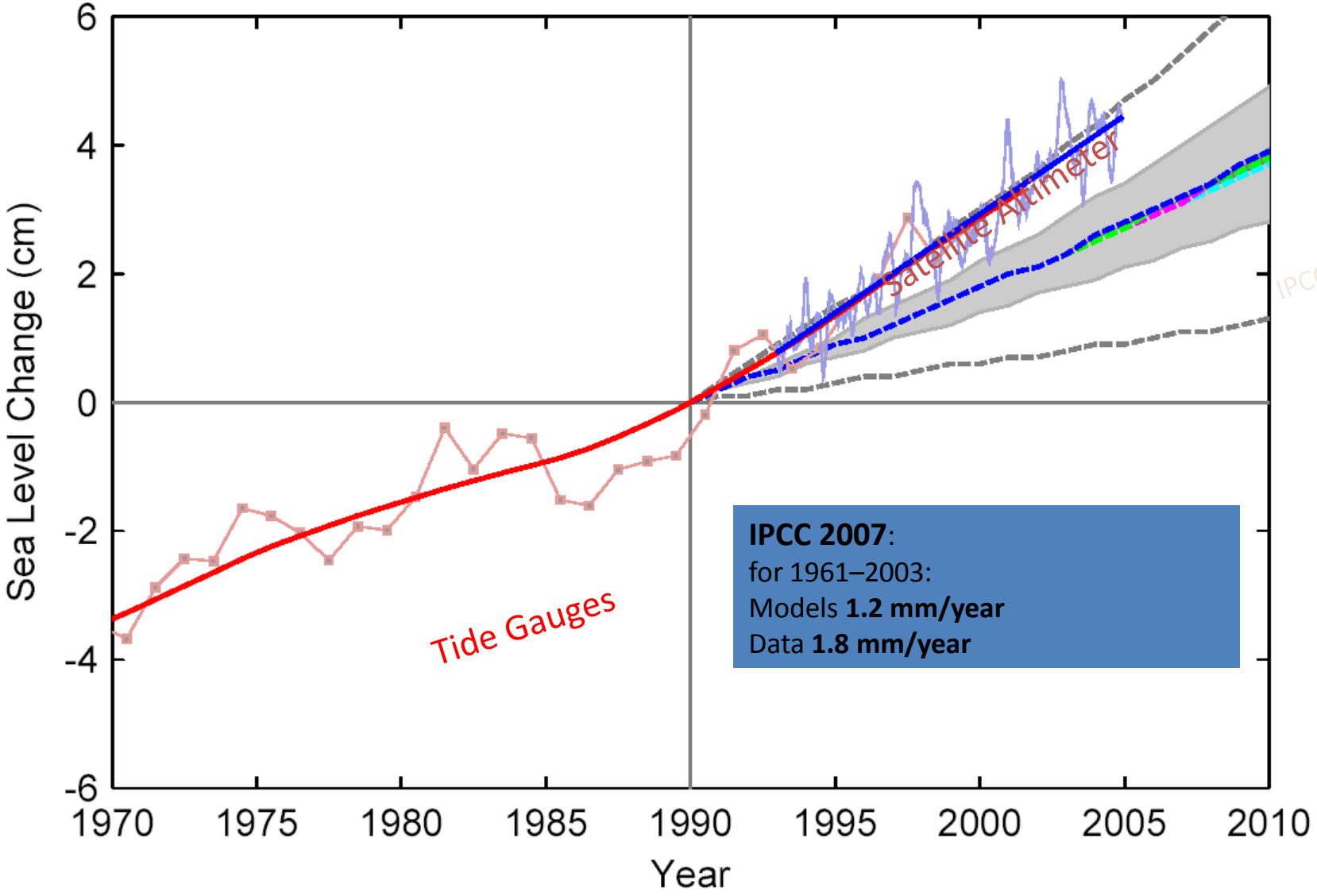
(From Met Office 2010 submission to House of Commons Science and Technology Committee, adapted to include lower-troposphere satellite data from Klotzbach *et al.*, 2009)

The graph shows trends in global-mean temperatures calculated over 1979–2008 from surface data (green), lower-troposphere satellite data (purple, from Klotzbach *et al.*, 2009), mid-troposphere satellite data (blue) and mid-troposphere radiosonde data (red).

Sea Level Rise



From Richardson, K. Synthesis Report from Climate Change: Global Risks, Challenges and Decisions. Copenhagen, 10–12 March 2009. University of Copenhagen. ISBN 978-87-90655-68-6. Used with permission.

Greenland surface elevation change, 1989-2005

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Please see Figure 2.5 on page http://www.eoearth.org/article/Rapid_Changes_in_Glaciers_and_Ice_Sheets_and_Their_Impacts_on_Sea_Level?topic=49491.

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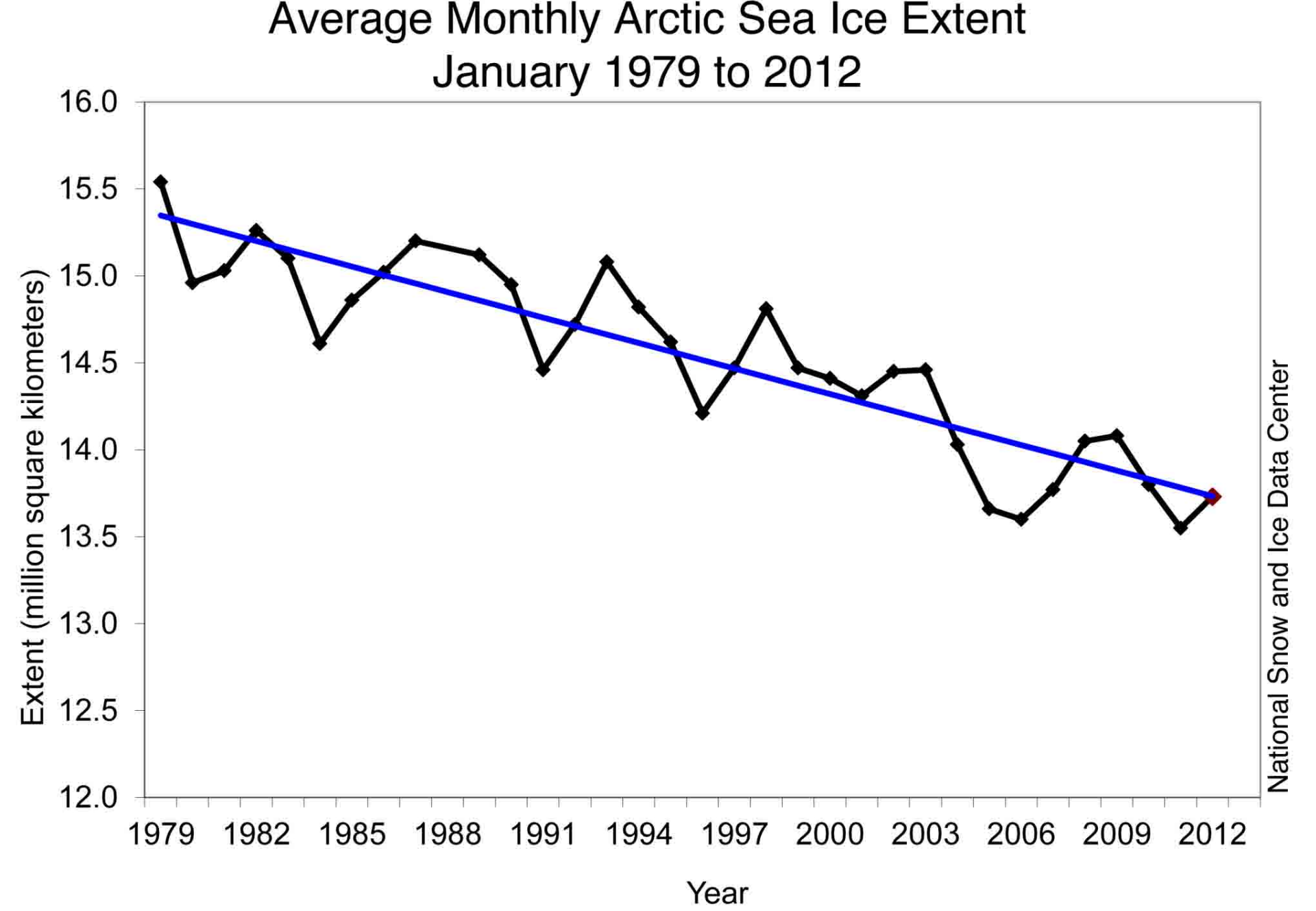
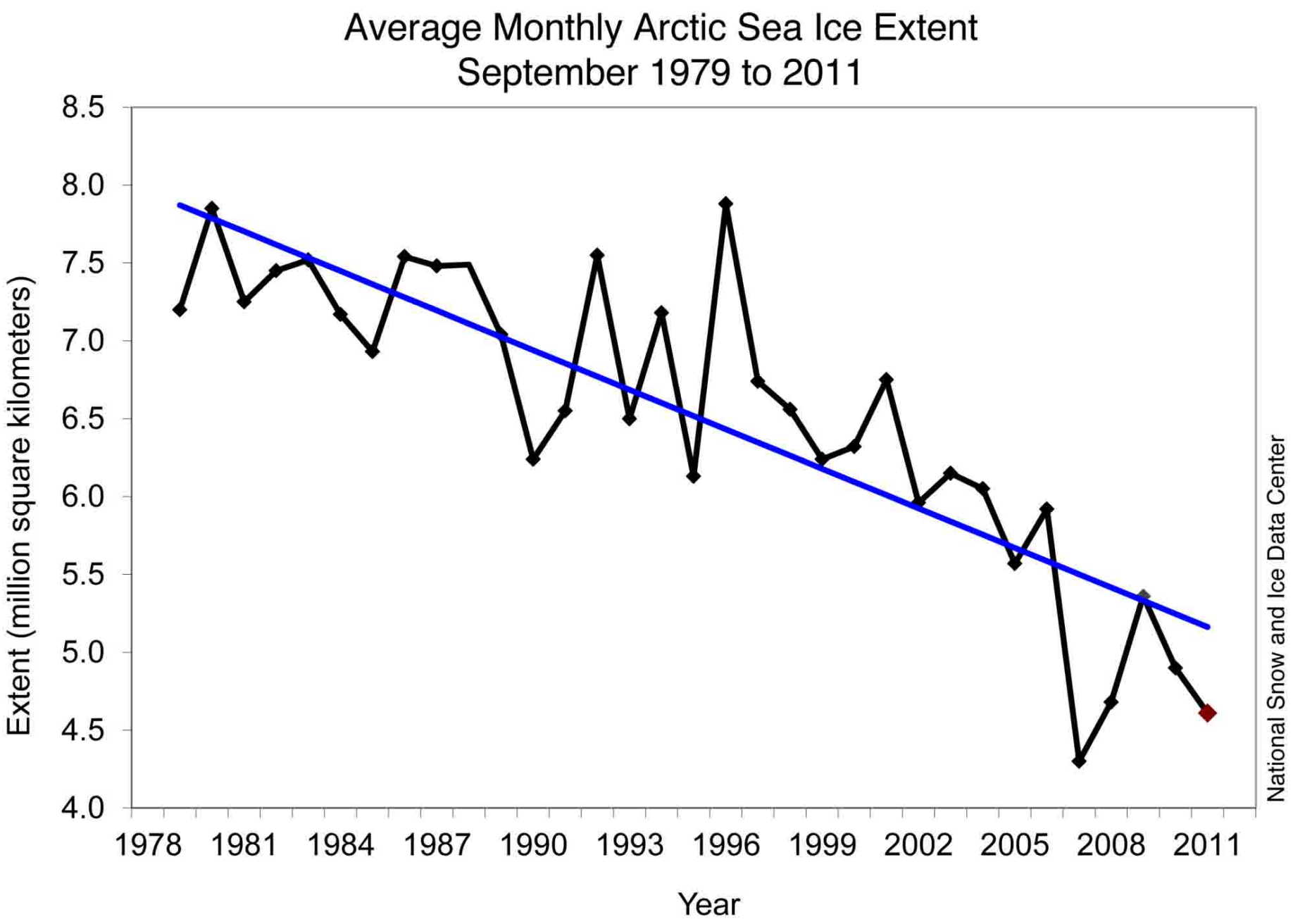


Public domain image courtesy of National Snow and Ice Data Center, University of Colorado, Boulder.



Arctic September Sea Ice Extent, 1900-2009

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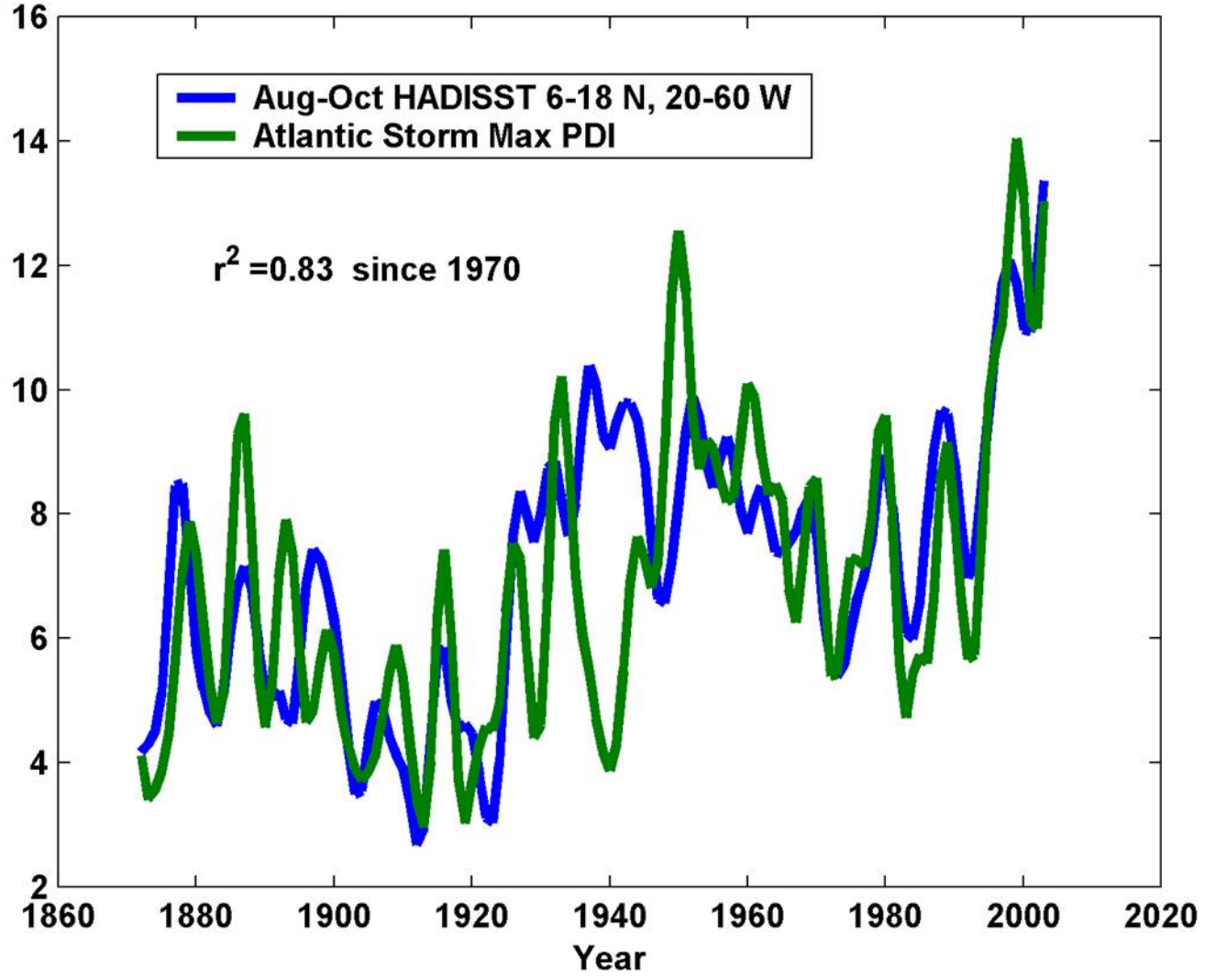
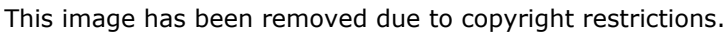
Please see Figure 1 in Julienne Stroeve, et al. Arctic sea ice decline: Faster than forecast. *GRL*, Vol. 34, L09501, doi: 10.1029/2007GL029703, 2007.

Hurricane Power is Changing in Concert with Tropical Ocean Temperature



Changes in Precipitation



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Model simulation

Southern Europe
Is drying out

Climate History Summary

12.340 Global Warming Science

Spring 2012