Met Office
Hadley Centre

Creating surface temperature datasets to meet 21st Century challenges: Introductory remarks

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Welcome!

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Taking the planet into uncharted territory

- Do we know what level of climate change is dangerous, where and for whom?
- Can we provide society with a ‘road map’ indicating what climate changes may be expected to occur, where, and with what implications?
- What should we do to mitigate and adapt to climate change to avoid its worst impacts?

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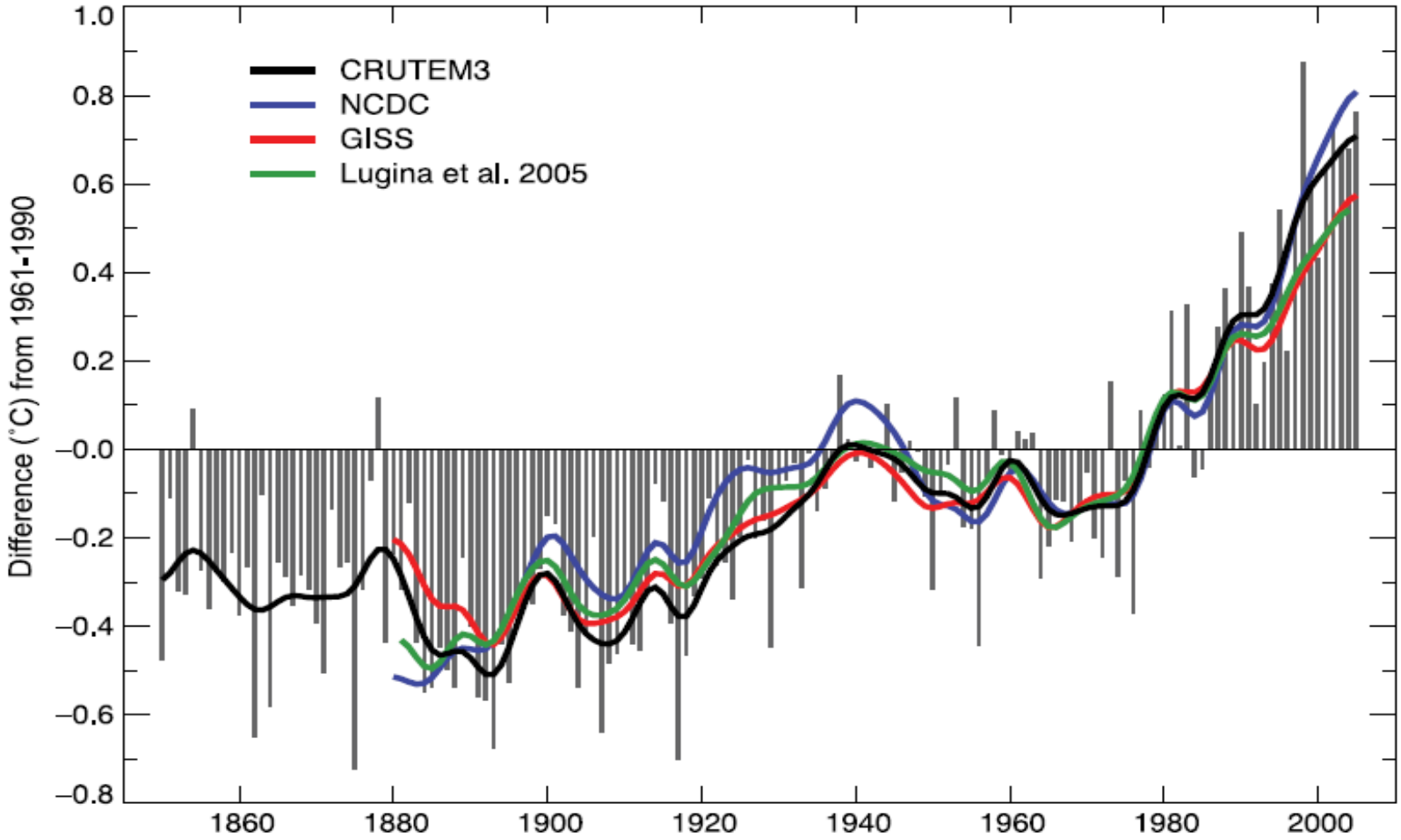
'The foolish man built his house upon the sand.The rain came down and the floods came up ….And the house came tumbling down'

Observations are the bedrock of the case for global warming and the need for action

'The wise man built his house upon a rock…… and the house on the rock stood firm.'

Four global land surface temperature data sets



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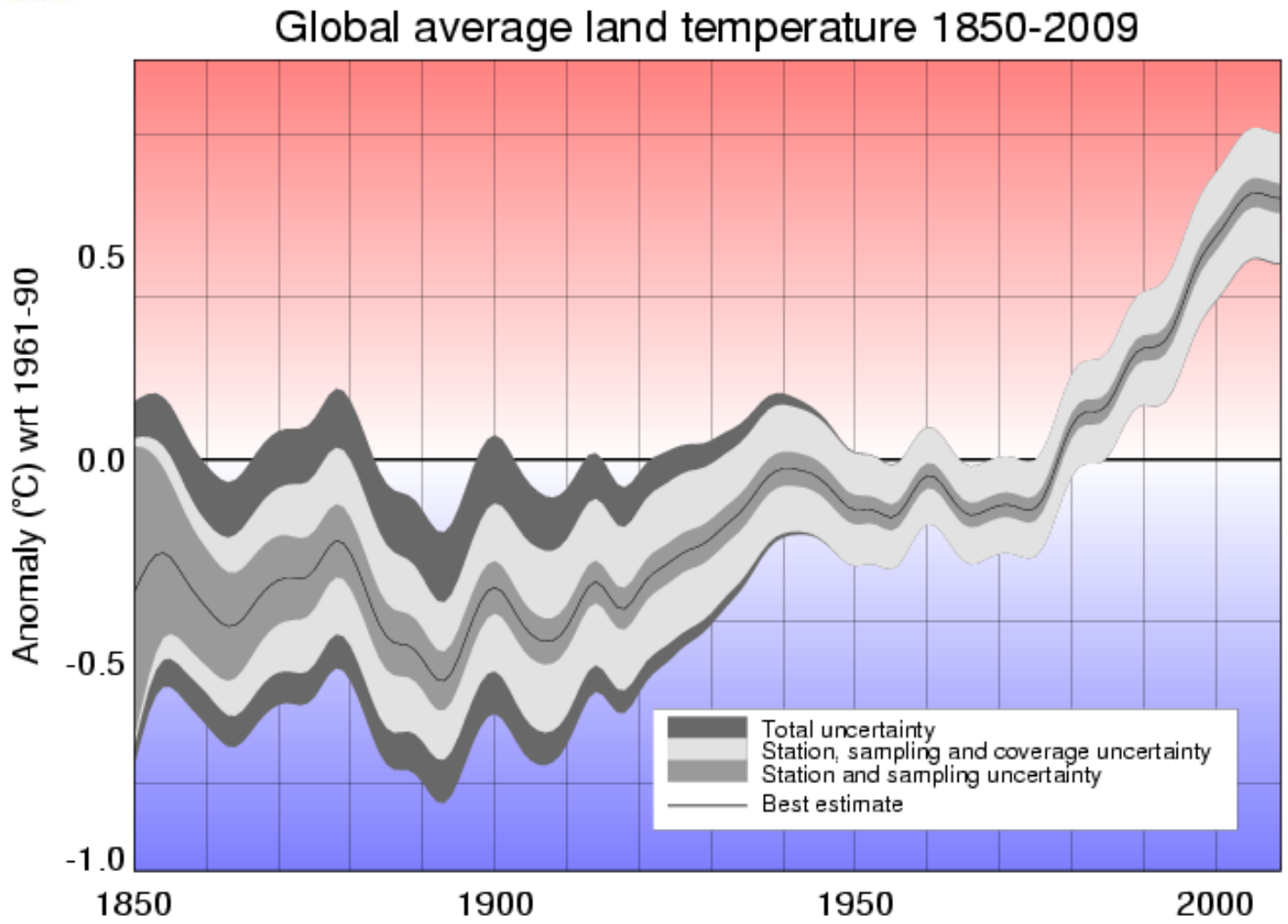
Representing uncertainty



Brohan et al, 2006

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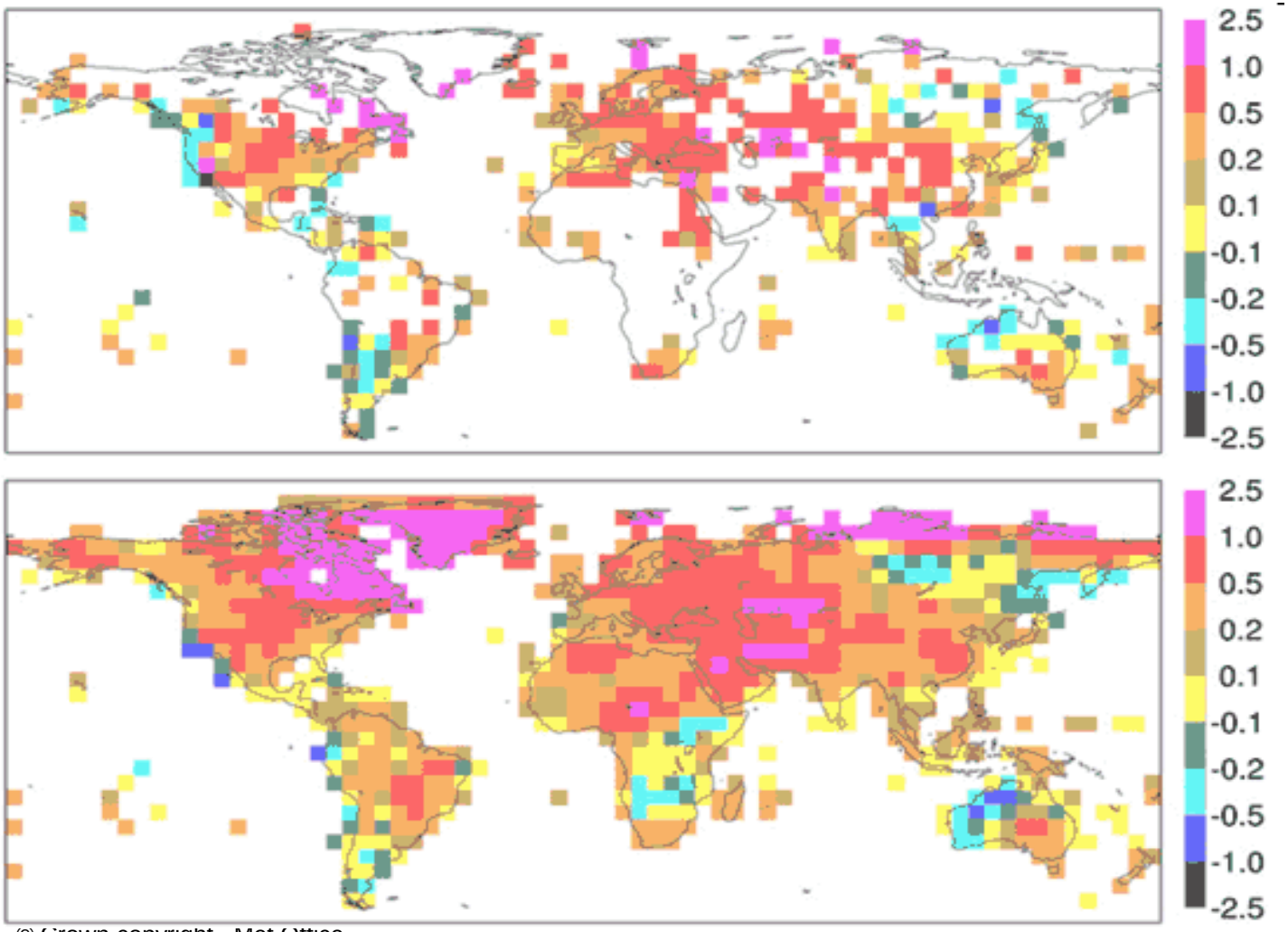
New results suggest recent warming may be under-estimated

Increase in mean near-surface temperature (C) from (1989-98) to (1999-2008)



Land surface station observations

Reanalysis using all observations

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Understanding the sources of global temperature changes

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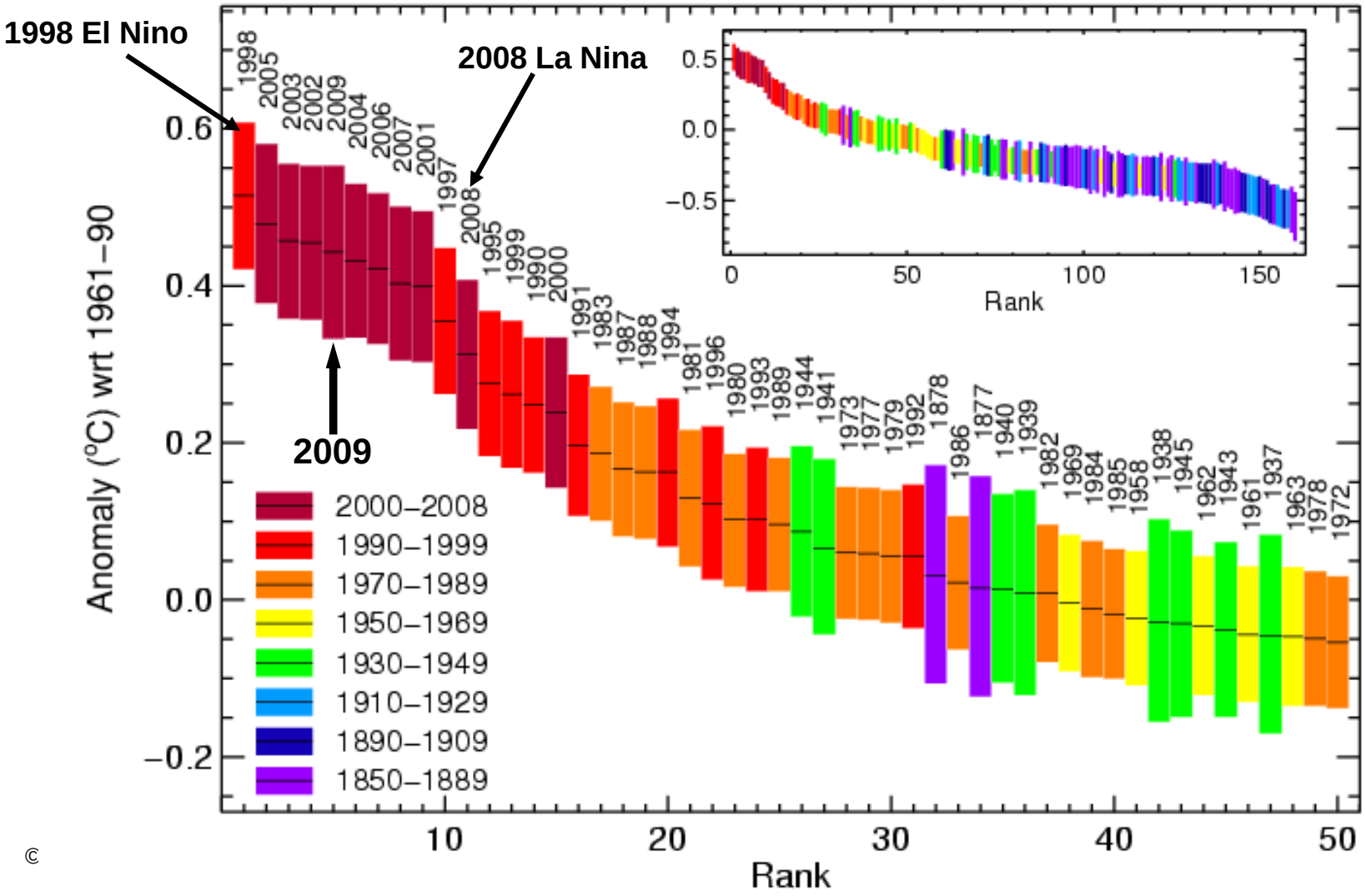
Global ranked temperatures



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Protecting our cities

Feeding the world

Managing our water

Extremes around the world

Pakistan floods

Extremes around the world

Moscow heat

Extremes around the world
Chinese Summer Rains

Workshop aims

- To agree well defined plan of how as an international community to go about undertaking necessary data rescue, analysis and verification to produce global surface temperature records at monthly, daily and sub-daily resolution that are fit for climate services.
- To agree how to ascertain the strengths and weaknesses in the resulting estimates of historical changes and quantify the inevitable uncertainties.
- To engender broad input into the process design from expert communities outside of the traditional community
- To ensure outputs will be usable by a broad range of stakeholders and accessible to everyone

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