HOW HOT WILL EARTH GET BY 2100?

Nature , **580**, 443-445 (2020) 13pages
22 APRIL 2020

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As world leaders gathered to mark the start of 2050, they looked back on the coronavirus pandemic 30 years before as a turning point in the quest to rein in global warming. Nations pulled together to defeat the pandemic, and that launched a new era of cooperation to prevent a climate disaster.

·Investments in *green energy and new technology* yielded rapid cuts in emissions of carbon dioxide, putting the world on track to limit global warming to around 1.5 °C above pre-industrial levels.

·*Or maybe not*. Despite a temporary drop in carbon emissions from the 2020 outbreak, countries turned to cheap fossil fuels to revive their economies after the crisis. Carbon emissions soared and temperatures followed, setting the stage for 5 °C of warming by the end of the century.

Climate researchers need to explore what kinds of problem might emerge with different levels of warming.

—>Developed a suite of scenarios intended to represent a range of futures that humanity could face.

—>The goal is to investigate how different policies might alter carbon emissions — and how the planet will react.

—>RCP

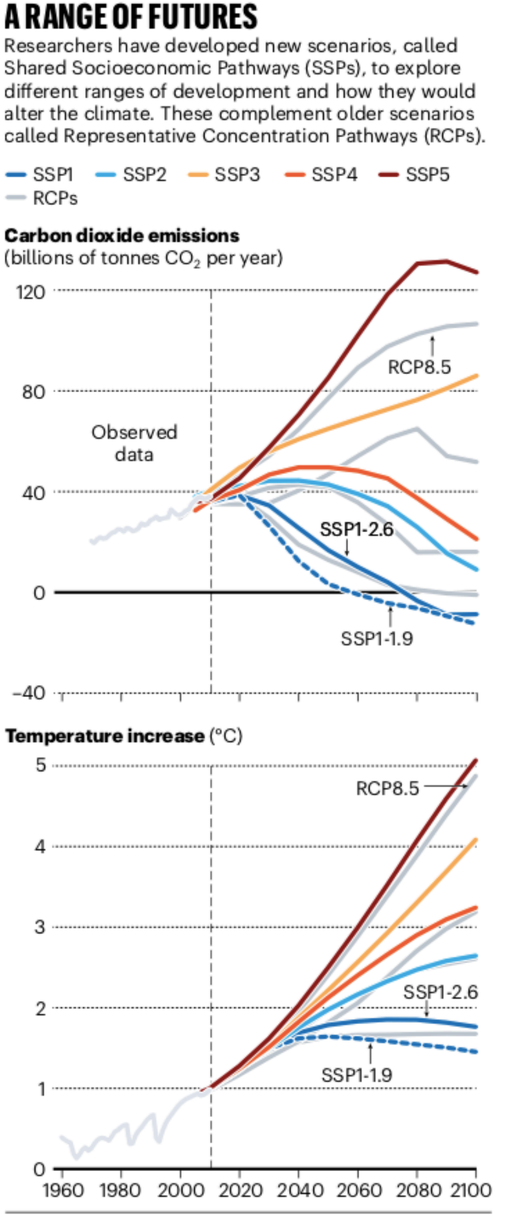
Critics have charged that RCP8.5 is misleading because it includes unrealistic amounts of coal use — a roughly fivefold increase by 2100.

We're trying to understand risks, not predict the future.

The new generation of scenarios, knows as Shared Socioeconomic Pathways(*SSPs*), 2021 IPCC assessment. [右图]

[shaped before the political upheaval of 2016, Brexit / the United States elected President Donald Trump, who promised to put America first and withdraw from the Paris Climate treaty / trade between USA and China.]

The SSP3 scenario, called "regional rivalry — a rocky road".



Report

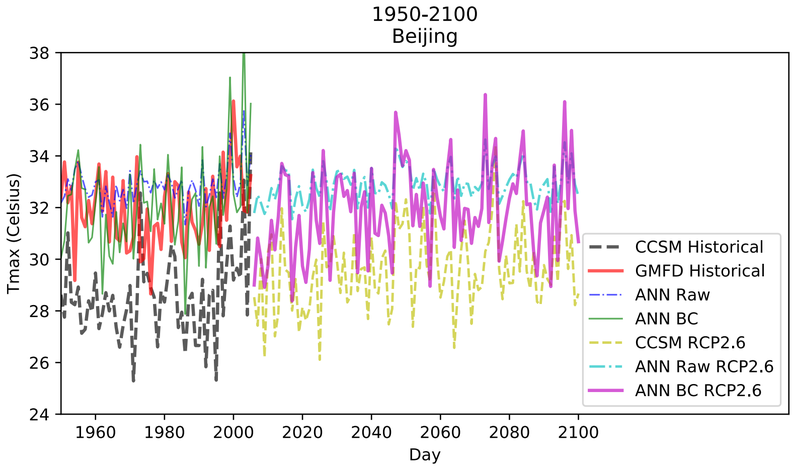
2020.05.13

張慕琪

Results

Time series Beijing Future Tmax

first method



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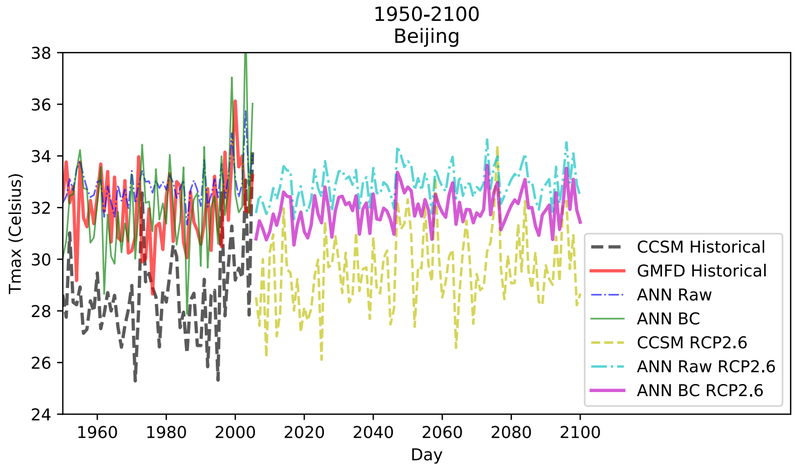
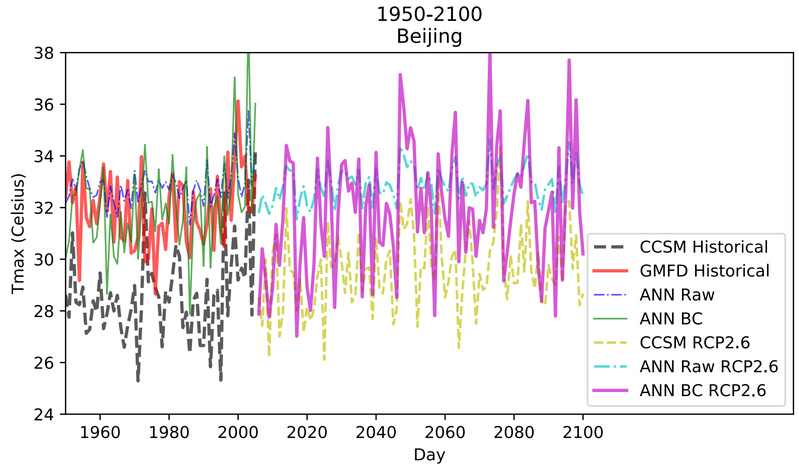


third method



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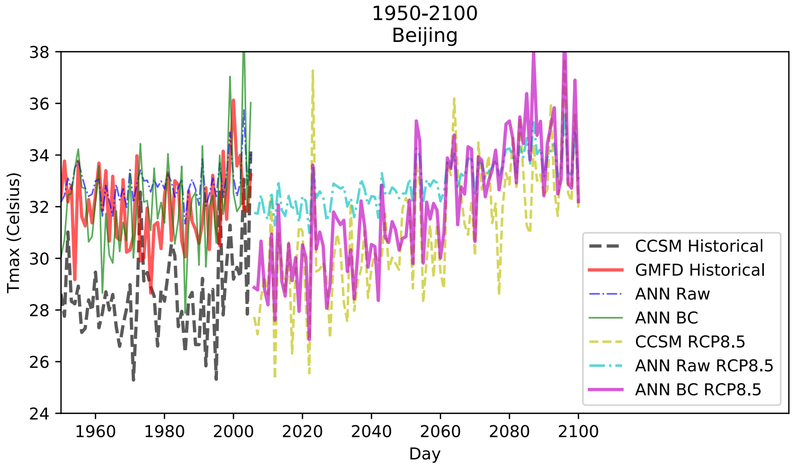

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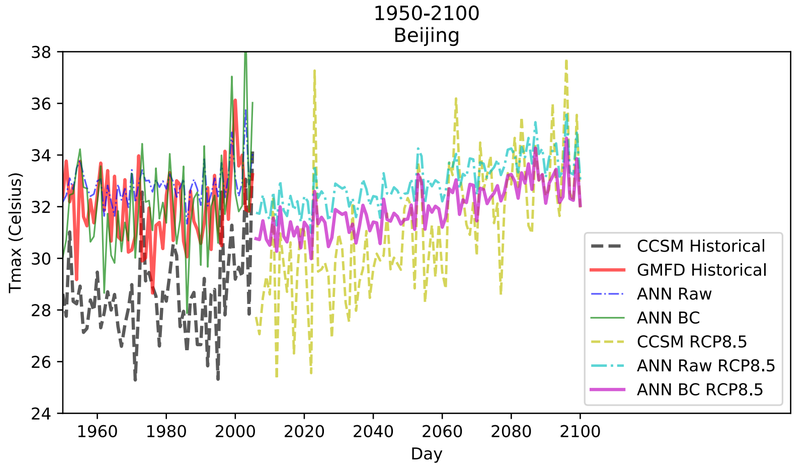
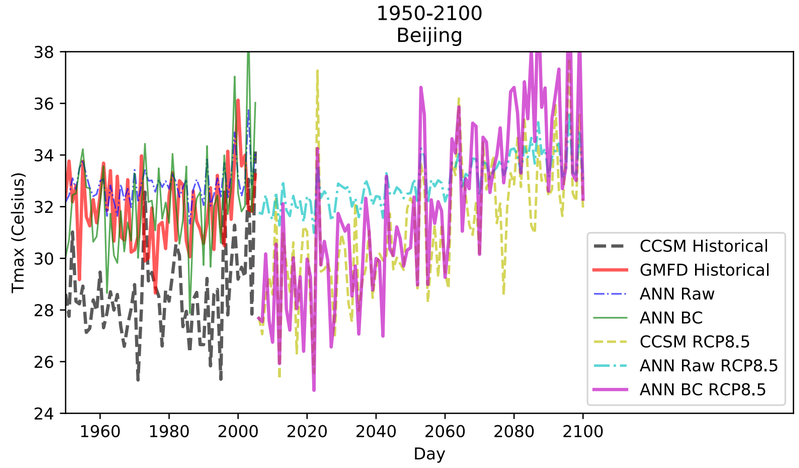


third method



Results

Time series Beijing Future Tmax

当前的公式：

$$\overline{T}_{RAW} - \left(\overline{T}_{REF} - \overline{O}_{REF}\right) + \frac{\delta_{O,REF}}{\delta_{T,REF}}\left(T_{RAW} - \overline{T}_{RAW}\right)$$

此公式有误，应改为：

$$T_{RAW} - \left(\overline{T}_{REF} - \overline{O}_{REF}\right) + \frac{\delta_{O,REF}}{\delta_{T,REF}}\left(T_{RAW} - \overline{T}_{RAW}\right)$$

谢谢