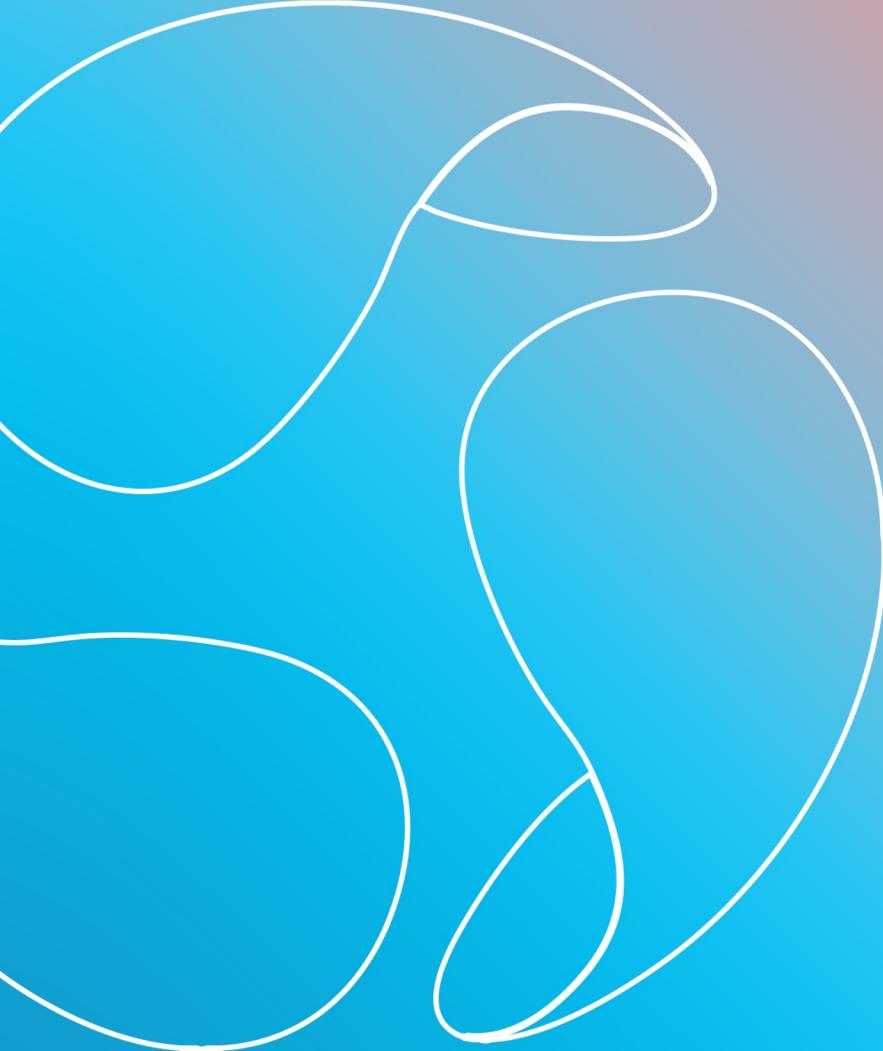




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WGNE at 40 – Reflections and Thoughts for the Future

Christian Jakob, Director 21st
Century Weather

A little bit of the “old times”

Camaraderie and international relations



WGNE 2010 - Tokyo



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The WGNE Pub

WGNE 2010 - Tokyo

A little bit of the “old times”



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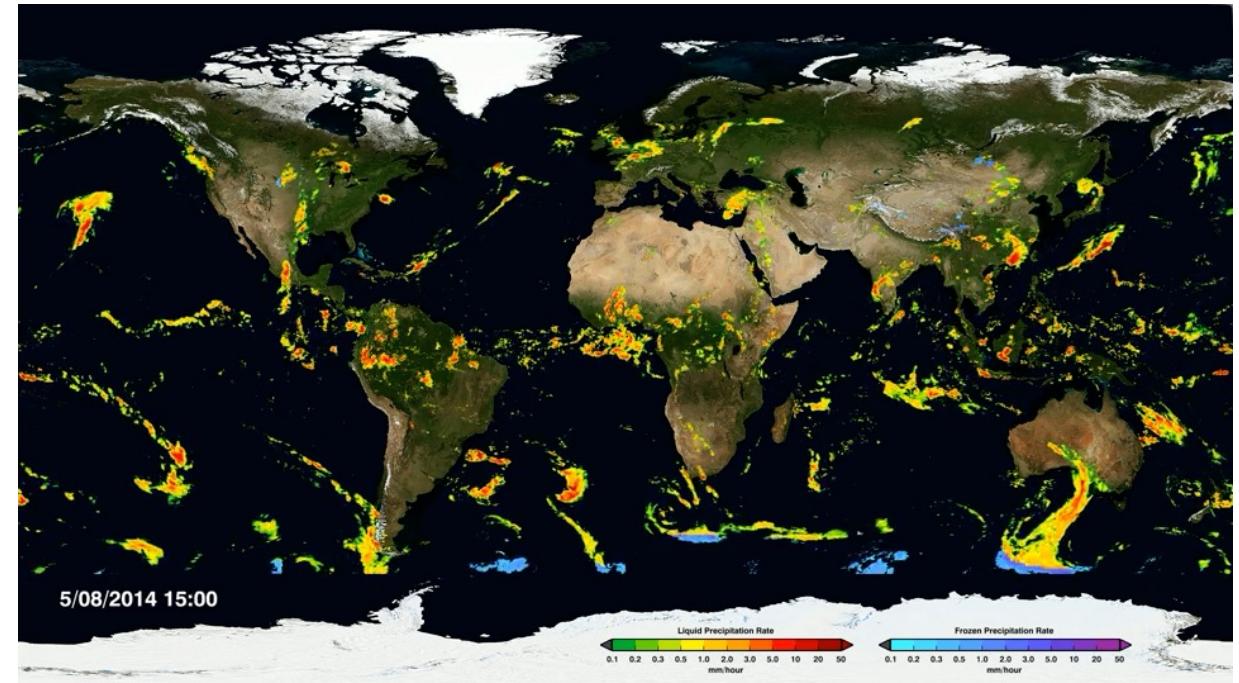
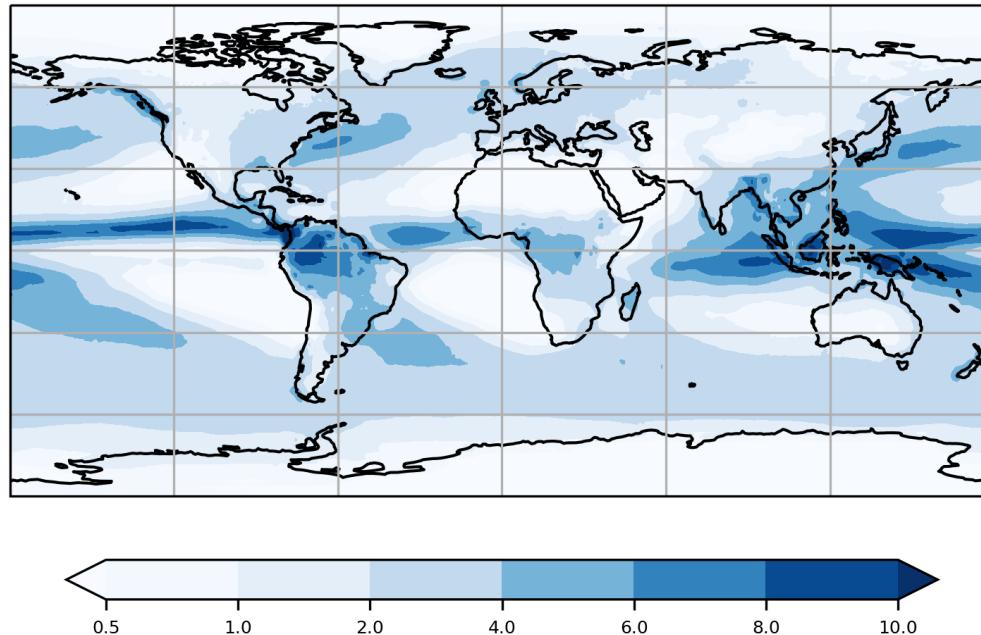
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Who knows what this acronym stands for?

From your website:

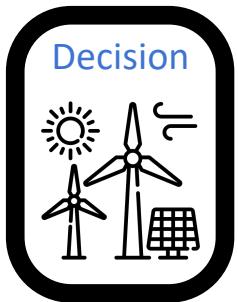
The Working Group on Numerical Experimentation (WGNE) has responsibility for the development of Earth system models for use in weather, climate, water and environmental prediction on all time scales, and diagnosing and resolving shortcomings.

Climate change is actually weather change



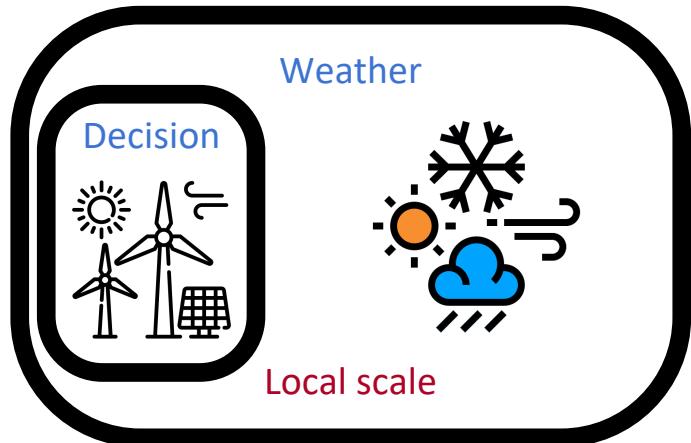


What we need to think about



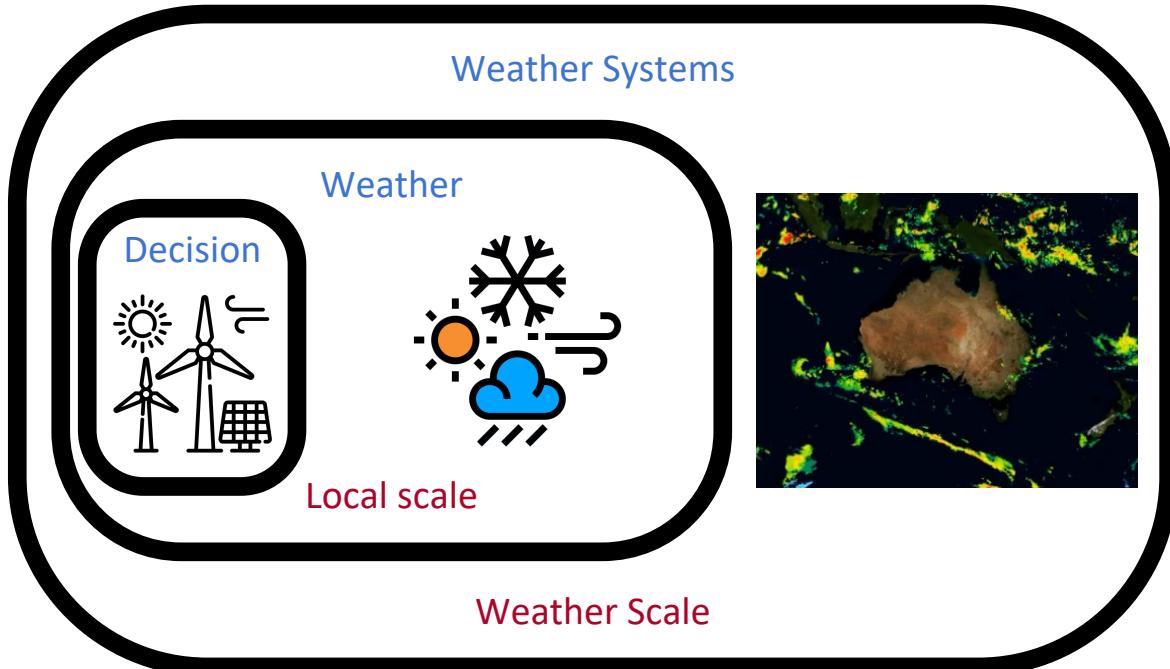


What we need to think about



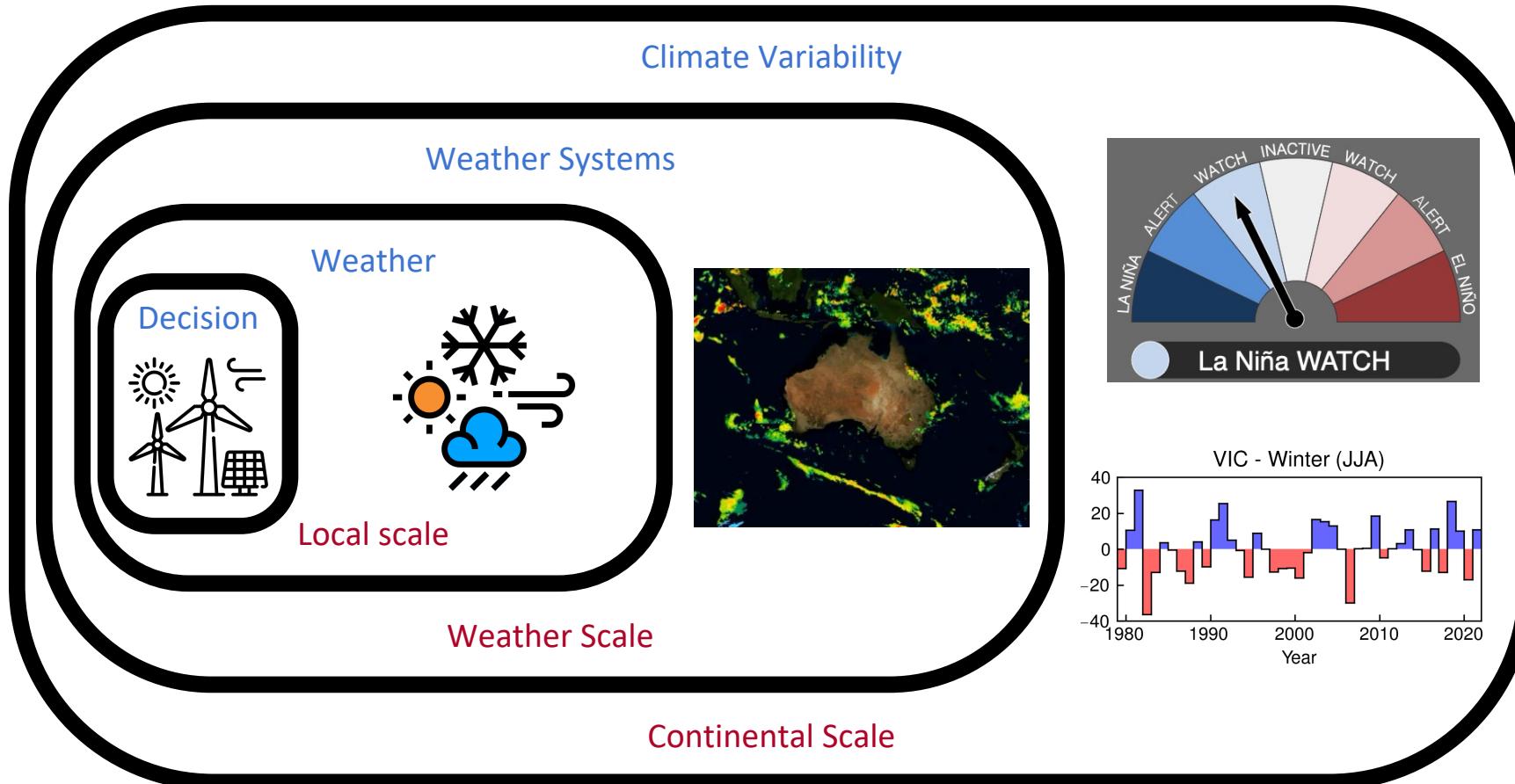


What we need to think about



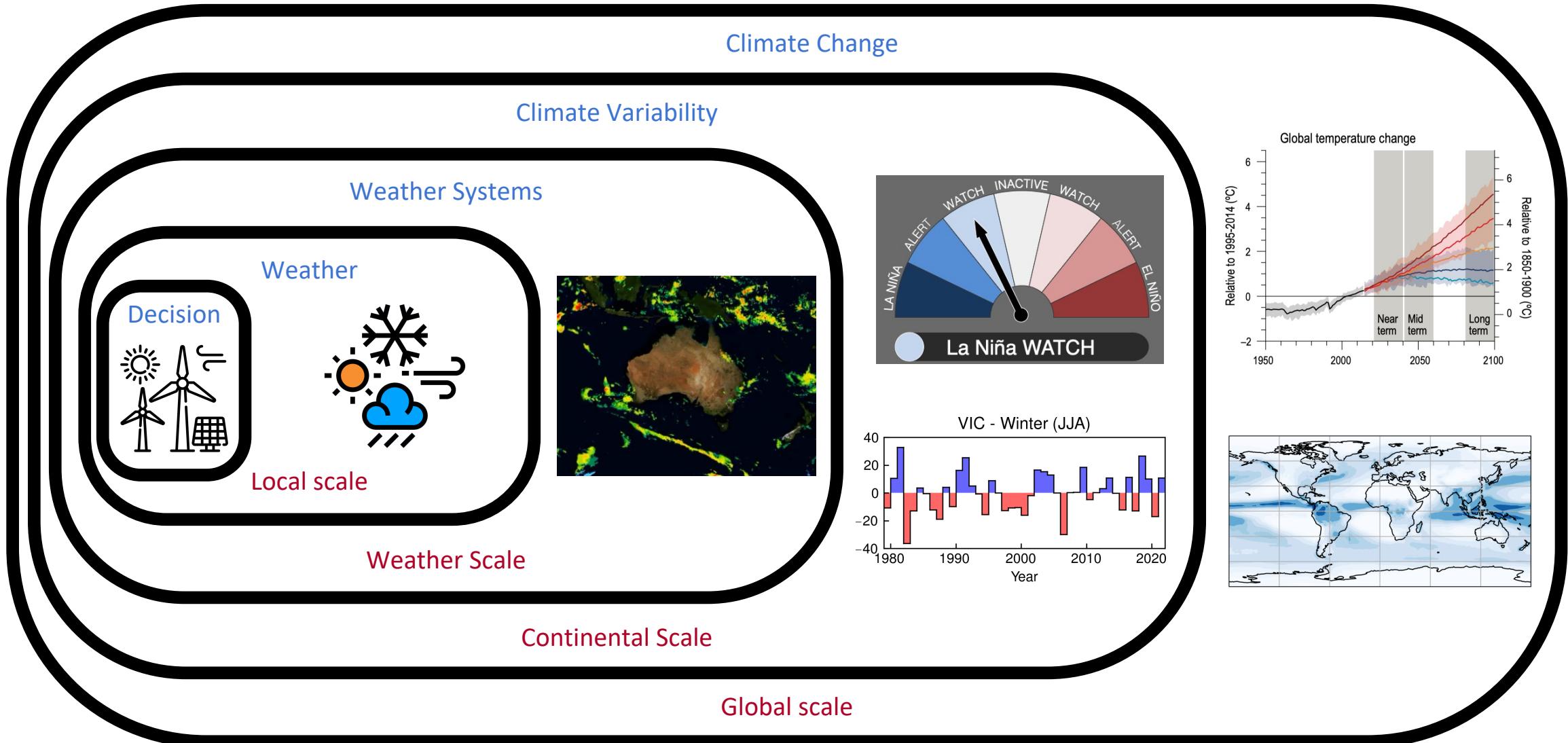


What we need to think about



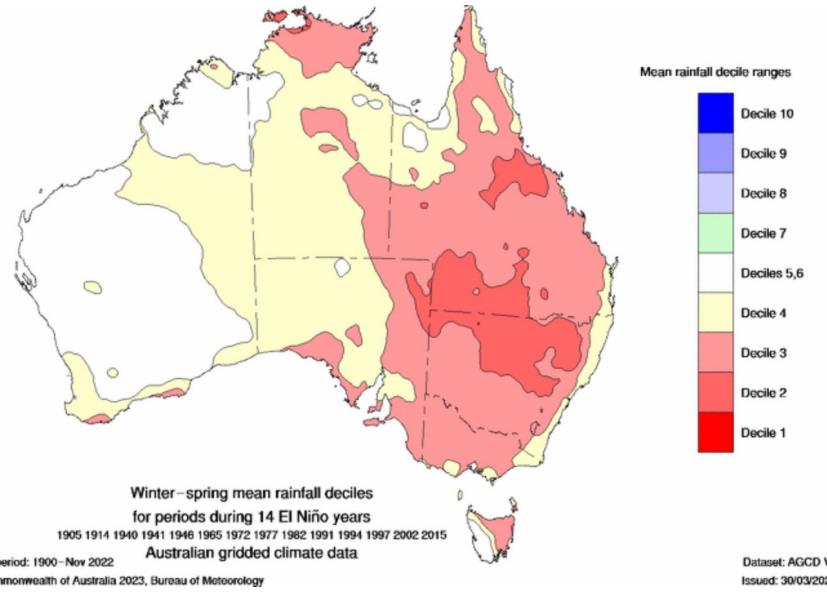


What we need to think about





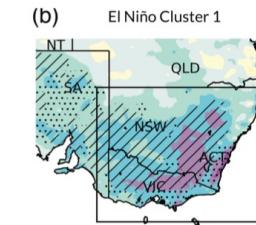
Looking beyond the headlines: El Niño rainfall variations are the result of the presence or absence of certain weather systems.



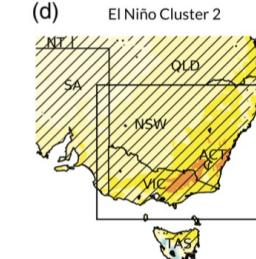
The well-known statistical relationship between El Niño and a reduction in rainfall in Eastern Australia in winter and spring can be understood through the absence/presence of particular weather systems.

Hauser et al., QJRMS, 2020

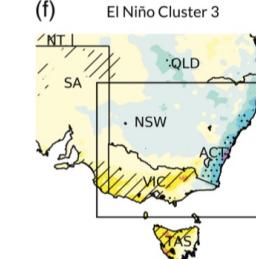
Wet everywhere 8.3 %



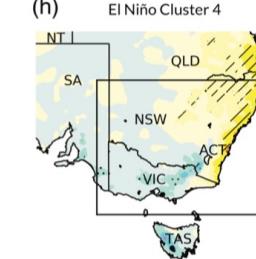
Dry everywhere 48.3 %



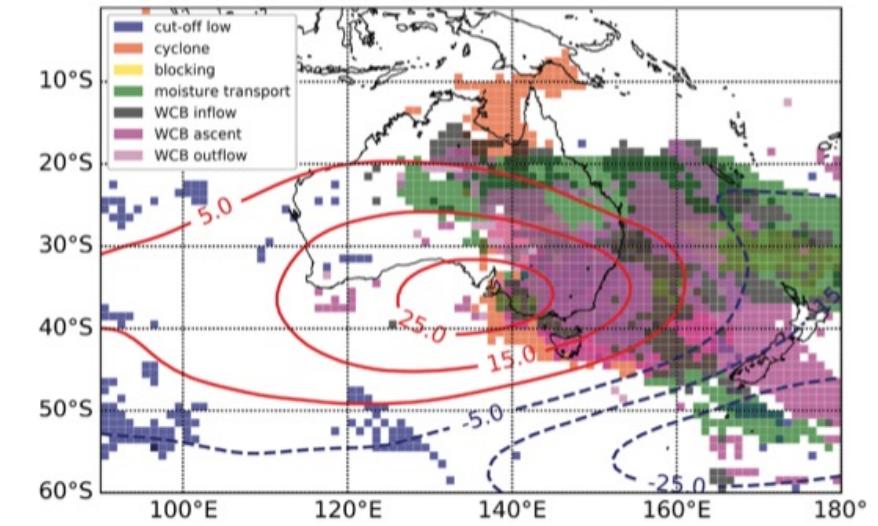
Wet east, dry south 20 %



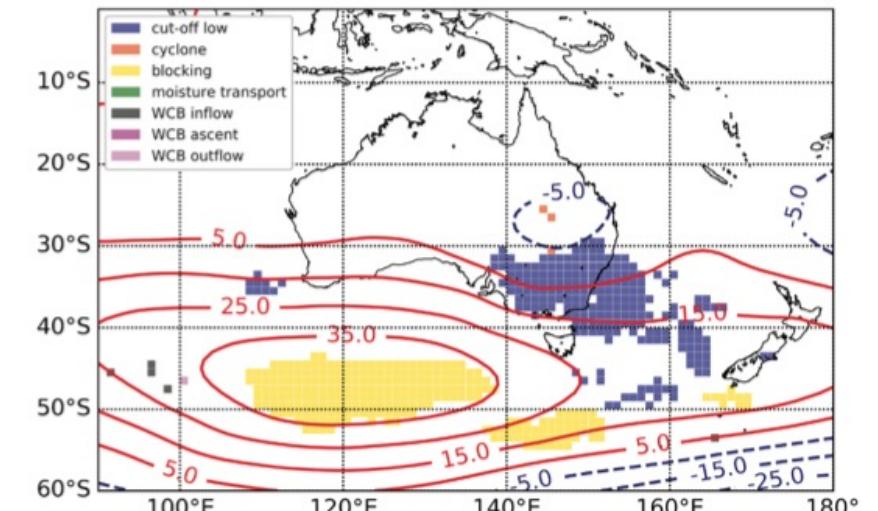
Dry east, wet south 23.4 %



Dry everywhere - Less:



Wet east, dry south - More:

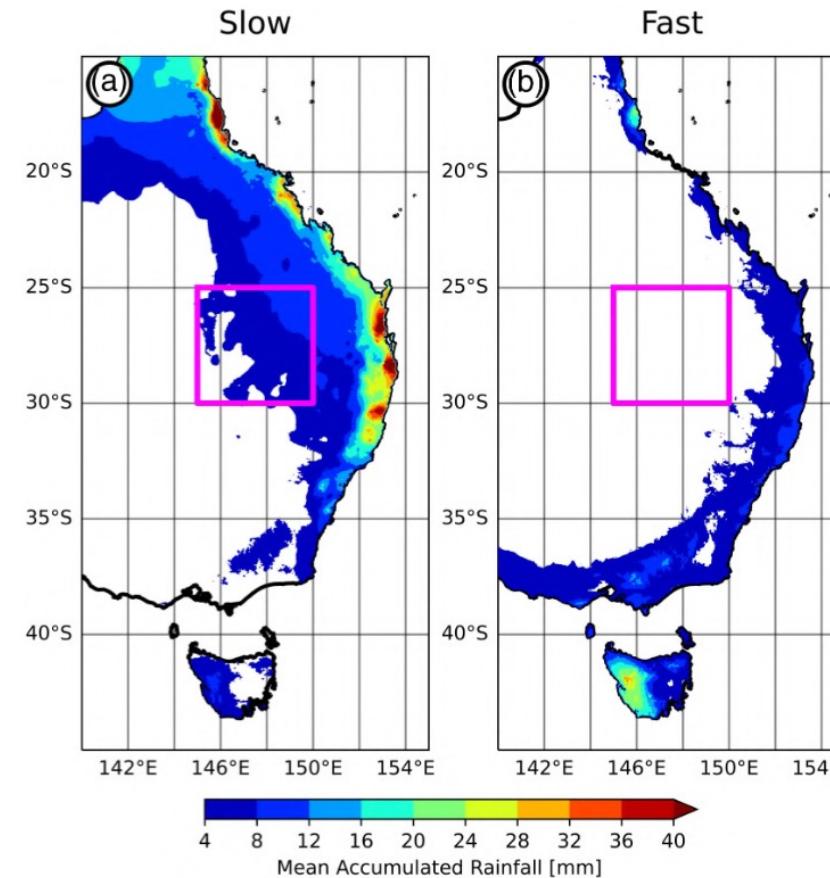
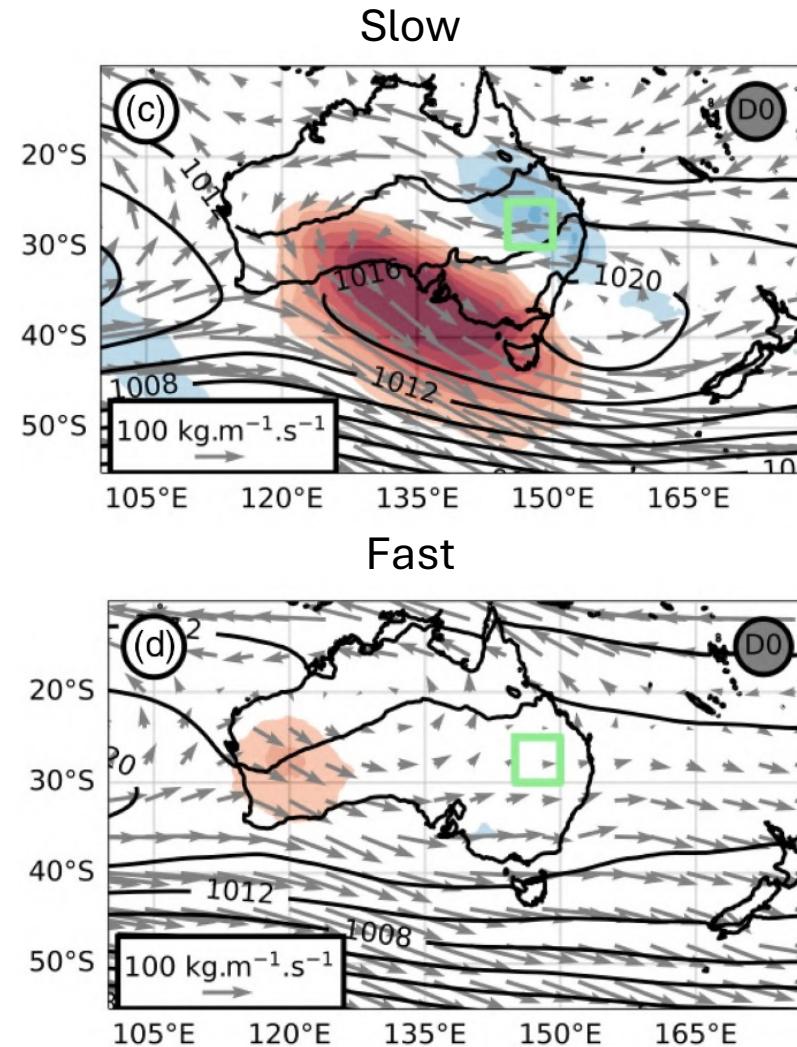




Every extreme event is a weather event and they depend on what happens throughout the atmosphere. Example: Slow vs fast moving disturbances over the East Coast.

Surface
Pressure
Temperature
anomaly

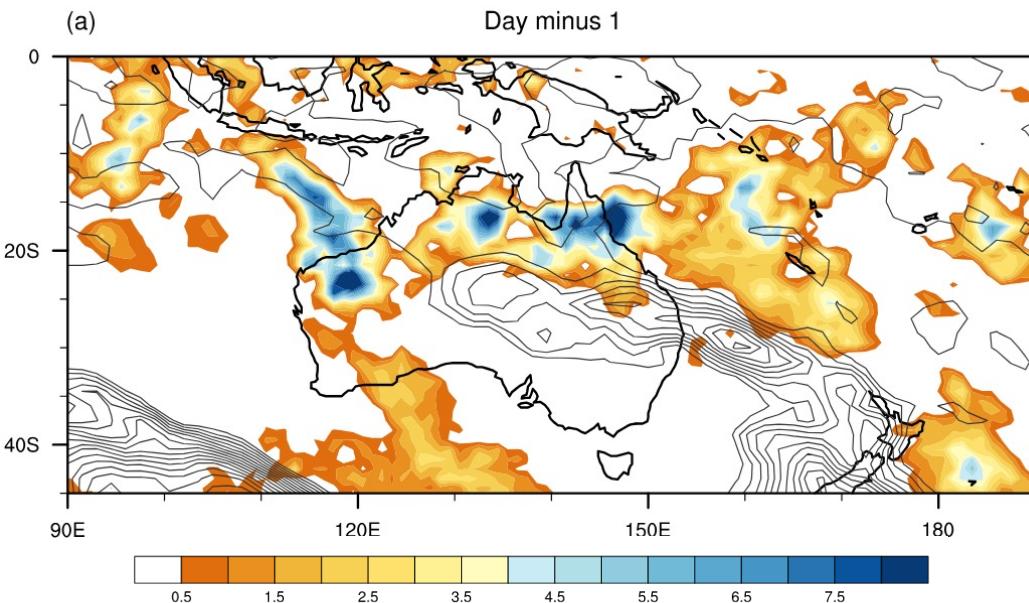
Water vapour
transport



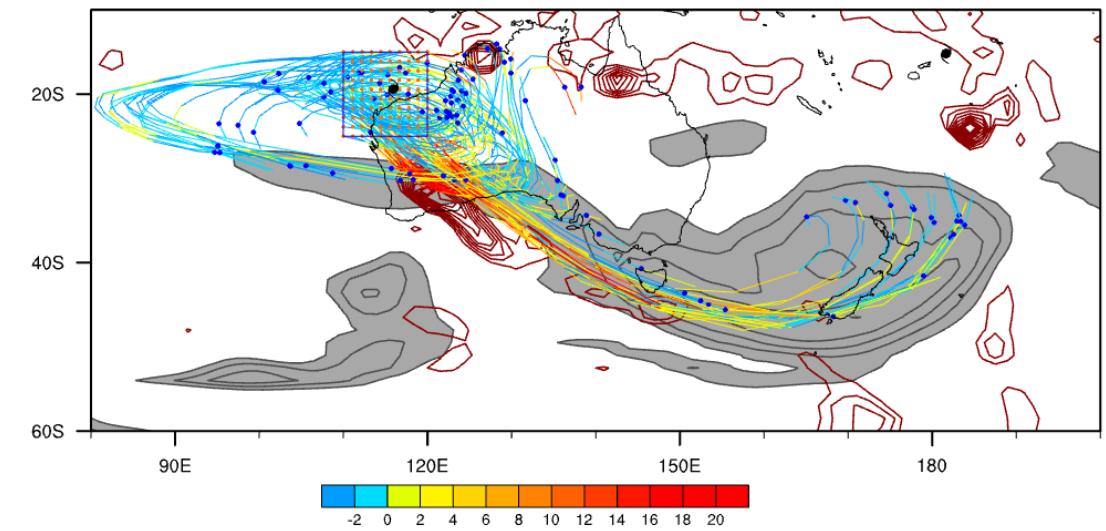


Compounding is a result of weather system dynamics too. It is once again not a statistical result.

Rainfall anomaly the day before a heatwave in SE Australia



Where does the air from a tropical cyclone go?



Weather is often only seen as a hazard, but it is an important natural resource too – and its importance is increasing



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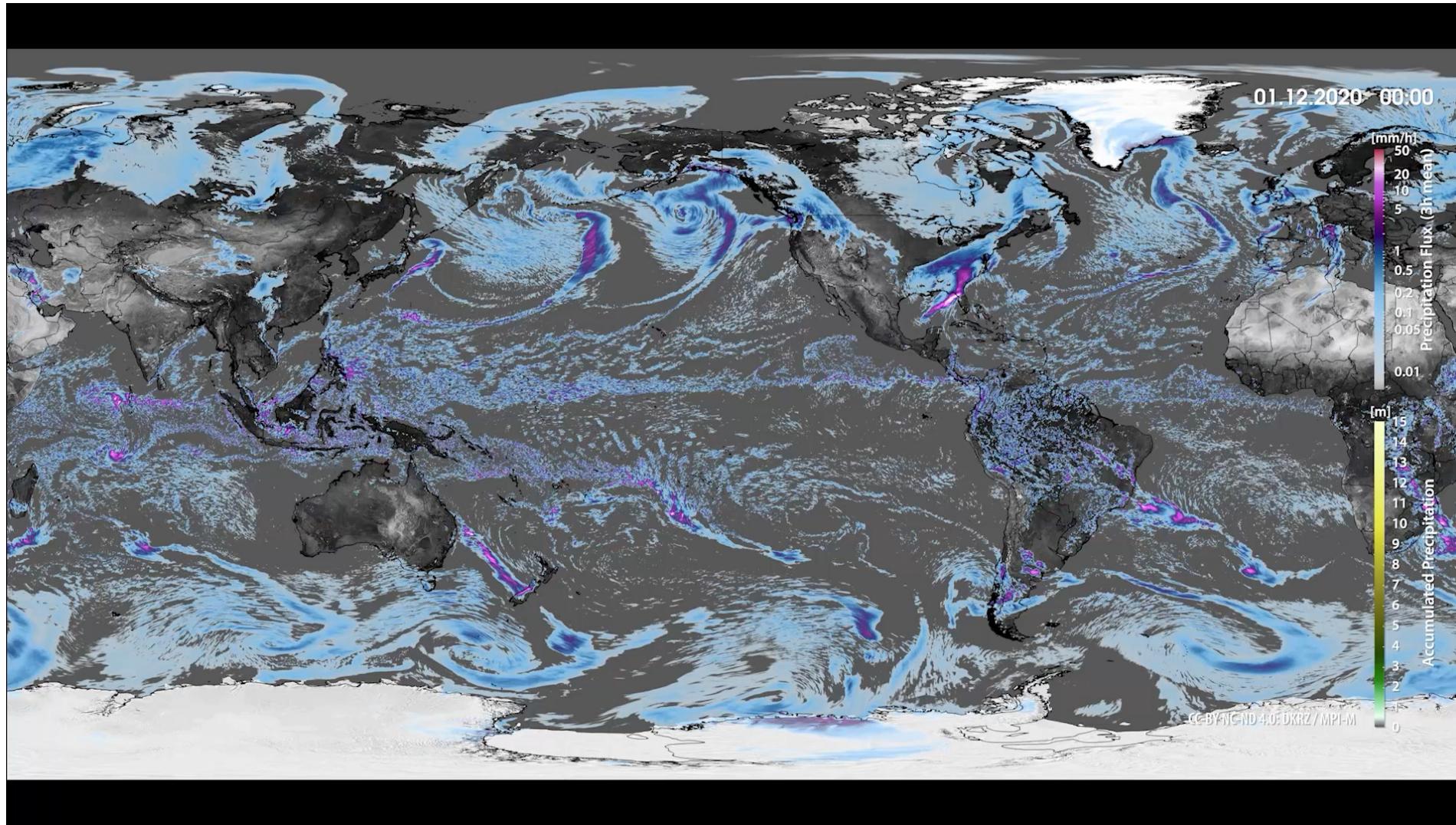


Enhancing the weather-climate connection is a huge opportunity for WGNE to take leadership and fulfil its role as the only joint WCRP-WWRP working group.



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Max-Planck Institute for Meteorology, Hamburg, Germany