



CLIMATEKIC
Australia

National Climate Scenarios

Adaptation to what?



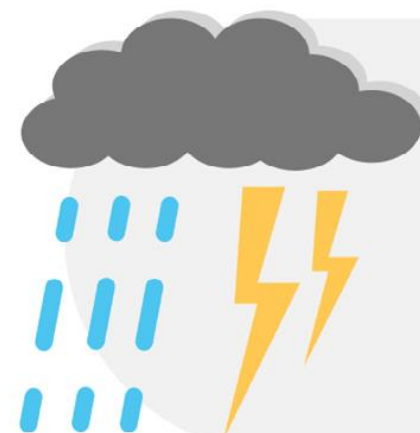
Extreme rainfall intensity has risen by about 7% (daily) and 10% (sub-daily) in recent decades, leading to greater risks such as flash-flooding, infrastructure damage, agricultural losses and supply chain disruption.



The last decade (2011-2020) has been the hottest on record, at around 1.5 °C above the 1850-1900 baseline. Extreme heat (average number of days over 35°C) has increased in virtually all towns and cities.



Sea level has risen at around 4mm per year between 1993 and 2019, causing more frequent coastal flooding, erosion and salt-water intrusion.



East Coast Lows occur about 10% less often but they are more damaging due to increased rainfall intensity, with more impact at the coast due to a higher sea level.



Heatwaves on land and in the ocean have become more frequent, longer, and more intense, leading to greater heat-related hazards for human and ecosystem health. The impact of drought has been exacerbated due to rising temperatures.



Extreme fire weather days have increased 15% in recent decades, with greater intensity. Individual extreme fire events have been exacerbated by climate change.



Adaptation to what?

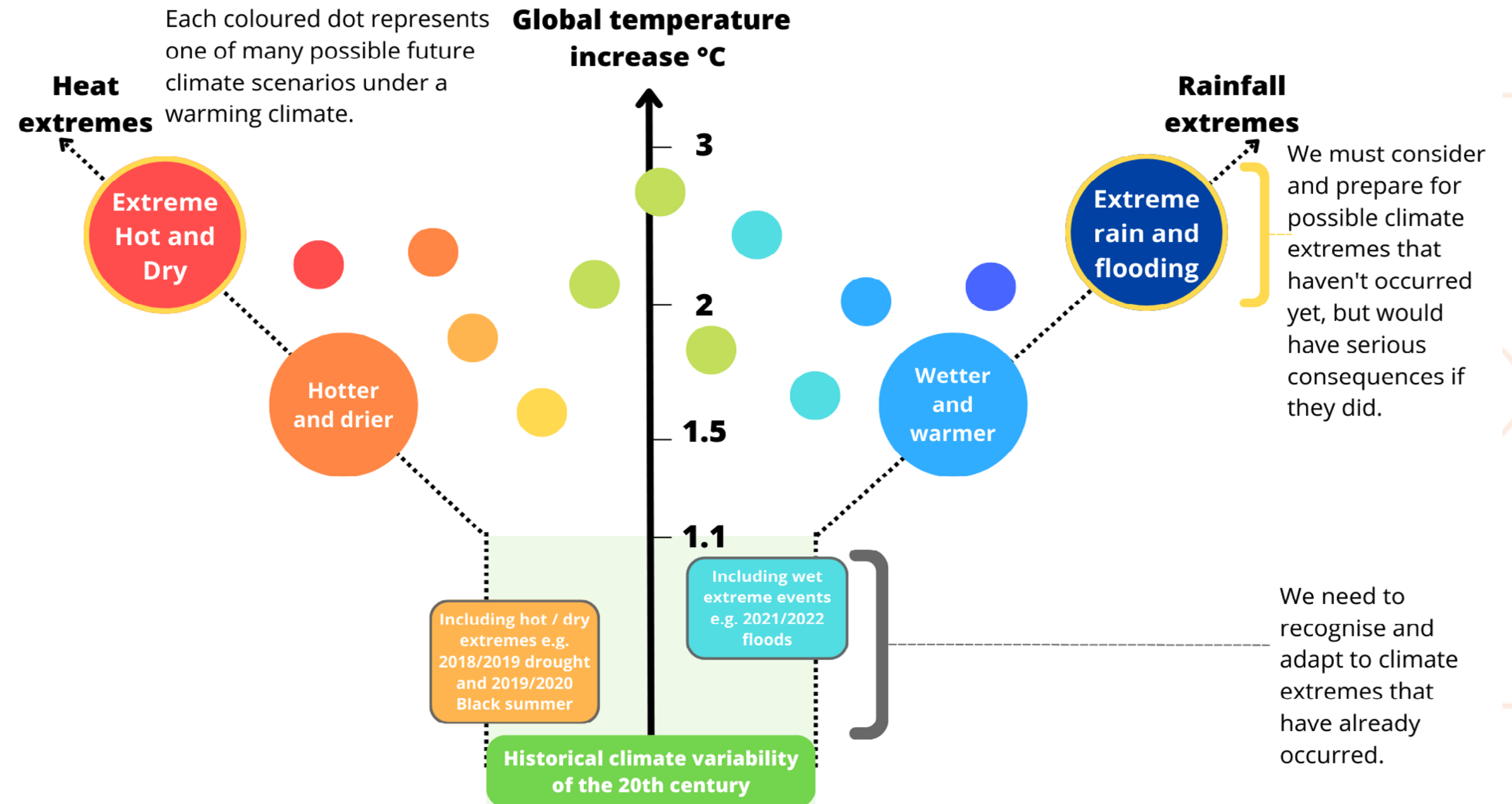
- Uncertain future conditions
 - Future climate
 - Future climate and future society and ecosystems
- The impact of future climate on the future society and ecosystems



What are climate scenarios?

- Climate scenarios are plausible descriptions of how the future climate may develop
- Scenarios are not predictions of the future
- Scenarios are a useful tool for understanding climate change, exploring climate-related risks and opportunities, developing strategic plans and supporting policy development

Possible Climate Scenarios under Global Warming



New extremes of very hot and dry conditions, or very wet conditions, may occur in coming decades due to the combined influences of natural climate variability and human-induced climate change



Why use climate scenarios?

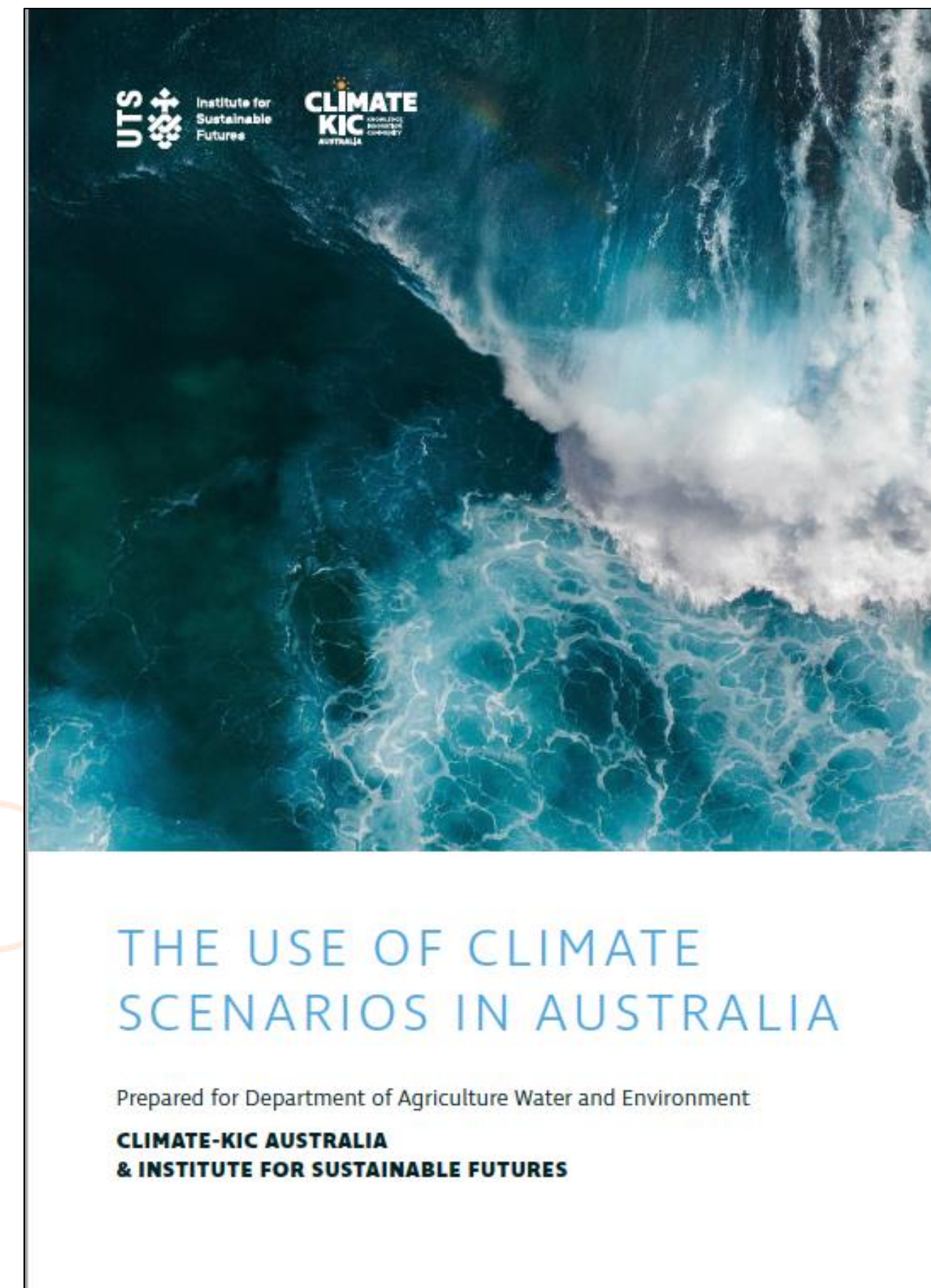
Climate scenarios can provide input to:

- Adaptation planning
- Risk assessment and management
- Stress testing
- Achieving carbon reductions
- Assessing socio-economic or environmental impacts



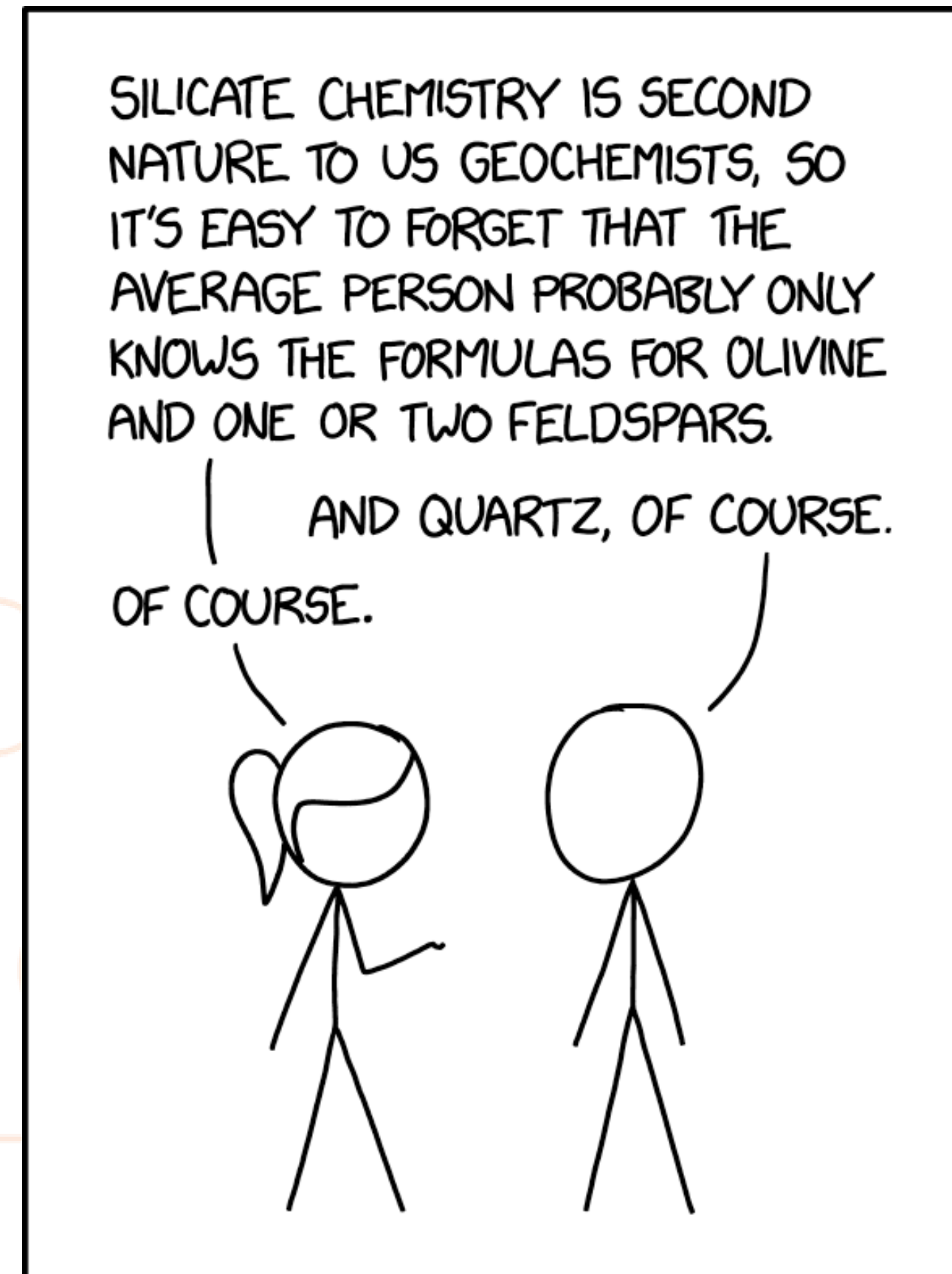
Understanding how climate scenarios are used

- Review of literature on use of climate scenarios
- Review of international best practice
- Review of climate scenario guidance and data
- Local and international interviews and case studies
- Public and and private sector workshops
- Climate Measurement and Standards Initiative



Understanding how climate scenarios are used

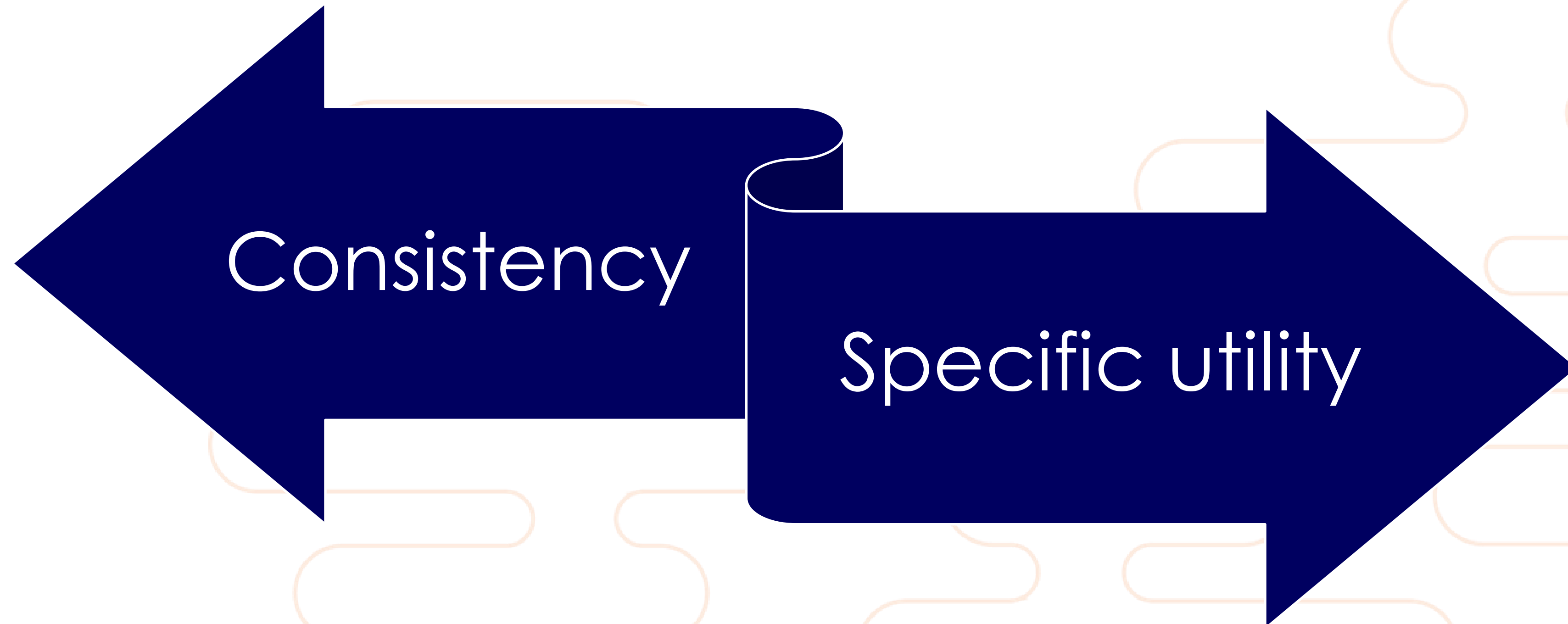
- Detailed climate scenario analysis is complex.
- There are many differences in the way that climate scenarios are being developed, applied and disclosed.
- Consistency of data is hindered
- Input assumptions vary and can be unclear



EVEN WHEN THEY'RE TRYING TO COMPENSATE FOR IT, EXPERTS IN ANYTHING WILDLY OVERESTIMATE THE AVERAGE PERSON'S FAMILIARITY WITH THEIR FIELD.



Challenge for scenario provision

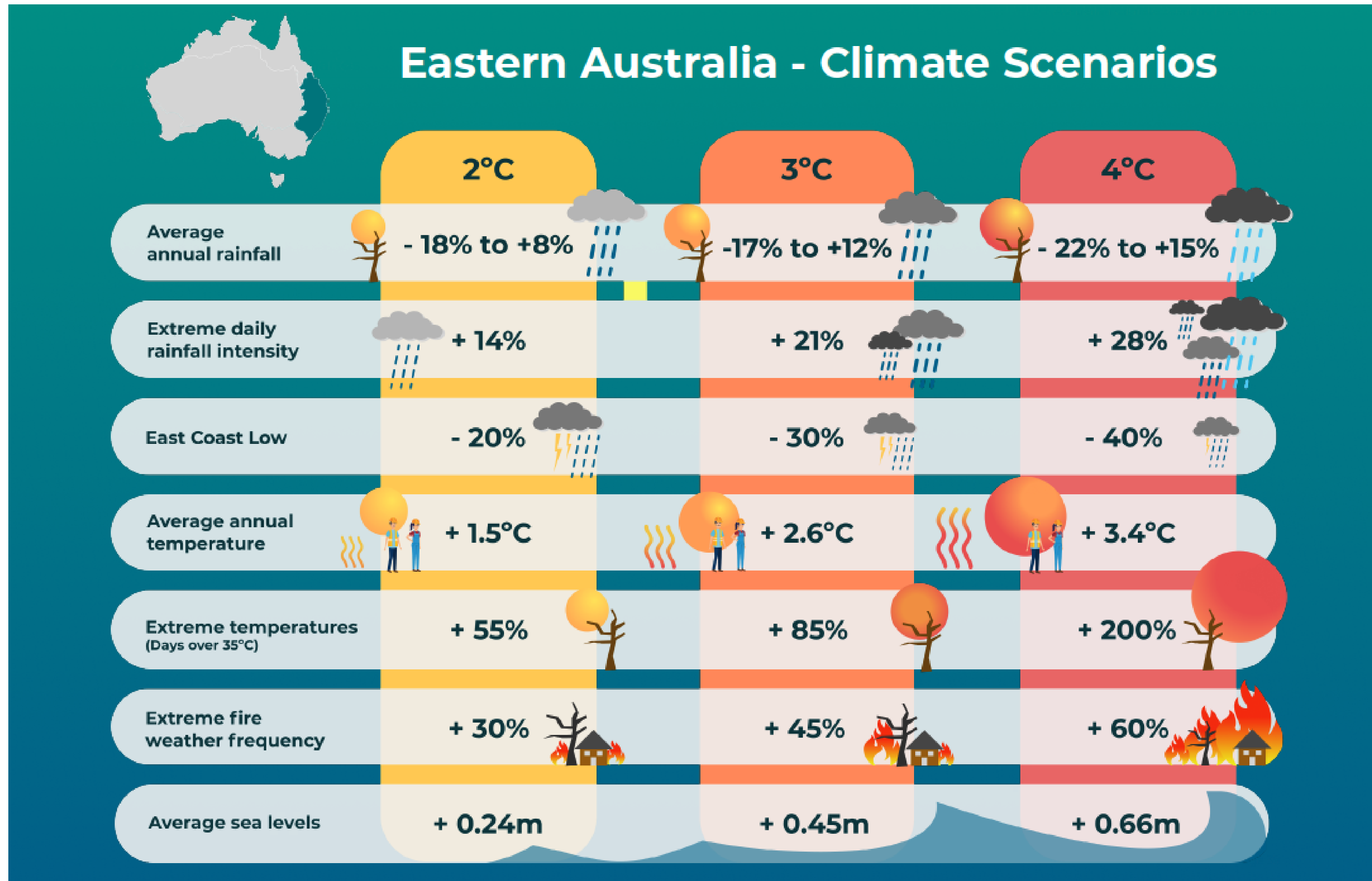


Benefits for nationally consistent scenarios

- Improve the communication of climate-related risks,
- Consistency of data use, approach and disclosure
- Clarity of assumptions,
- Opportunities for collaborative adaptation
- Sharing the burden of developing scenarios
- Reducing barriers to entry
- Lowering costs



National Climate Change Scenarios



Investment in all parts of the ecosystem

Balancing the effort to continuously improve the information available for decision makers with work to help user make the best use of what we already know.

