

User liaison and climate related risk management concepts

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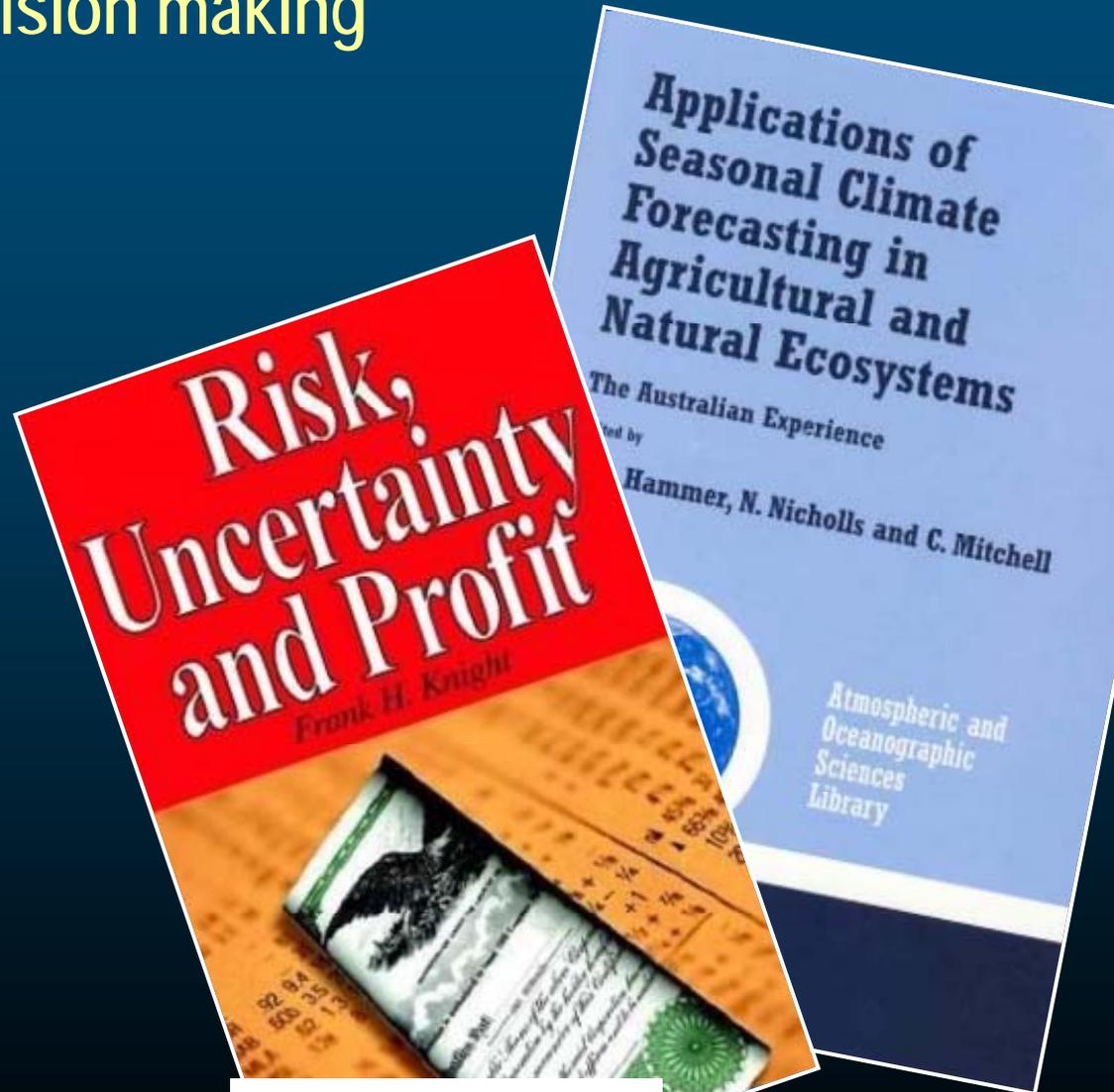


Climate information is of little value unless it influences decision making

Recently climate scientists have re-discovered risk management as a new concept.

Uncertainty = randomness with unknowable probabilities

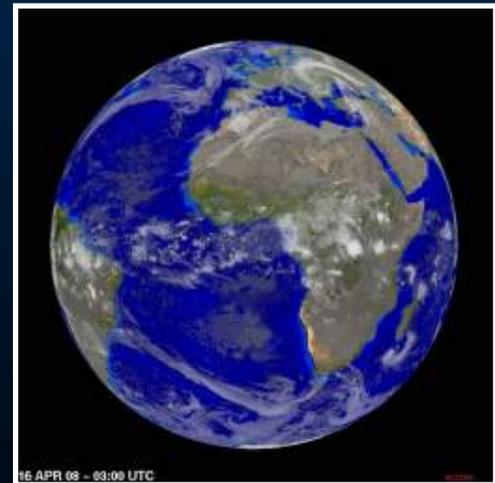
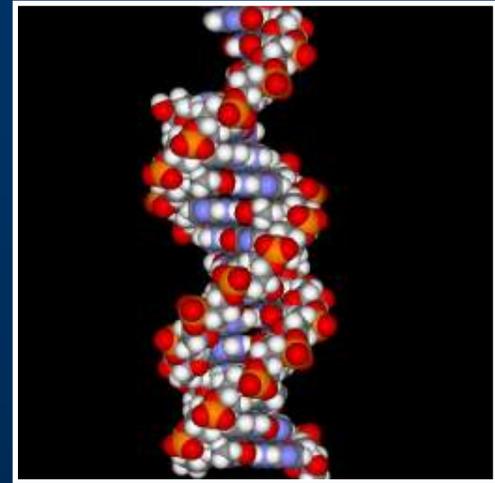
Risk = randomness with knowable probabilities



Knight, F.H., 1921

Background and Motivation

- **The 20th century** was the century of analysis based on new discoveries and exploring biological systems in ever increasing detail (from discovery of DNA to mapping of the human genome), creating new disciplines in the process
- **The 21st century** is rapidly becoming the century of synthesis with much greater emphasis on holistic approaches and creating new insights at the interfaces of disciplines (transdisciplinary)



Analysis

Action



Climate factors
(eg rainfall)

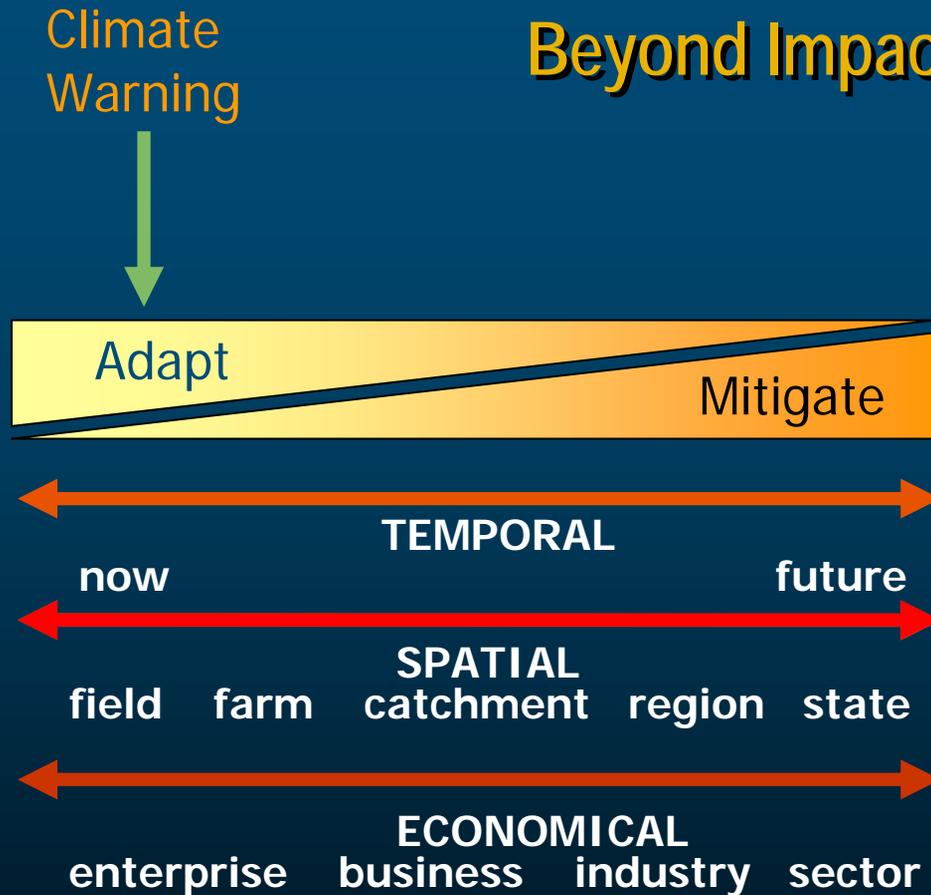
Impacts

Impacts and adaptation

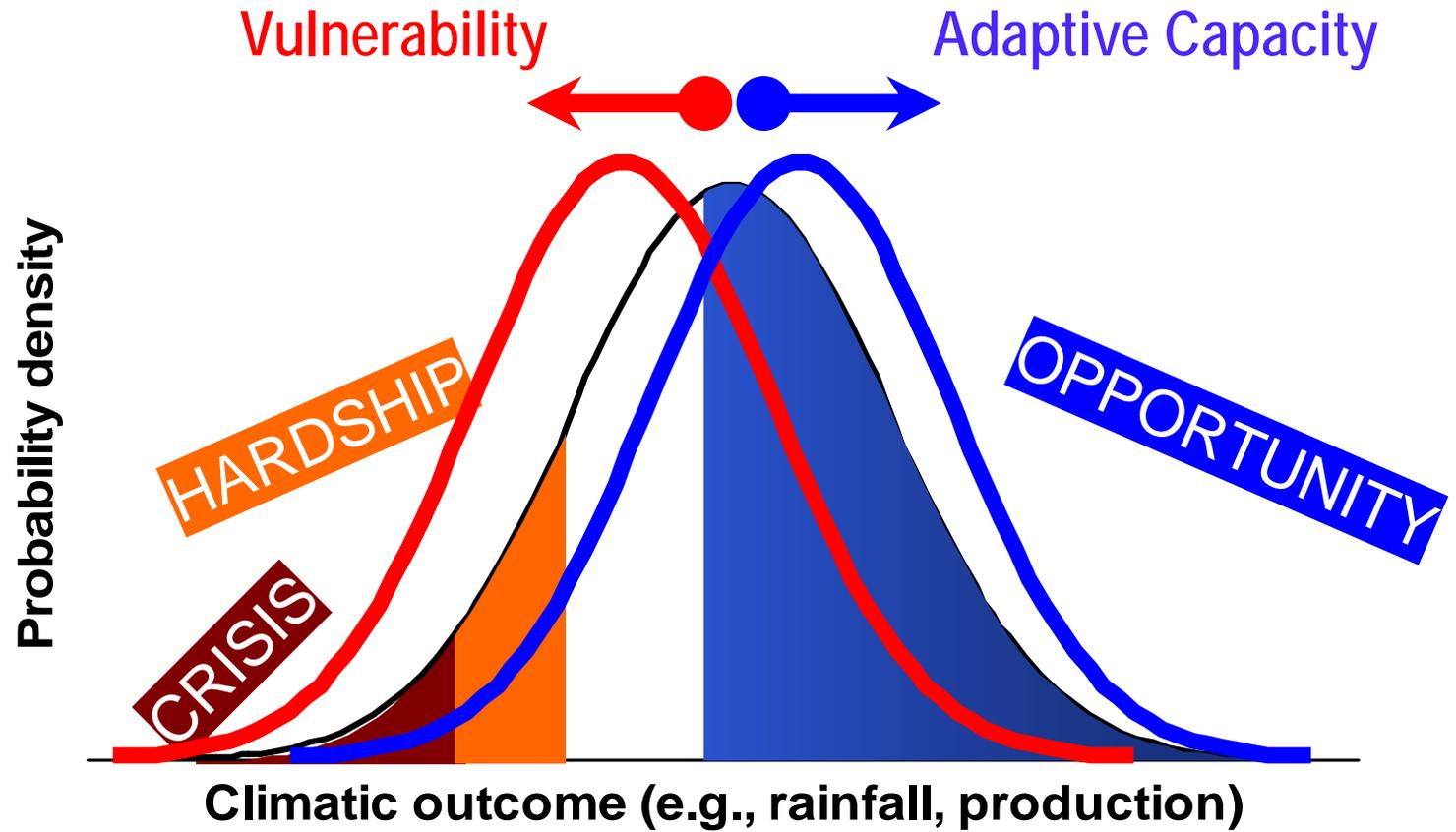
Integration with other issues – policy, risk management

Climate risk mgt mainstreamed, increased 'climate knowledge'

The Business Case for Adaptation Science: Beyond Impact – Time for Action



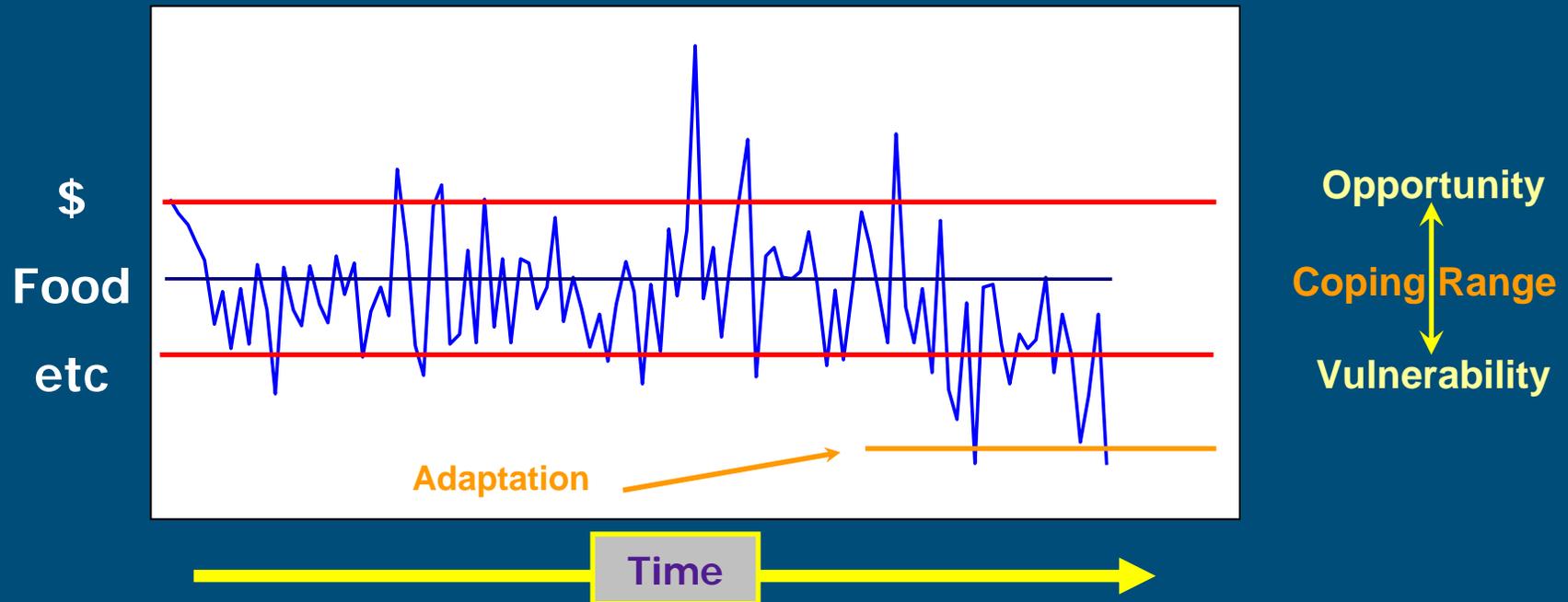
Two sides of the same coin



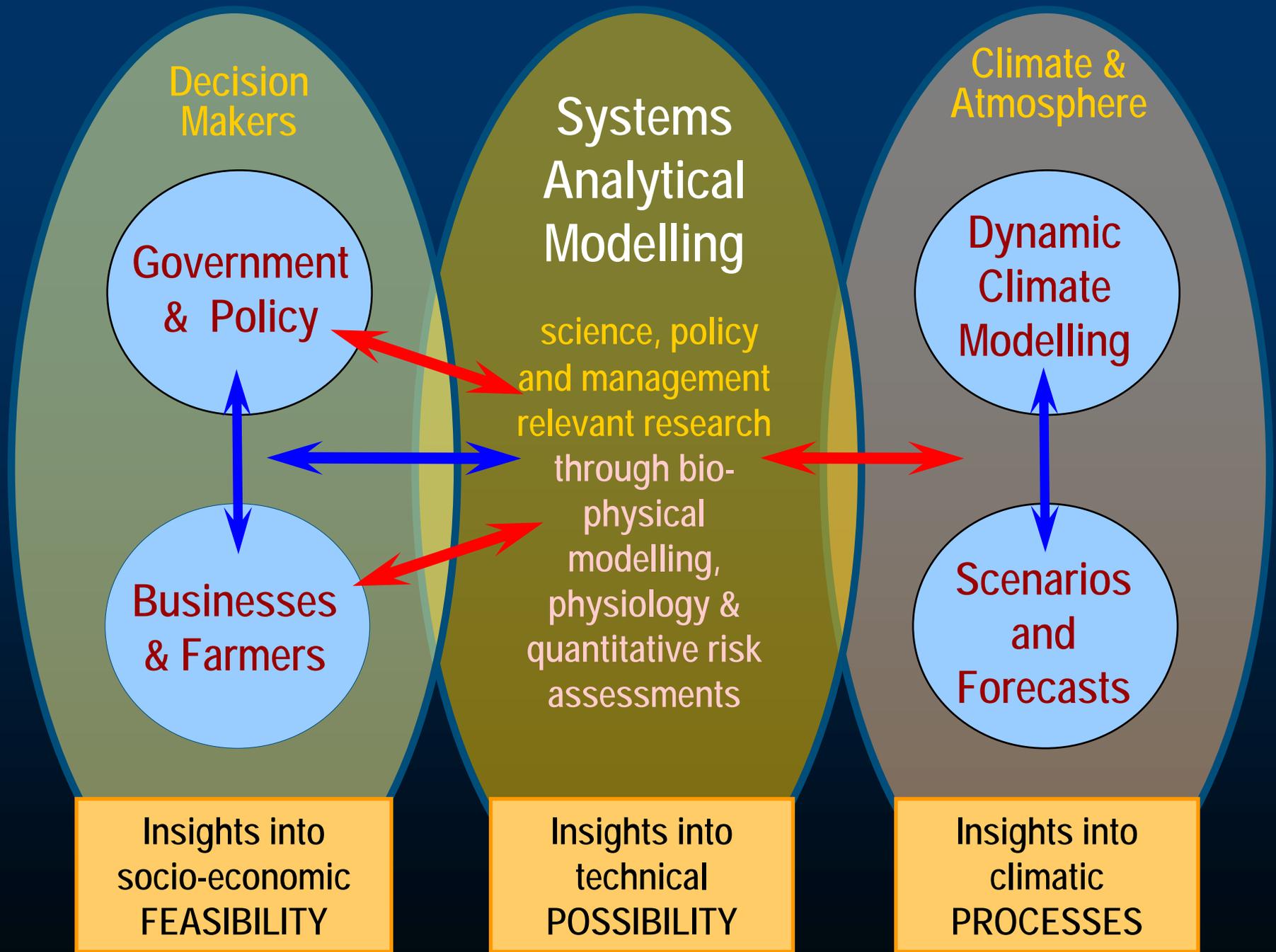
Without adaptation

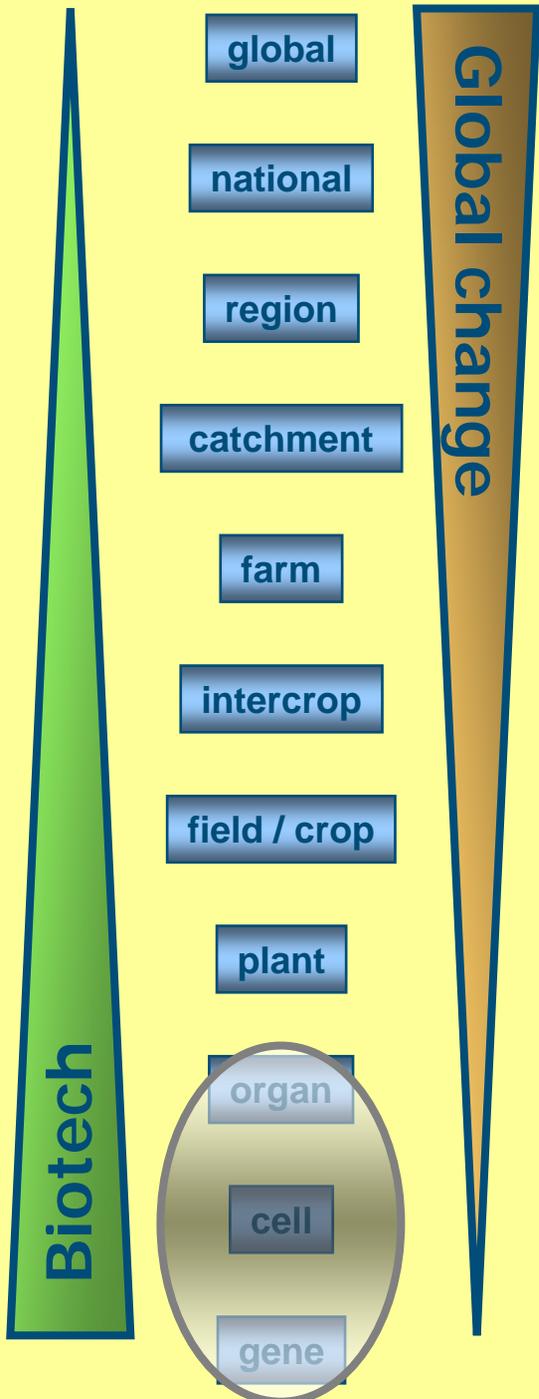
With adaptation

Risk exposure, vulnerability and adaptive capacity

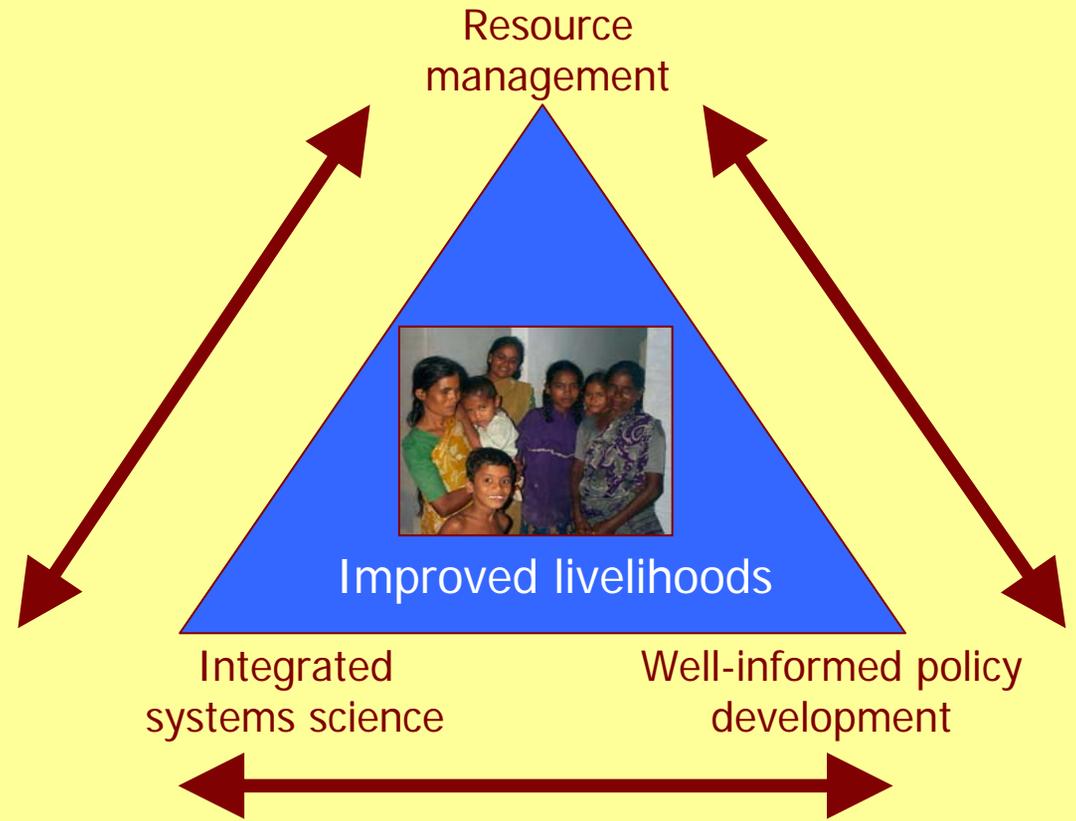


- A continuation of current climate trends (rainfall, max temperature) may result greater enterprise vulnerability.
- Given the difficulties in ensuring appropriate levels of adaptation, planning is required well ahead of these changes.

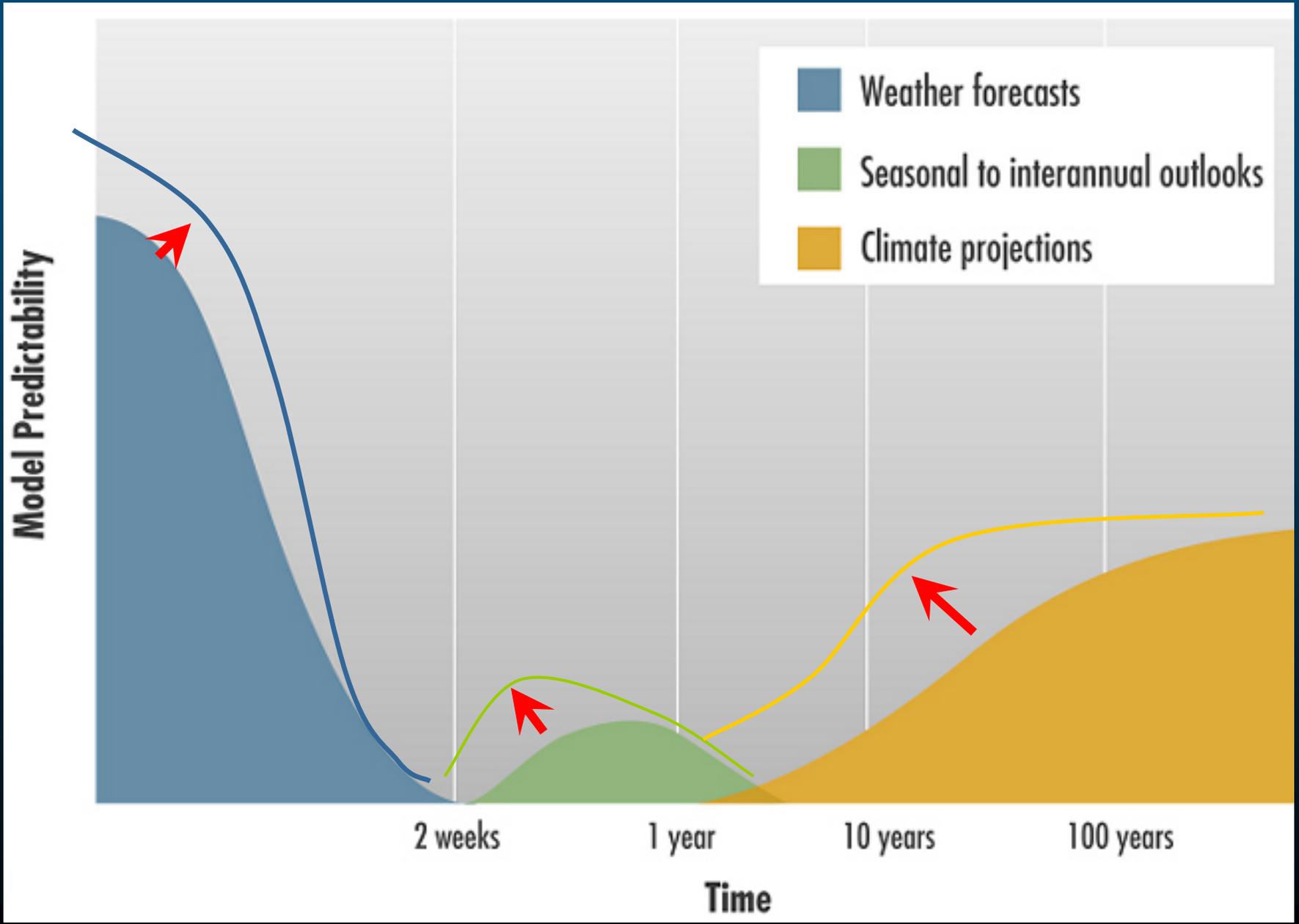




For adaptation science to work, we need to scale from gene to global and back, using as stepwise approach whereby different modelling approaches need to build on each other.

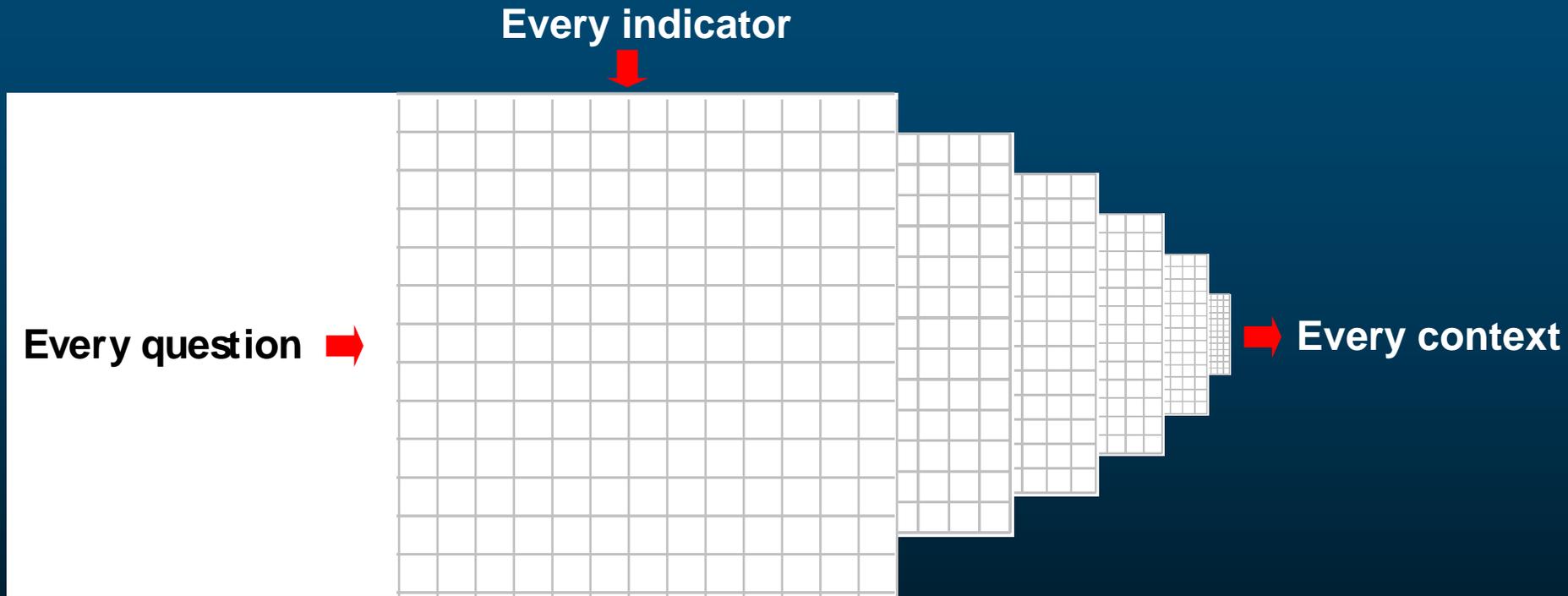


Credibility – Limits to climate prediction



Data dump or targeted service provision?

A: The data dump



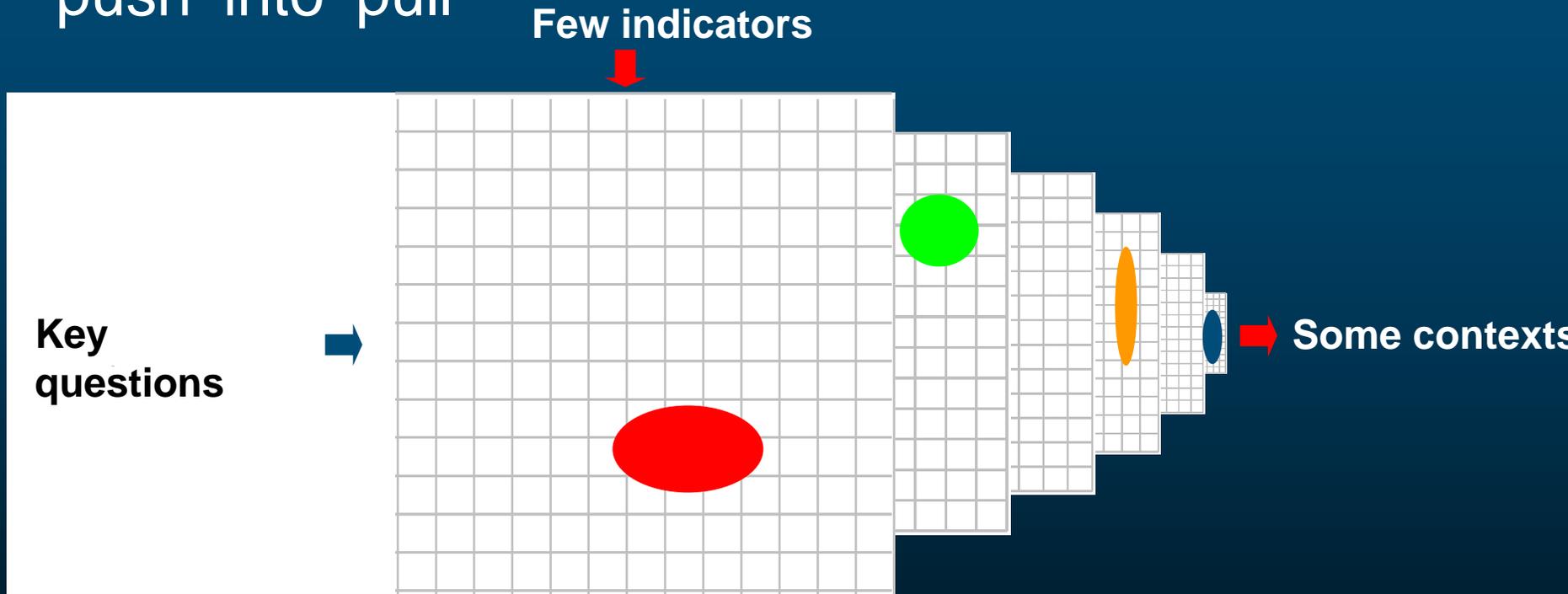
This leads to a loss of relevance and credibility because it provides users with large amounts of information over which they have no control → 'the science relevance gap' Rohan Nelson, pers com

Where do data dumps come from?

- Self interest of scientists
 - *positivism* : collecting data is important for itself (“have I got a method for you”)
 - *reductionism*: measure because we can (“and btw I need lots of money to employ more scientists”)
- Lack of conceptual framework
 - we have no idea, so collect ‘just in case’
- Misunderstanding of participatory engagement
 - collect ‘to keep everybody happy’
- Decision makers surrendering responsibility
 - don’t know what to collect so collect whatever scientists tell us

Data dump or targeted service provision?

B: Efficient and effective data collection – turning 'push' into 'pull'

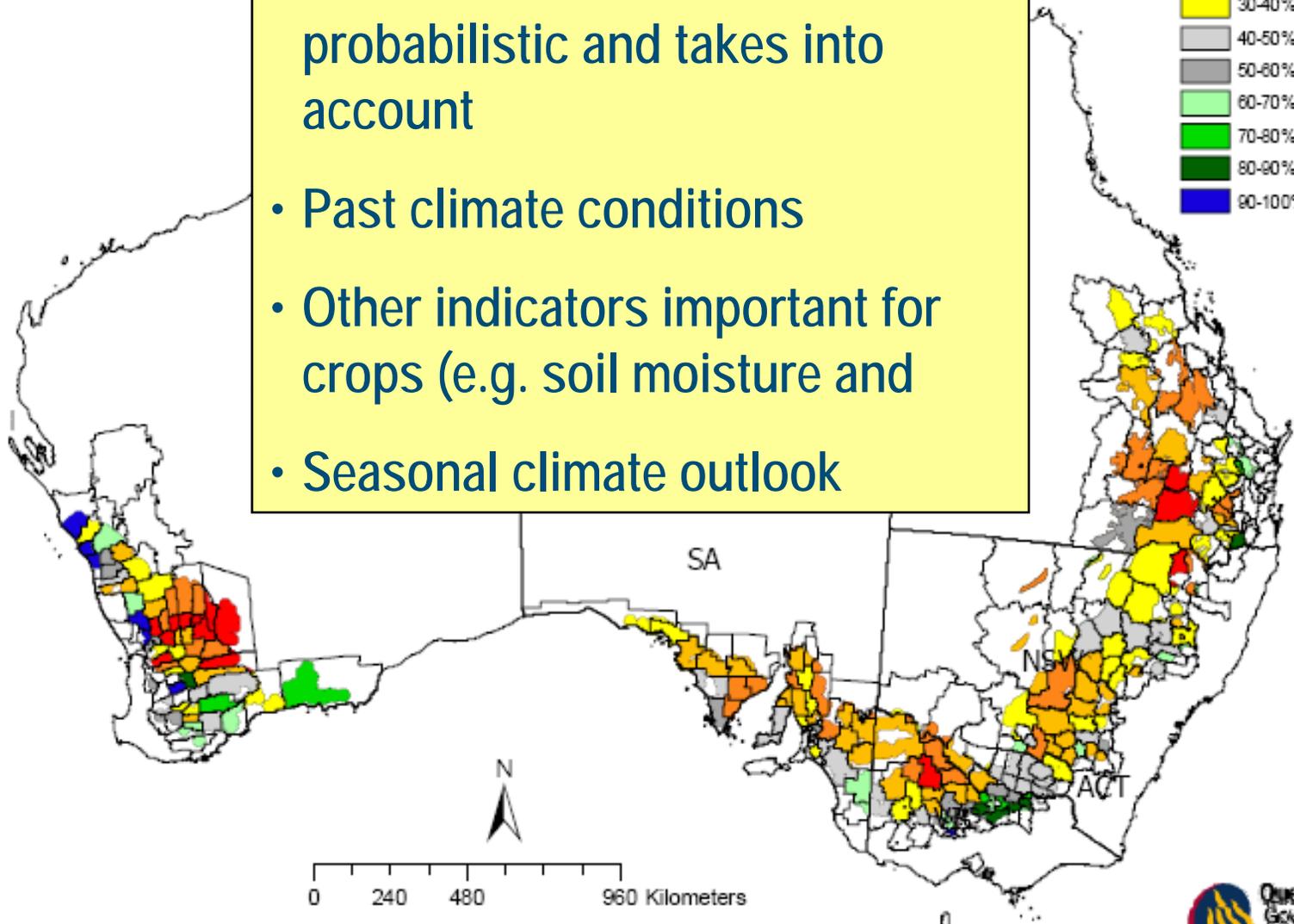
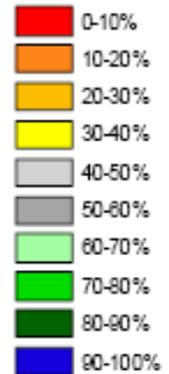


Event driven, info oriented, interactive and collaborative

Provides targeted, demand-driven information that is probabilistic and takes into account

- Past climate conditions
- Other indicators important for crops (e.g. soil moisture and
- Seasonal climate outlook

Legend (%):



Probability of exceeding the long-term simulated median shire wheat yield (using OZ-Wheat), given the SOI phase was “rapidly falling” during April-May.

Legitimacy: flipping the question around

Moving beyond red spots on maps

Producers supporting people

Beyond Impact - the business case for Action

- Adaptation and preparedness have emerged as THE biggest issues for a post-Kyoto world – not many know how to do it.
- The world requires skills in scenario development and impact quantification for all climate sensitive systems.
- Policy makers AND practitioners need access to relevant information for informed discussions or debates.
- We need to become more transdisciplinary and problem oriented in our approaches to science.
- We need good modelling tools for all sectors, not just climate.



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