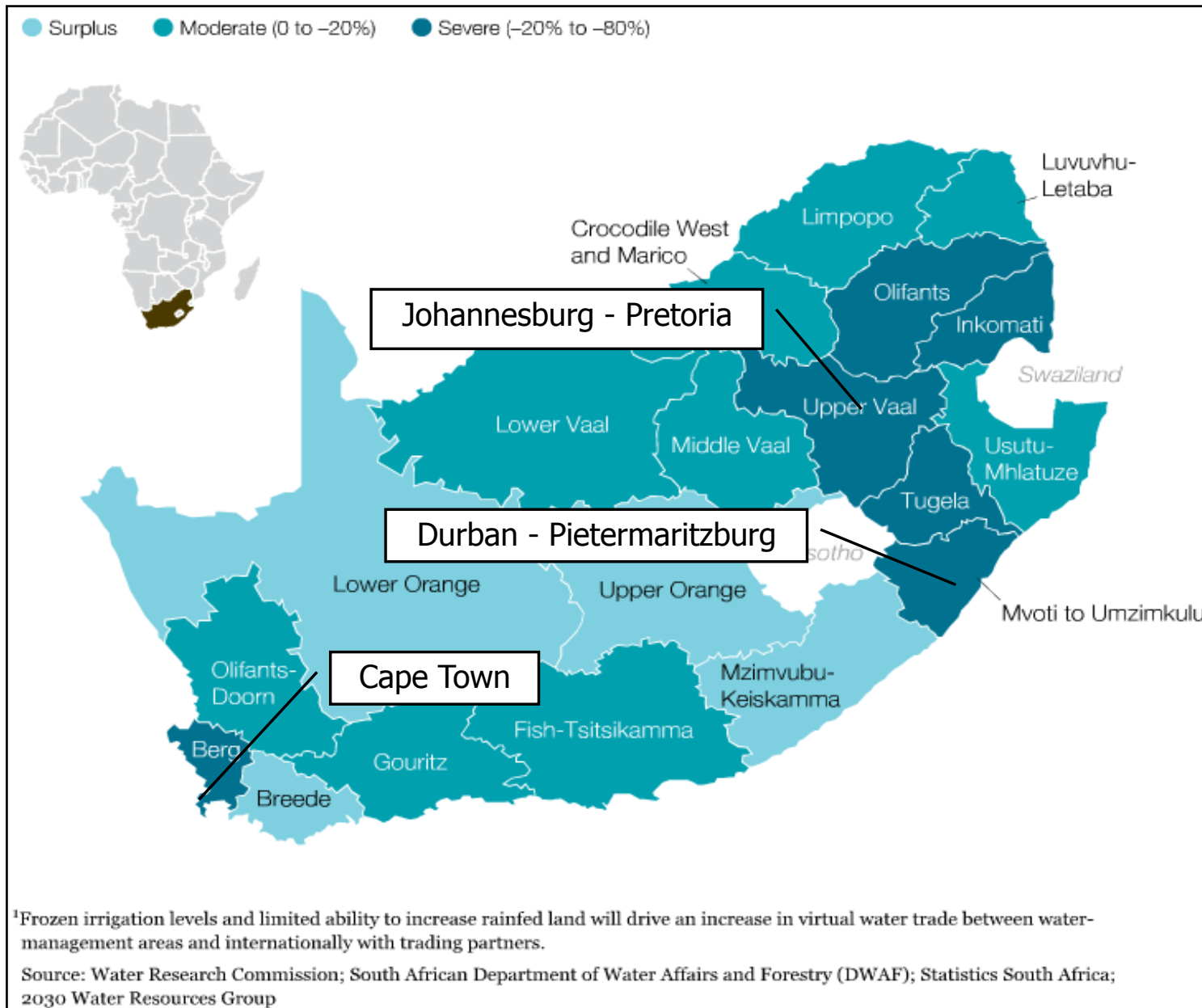


Effective Water Resources Planning to maintain Water Supply at acceptable levels of Risk

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2010 International Climate Change Adaptation Conference, Gold Coast, 30 June 2010

Gap between existing Supply and projected demand



To make matters even more challenging....

1. By 2020, between 75 and 250 million people are projected to be exposed to an increase of water stress due to climate change (IPCC 4, WG 2), and
2. To compound the issue, recent studies have confirmed that Africa is one of the most vulnerable continents to climate variability and change because of multiple stresses and low adaptive capacity (IPCC 2007).

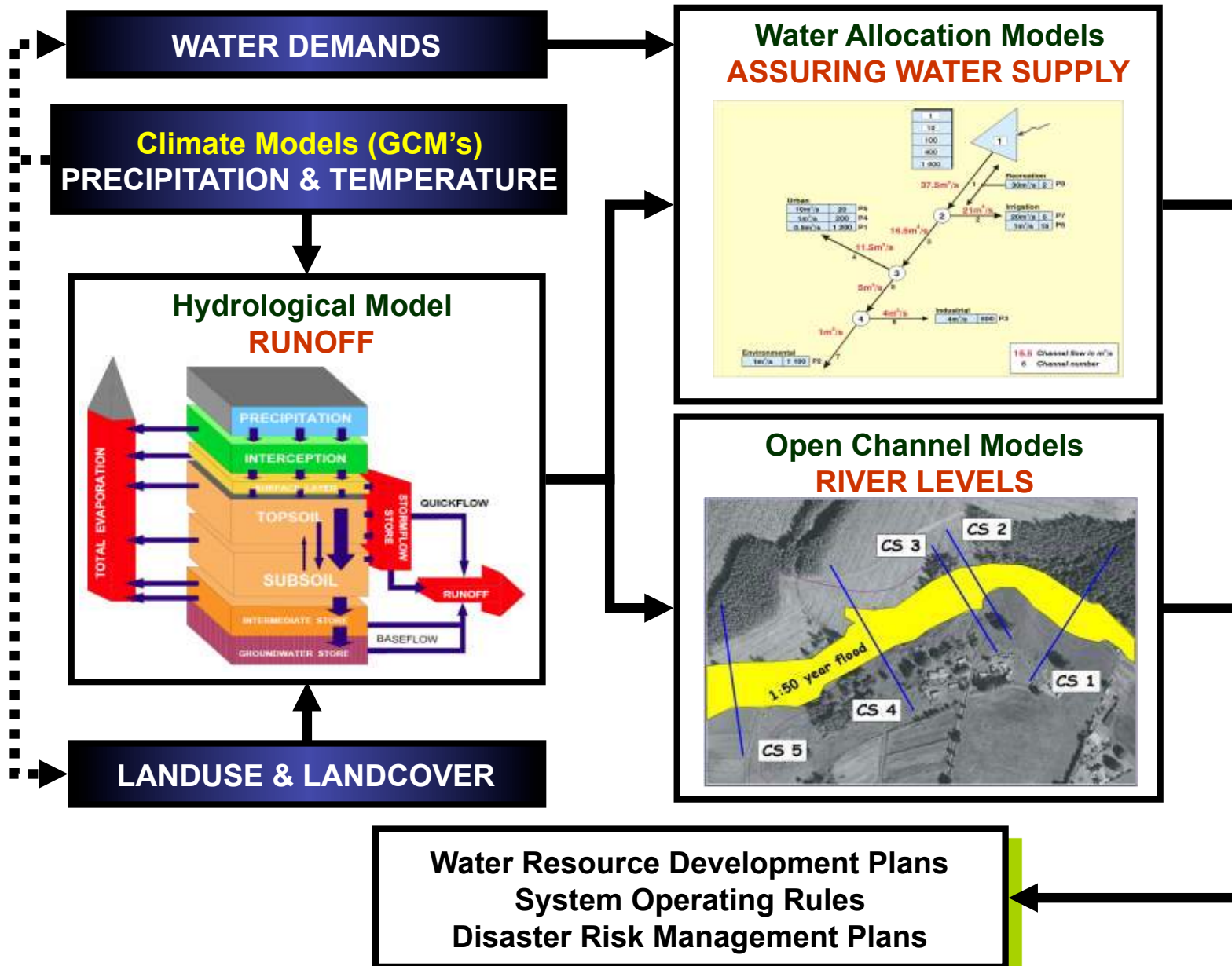


Approach to modeling of complex water systems

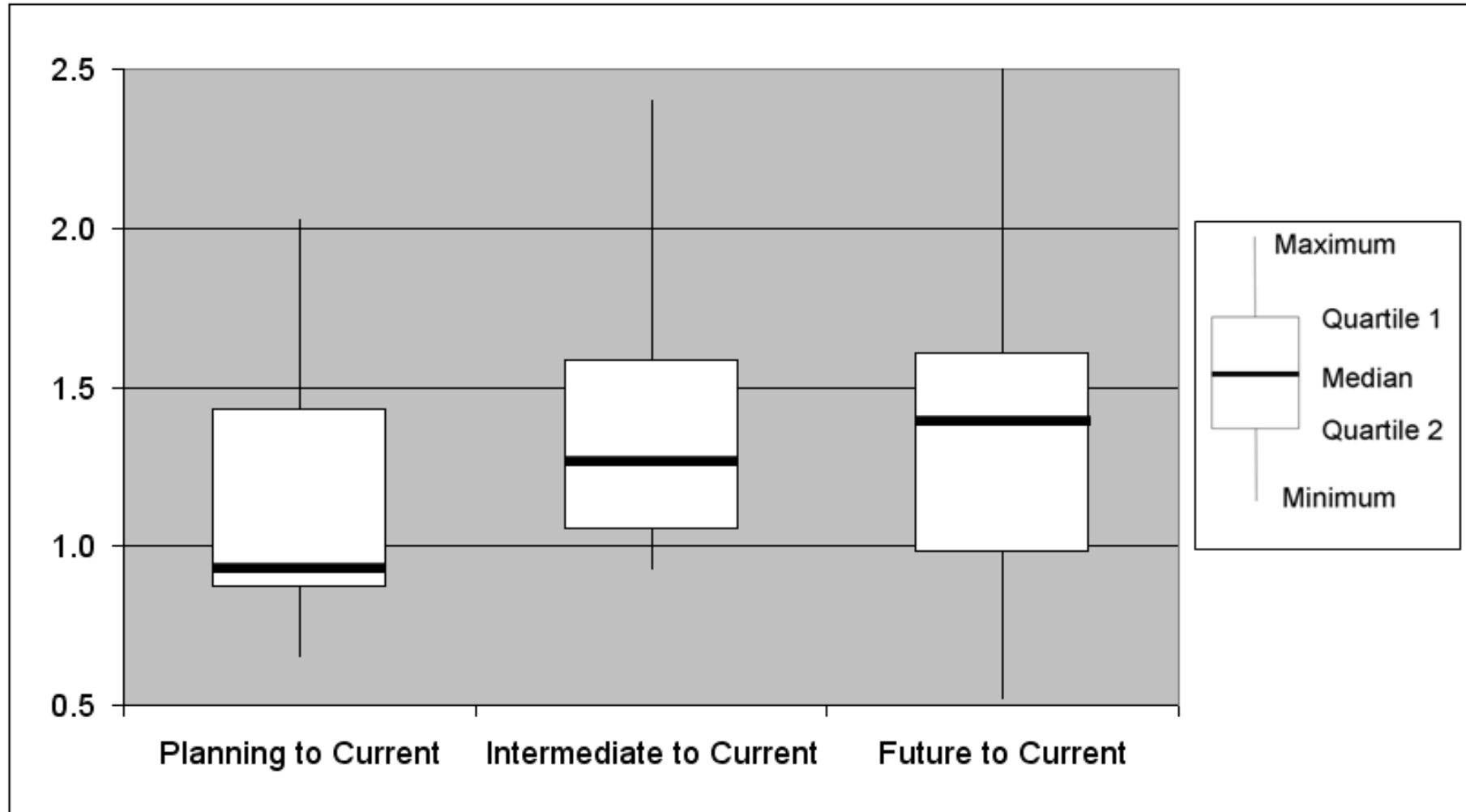
Make us of robust, widely accepted water simulation models that:

1. Assist with the management of the impact of ongoing “stressor” changes,
2. Assess the water supply and demand capabilities of a dynamically changing water resource system,
3. Assist with optimising short term operation of water systems,
4. Assist with the scheduling of implementation dates and magnitude of possible future developments,
5. Determine levels of assurance, and
6. Reduce short, medium and long term risk in water resource availability.

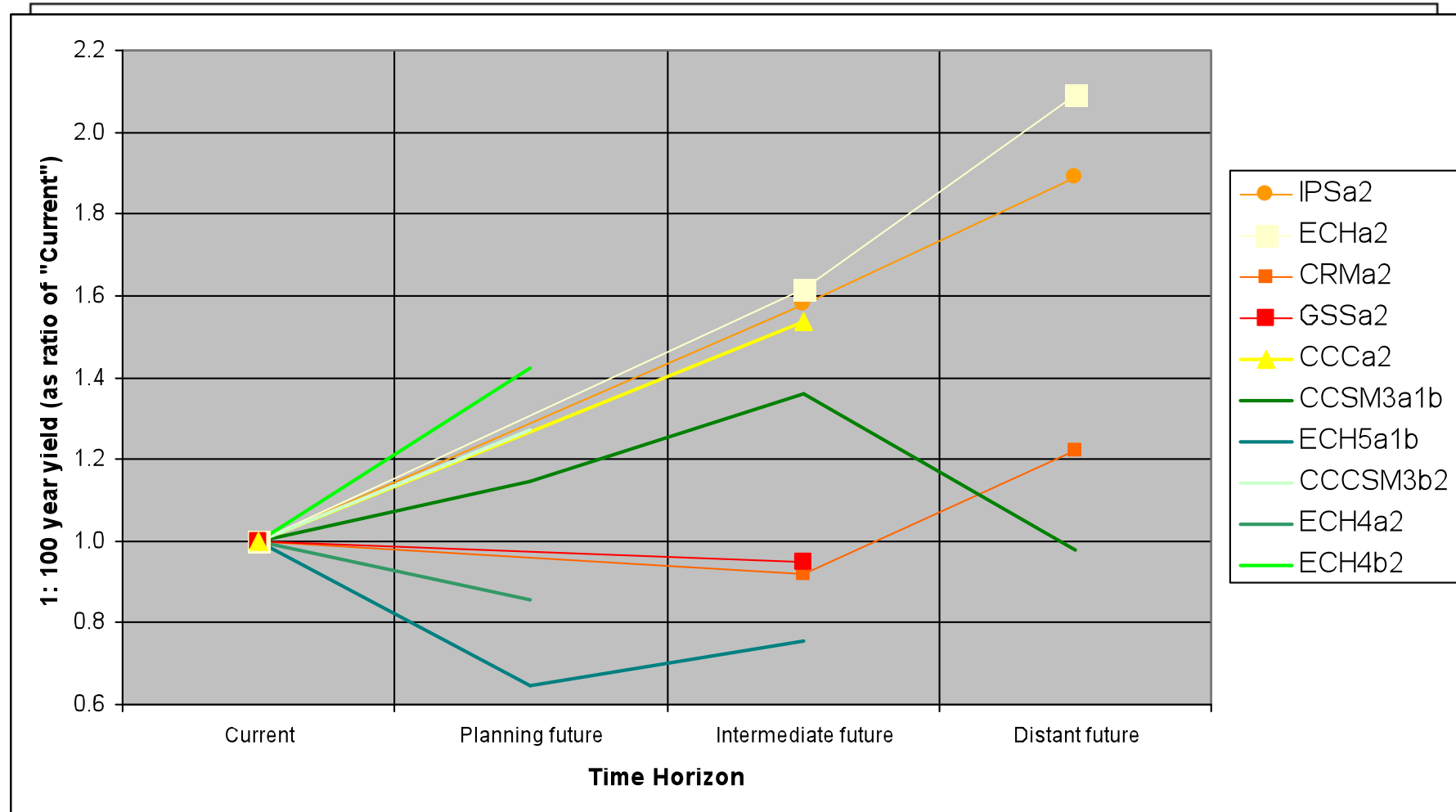
Water Resources Planning Framework



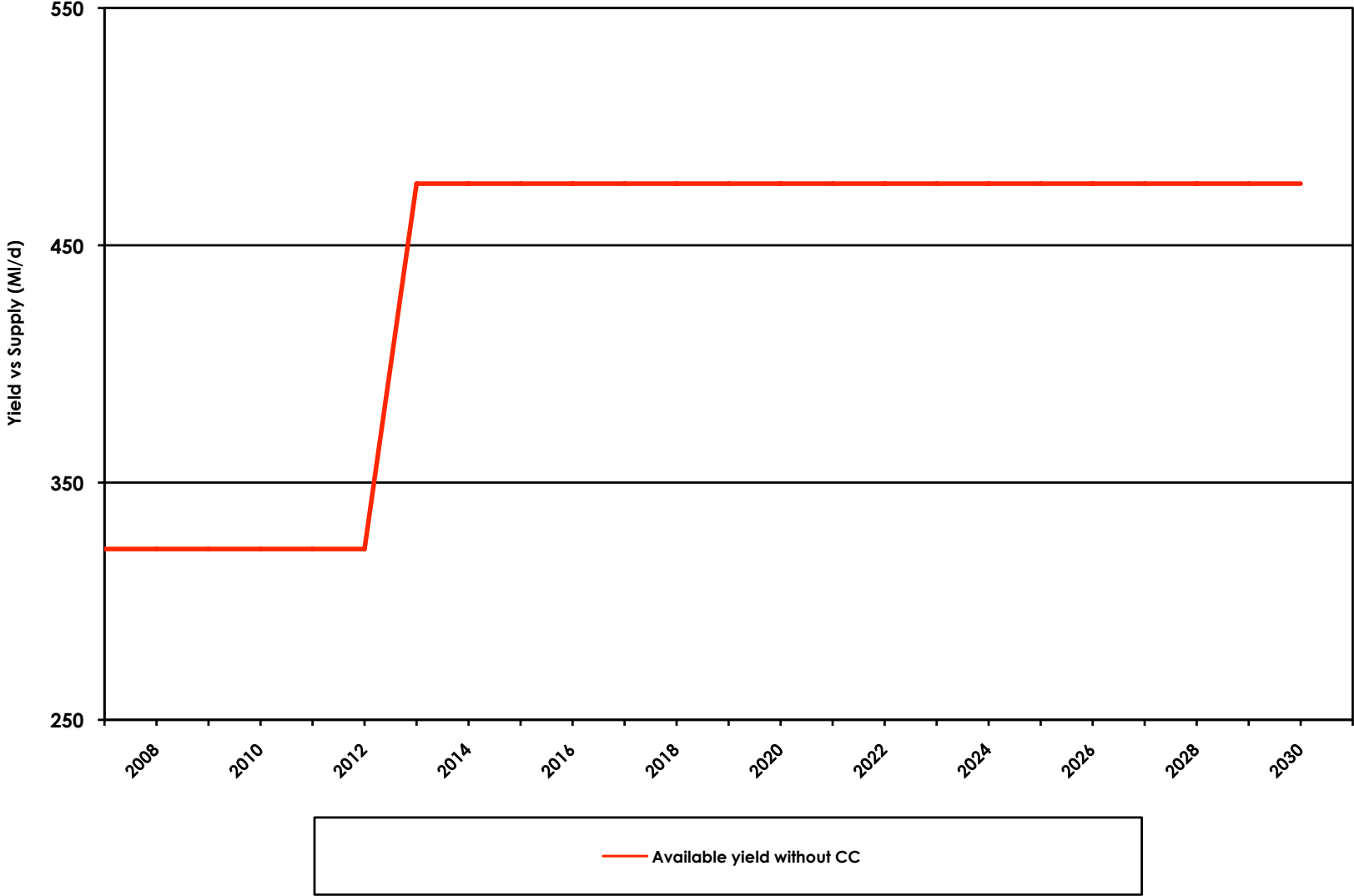
Impact of Climate Change on Water Resources



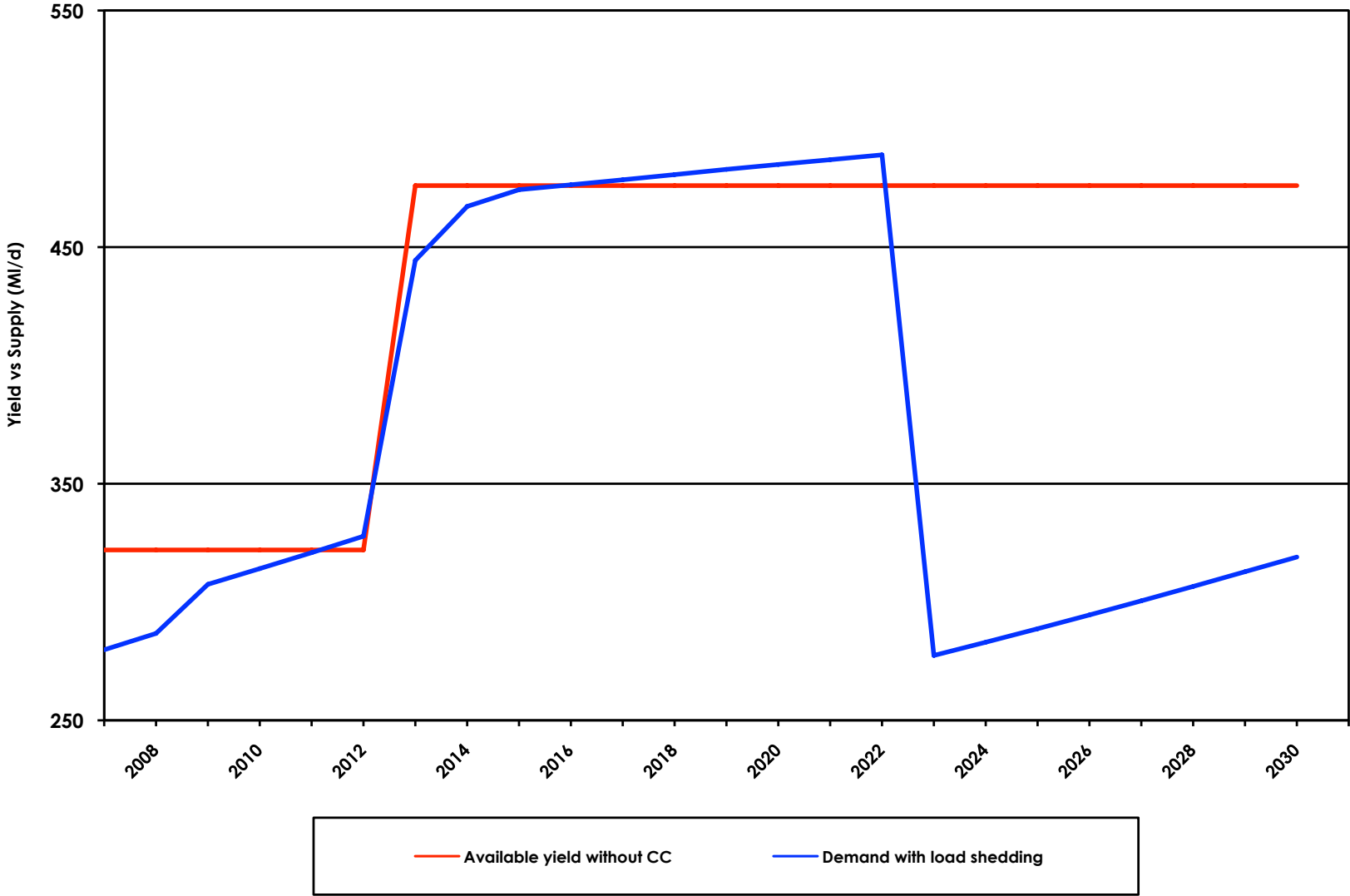
Impact of Climate Change on Water Yield



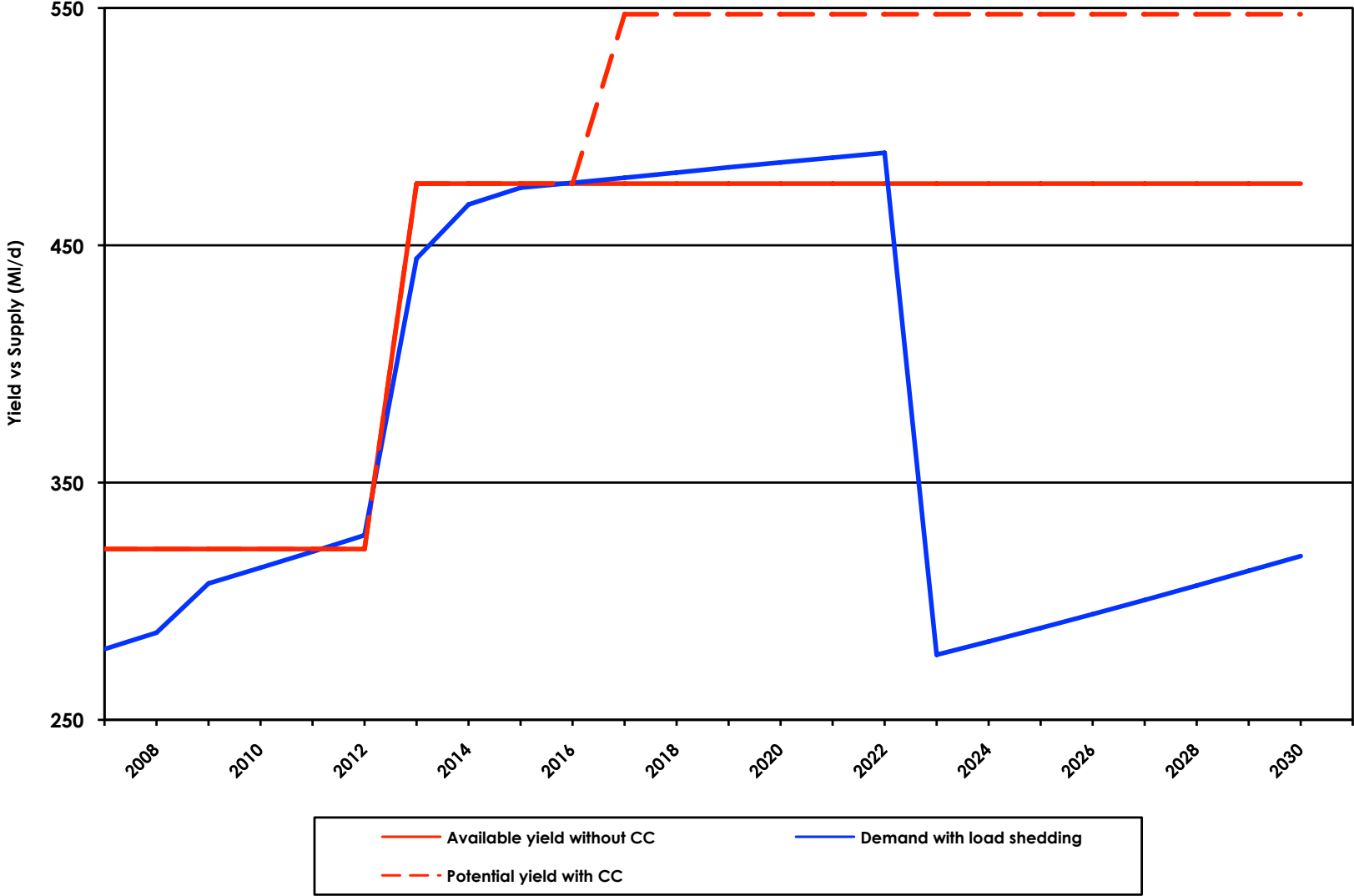
Impact of Climate Change on Water Supply



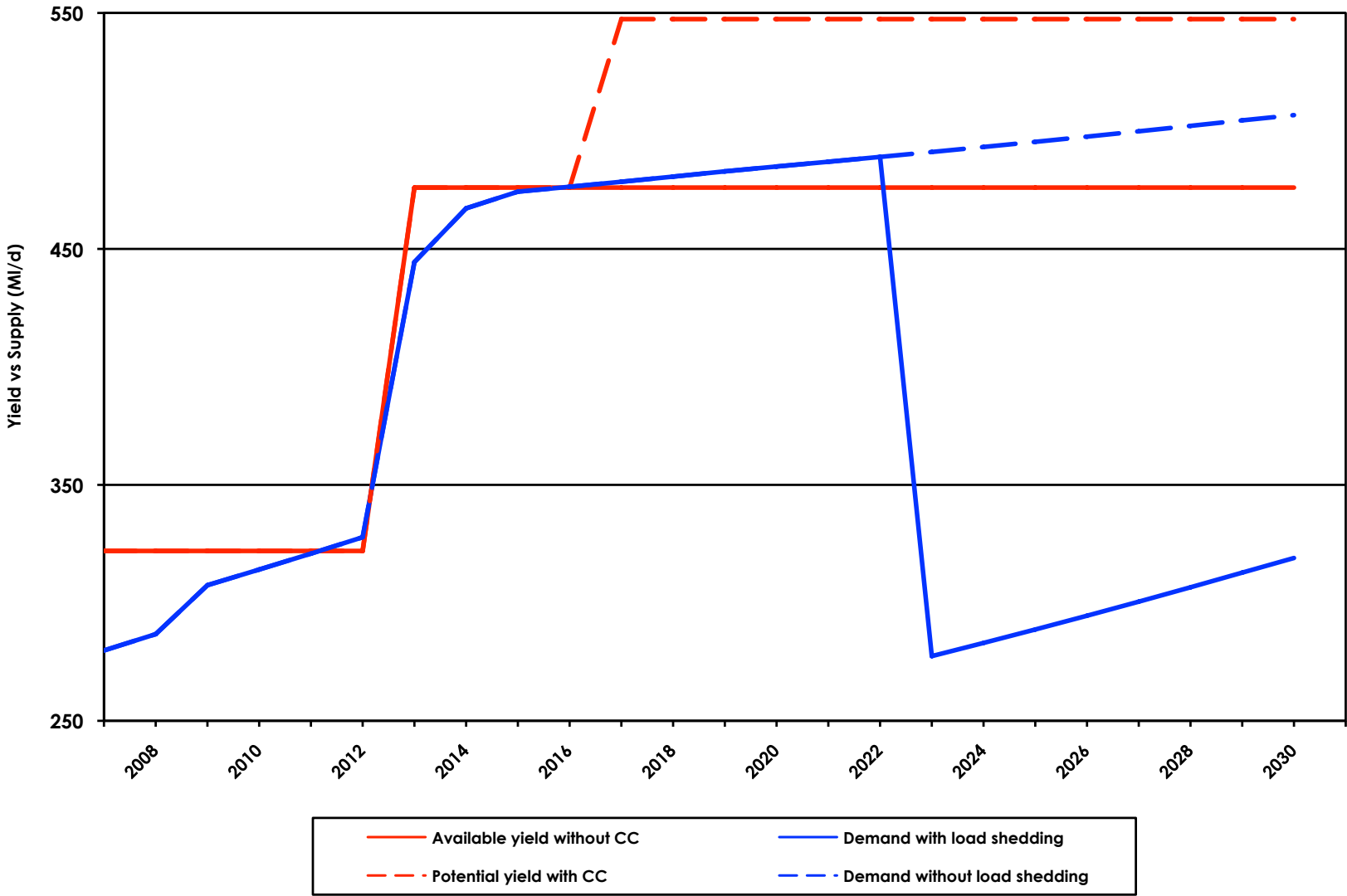
Impact of Climate Change on Water Supply



Impact of Climate Change on Water Supply



Impact of Climate Change on Water Supply



Where does this leave us?

1. Framework for impact assessment of climate change on water resources and supply,
2. Timely decisions regarding future risk and assurance of supply, HOWEVER
3. Climate models need improvement,
4. Future water demands need to be more accurate,
5. Re-look CCA focusing on more water, increased variability

Key messages

1. Beware of the CCA bandwagon and the risk of mal-adaptation,
2. CC is not all doom and gloom, and could be an adaptation strategy in itself,
3. Climate impacts and adaptation should be seen in conjunction with other stressors as part of a water planning process,
4. Amplification rain – streamflow – yield, and
5. The future is not what it used to be.

THIS IS THE SOLUTION
WE'VE DEvised FOR DEALING
WITH THE FLOODING CAUSED
BY CLIMATE CHANGE.



CHRIS MADDEN
CARTOONS