River reflections

Connecting Basin communities, industries and ideas

9 to 10 June 2021

Griffith, New South Wales

#RiverReflections2021

Why does hydrology matter?

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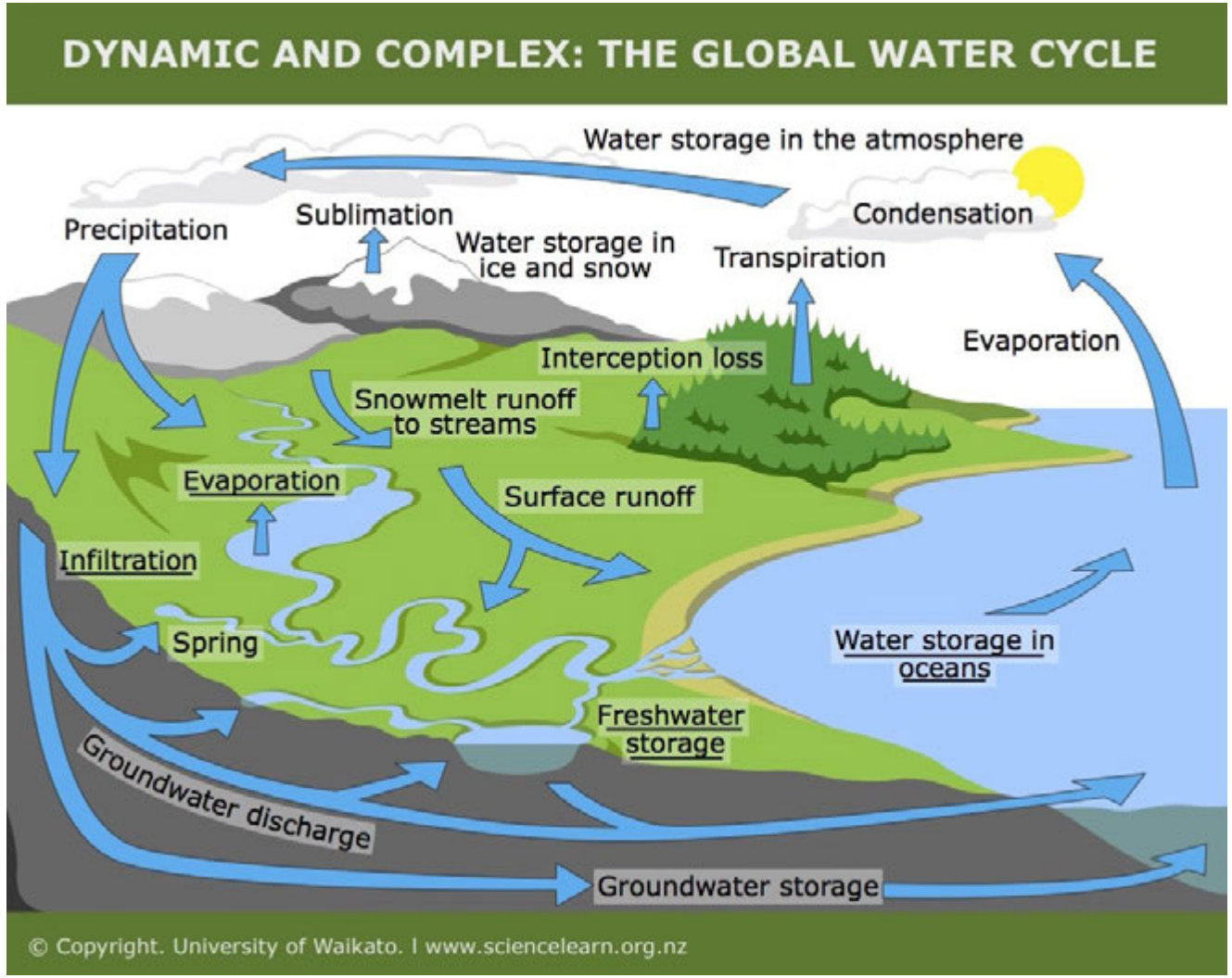
#RiverReflections2021

What is Hydrology?

- Hydrology is the science of water & the relationship with its surroundings
- Hydrology helps us understand the characteristics of a river and plan accordingly
- We can influence hydrology (e.g. river flow) for a desired effect



Murray–Darling hydrology

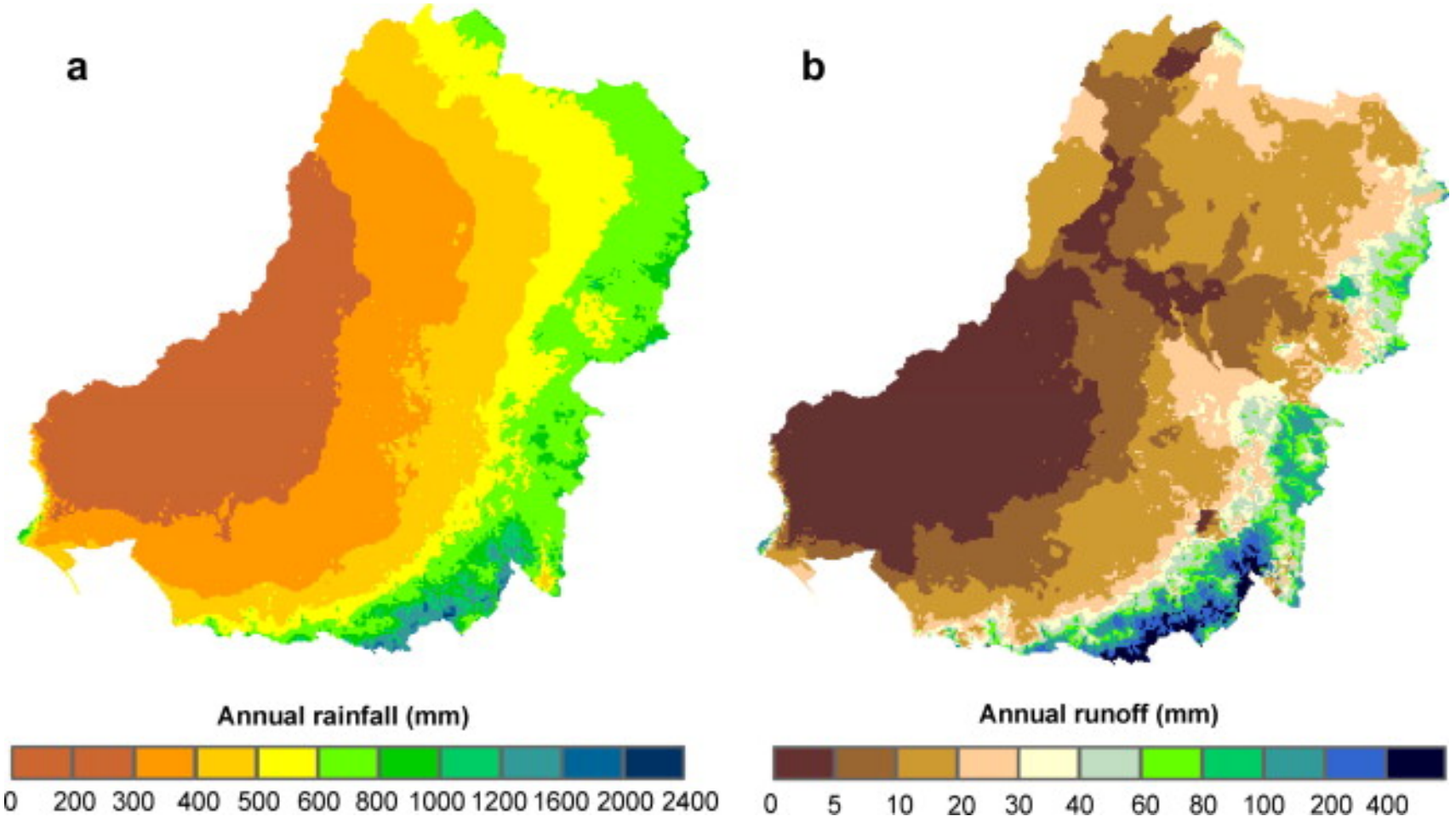
- 1 million km^2 inland river system
- Arid climate & low gradient
- Slow-moving rivers

High rainfall & flow variability

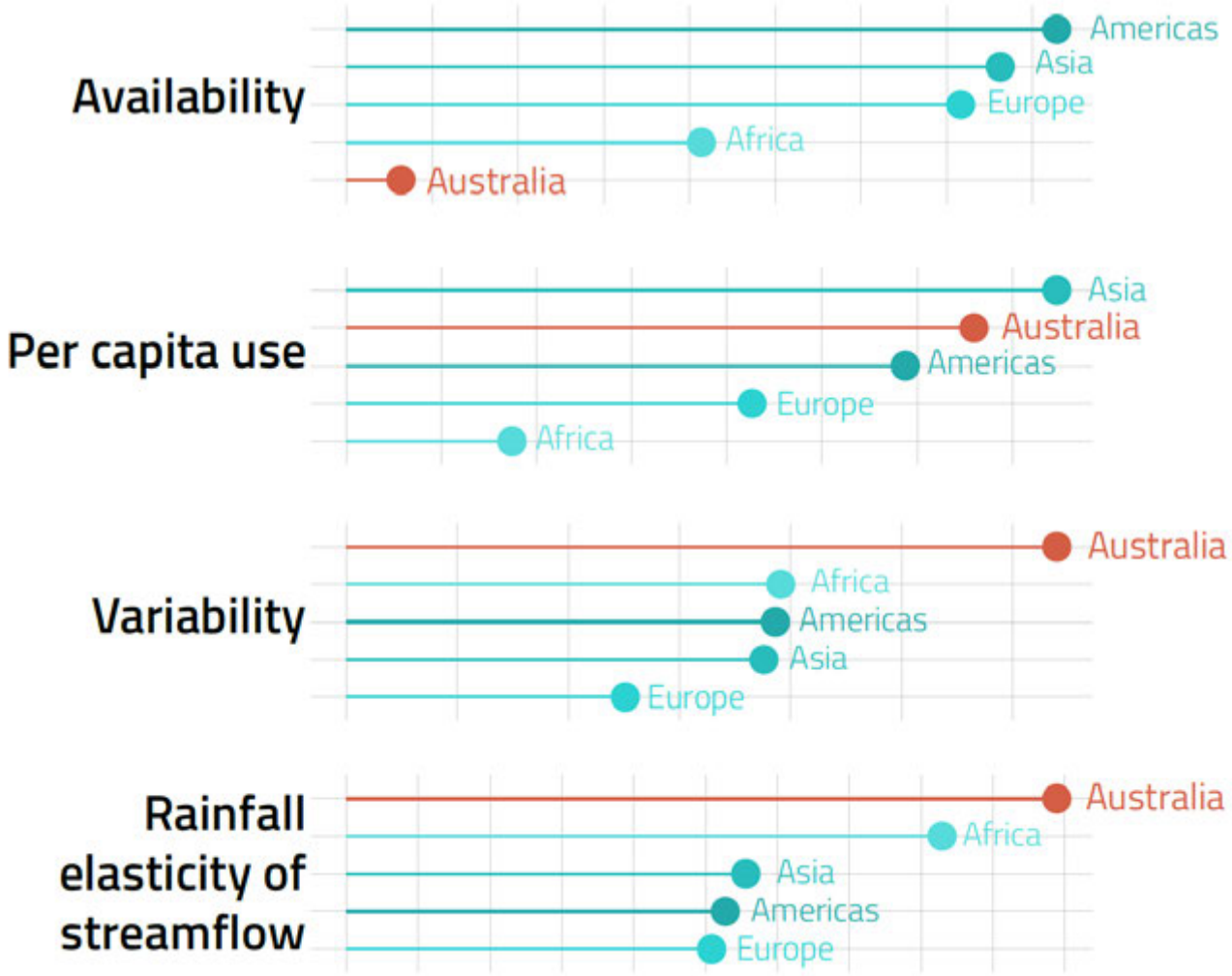
Low rainfall-to-runoff yield

High transmission losses

Rainfall and Runoff



Murray–Darling Hydrology Challenges



Driest inhabited continent

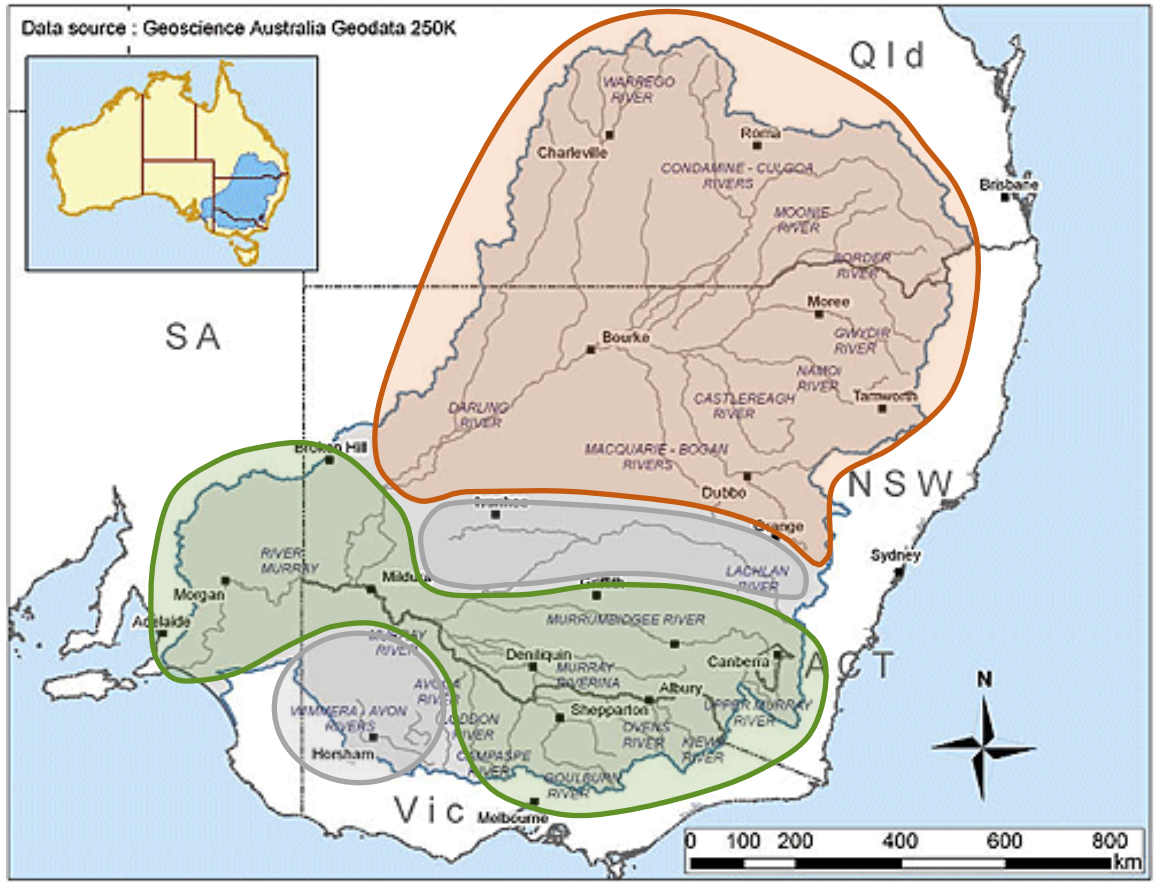
High per capita water use

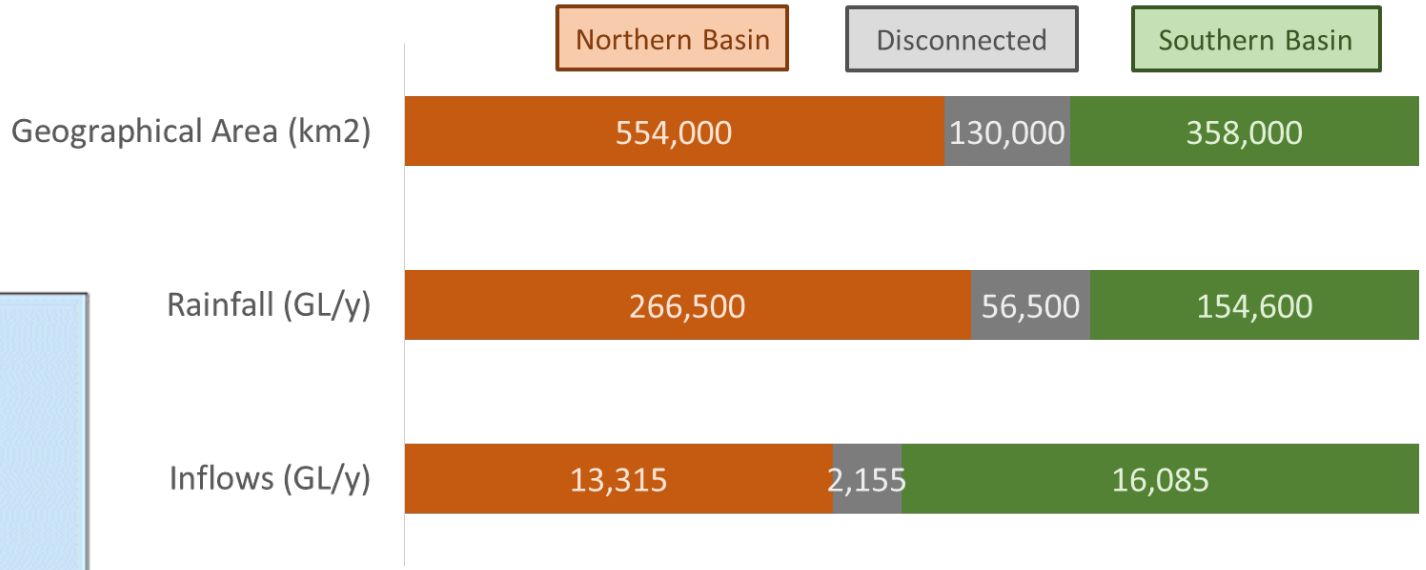
High streamflow variability

Changes in rainfall have a big impact

Rod Marsh for the Ian Potter Foundation and The Myer Foundation 2019.
Sources: [FAO Aquastat] [Chiew et al., HSJ 2002] [Peel et al., JHydrol 2004] [Chiew et al., IAHS 2007]

North and South

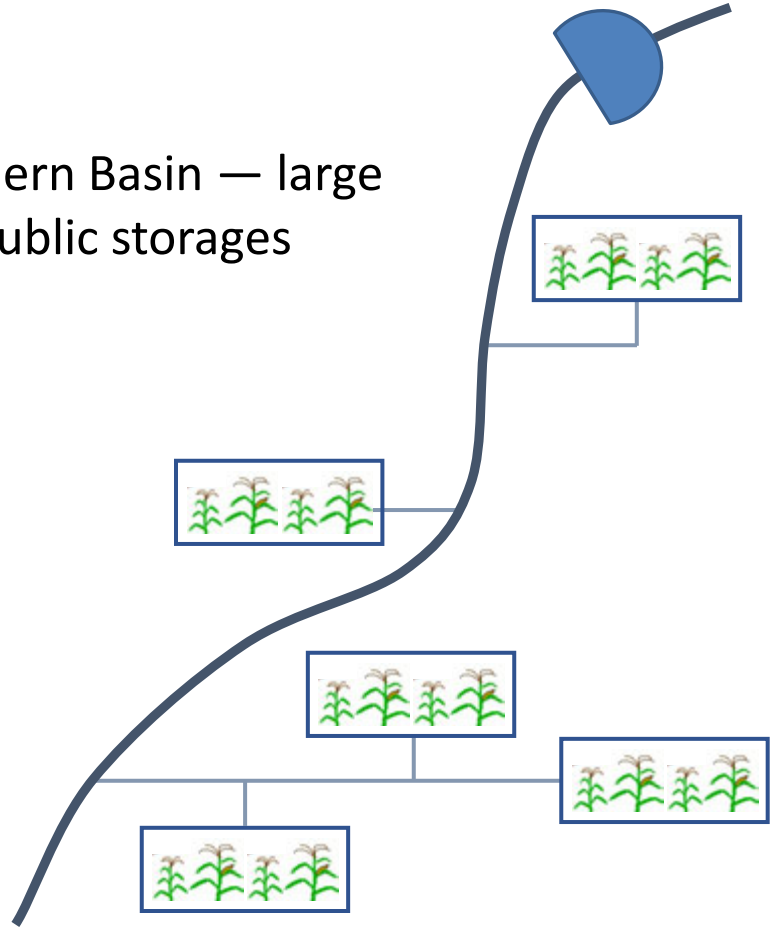




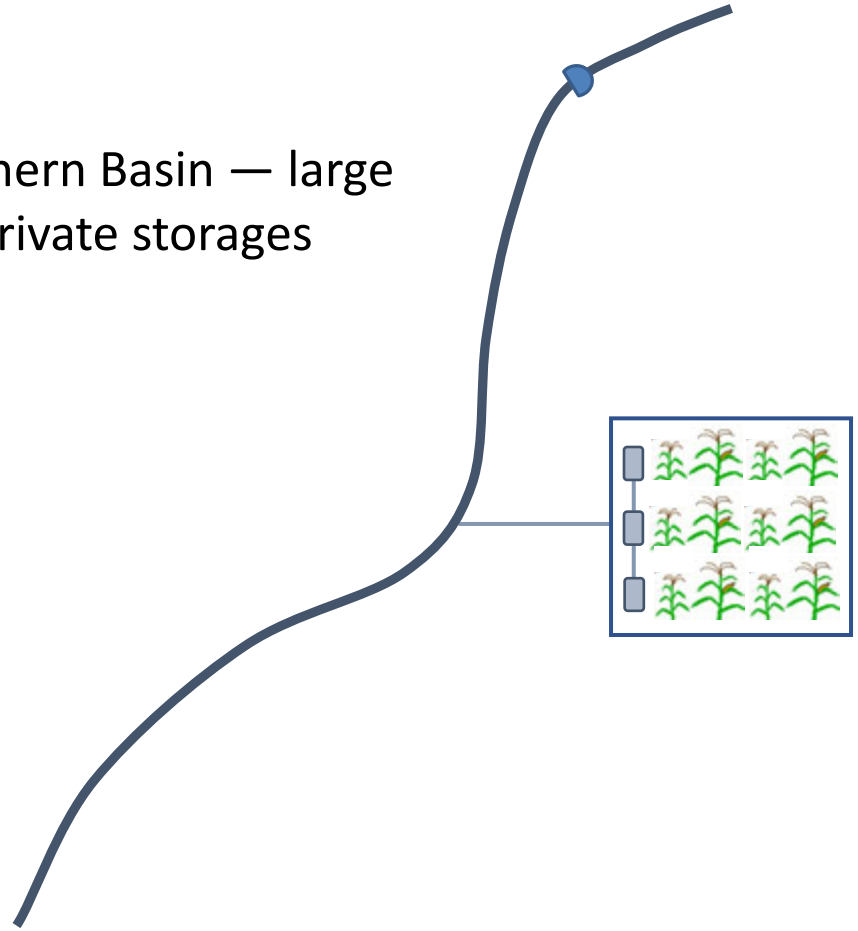
- Both north and south receive an average rainfall of ~450 mm/y
- But, the Northern Basin contains:
  - More variable rainfall
  - A hot, flat and windy landscape
- Basin-wide, around 6.4% of rainfall flows into the rivers
  - Northern Basin: 5%
  - Southern Basin: 10%

Different irrigation styles for different rivers

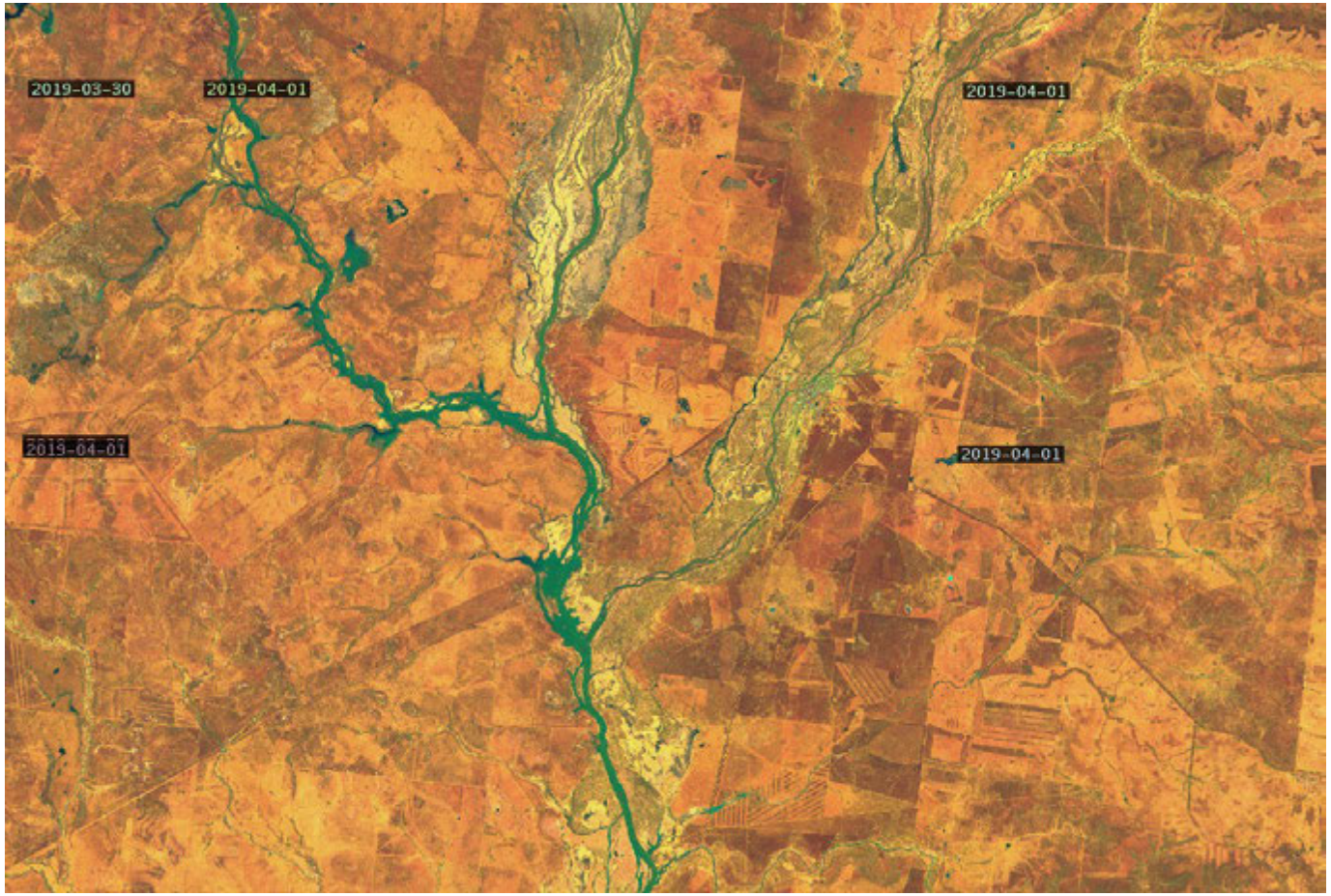
Southern Basin — large public storages



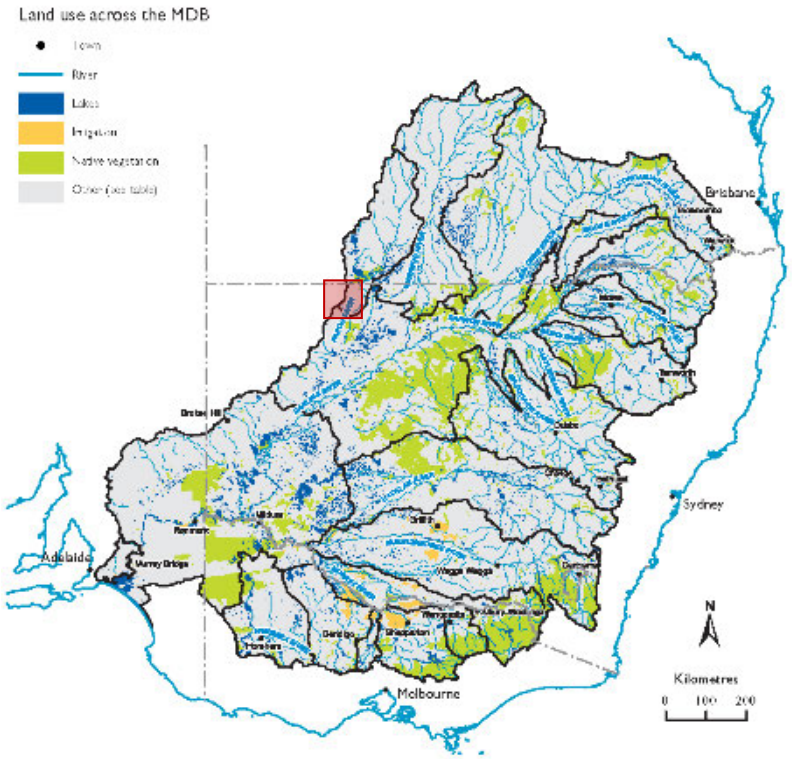
Northern Basin — large private storages



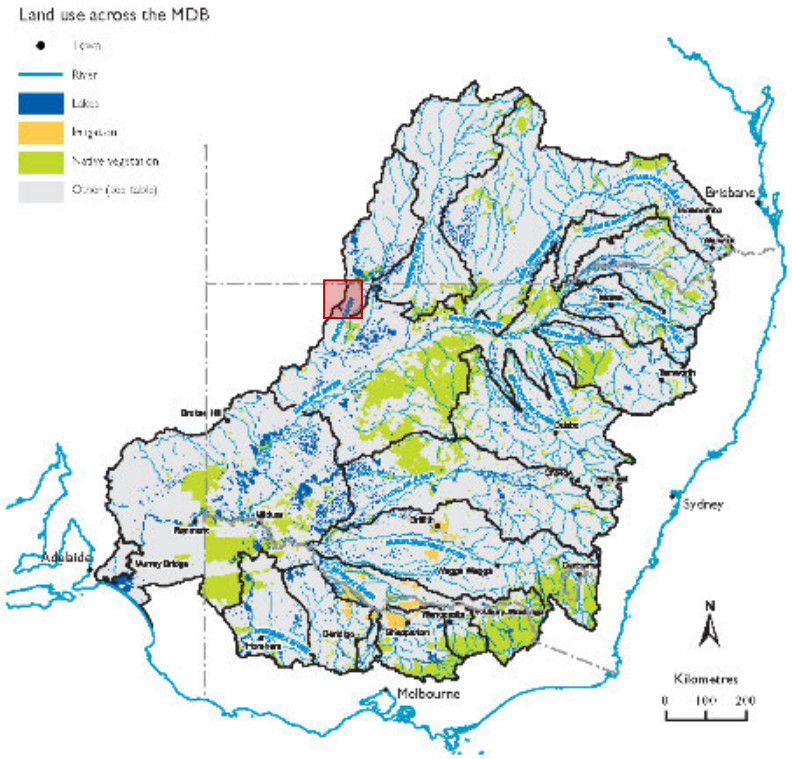
Monitoring river conditions

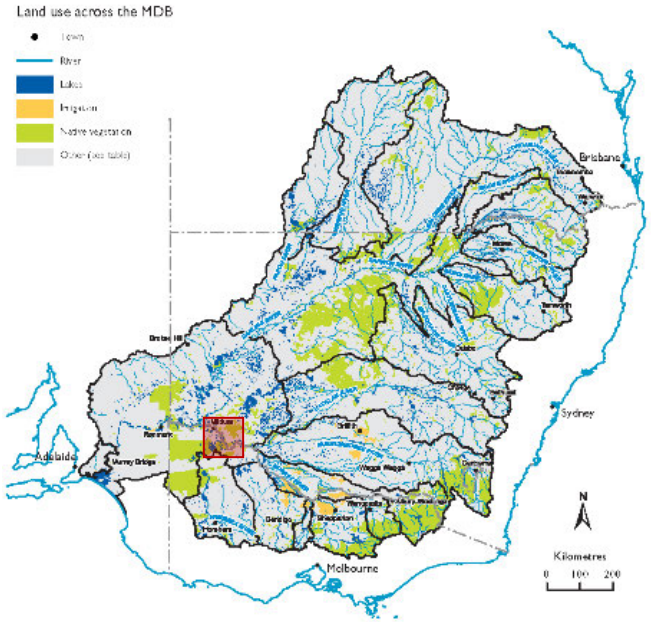


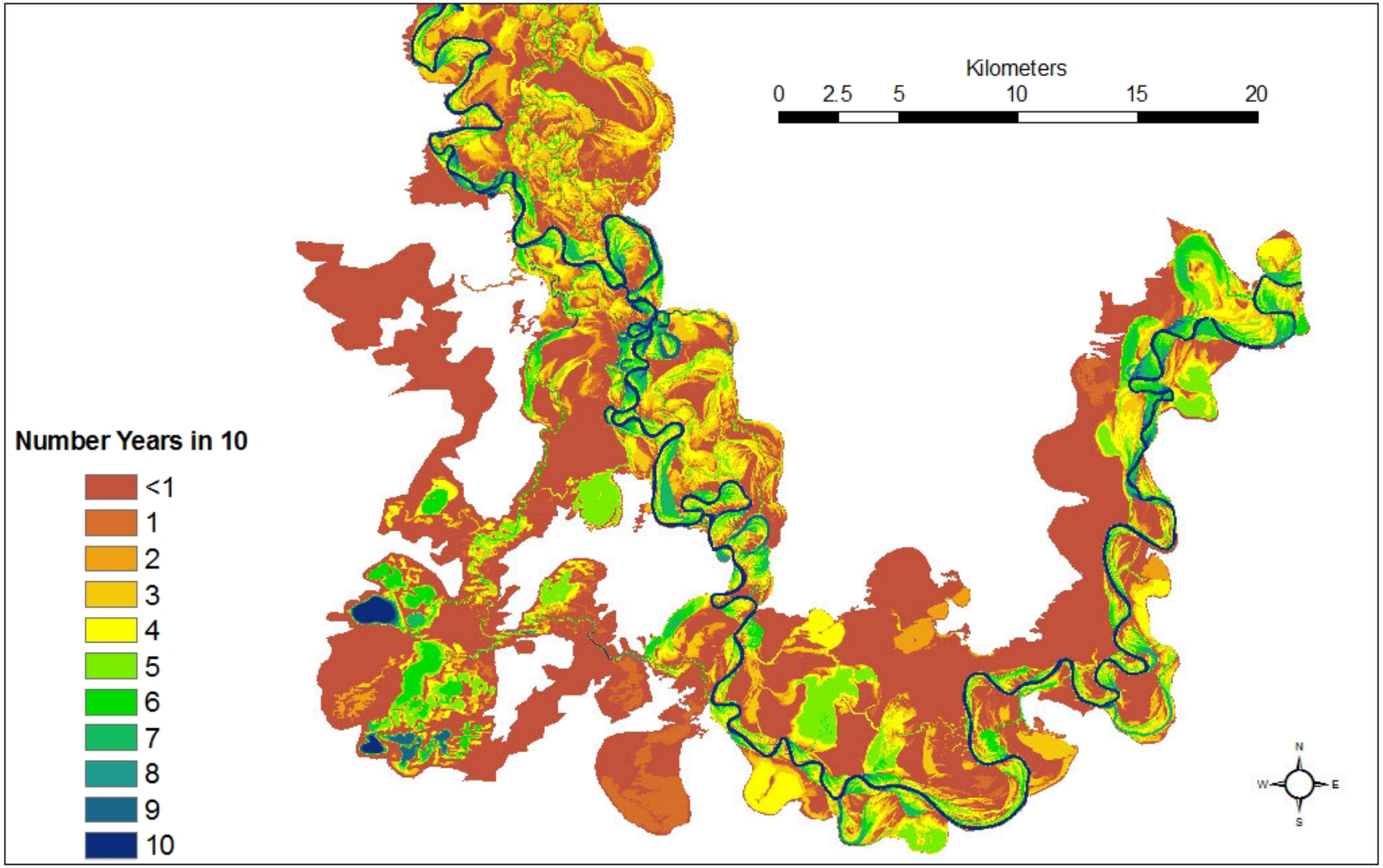
Barwon–Darling



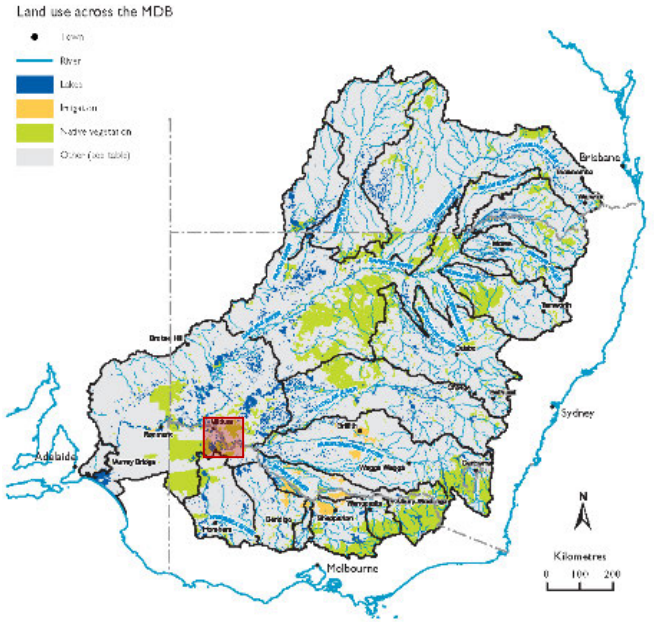
Barwon–Darling

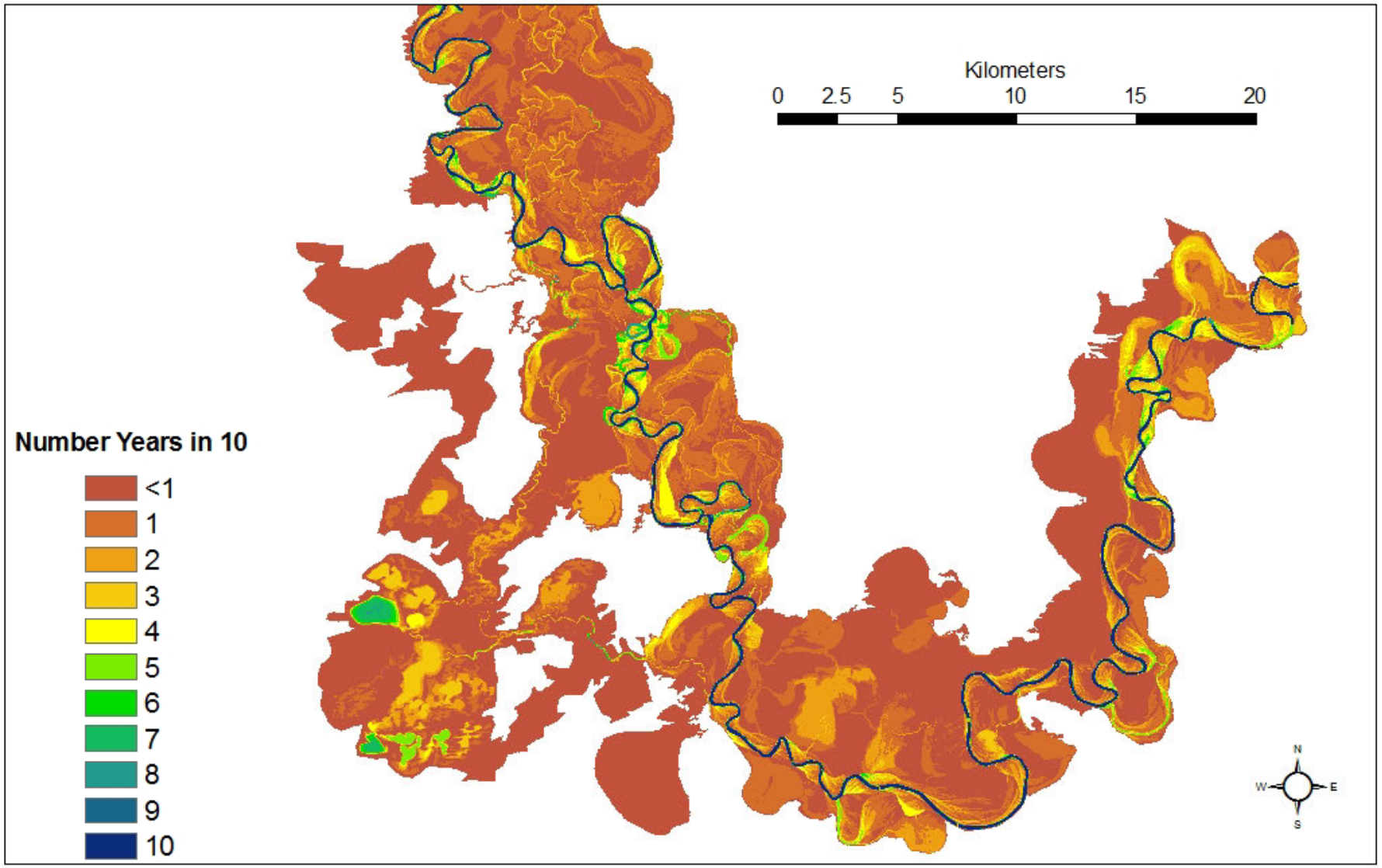






Floodplain inundation





Floodplain inundation

Questions?


Environment
Climate change
Agriculture
Stories
Seasonal outlook
Innovation
Industry
Hydrology
Future plans
First Nations
Field trip
Presentation
Q&A session