

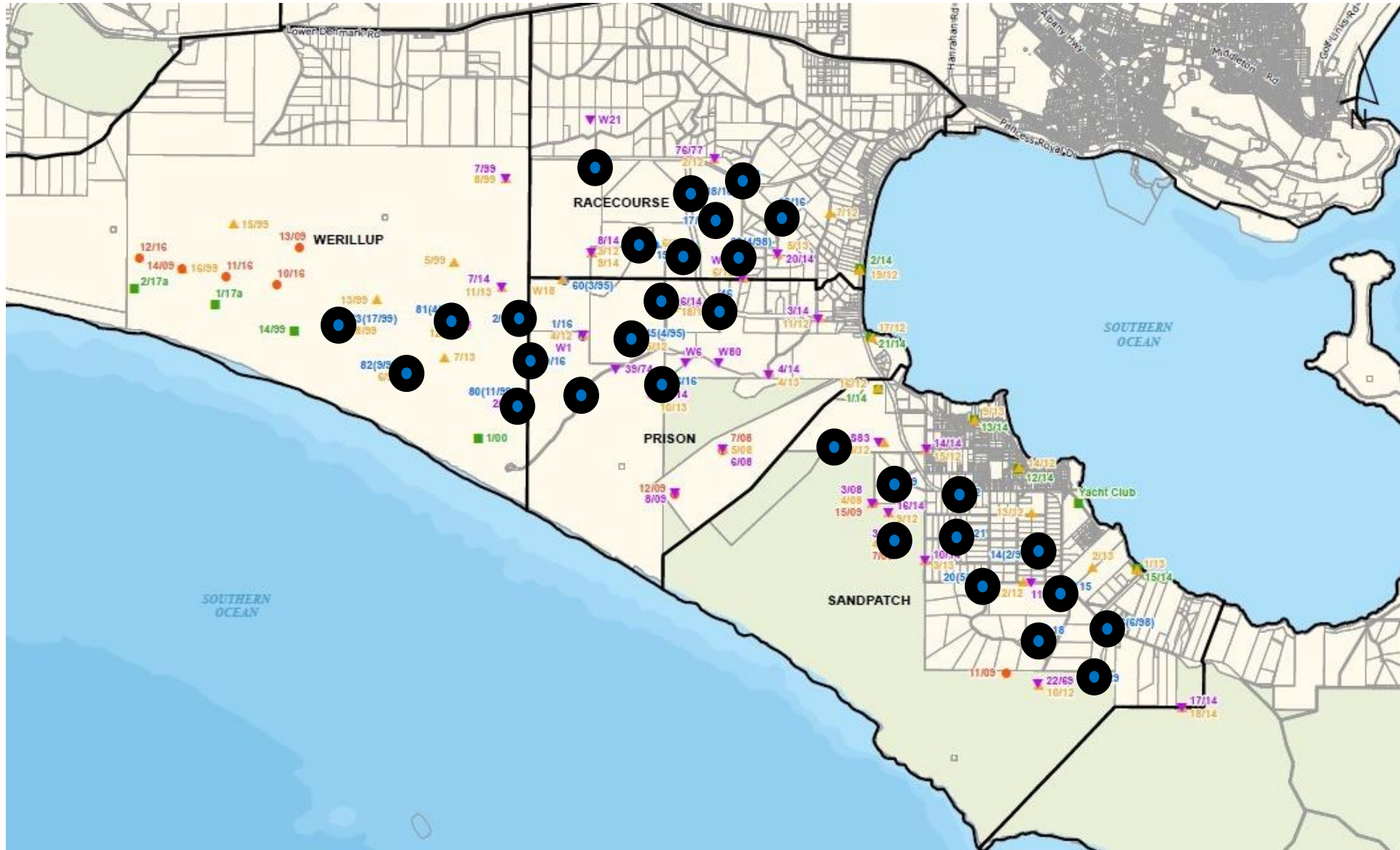


Government of Western Australia  
Department of Water and Environmental Regulation

# Albany's water supply and hydrogeology

Andrew Maughan  
15<sup>th</sup> August 2020





- Over 90% of our public water supply is groundwater
- Remainder is surface water from Angove Creek
- ~30 production bores abstract ~5 GL/year
- 70% of groundwater abstraction is for public water supply

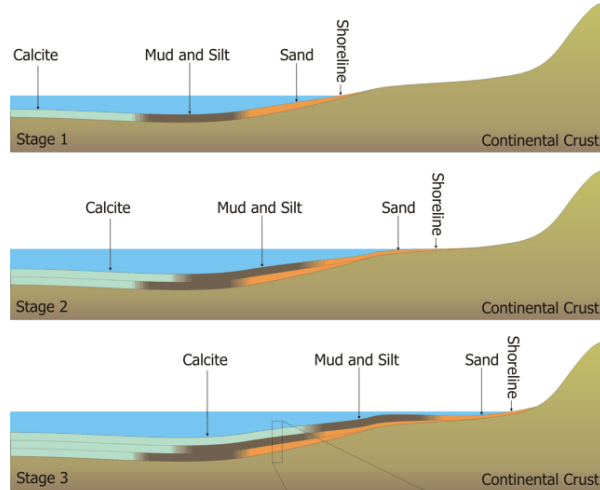


- The bores range from ~ 40 - 140 m deep
- They extract water from sandy aquifers overlying the bedrock

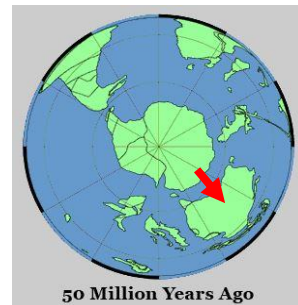
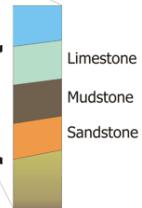




- Last 2 million years Quaternary deposits
  - Aeolian limestone – calcareous arenite
  - Surficial sand – quartz sand
  - Superficial clay - marine

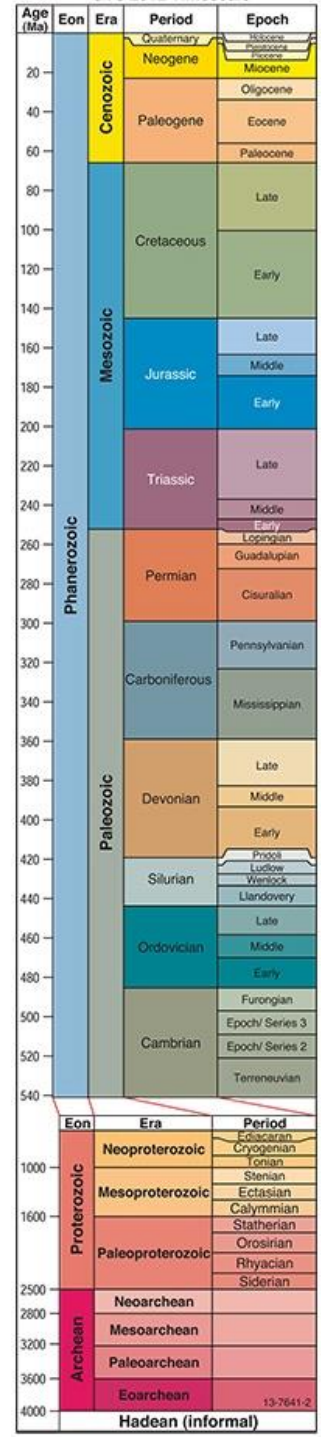
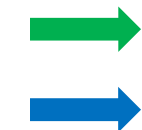


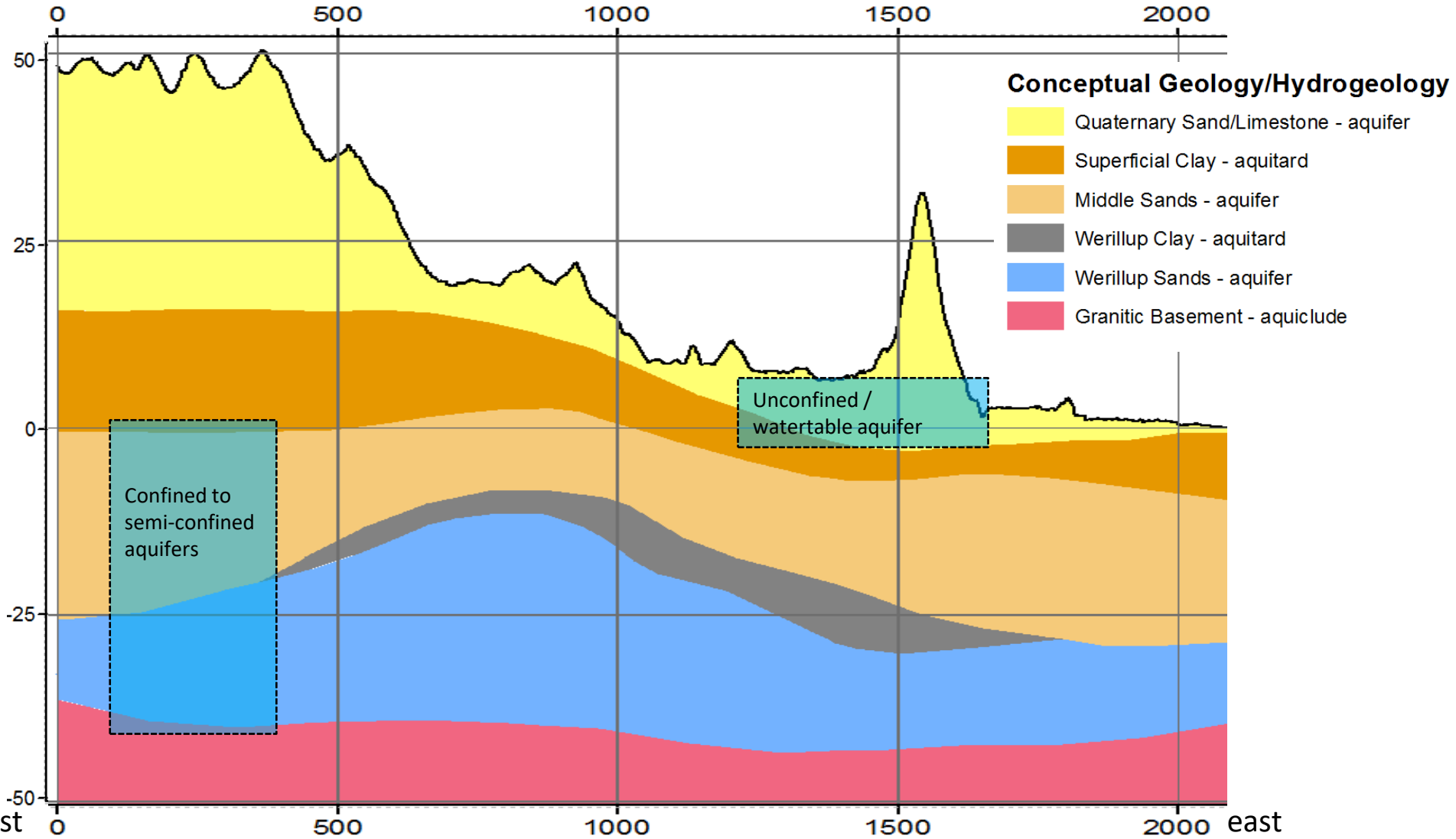
Transgressive Facies Sequence



- 40 million years ago Eocene sedimentation  
Marine transgression and regressions
  - Plantagenet Group
    - Pallinup Formation
    - Werillup Formation

- >1 billion years ago Proterozoic basement, or bedrock.  
Granitoid and mafic gneiss rock
  - Albany-Fraser Orogen

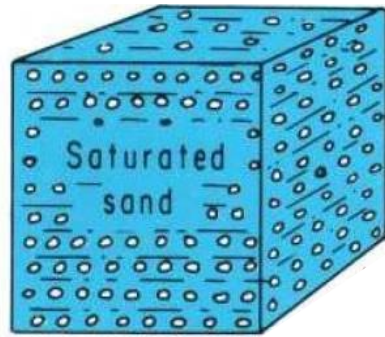
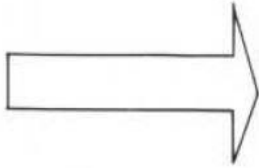
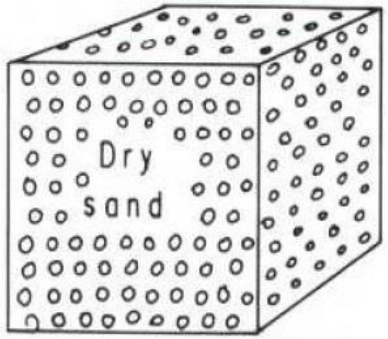




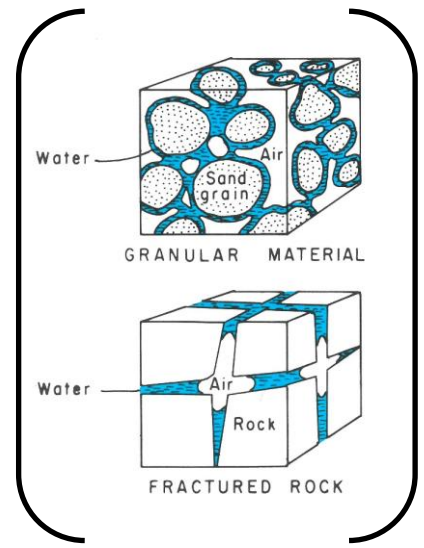
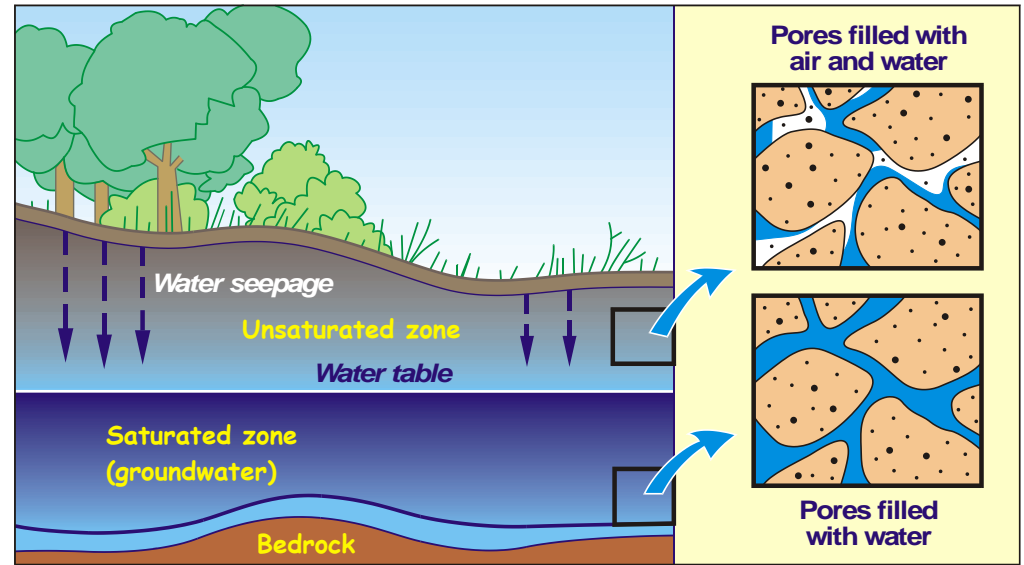
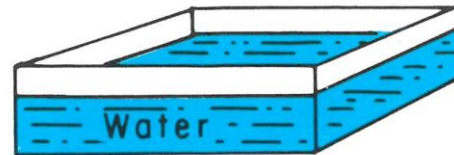
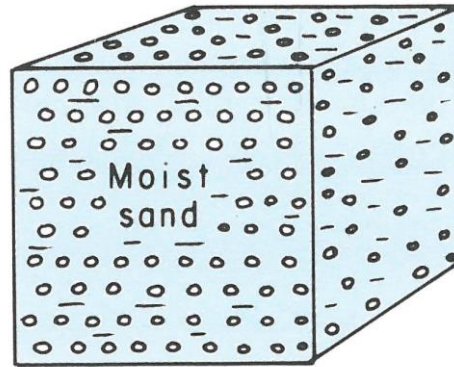
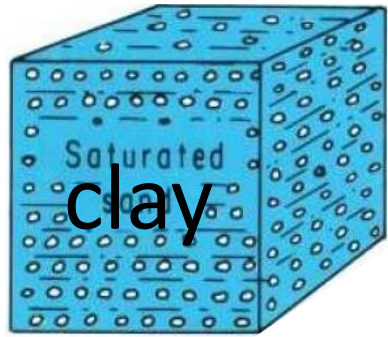
Aquifers ?



+

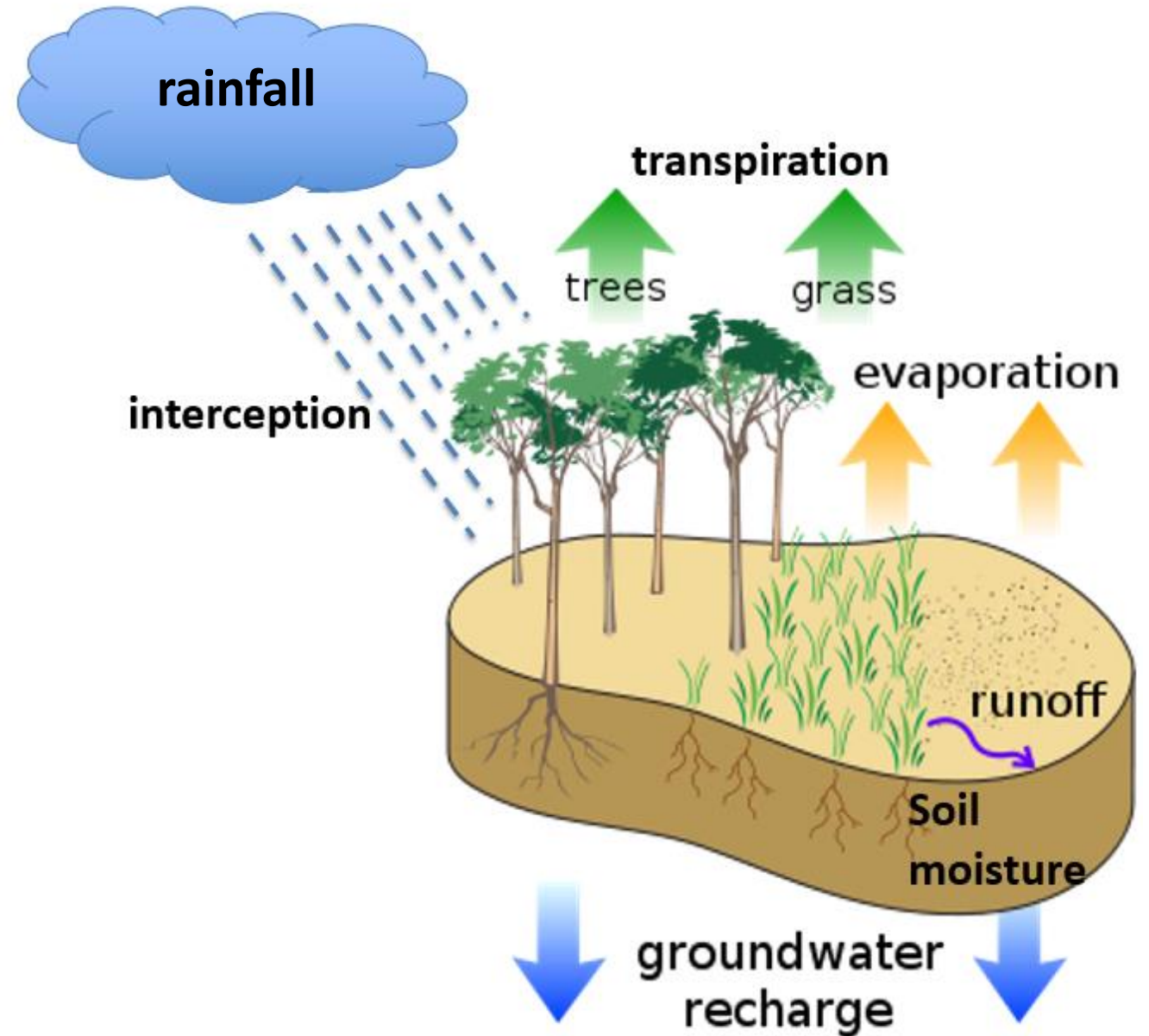


aquitard

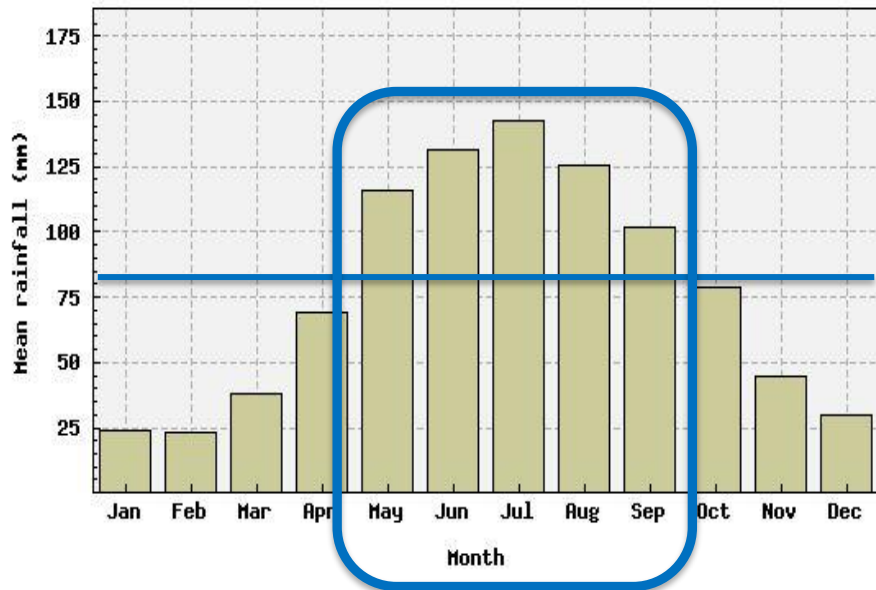




≈ 10 - 30 % of annual  
Albany rainfall recharges  
the groundwater aquifers

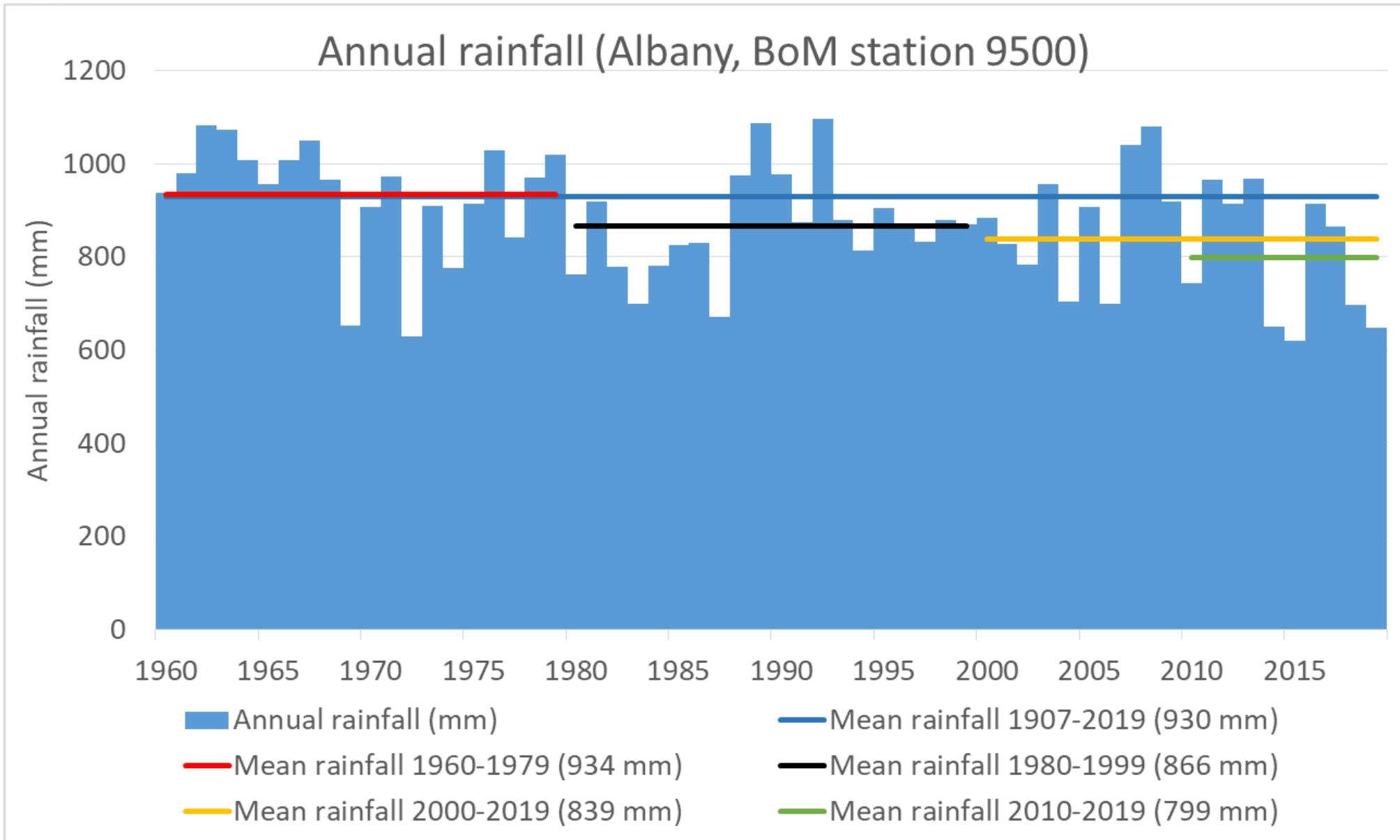


Location: 009500 ALBANY





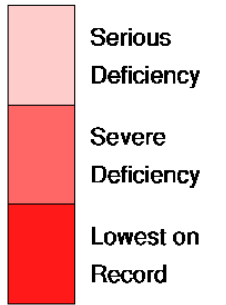
# Albany's rainfall trends





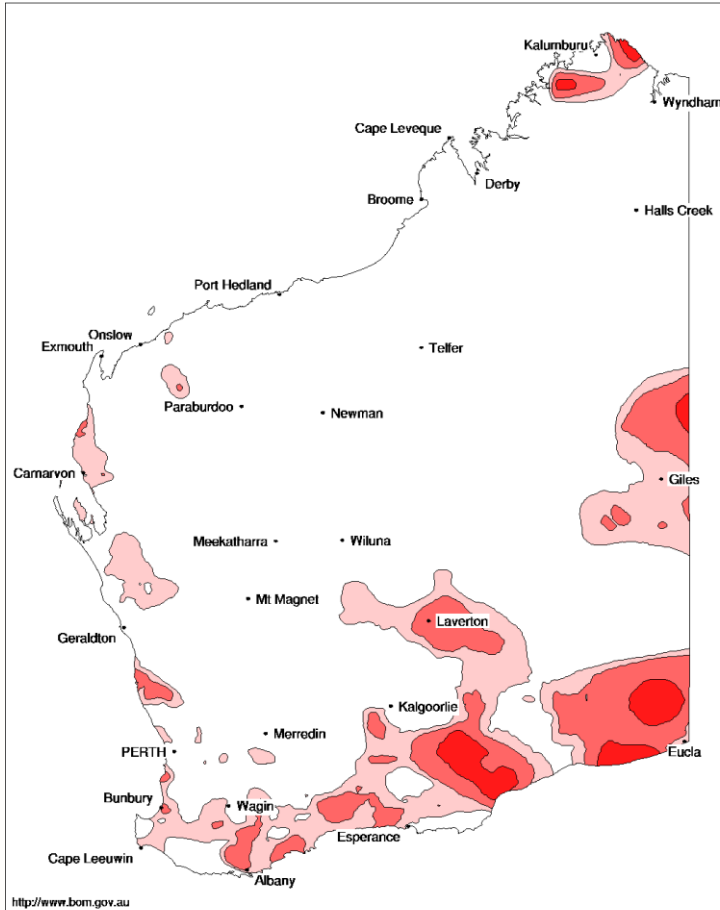


# Rainfall deficiency in WA



Western Australian Rainfall Deficiencies 1 June 2019 to 31 May 2020

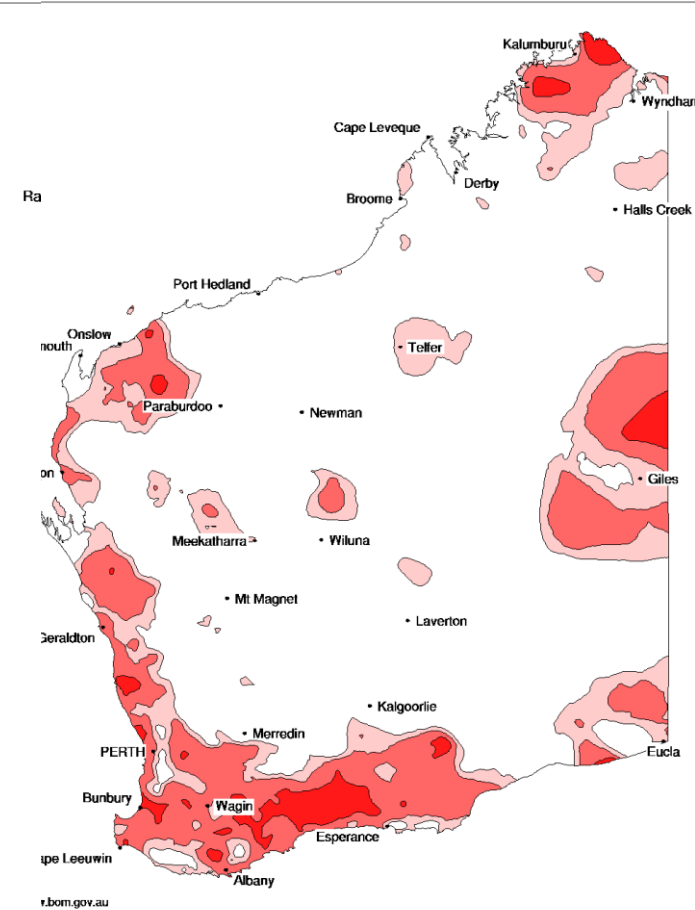
Distribution Based on Gridded Data  
Australian Bureau of Meteorology



<http://www.bom.gov.au>  
© Commonwealth of Australia 2020, Bureau of Meteorology ID code: AWAP

Western Australian Rainfall Deficiencies 1 June 2018 to 31 May 2020

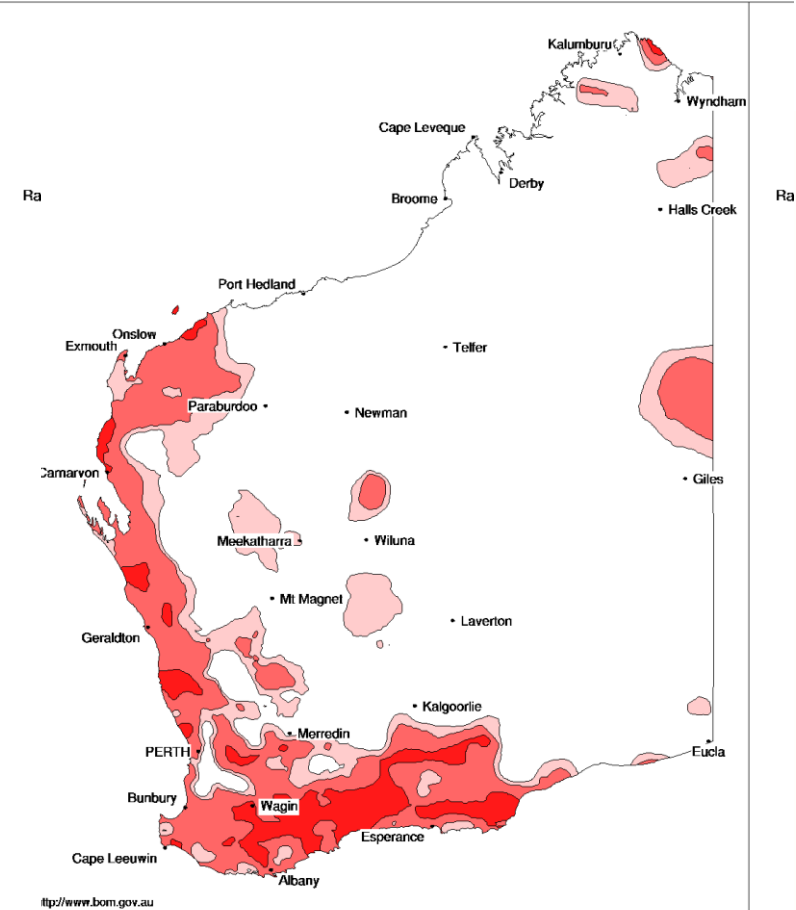
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[www.bom.gov.au](http://www.bom.gov.au)  
Commonwealth of Australia 2020, Bureau of Meteorology ID code: AWAP

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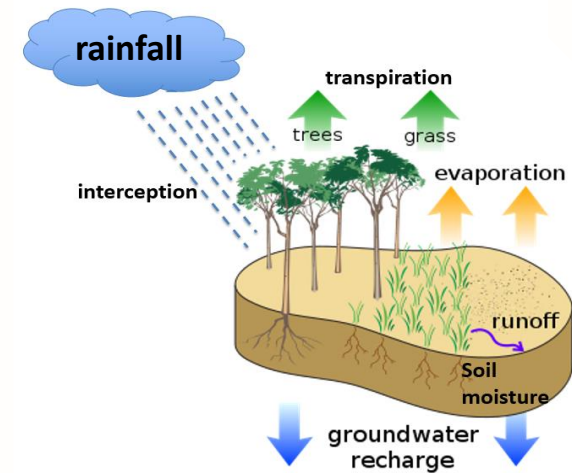
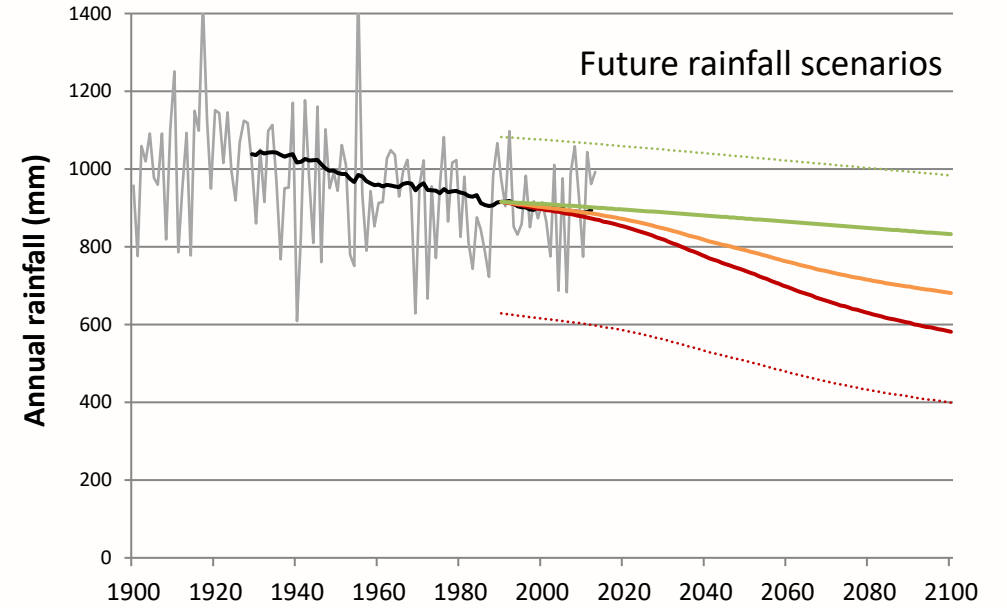
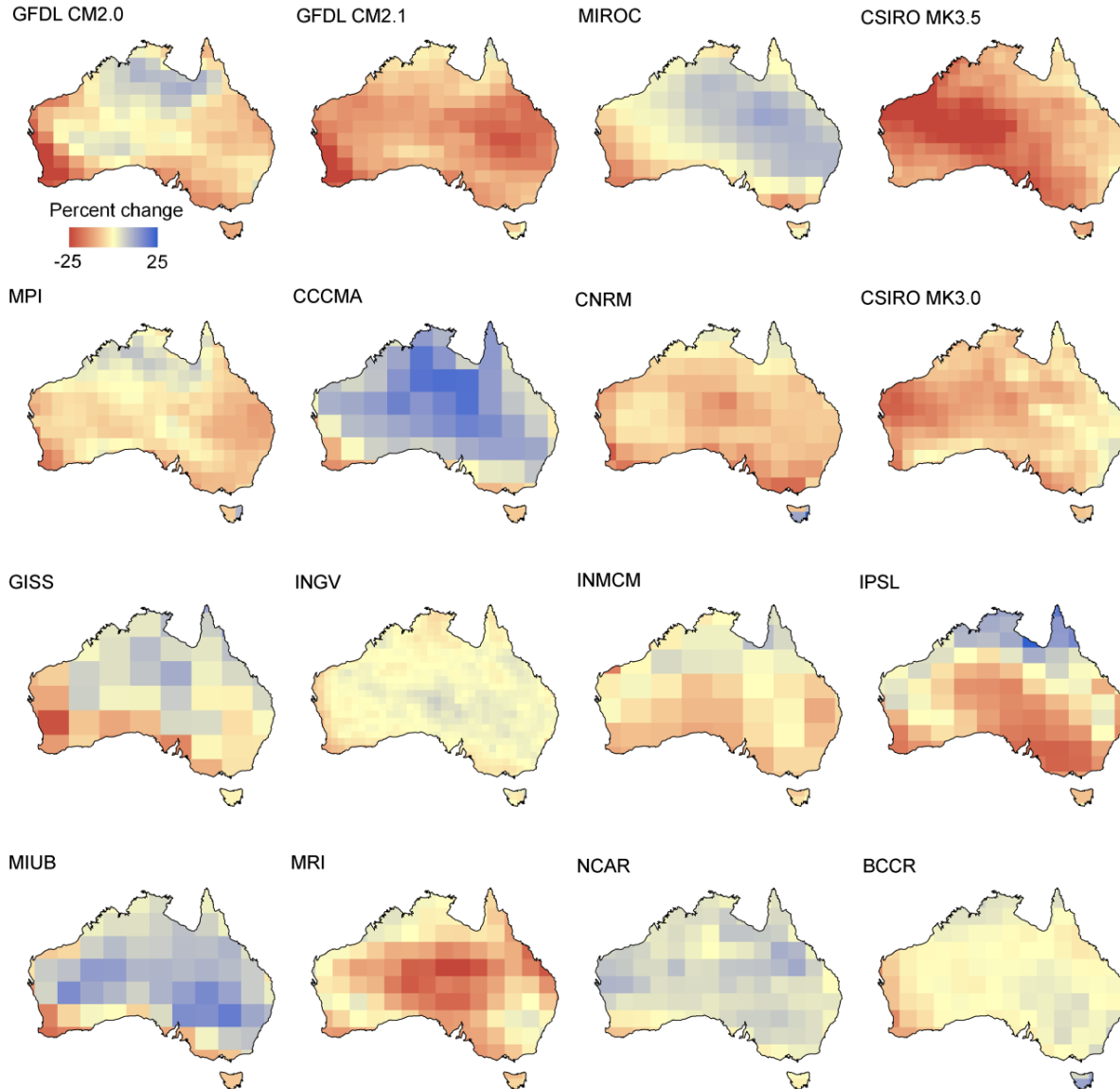
12 months

24 months

36 months



# Climate future in south west WA





# So we needed to increase our level of understanding and monitoring ...planning and management

