

Groundwater environment in the Wallabadah area: An Update

Wallabadah Creek
Catchment - Water
Community Interest
Meeting

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Department of Climate Change,
Energy, the Environment and Water



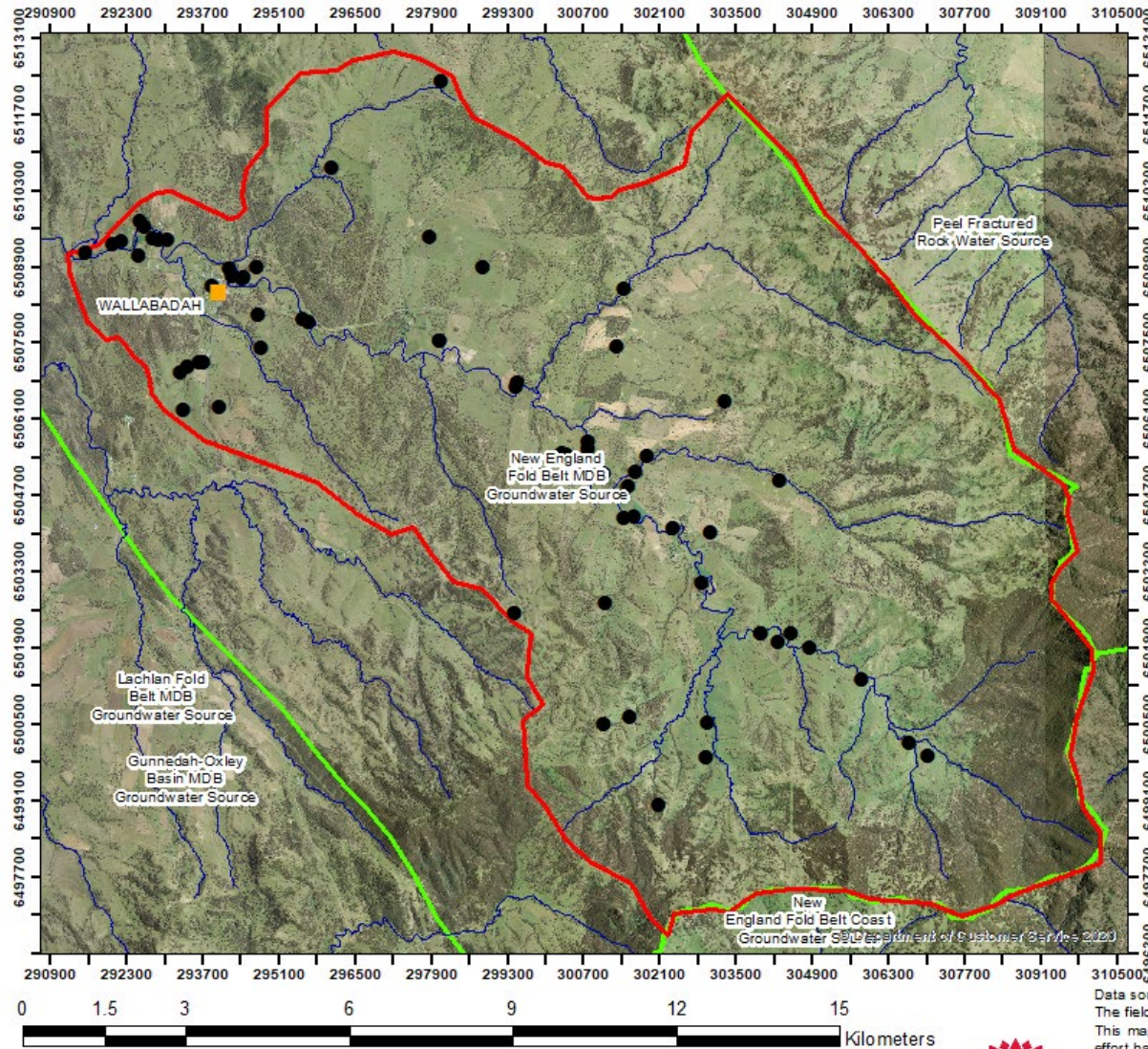
Quote



There are

- Known Knowns
- Known Unknowns
- Unknown Knowns
- Unknown Unknowns

Bores in Wallabadah catchment

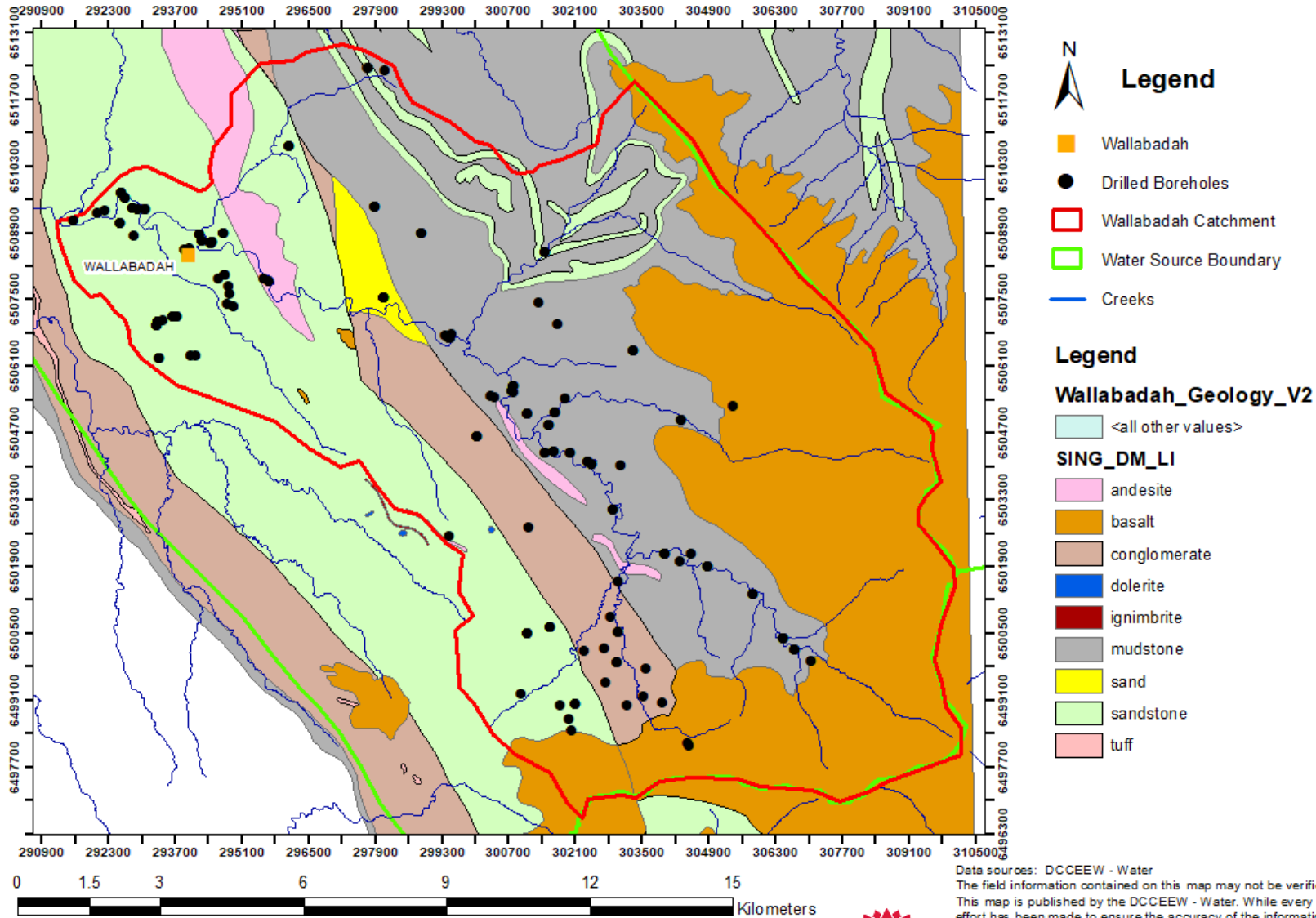


Legend

- Wallabadah
- Drilled Boreholes
- Wallabadah Catchment
- Water Source Boundary
- Creeks

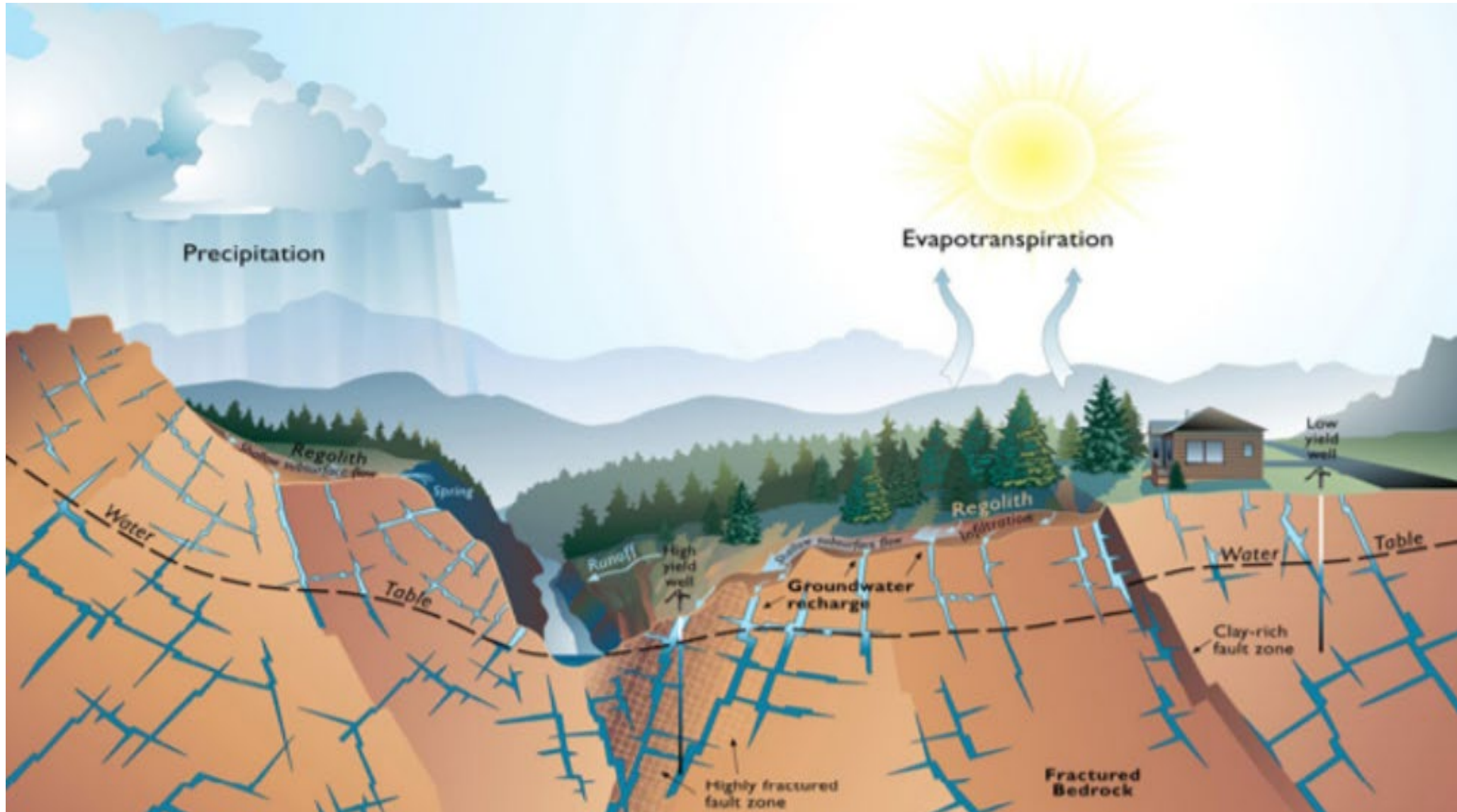
Data sources: DCCEEW - Water
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Wallabadah catchment geology

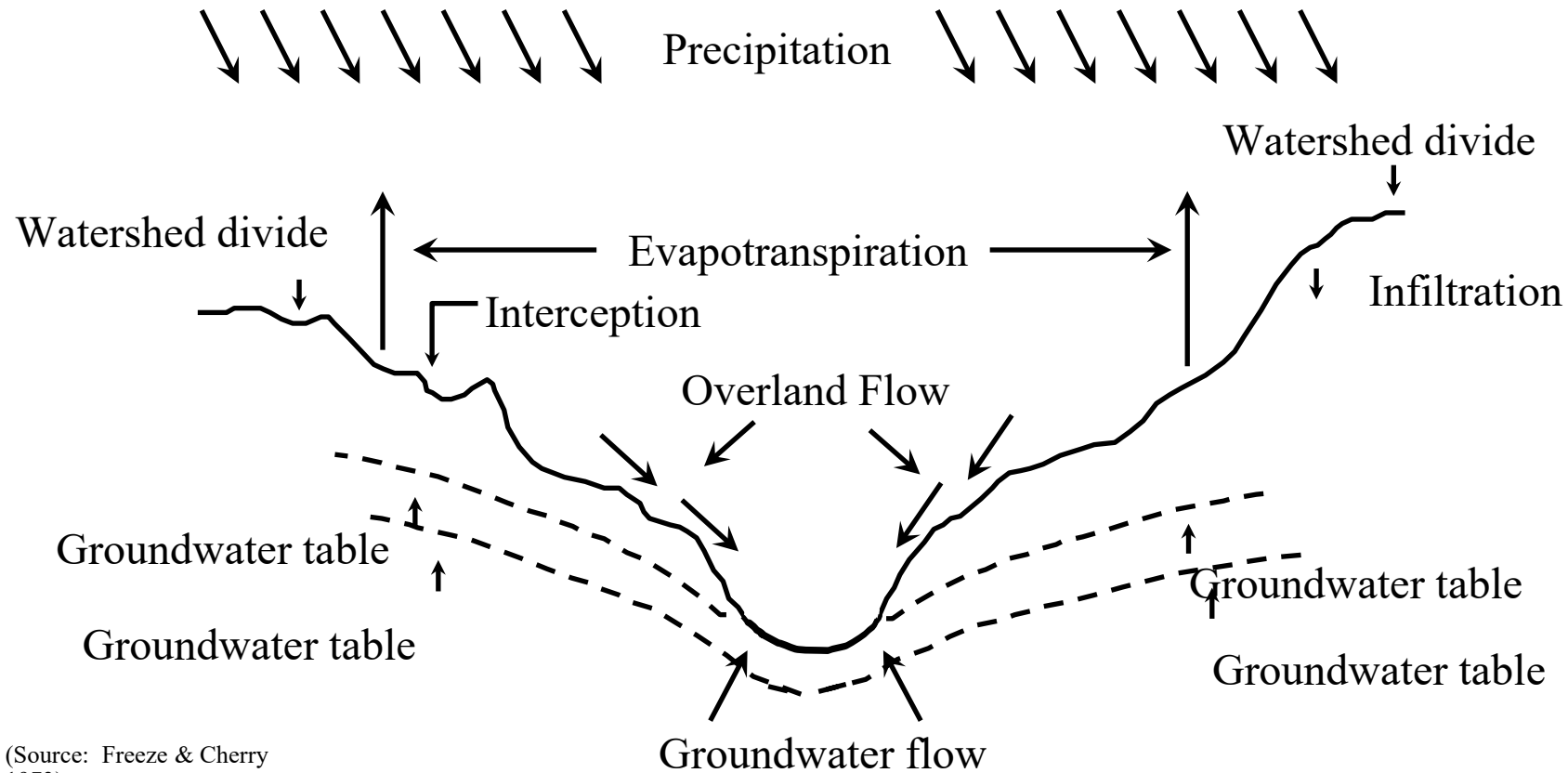


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Example of how a fractured rock aquifer works

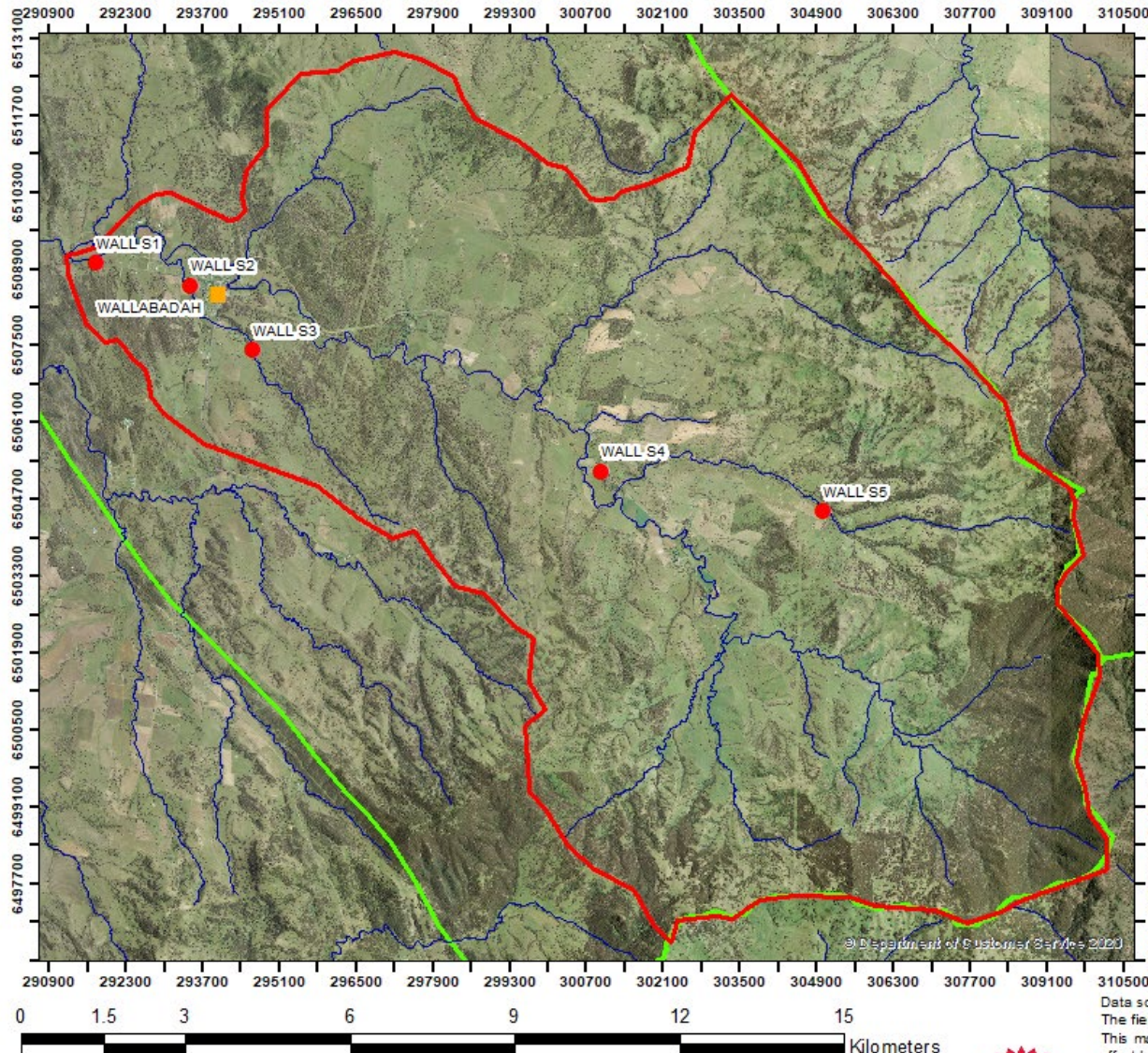


Groundwater surface water interactions



(Source: Freeze & Cherry
1973)

Bores used for monitoring

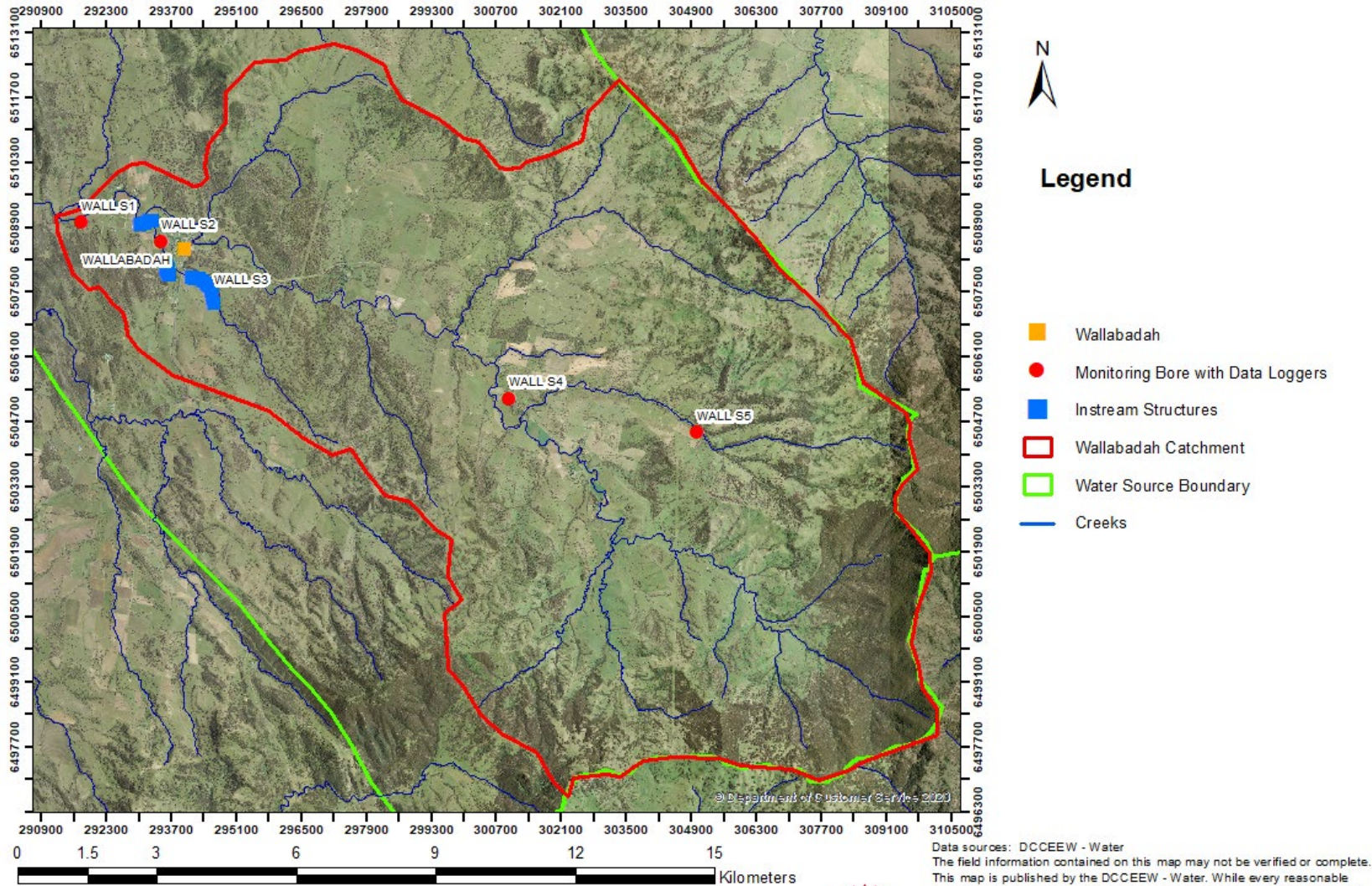


Legend

- Wallabadah
- Monitoring Bores with Data Loggers
- Wallabadah Catchment
- Water Source Boundary
- Creeks

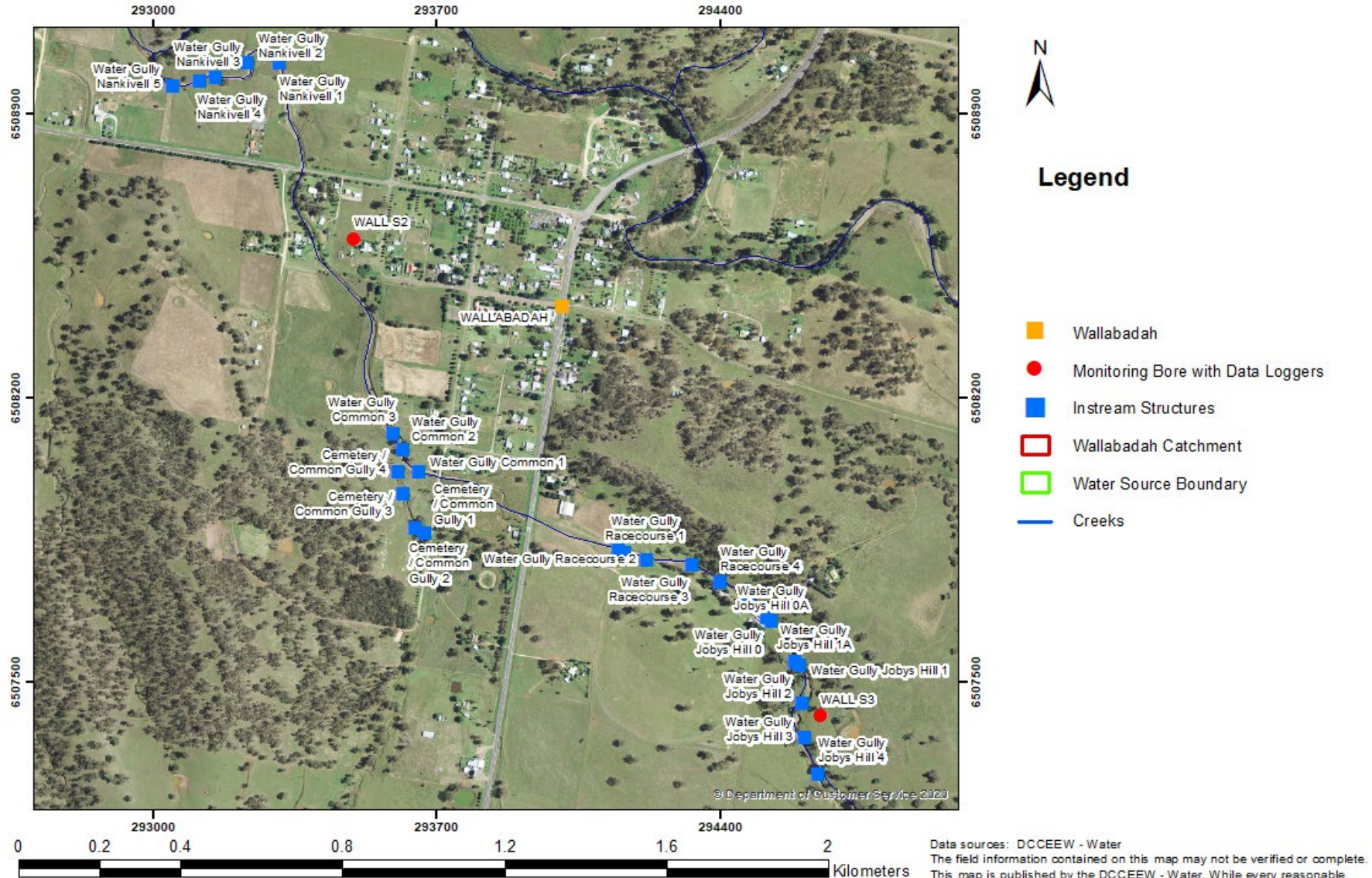
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Wallabadah Creek Catchment Community instream structures on Water Gully

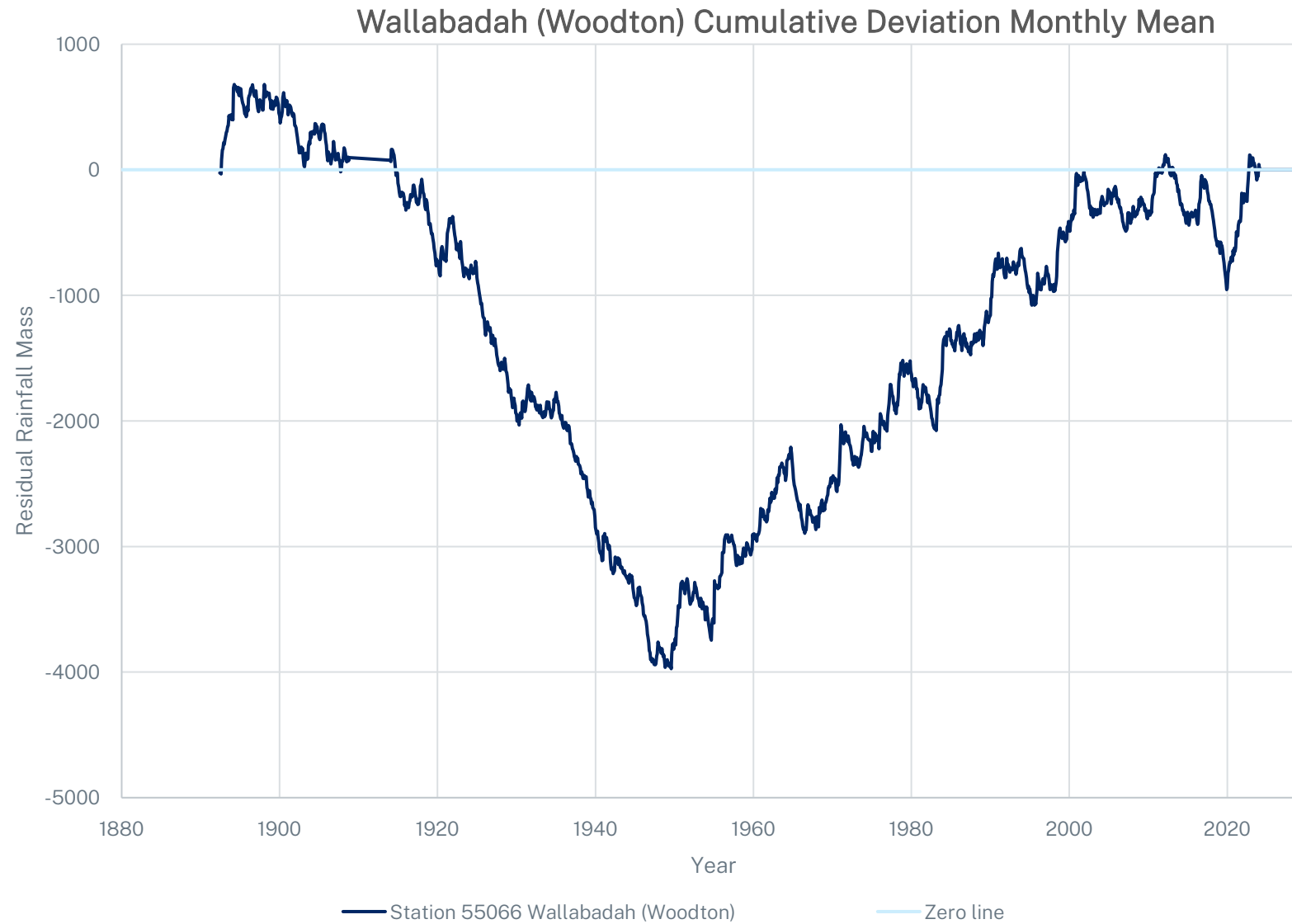


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Instream structures close up

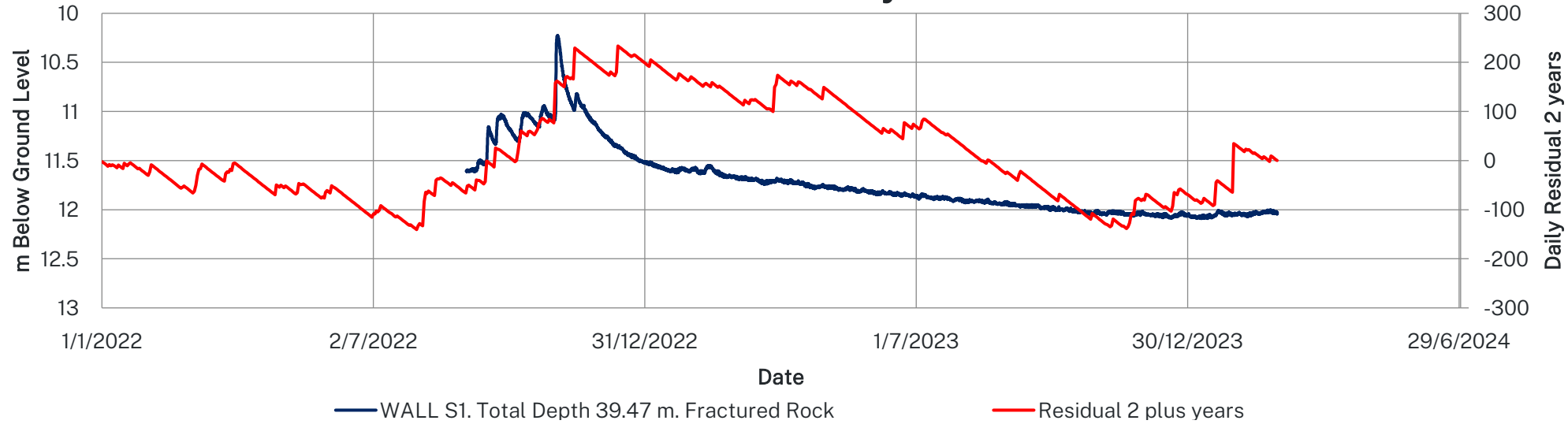


Residual rainfall curve

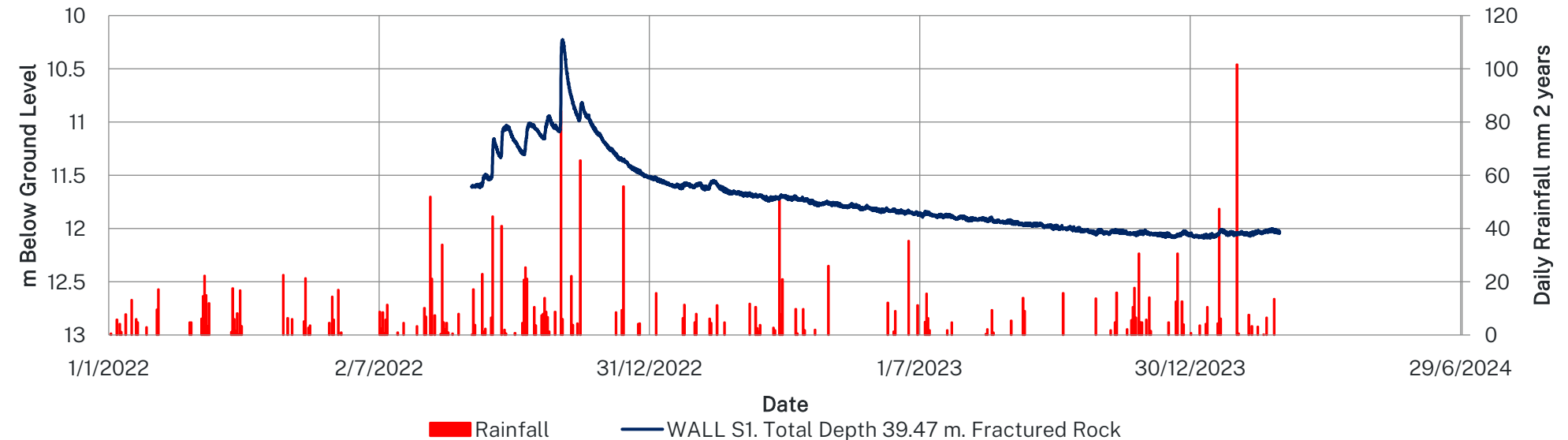


Hydrograph WALL S1 Fractured Rock

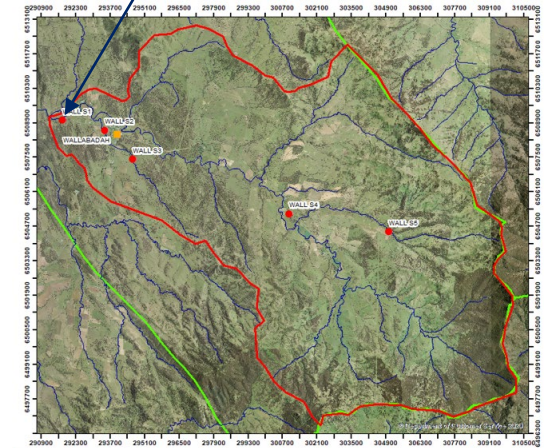
WALL S1 Water Level and Daily Residual Rainfall



WALL S1 Water Level and Daily Rainfall

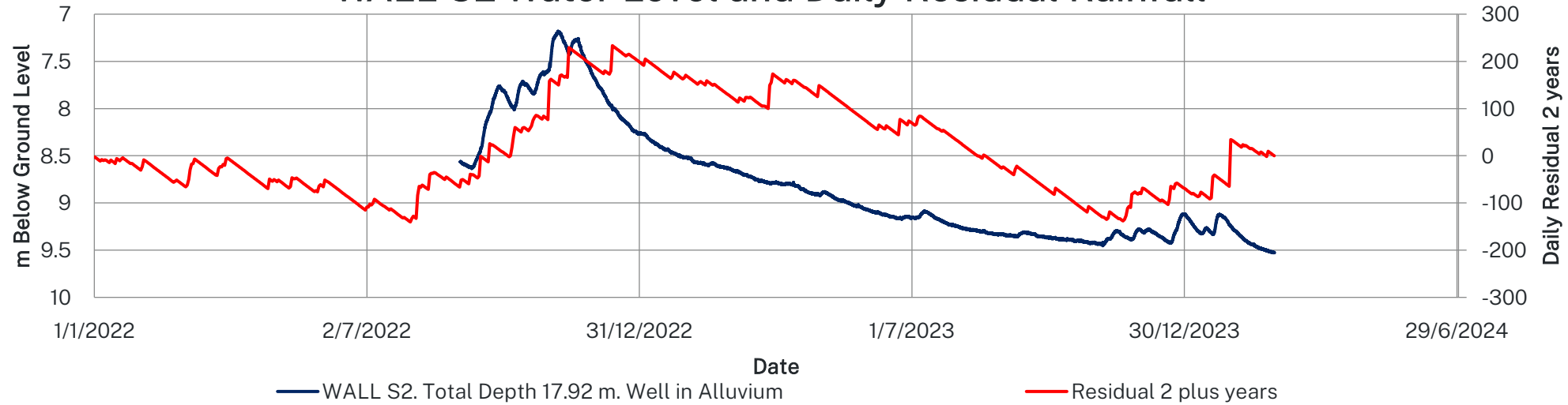


Wall S1 Monitoring Bore Location

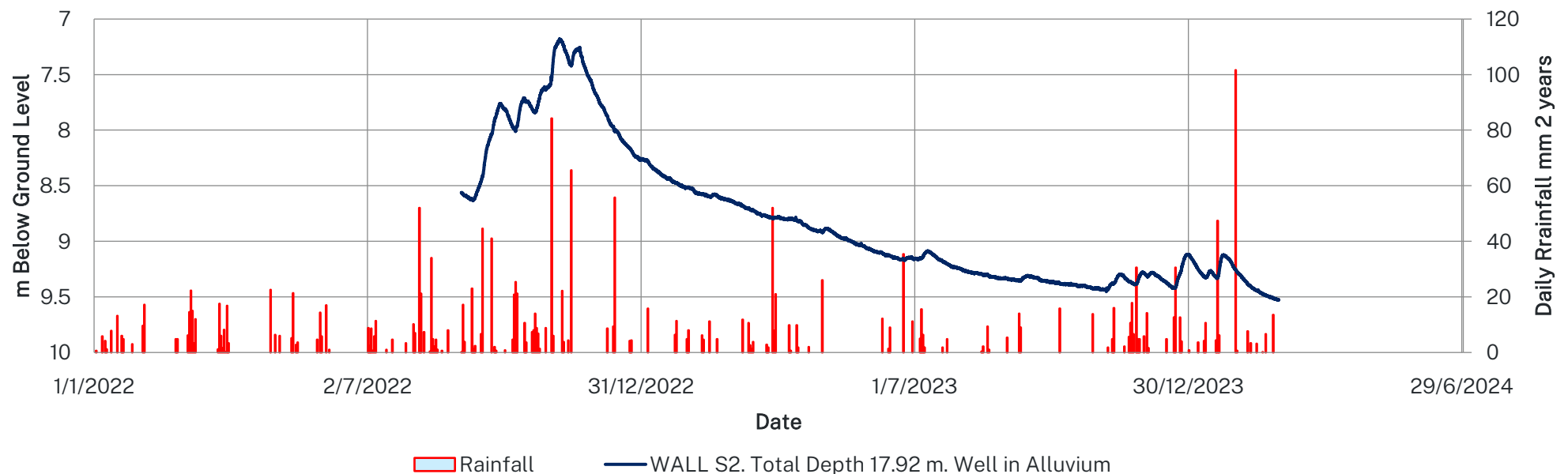


Hydrograph WALL S2 Alluvium

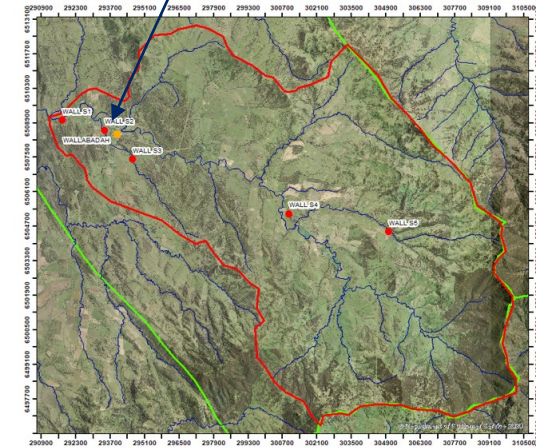
WALL S2 Water Level and Daily Residual Rainfall



WALL S2 Water Level and Daily Rainfall

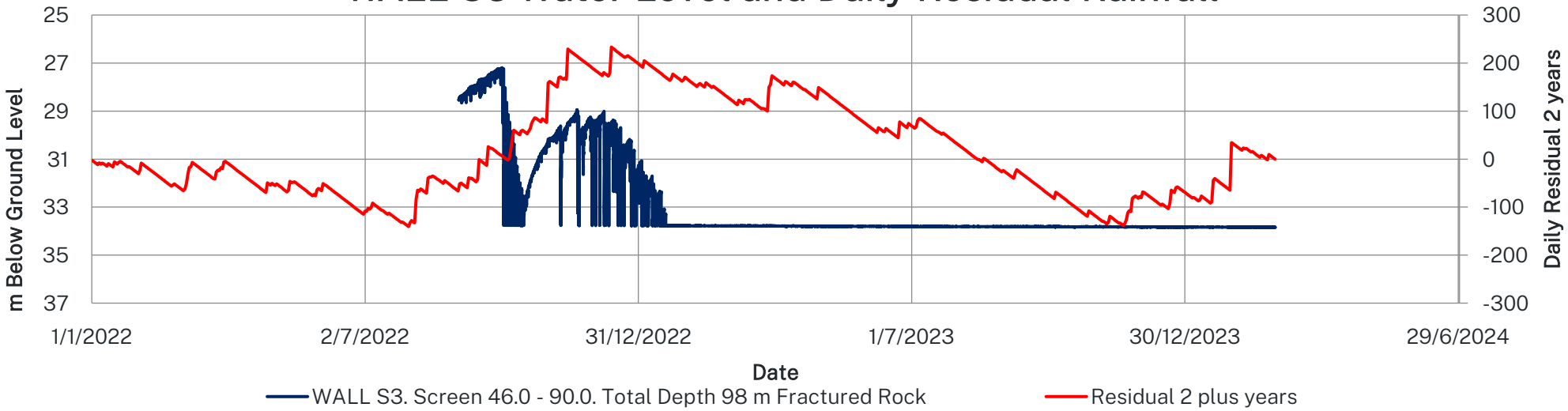


Wall S2
Monitoring Bore
Location

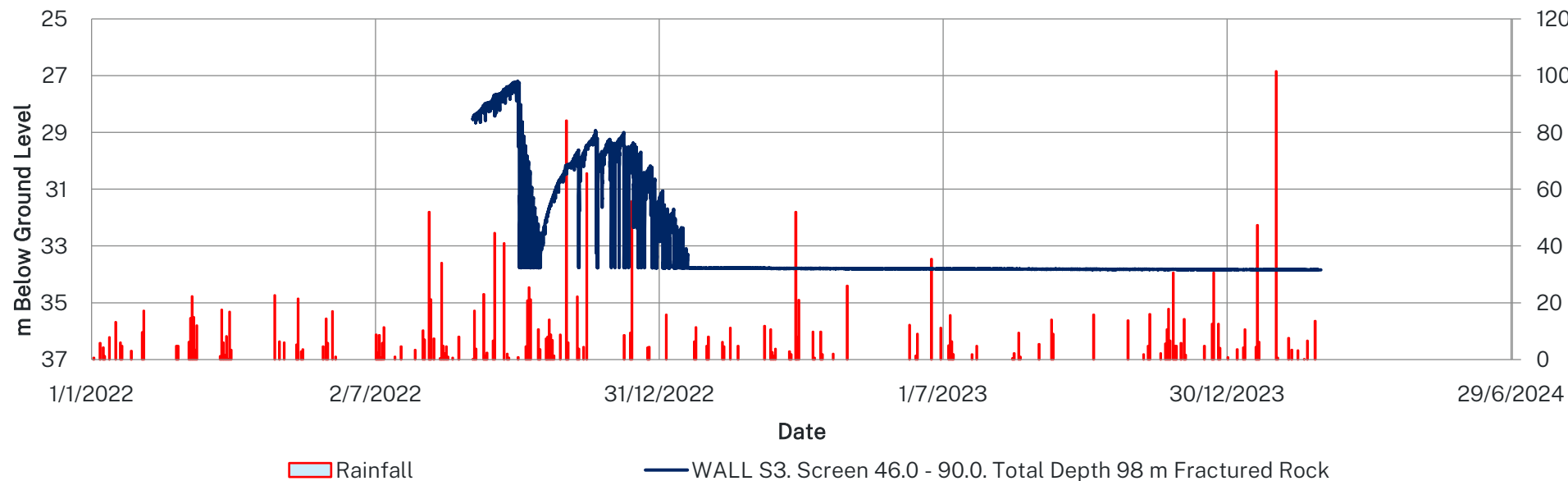


Hydrograph WALL S3 Fractured Rock

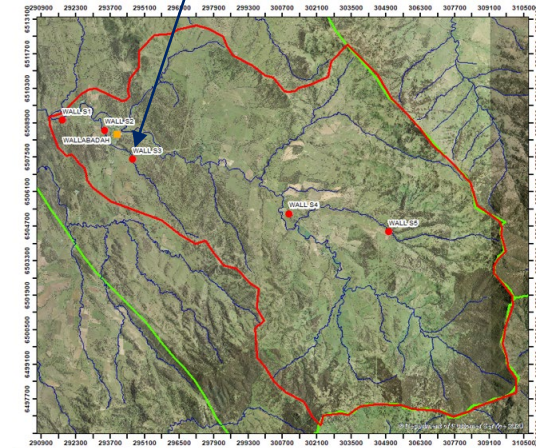
WALL S3 Water Level and Daily Residual Rainfall



WALL S3 Water Level and Daily Rainfall

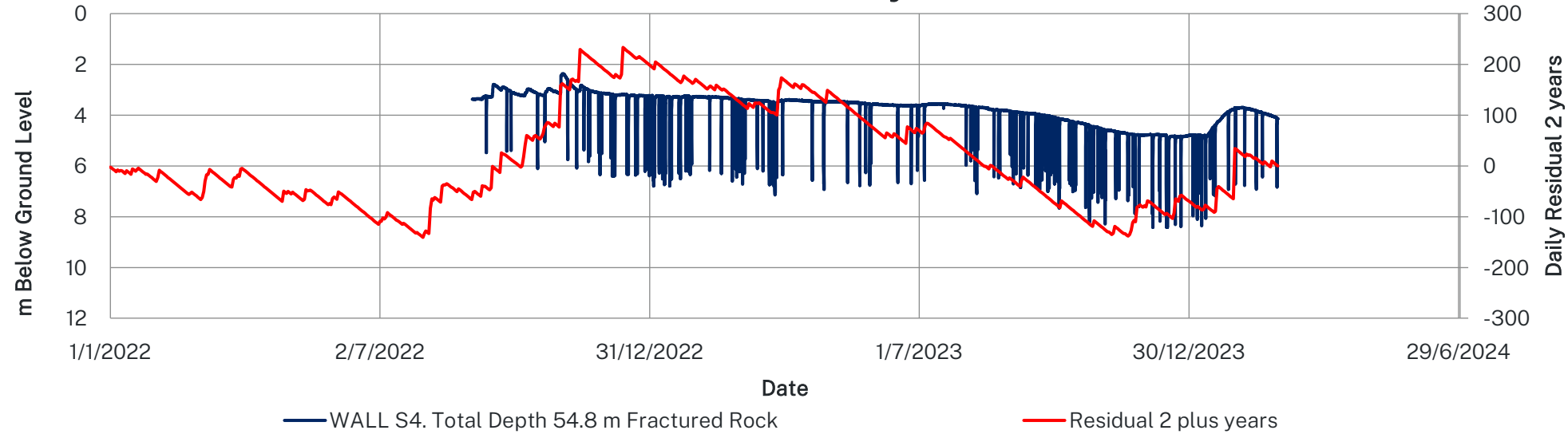


Wall S3
Monitoring Bore
Location

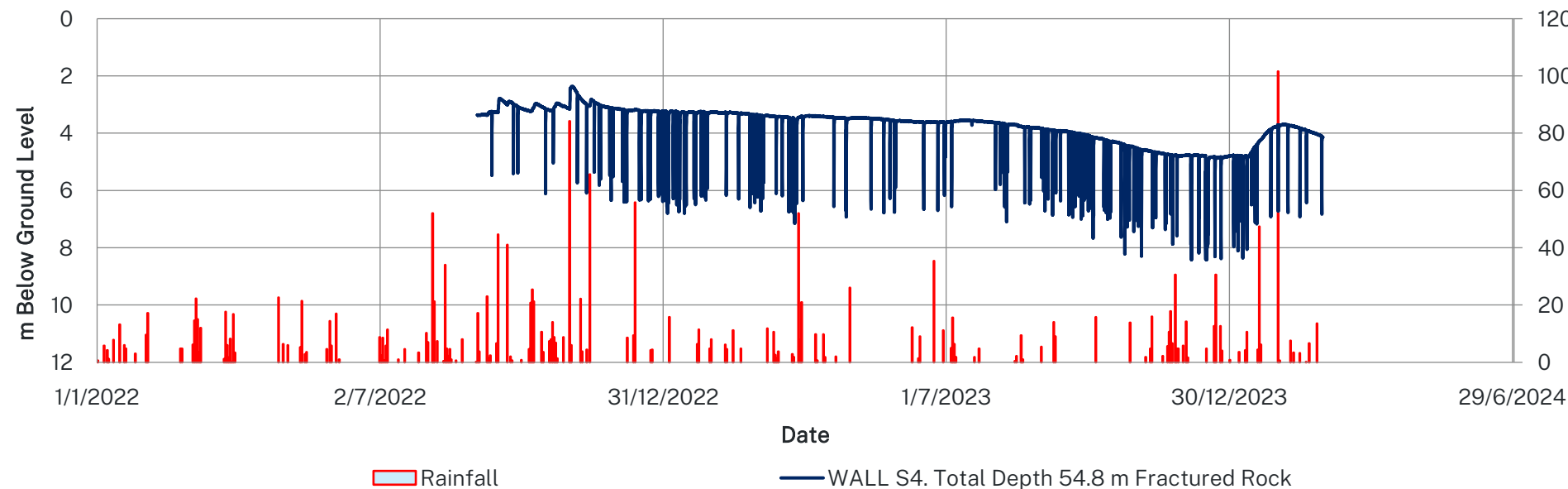


Hydrograph WALL S4 Fractured Rock

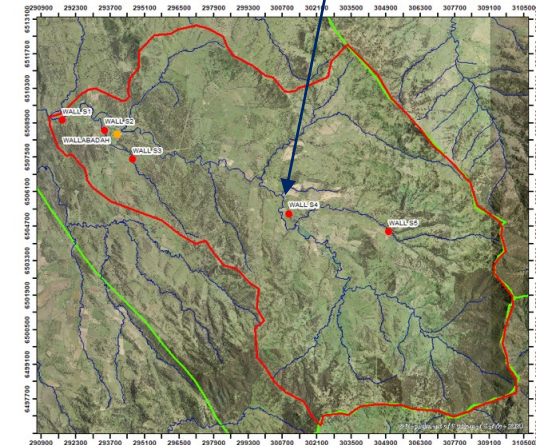
WALL S4 Water Level and Daily Residual Rainfall



WALL S4 Water Level and Daily Rainfall



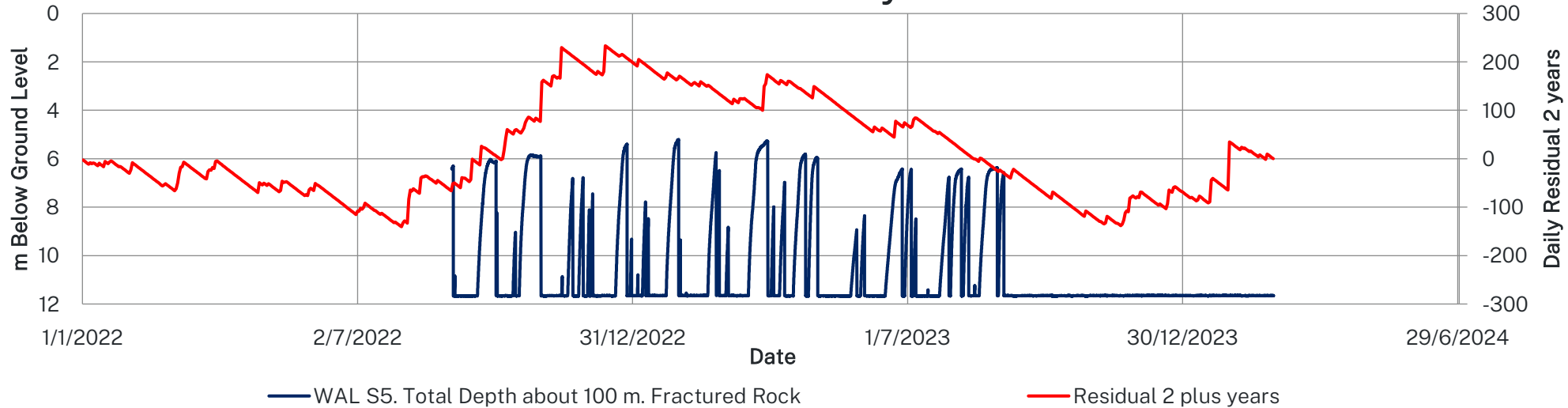
Wall S4
Monitoring Bore
Location



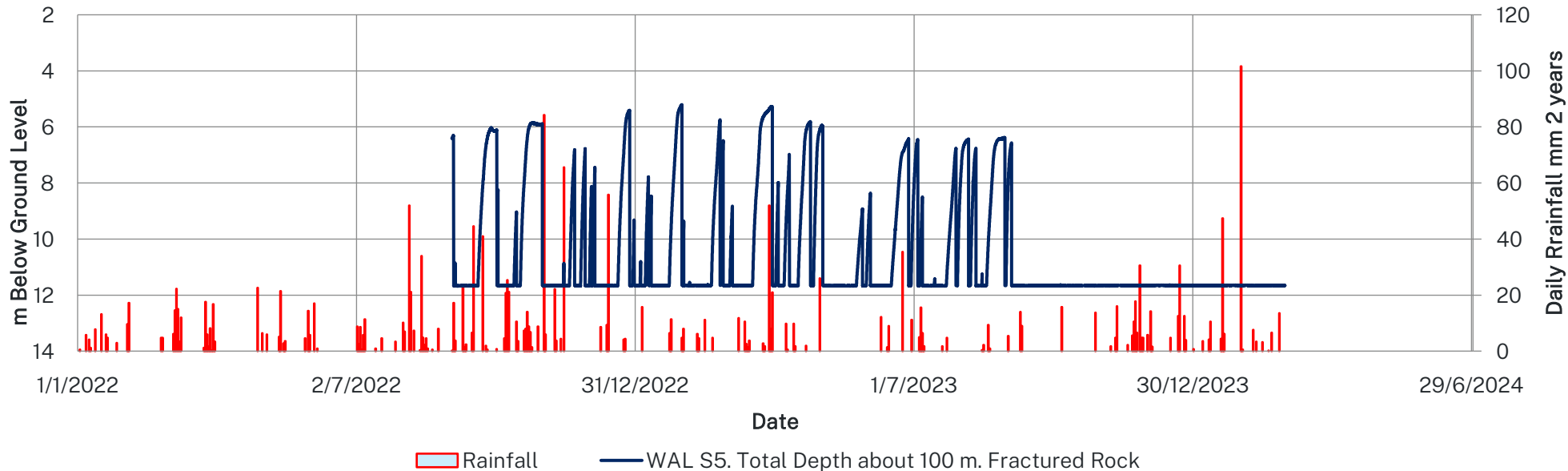
Hydrograph WALL S5 Fractured Rock



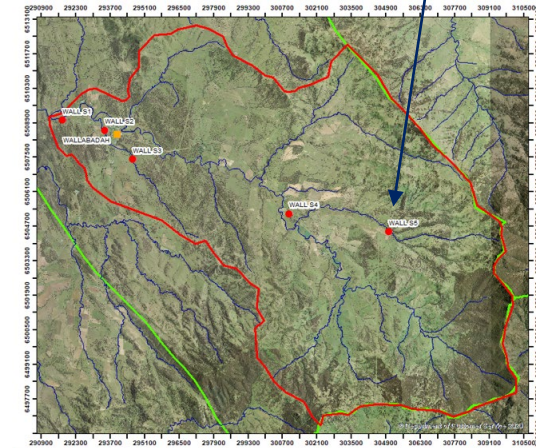
WALL S5 Water Level and Daily Residual Rainfall



WALL S5 Water Level and Daily Rainfall



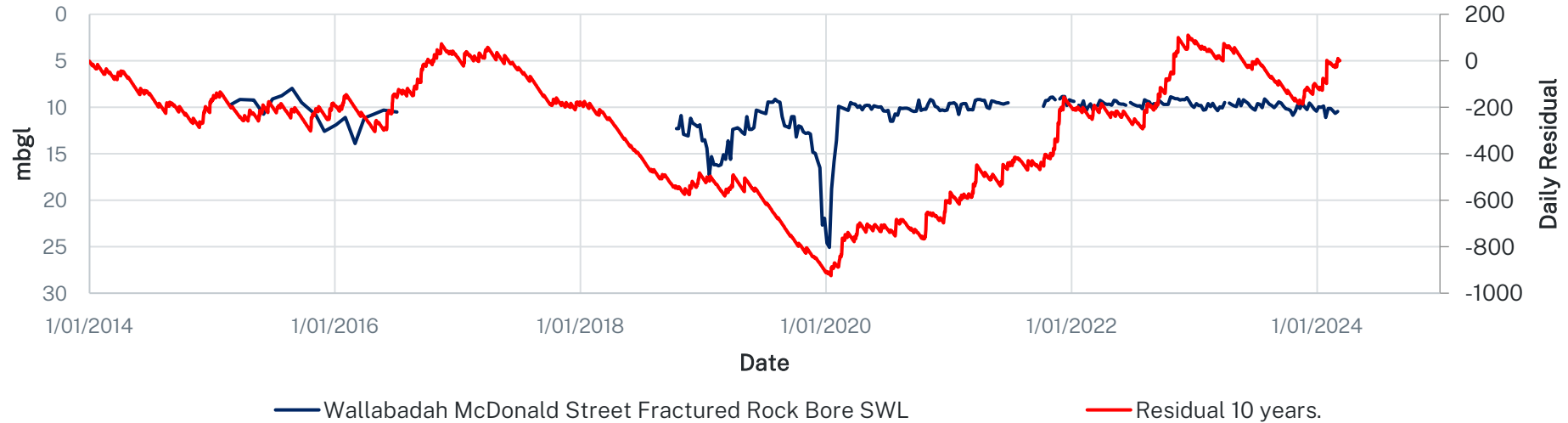
Wall S5 Monitoring Bore Location



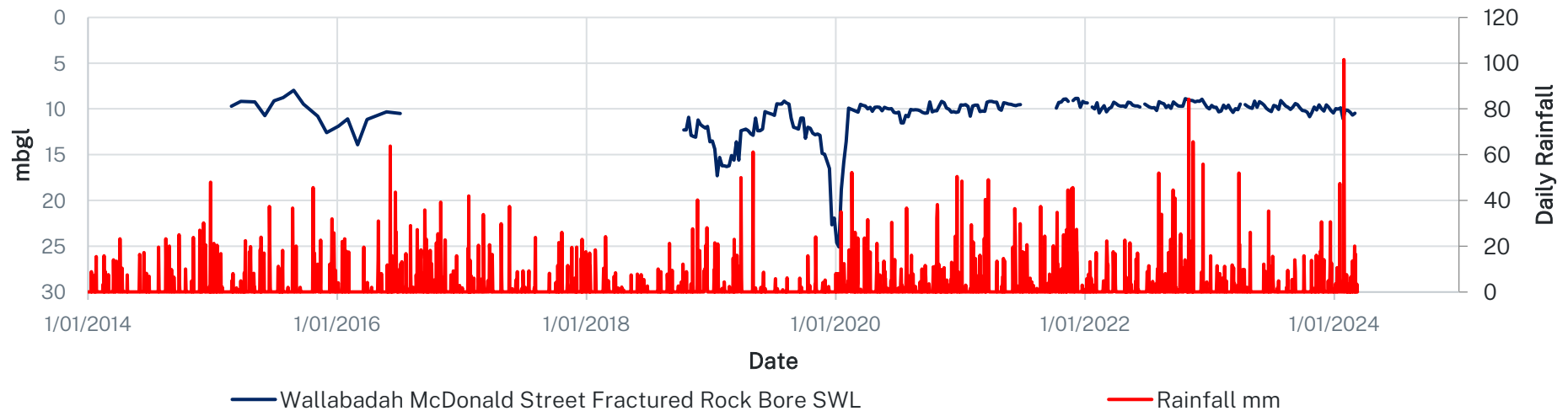
Wallabadah McDonald Street Fractured Rock Bore Water Level



Wallabadah McDonald Street Fractured Rock Bore Water Level



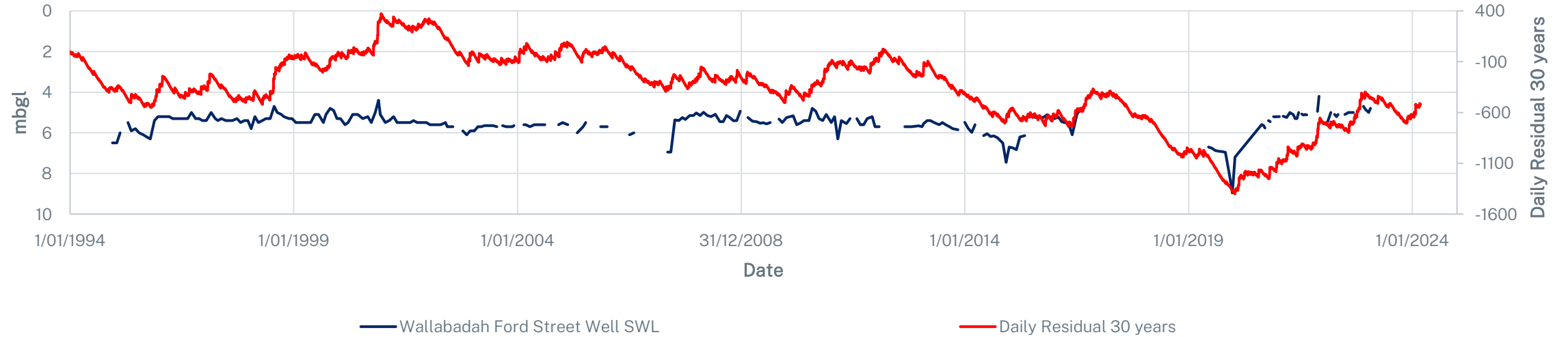
Wallabadah McDonald Street Fractured Rock Bore SWL



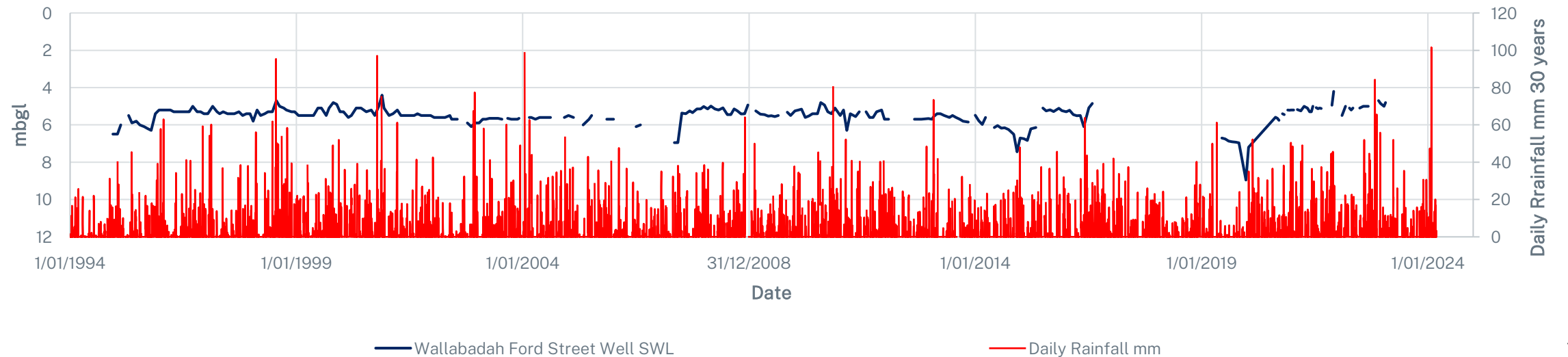
Wallabadah Ford Street Well, Water Level



Wallabadah Ford Street Well SWL



Wallabadah Ford Street Well SWL



Conclusions

- Groundwater respond to rainfall but with different response time
- Deeper bores are slower to respond to rainfall
- Pumping affects water levels, there are different recovery responses
- Need some wider range data loggers for some of the bores
- Rainfall density/pattern of rainfall will influence recharge infiltration

Any Questions

