



Developing Novel Geochemical and Spectroscopic Techniques to Extend Existing Bushfire Records

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Acknowledgement of Country

We acknowledge the Traditional Owners of the land on which we live and work. We pay tribute to their Elders past, present and emerging. We recognise that these lands and waters have always been a place of teaching, research and learning.

Gundungurra, Dharawal and Darug
Dhawura and Ngunnawal



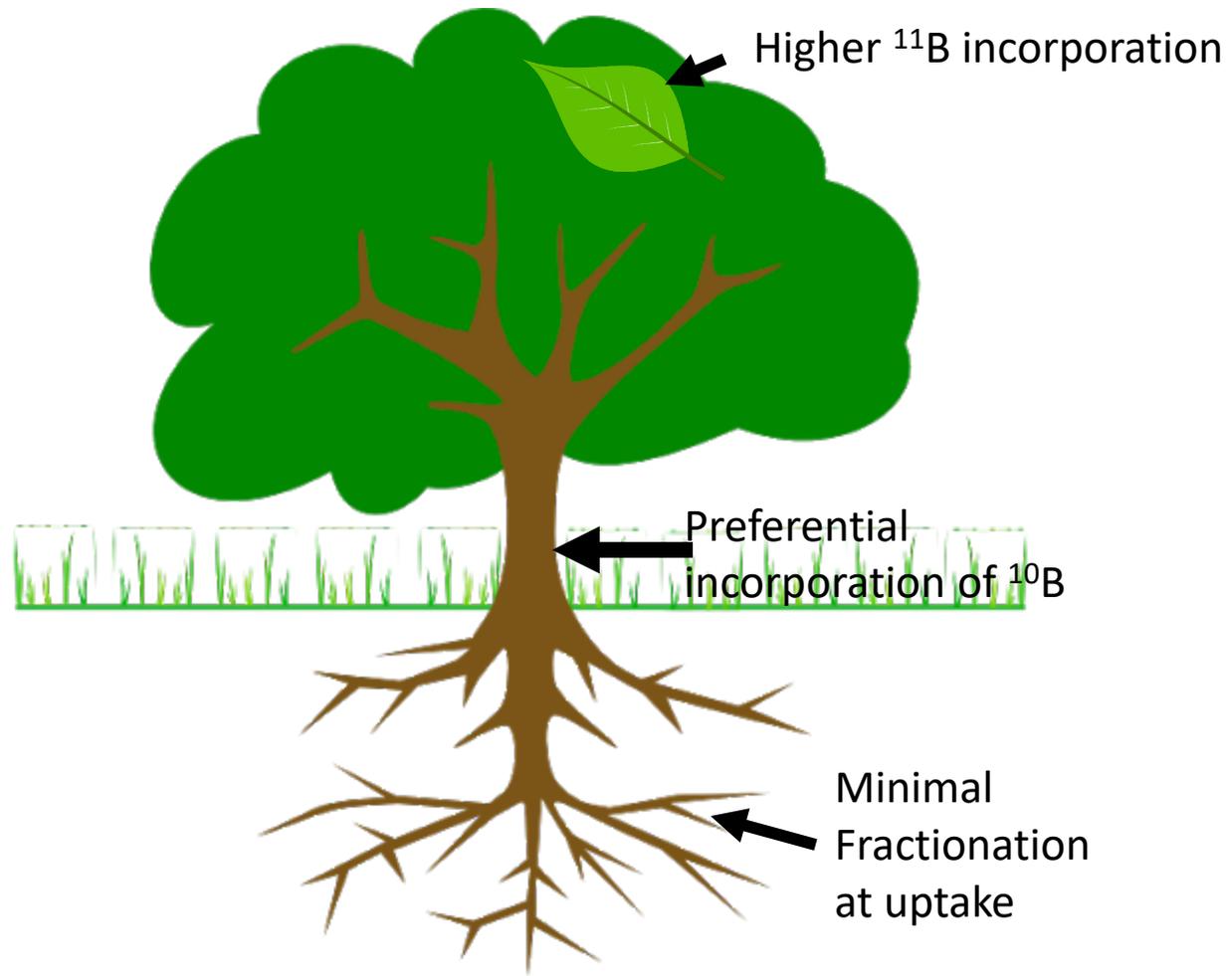
Project Aims

1. To link boron isotopes and FTIR changes with a fire of known severity.

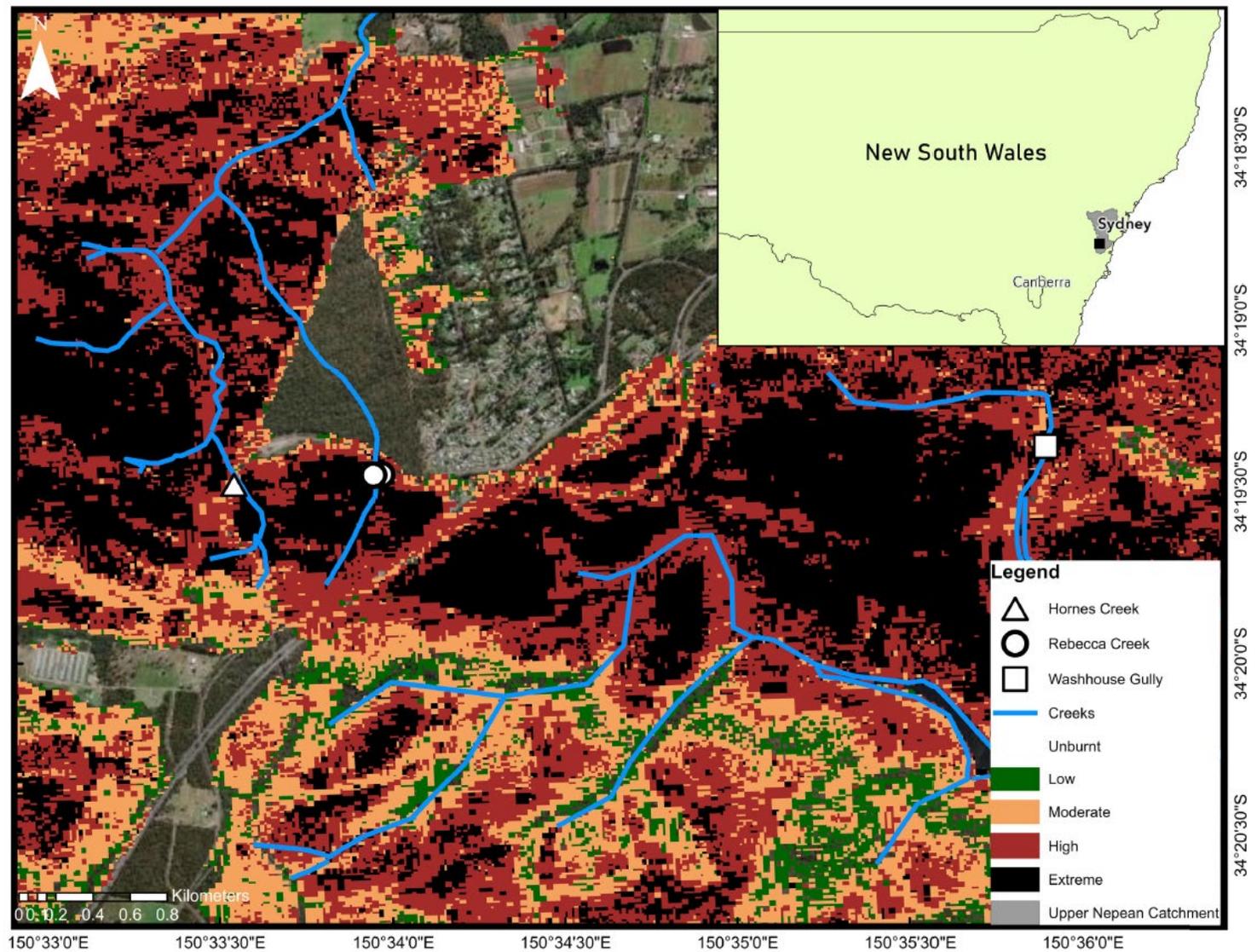
2. Apply these techniques to sediment reservoirs to determine a >100-year record of past high severity fire events.

3. Determine how fire characteristics have changed during the recent past.

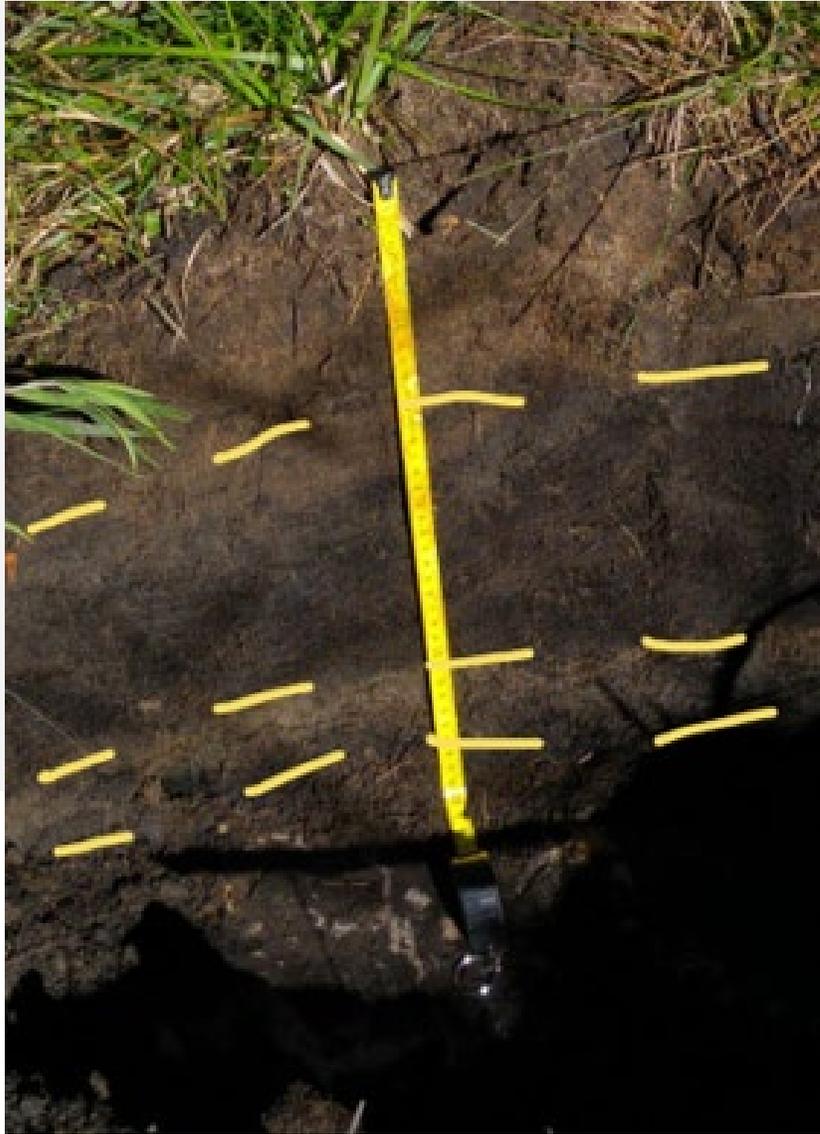




Upper Nepean Catchment



2017

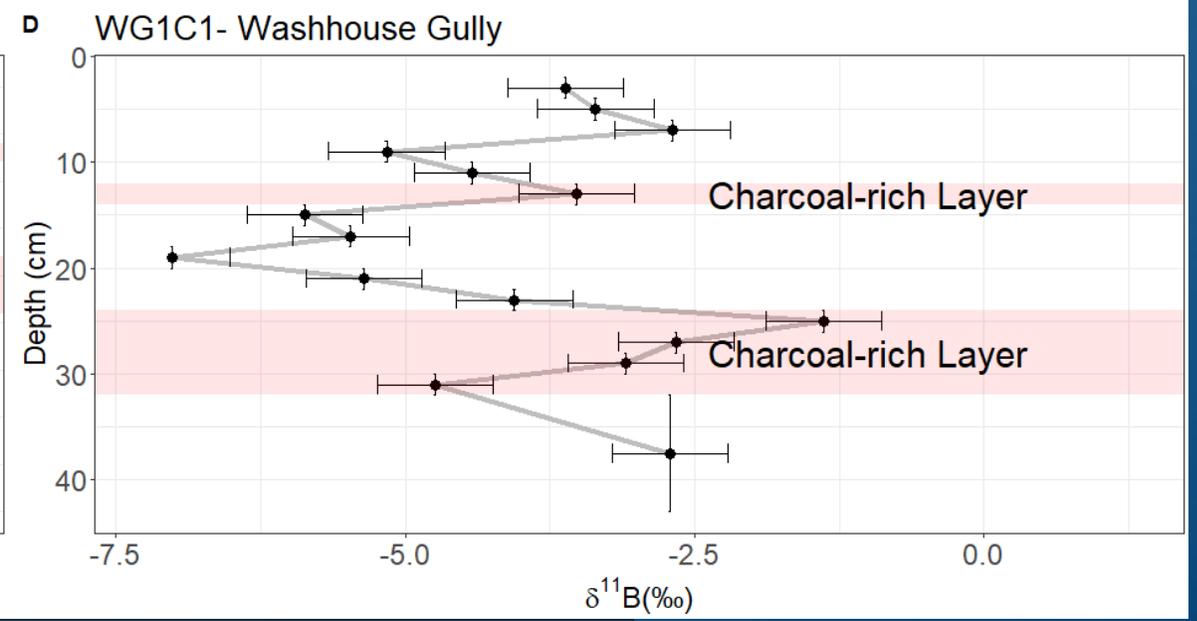
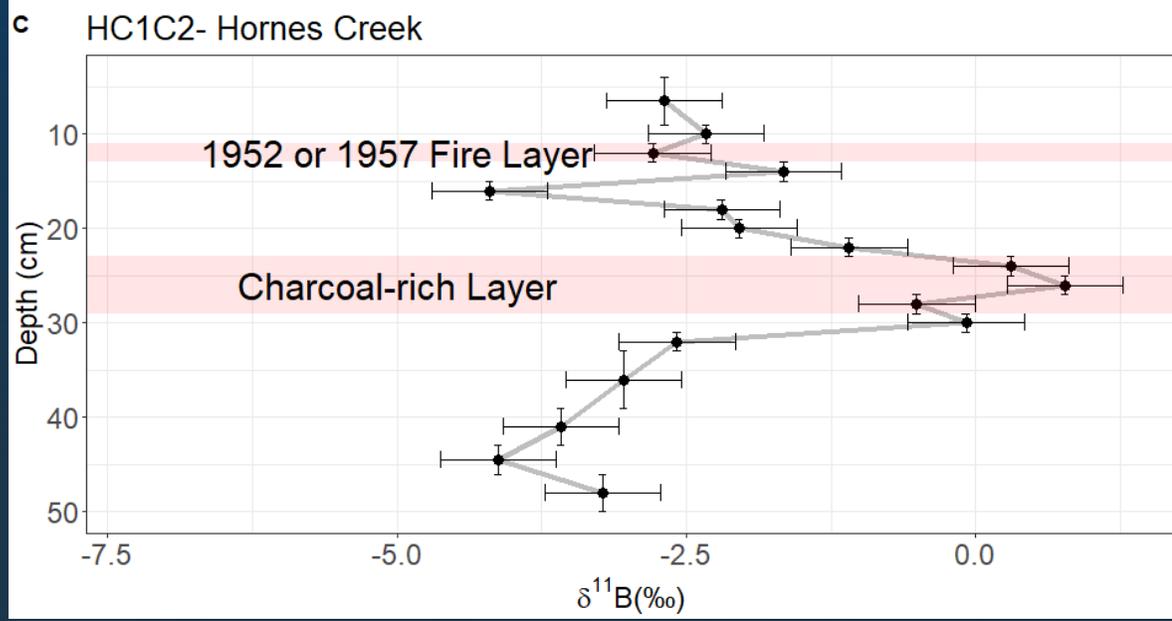
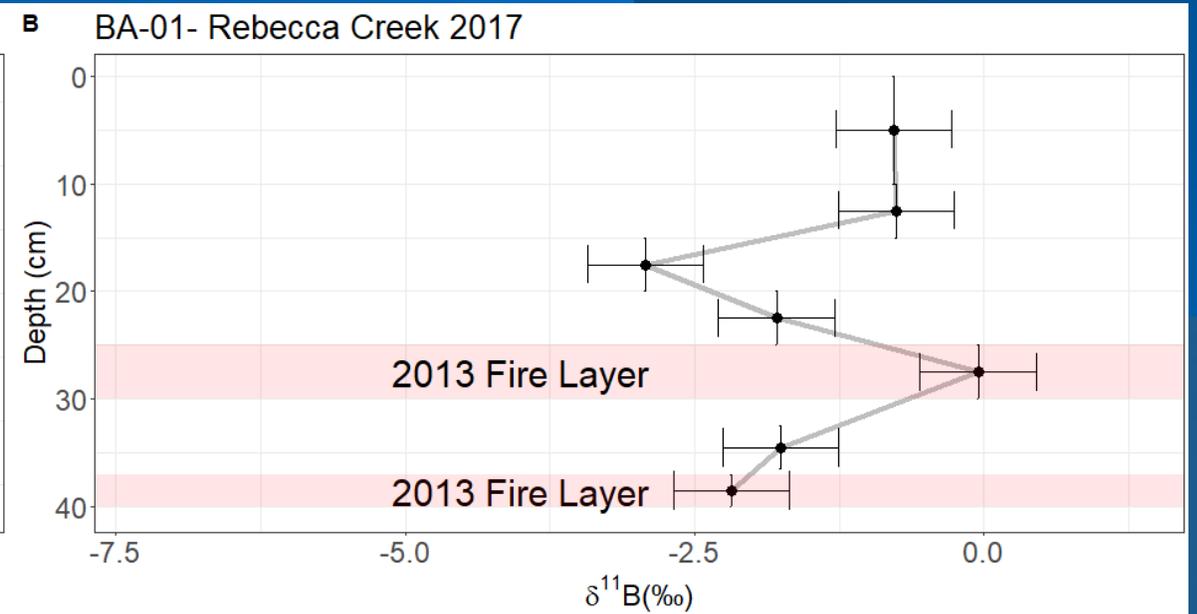
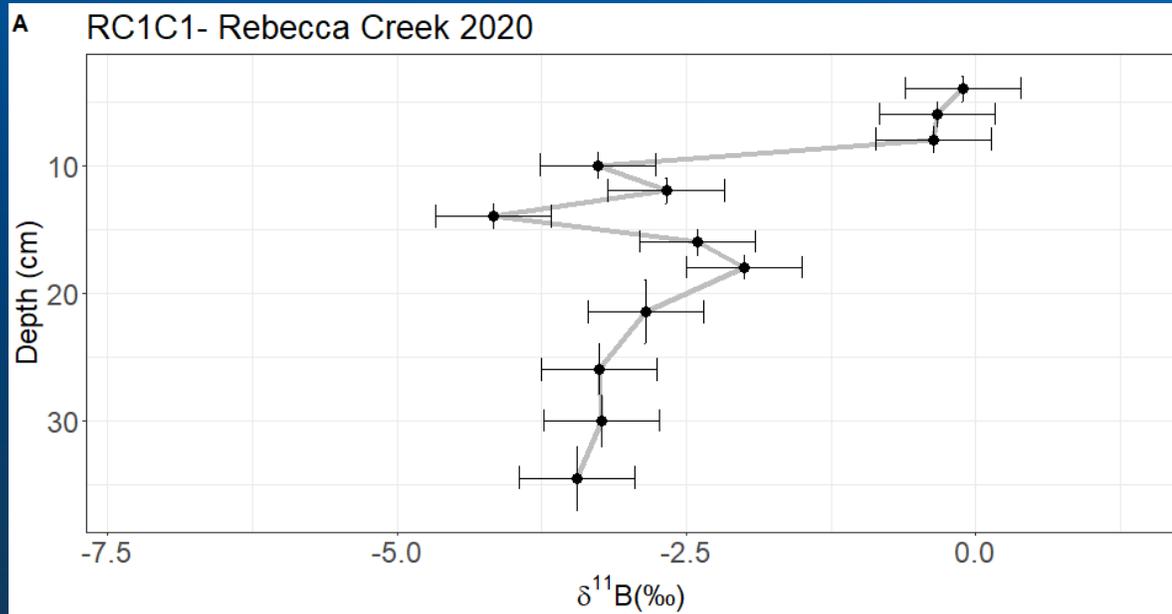


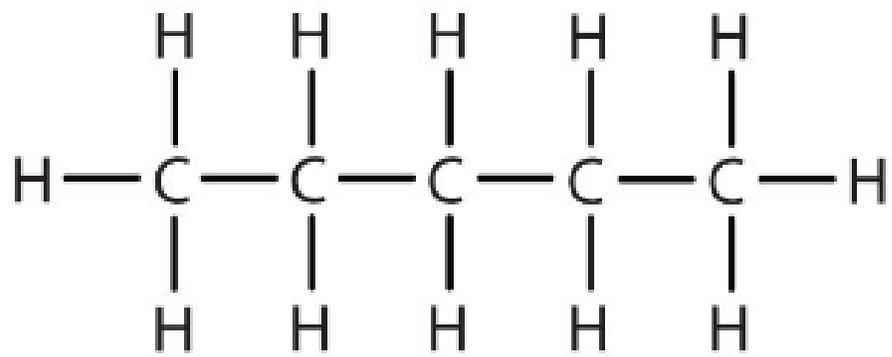
2020



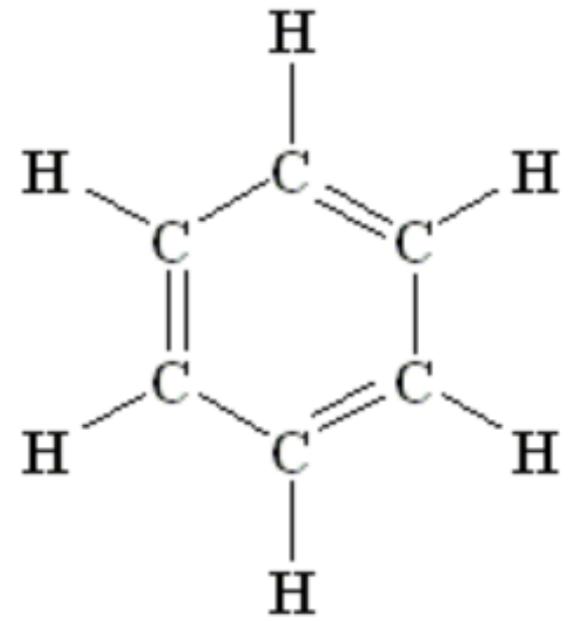
Rebecca
Creek





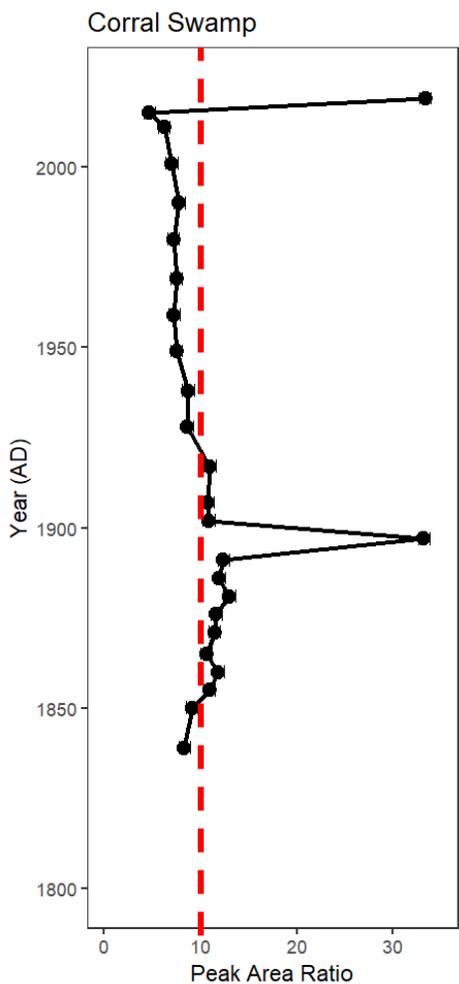


Aliphatic

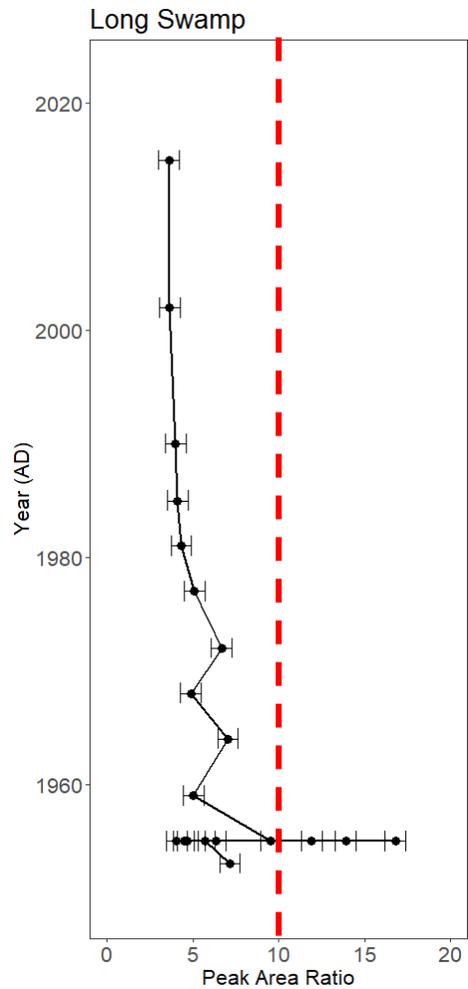


Aromatic

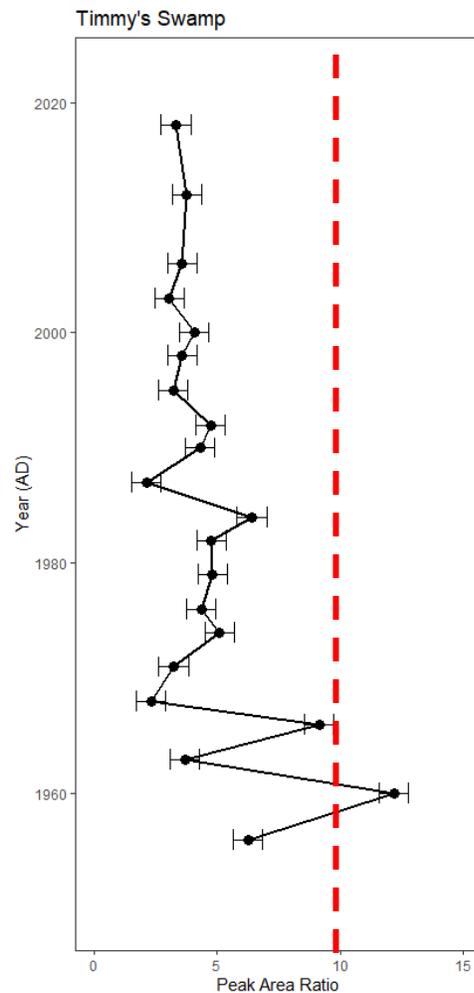
Aromatic/Aliphatic Ratio



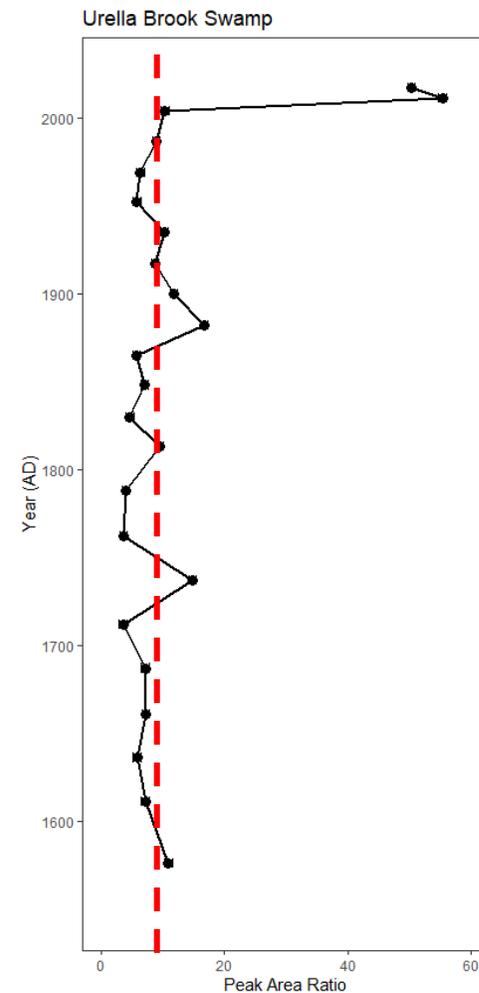
180 years



70 years

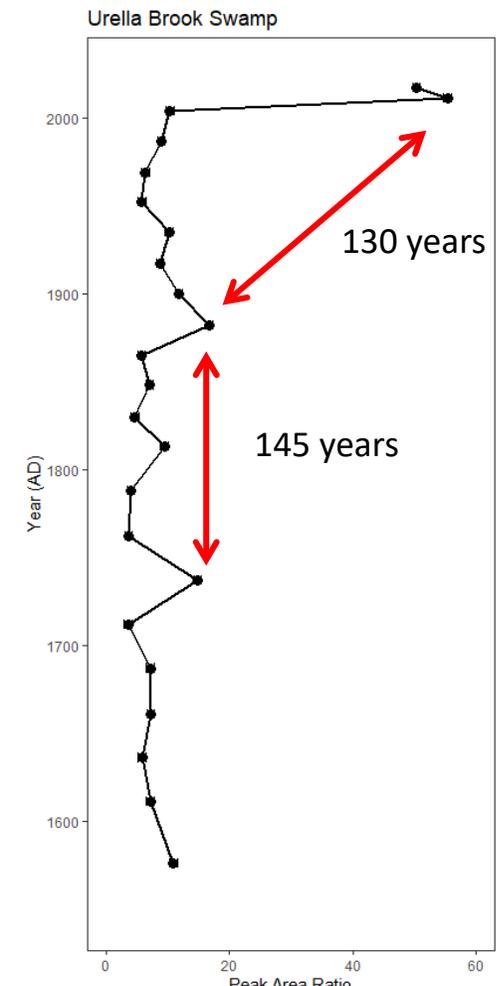
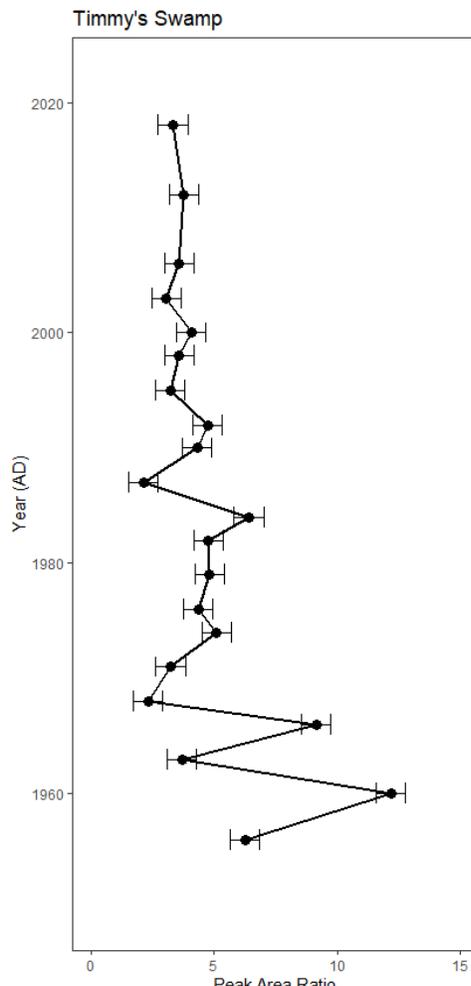
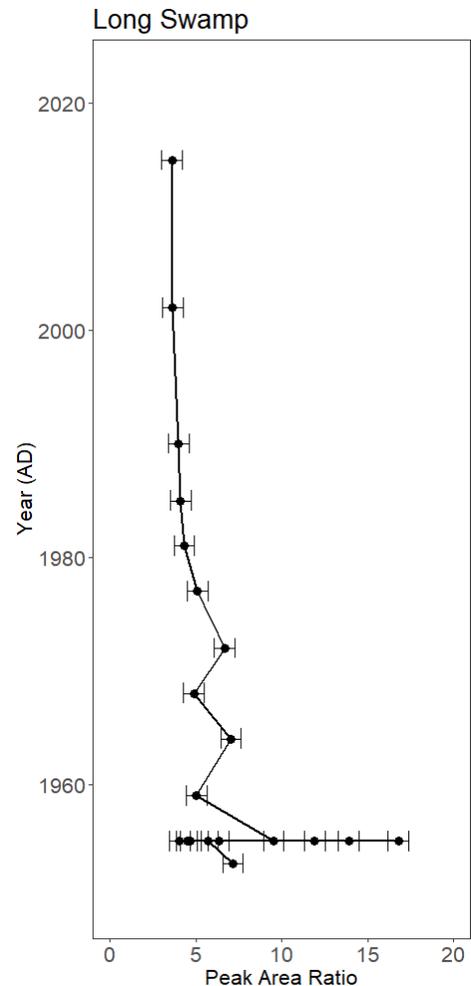
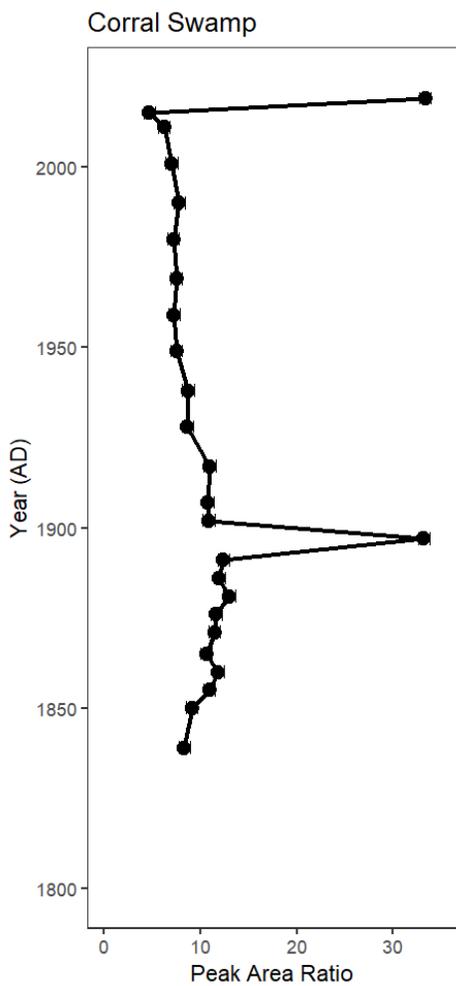


70 years

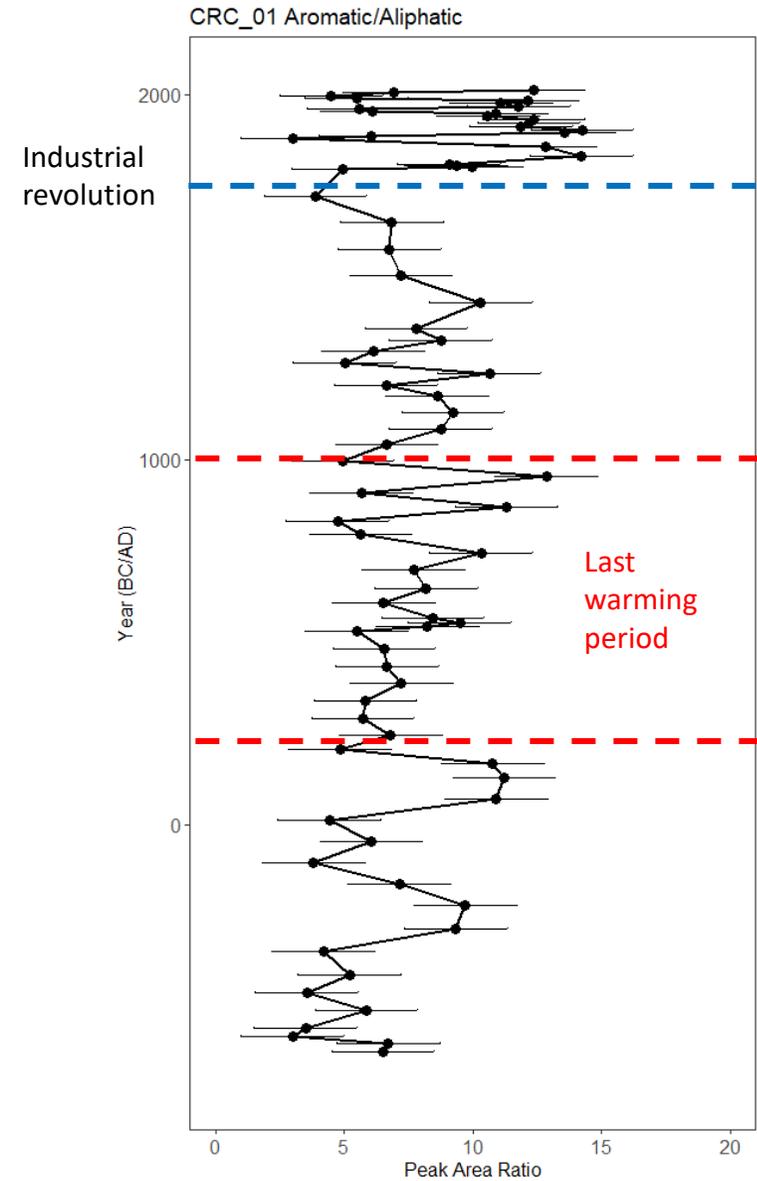
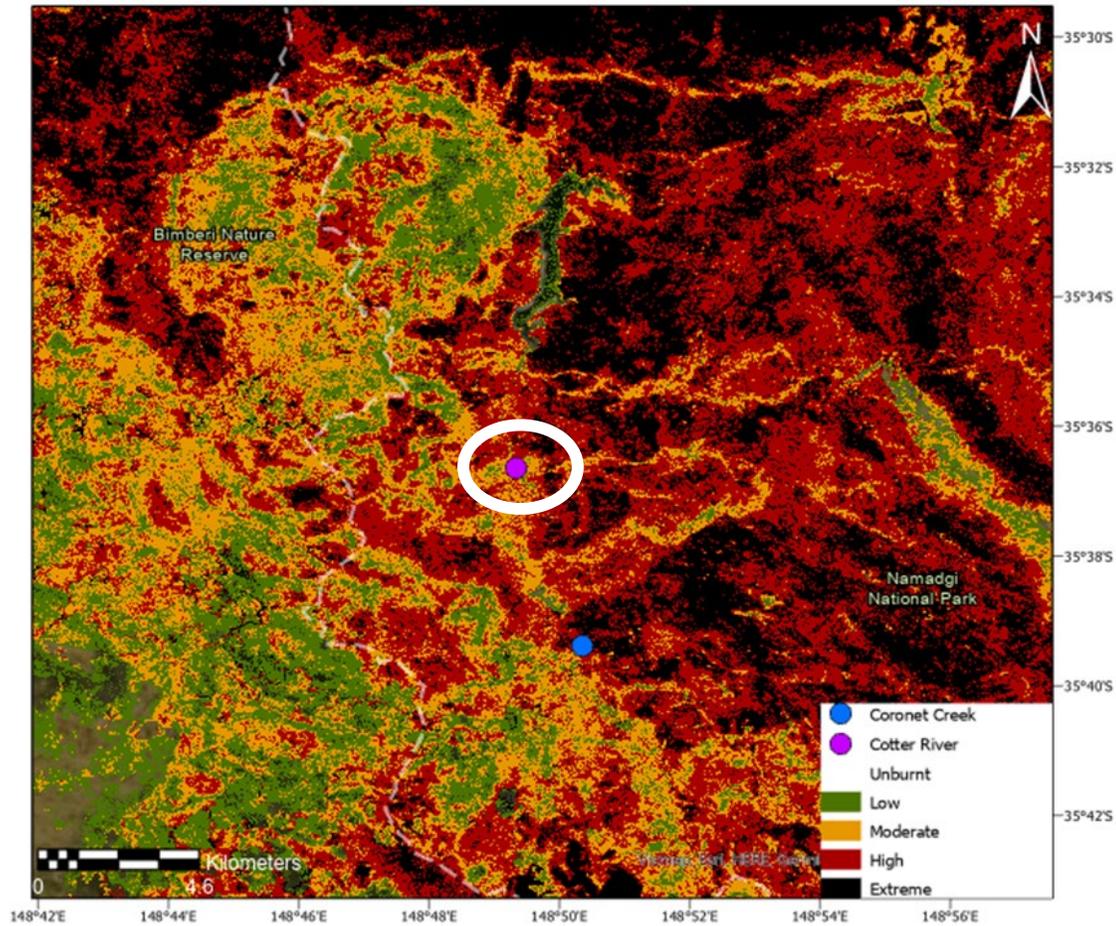


500 years

Aromatic/Aliphatic Ratio



Cotter River, Namadgi National Park (ACT)





Conclusions

- Boron isotopes and FTIR show promising signatures with past fire events
- We see an increase in fire frequency and intensity during the recent past
- Next Steps: Apply these techniques to additional sites

