

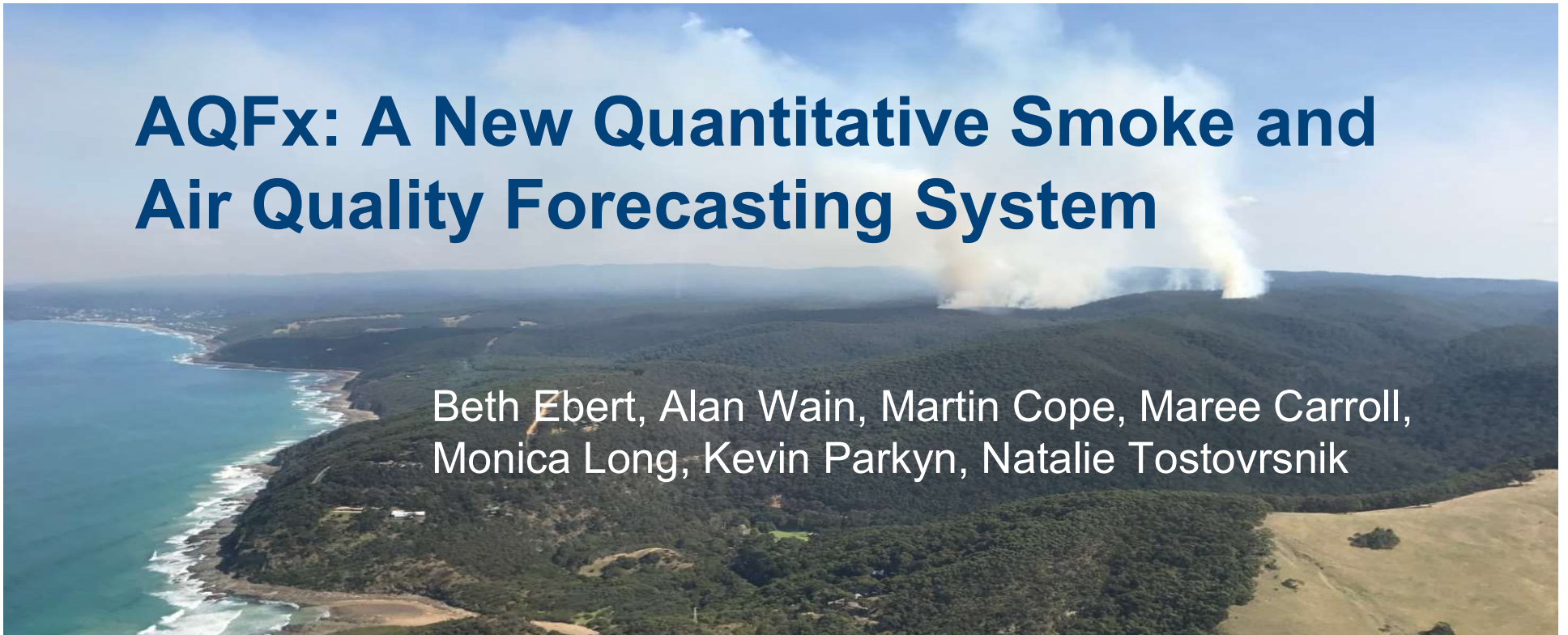


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AQFx: A New Quantitative Smoke and Air Quality Forecasting System

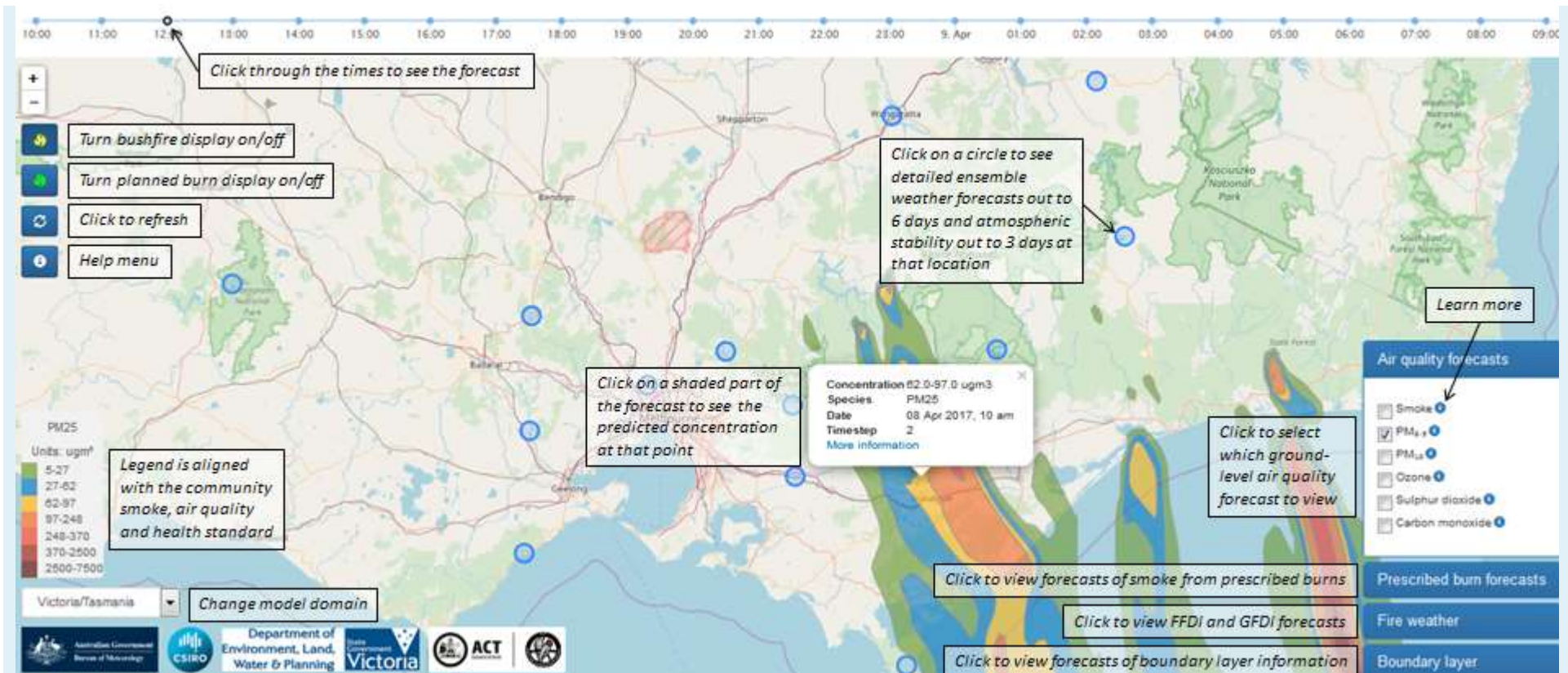
Beth Ebert, Alan Wain, Martin Cope, Maree Carroll,
Monica Long, Kevin Parkyn, Natalie Tostovrsnik





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Key elements & products (demo)



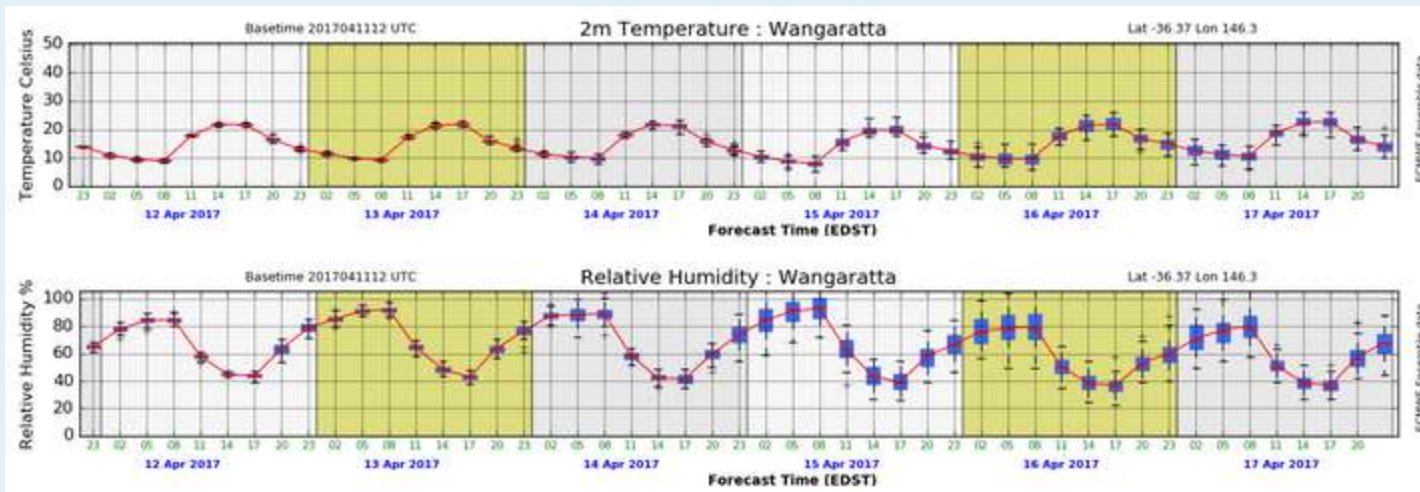


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Coming week: Will it be safe to burn?



- 6-day ensemble forecasts of fire weather elements at locations
- Spatial forecasts of probability of FFDI and GFDI exceeding critical thresholds



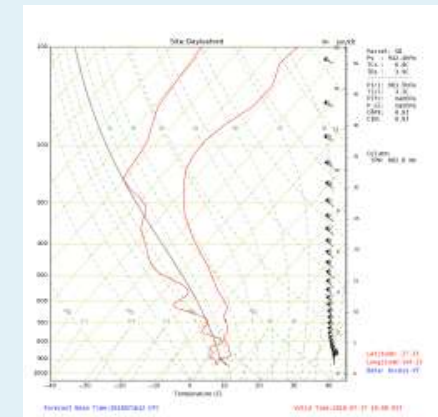
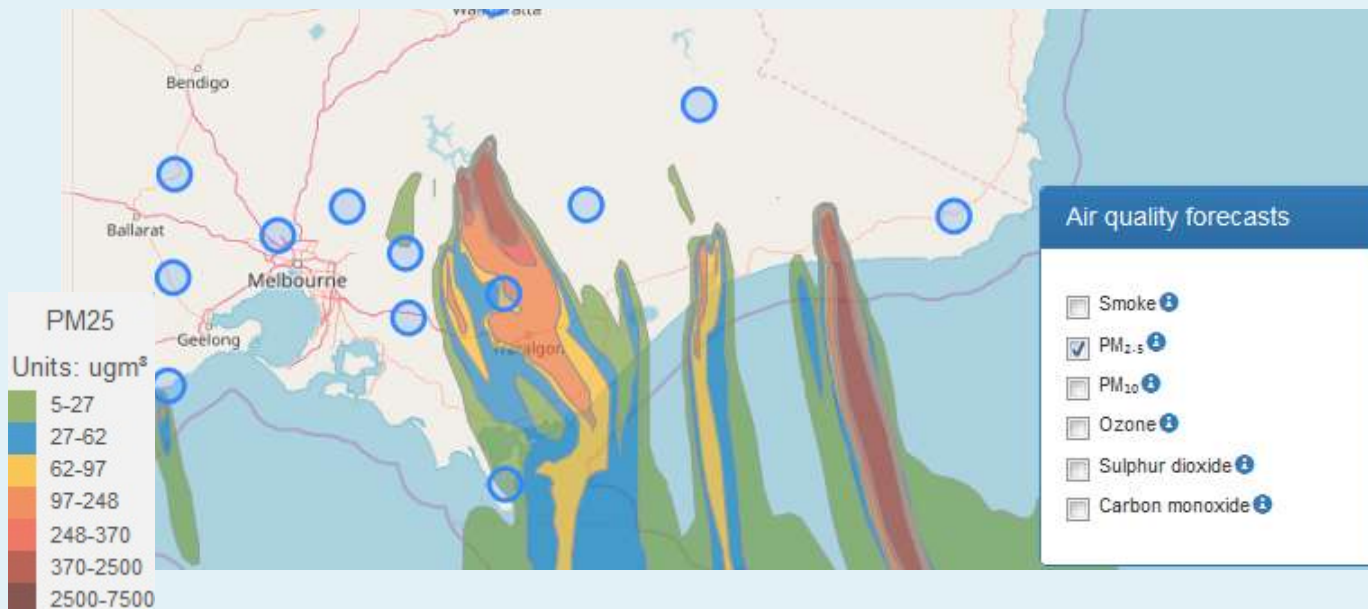


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Next few days: What are the airshed conditions?



- 3-day forecasts for air pollution at ground level and atmospheric boundary layer conditions



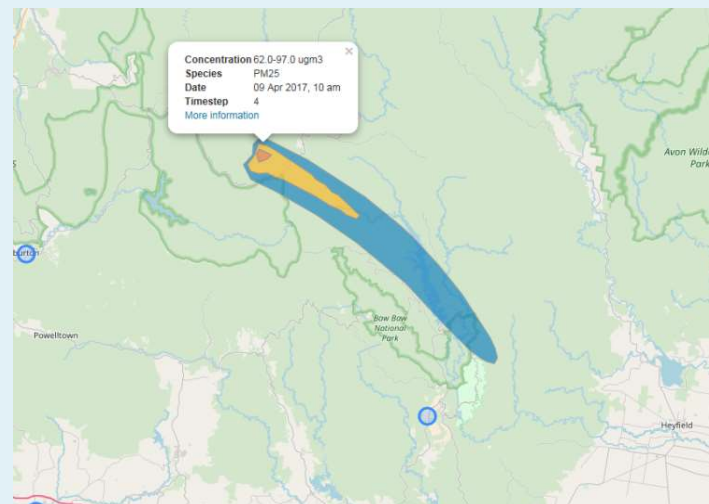


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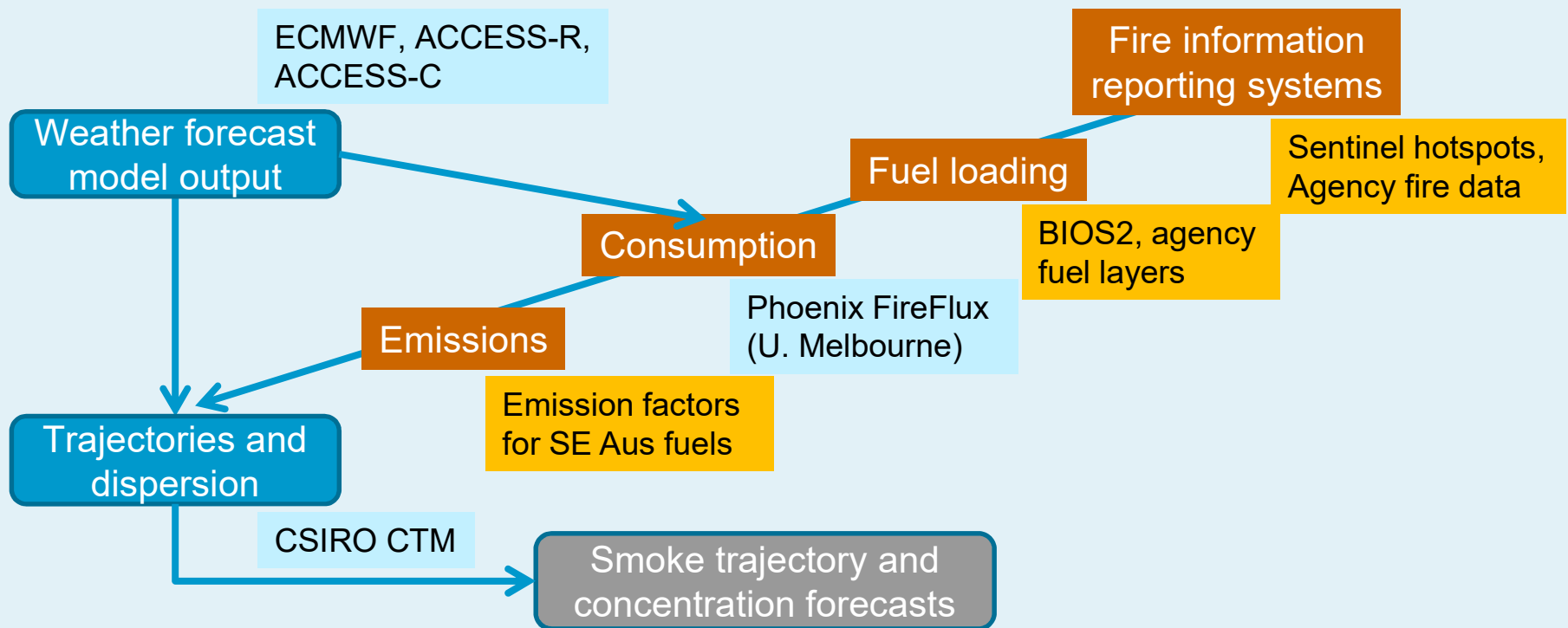
Tomorrow: If I burn, where would the smoke go?



- 1-day forecast of PM_{2.5} at ground level associated with smoke from proposed burns



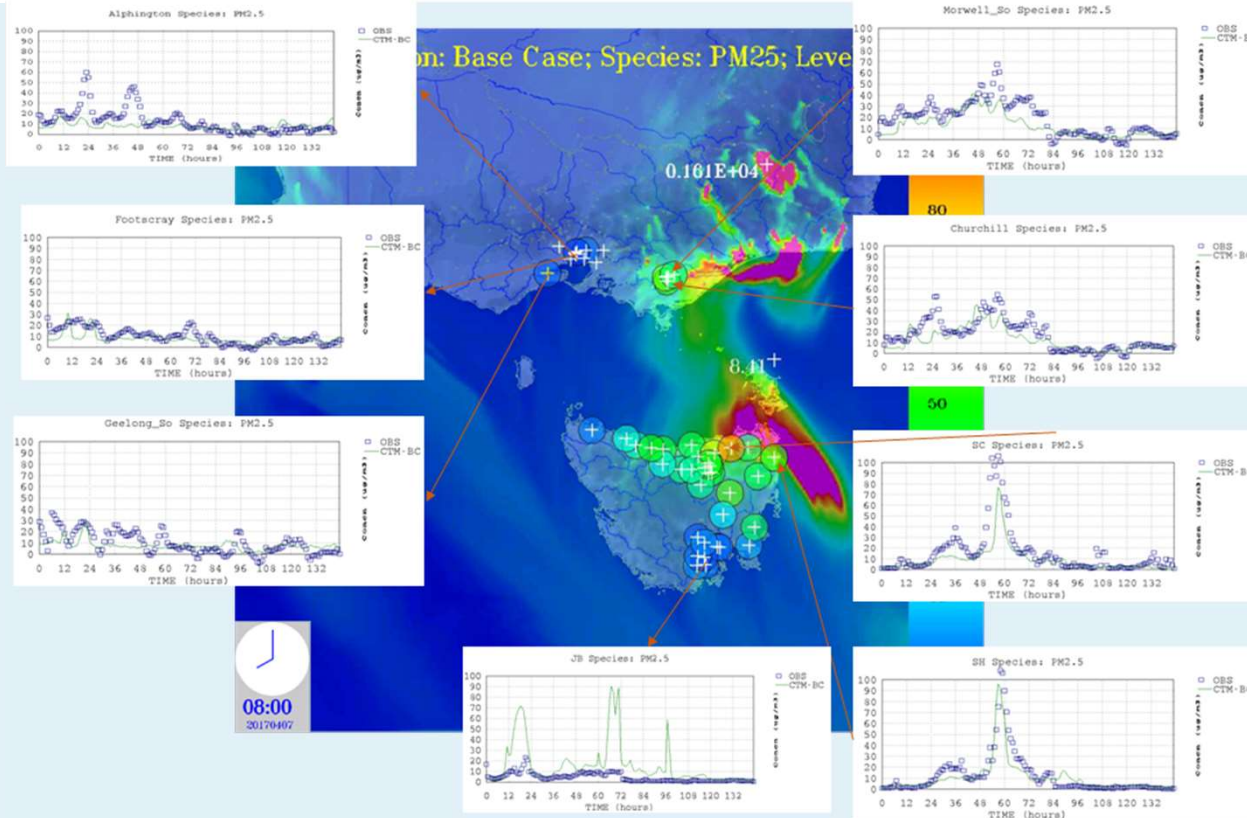
Linked state-of-the-art models combining weather and fire information





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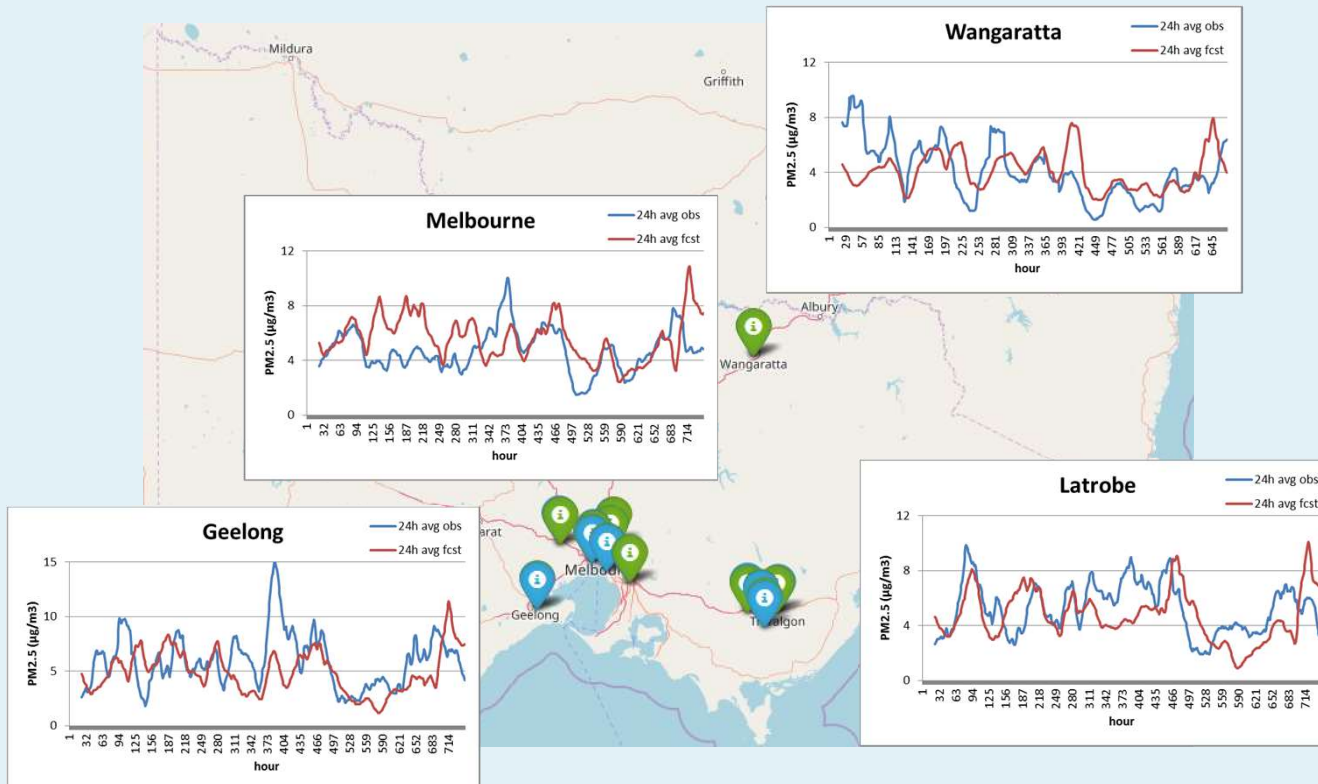
Verification of hourly PM_{2.5} at sites



Early April 2017
when hazard
reduction burning
was taking place.
Forecasts updated
every 24h

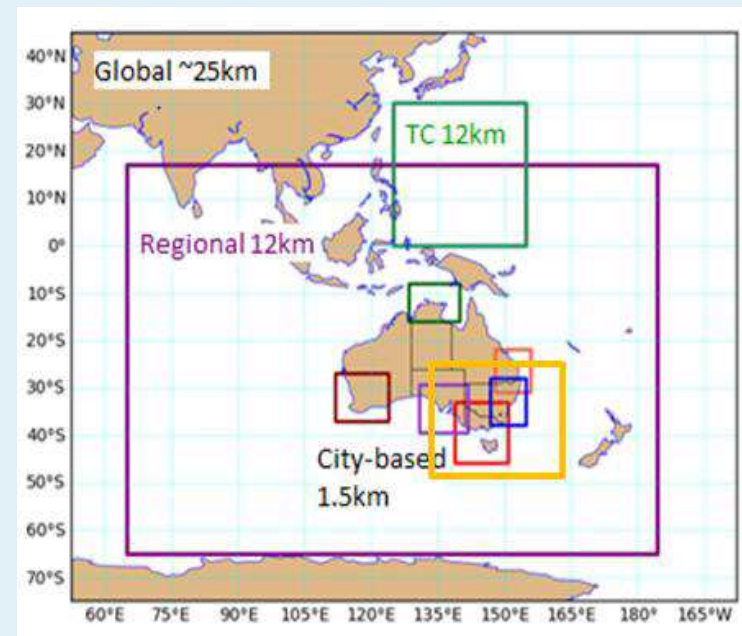


Verification results in regions – 24hr mean PM_{2.5}, 1-31 Oct 2017



Extension beyond Victoria

- AQFx endorsed by AFAC Predictive Services Systems Working Group
 - Current users are Victoria (DELWP) and ACT Parks & Conservation
 - NSW Rural Fire Service will pilot AQFx this spring
 - Other states and territories requesting info



ACCESS weather model domains



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More information



- BOM Operations Bulletin
http://www.bom.gov.au/australia/charts/bulletins/apob115_external.pdf
- Demo
<http://reg.bom.gov.au/general/reg/AQFx/>
(ask me for login)
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Future work – science

