

https://github.com/davidnbresch/climada_module_drought_fire
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This module implements a method to generate a local bushfire model any place on the globe, using a cellular automat for the small scale fires and based on satellite information for the large(r) scale events.

This module is planned to also provide a global drought model (not implemented yet).

In essence, this module currently implements two approaches for bushfire

- Firms-data based historic fires → see `bf_generator_large`
- Cellular-automata generated fires → see `bf_TEST`

All details to be documented in the headers of the respective routines (for the time being).

This module is in TEST (very much beta) state. There are two relevant (higher level) codes, `bf_TEST` and `bf_generator_large('TEST')`.

Your Custom Polygon

Fire Information for Resource Management System

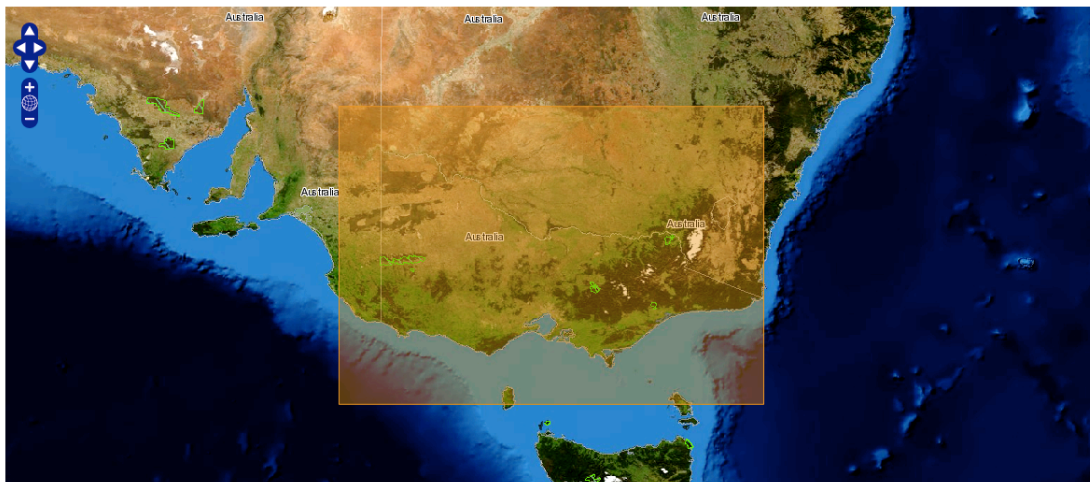


Figure: the region for which TEST data is available. Obtained from <https://firms.modaps.eosdis.nasa.gov/download> . See bottom of this document for larger dataset(s).

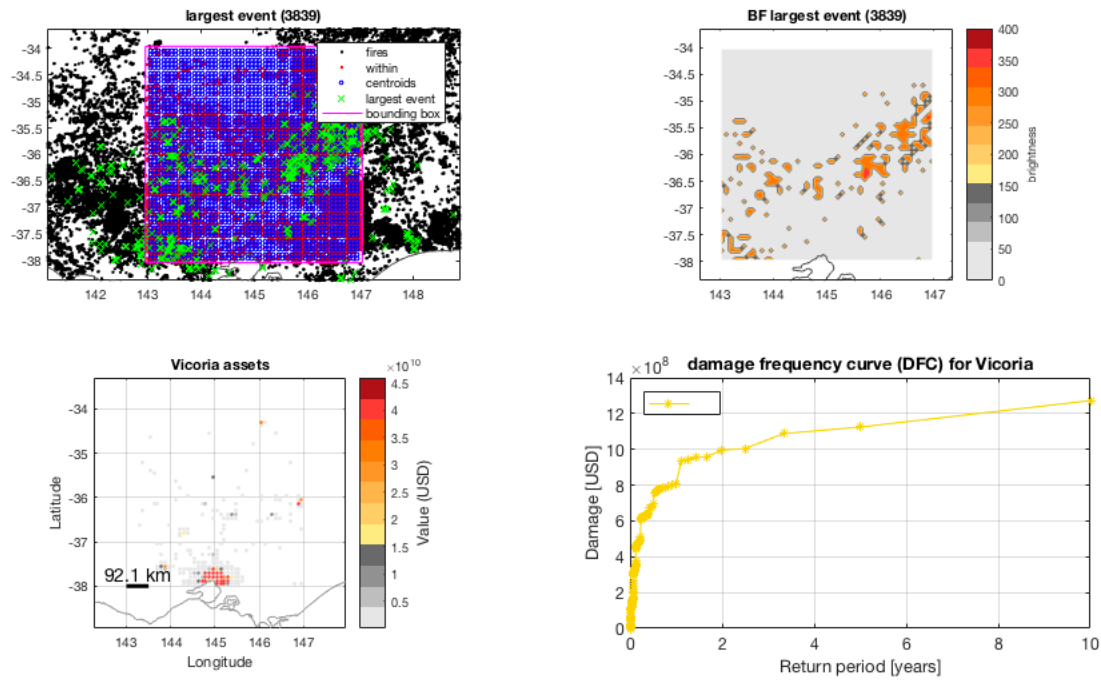


Figure: The result screen for TEST mode. Bushfire database on the top left and rendering of largest single event on the top right panel. Melbourne at the bottom center of the plots. Asset distribution in the lower left and resulting damage frequency curve (DFC) in the lower right panel. Generated by `hazard=bf_generator_large('TEST')`

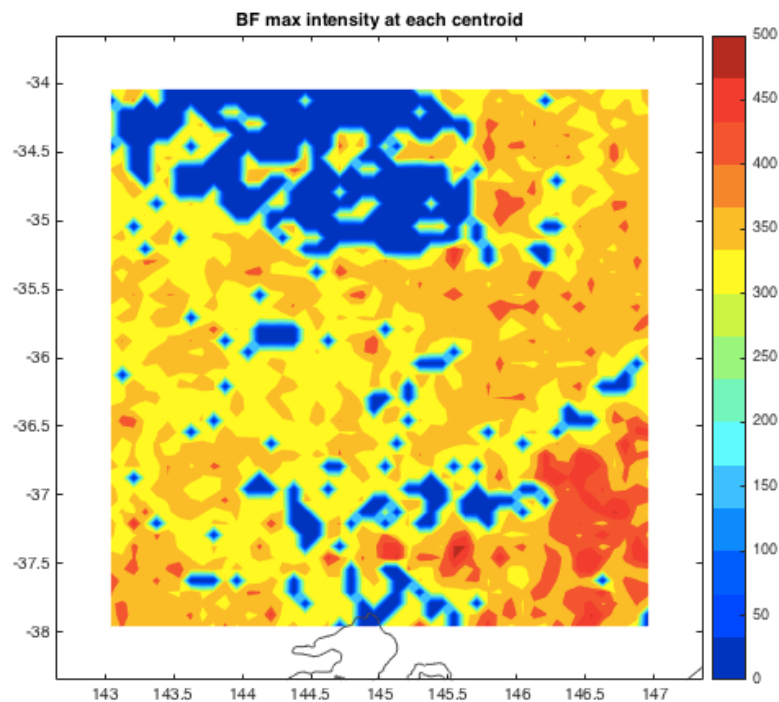


Figure: Maximum bushfire intensity at each centroid, based on the TEST data for Victoria (2006-2015). Melbourne at the bottom center of the plot. Plot generated by plotting `climada_hazard_plot(hazard,0)` after calling `hazard=bf_generator_large('TEST')`.

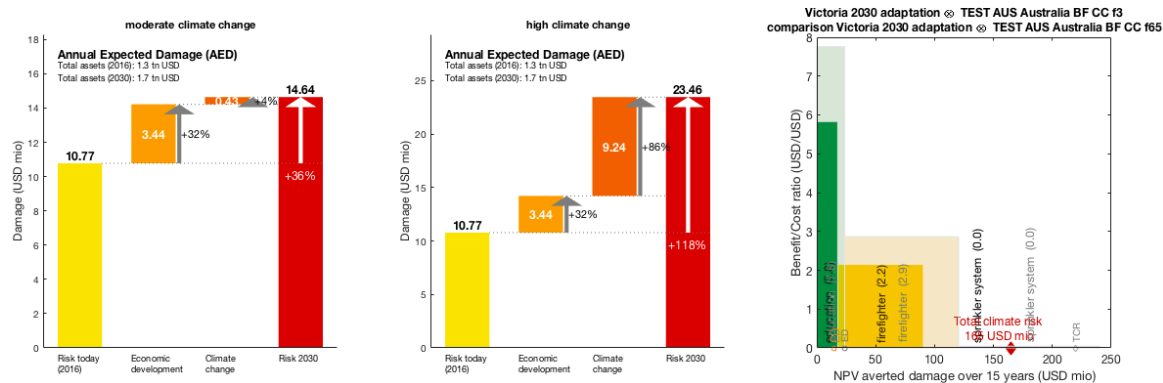


Figure: The results for the cellular automata approach (see climada_bushfire_cellular.pdf). Left and center panels the waterfall charts for moderate and high climate change, right panel the adaptation cost curves for both moderate and high change (semi-transparent). Generated by bf_TEST.



Figure: The boundary rectangle for the whole of Australia, resulting in a database of about 400MB of bushfire locations. Obtained from <https://firms.modaps.eosdis.nasa.gov/download>