

Q&A for ERP 23 (Ignition Likelihood Model) EOI

- 1. According to the EOI, the first step of the project to review existing ignition models and to find out the most appropriate models. So in the proposal, do we need to describe how we will develop the ignition probability model (e.g. which method to use) or we only provide some general information (e.g. the model will be developed based on environmental scan and discussion with the Project Reference Group)?**

Proposals should demonstrate that the project team has:

- the technical skills and experience required to undertake the modelling, and
- the ability to understand and be responsive to the sector needs.

Proposals should provide information on:

- Proposed consultation approach with the Project Reference Group (e.g.: number and aim of meetings/workshops)
- Broad technical approach that will be used to develop the ignition probability models
- Potential limitations to the research.

Proposals are not expected to include specific details on the method that will be used to model ignition probability, as this will be shaped during the project.

- 2. What is the preferred format of the output model (e.g. user interface)?**

This project does not require the development of a user interface.

This project requires that the code and underlying data used to develop the ignition probability models and a user manual to run the model are provided as a deliverable at the end of the project. This will enable fire agencies to continue to model ignition likelihood and fire occurrence into the future with changing conditions (e.g. climate change, population growth, etc.)

The specific tools and languages (e.g. R, python, SQL) that will be used for the data analytics should be discussed and agreed upon with the Project Reference Group.

- 3. What is the project definition of ignition (is this a minimum burnt area for example?).**

For the development of a tiered ignition probability model (item 6 of the 'Inclusions' section in the EOI), ignitions should be considered as a 'combustion' occurring at a given point in time and space, irrespective of burnt area. Ignitions can be 'unsustained' or 'sustained' depending on weather and landscape conditions. We are seeking the development of a tiered ignition probability model in which the tiers reflect to the different combinations of 'spread potential' and 'required response efforts':

- Ignitions that ignite fuels and have the potential to spread
- Ignitions that have the potential to ignite fuel but do not spread
- Ignitions that require limited response
- Ignitions that require heavy response.

For the review of the ignition cause classification scheme used in the existing 'DELWP-CFA combined historical ignitions dataset' (item 3 of the 'Inclusions' section in the EOI), ignitions are defined as 'reported ignitions that get recorded by emergency services'.

4. What is the typology of information reported in the ignition database mentioned in your document (time, space, cause, outcomes, area burnt, etc.)

The existing historical ignitions database includes information recorded by each agency (e.g. reporting agency, reported date and time, ignition cause as recorded by each agency, latitude and longitude of ignition, etc.) as well as a series of post processed data fields (e.g. land tenure, max FFDI of the day of the ignition, combined CFA-DELWP cause code, etc.)

5. For inclusion number 6 (Development of a tiered ignition probability model). Is this a definition of an interface between the likelihood of ignition model and already existing operational and strategic models?

Item number 6 of the 'Inclusion' section is the main deliverable of this project and it includes the development of a tiered ignition probability model for a range of ignition causes, spread potential and operational response needs. These models will be dynamic and spatially explicit. Upon completion of this project, Victorian fire agencies will have the ability to model ignition probability for a range of scenarios (e.g. climate change, population growth, etc.) and time scales.

The technical details of the model development, including the list of predictive variables that will feed the models will be discussed and agreed upon with the Project Reference Group.