

# Urban, fire, smoke, dust and air-quality

10:45 - 10:55	Brief introductions from everyone – include level of experience with ACCESS
10:55 - 11:15	What research questions are we trying to answer with these models?
11:15 - 11:25	What are the important feedbacks to include in a coupled urban - fire - air quality model?
11:25 - 11:40	Predictability and model evaluation
11:40 - 11:55	What would make ACCESS easier to use?
11:55 - 12:15	Complete the table with ideas for the NRI, include short, med and long term ideas e.g. model suites & configurations, training

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	Idea	Short (< 1 year) Medium (1-2 yr) Long (2-5 yr)	NRI team
1	Support and maintenance (keep up to date with Met Office releases) of UM nesting suite for high-resolution model simulations – both deterministic and ensemble	Short	Atmosphere
2	Up to date documentation and training on the use of the UM nesting suite	Short	User
3	High-resolution ancillary data sets for Australia e.g. using GA, local urban morphology	Medium	Land/Atmosphere
4	Visualisation and evaluation tools e.g. Regional Evaluation Suite	Medium	Atmosphere
5	High-res suite to produce BARRA data for driving other models e.g. air quality, very high resolution urban models	Short	Atmosphere
6	Access to data sets for initial conditions and observations	Short	Atmosphere
7	Support for ancillary generation and setting up STASH/output	Medium	User

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8	Tools to be able to modify initial conditions and ancillary data	Medium	Atmosphere
9	Idealised model configurations for mesoscale modelling research	Long	Atmosphere
10	LES – MONC (with UM physics and JULES)	Long	Atmosphere
11	Community information such as FAQ, tips and tricks	Medium	Atmosphere
12			
13			
14			

## More information on any of the NRI ideas

### 1. Nesting suite

- Ability to run any domain and resolution (including very high vertical resolution)
- Ability to run deterministic and ensemble
- Ability to generate the required ancillary files using local data sets, e.g. Geosciences Australia, urban morphology
- Ability to run with UKCA – need initialisation data
- Useful to have some pre-set up case studies for high impact events

### 6. Access to data sets for initial conditions and observations for evaluation

- Need data to drive higher resolution model from global NWP systems, BARRA, ERA etc
- Need additional high-res data to initialise UKCA
- Observations for evaluation including satellite, radar, meteorology, air quality