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Fire Impact & Risk Evaluation Decision Support Tool F.I.R.E – D.S.T

Oct 2011 - Research Advisory Forum

Geoscience Australia Activities

Ian French

Australian Government, Geoscience Australia

CRC

Australian Government
Geoscience Australia

Australian Government
Bureau of Meteorology

CSIRO

THE UNIVERSITY OF MELBOURNE

RAF Highlights – year to date

NEXIS Whole of Australia Building database

1. FIRE-DST NEXIS building data available for Victoria
2. NEXIS Case study 1 data available to collaborators
3. Discussions with Vic DSE to make an operational NEXIS for Victoria (3rd party licence negotiations underway for all emergency management applications)

Forest Fuel Model (FFM) (Phil Zylstra)

1. Neighbourhood scale fuel model documented

Vulnerability & Impact Modules in FIRE-DST (Justin Leonard)

1. Vulnerability model specified
2. Impact Model specified & document drafted
3. FIRE-DST data model for Vulnerability& Impact models document drafted (GA1.1.5)

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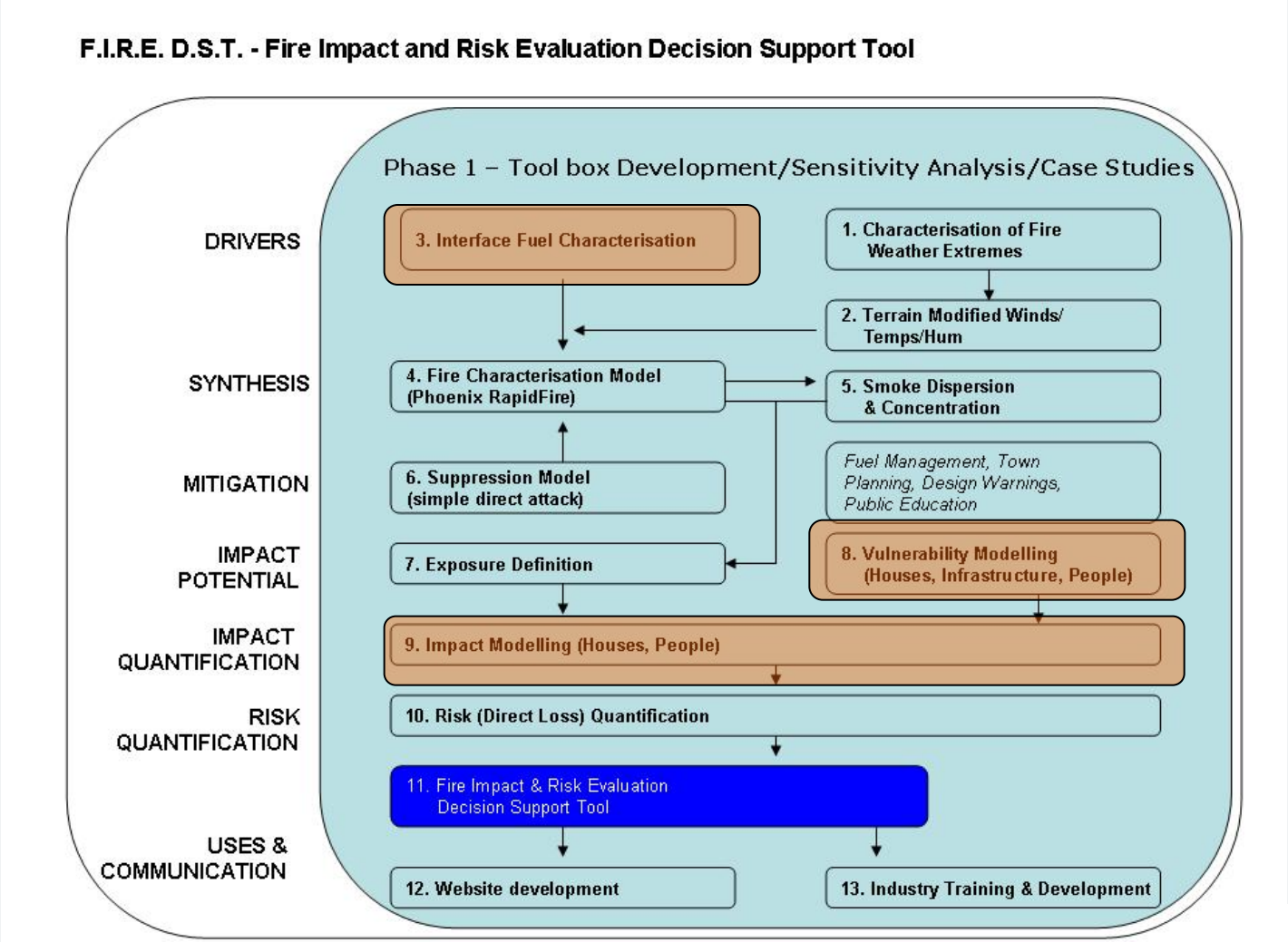
Fire Impact & Risk Evaluation - Decision Support Tool



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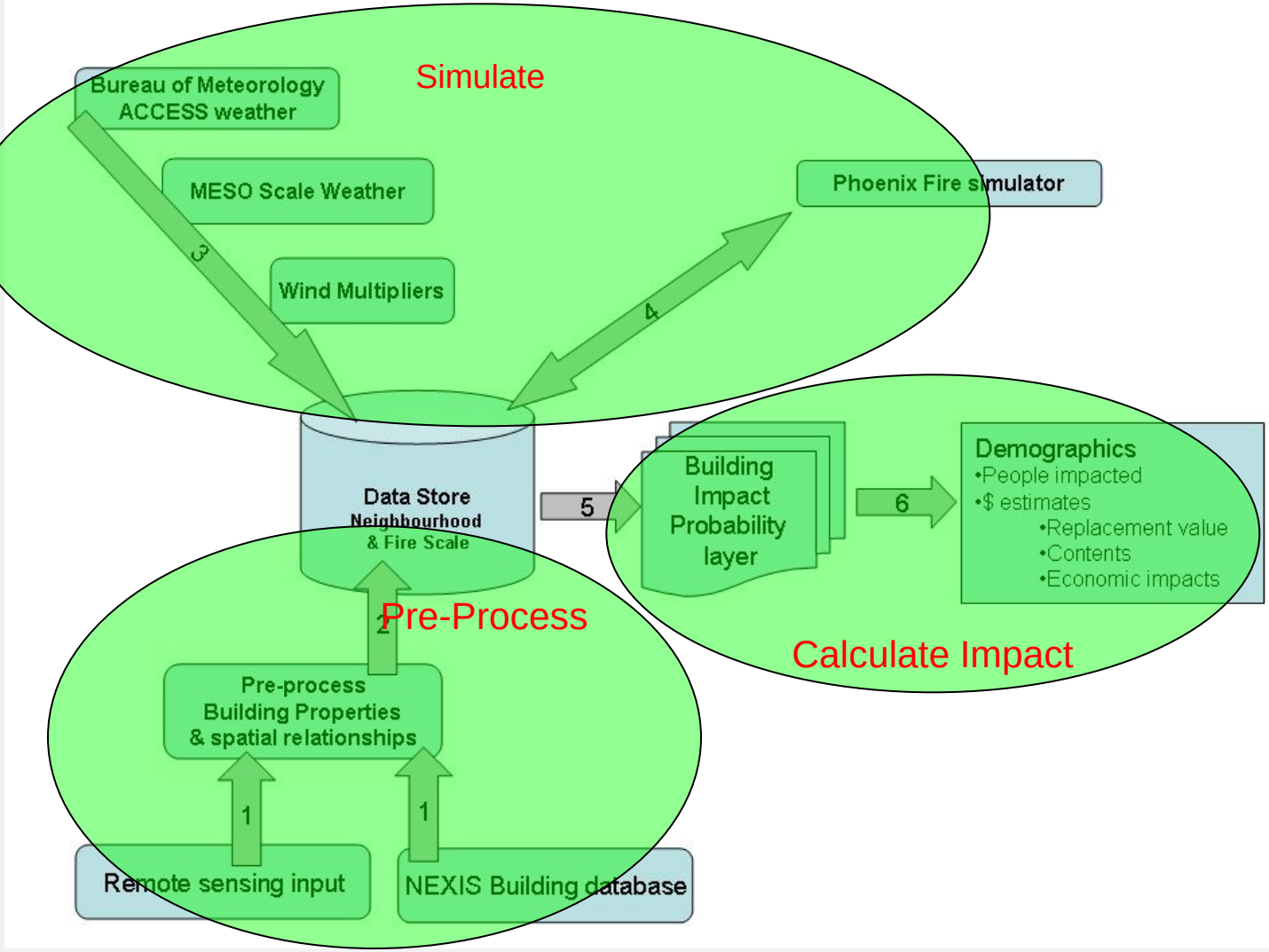
Information Flow



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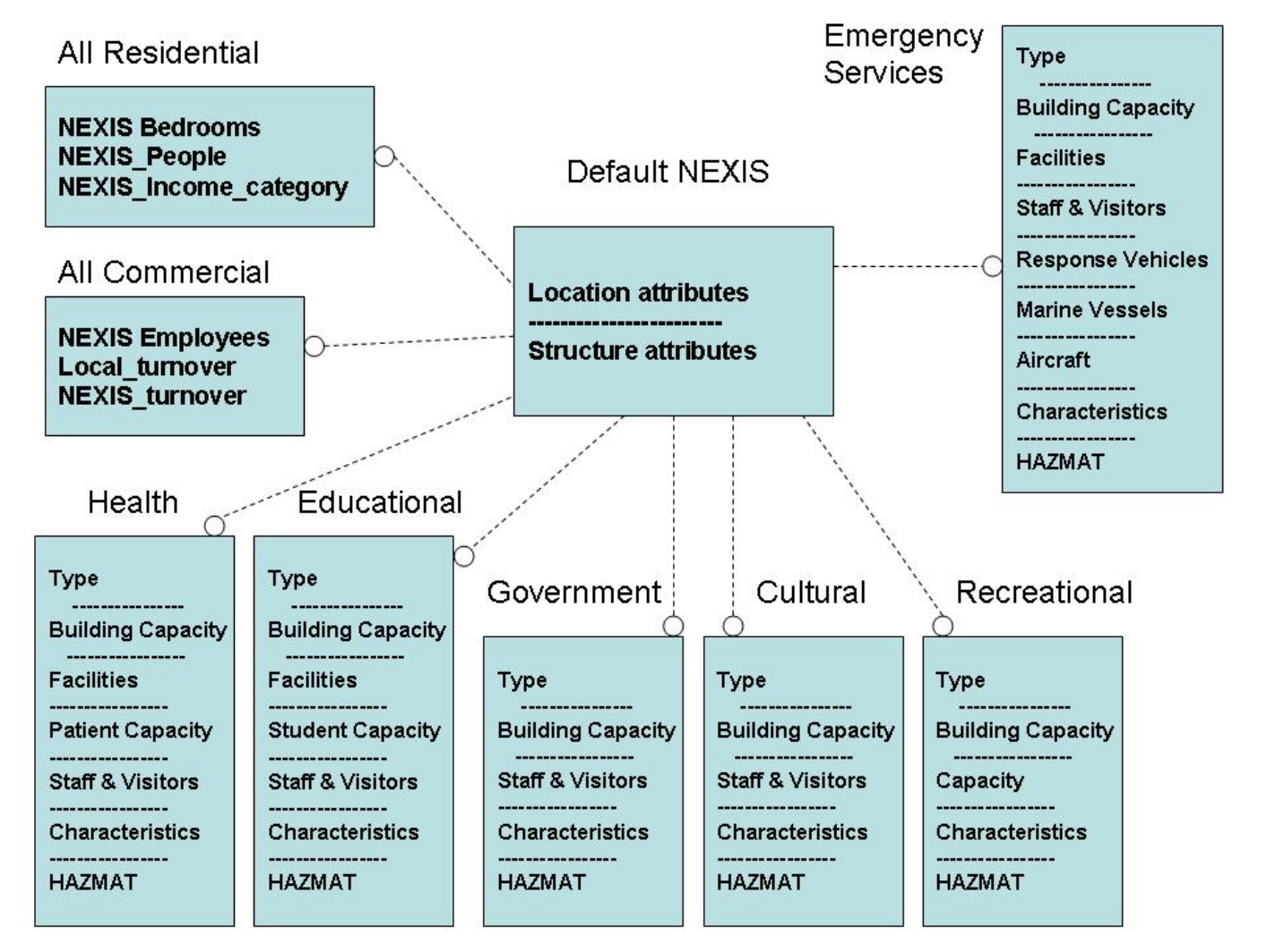
Pre-process - Geoscience Australia NEXIS database



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Pre-process - Geoscience Australia NEXIS database

Standard database that can be included in a GIS – with the ability to view and interrogate multiple data layers and satellite images.

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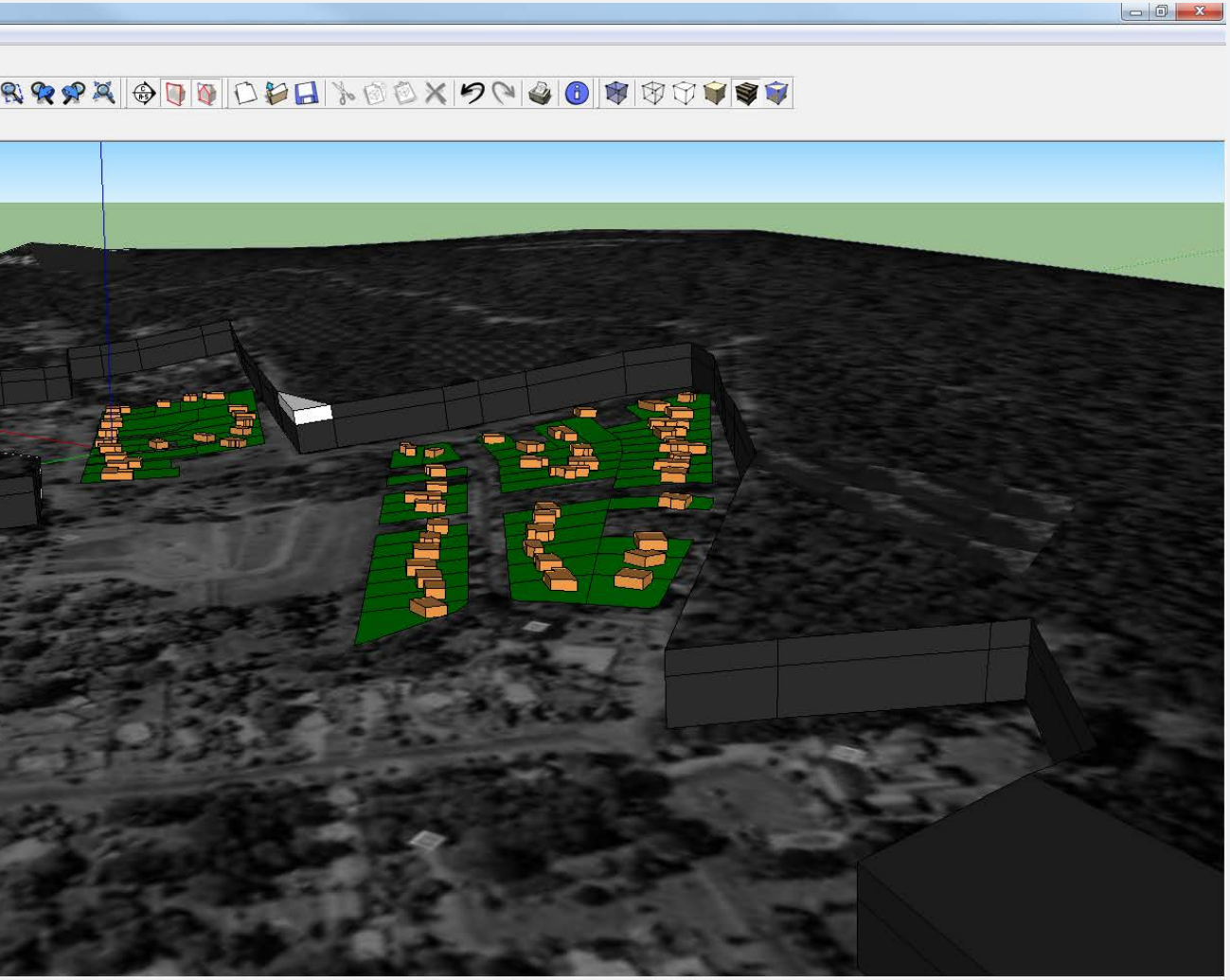
Pre-process neighbourhood and vegetation



FIRE-DST pre-processes the neighbourhood vulnerabilities for radiation and ember attack by using the local buildings, landscape and vegetation.

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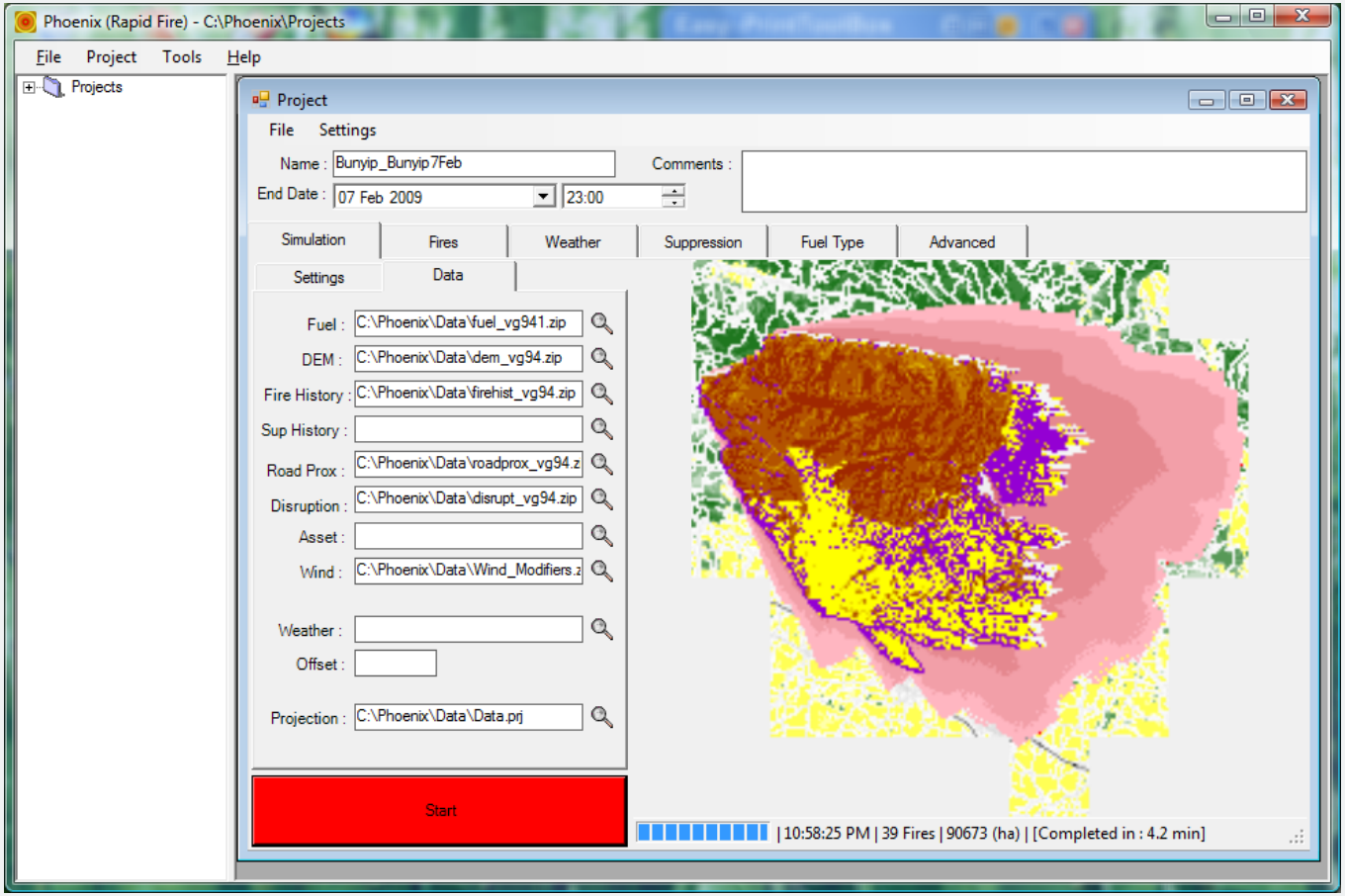
Simulate



Run fire simulations (using Phoenix) at a landscape scale (180m)

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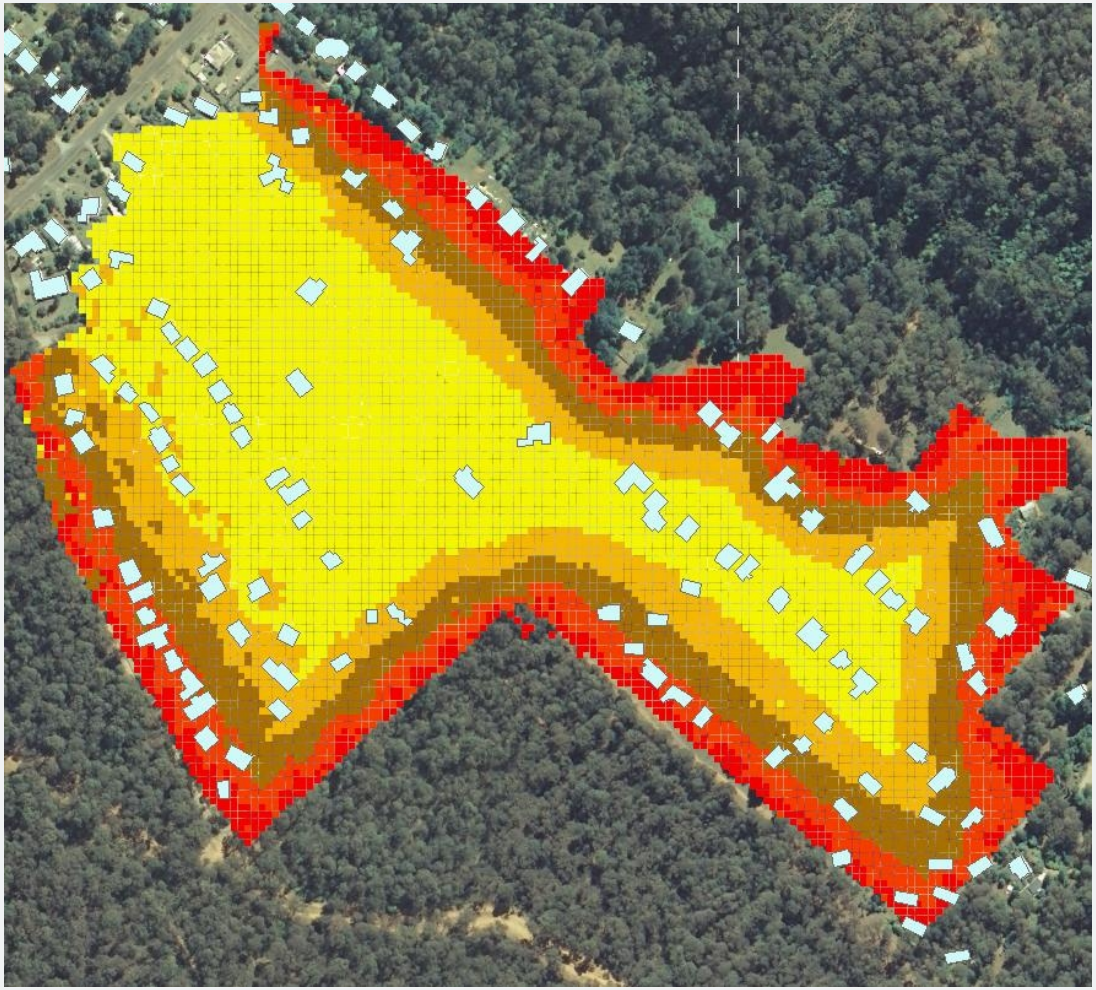
Calculate Impact



Use the landscape fire details to calculate the probability of impact of that fire.

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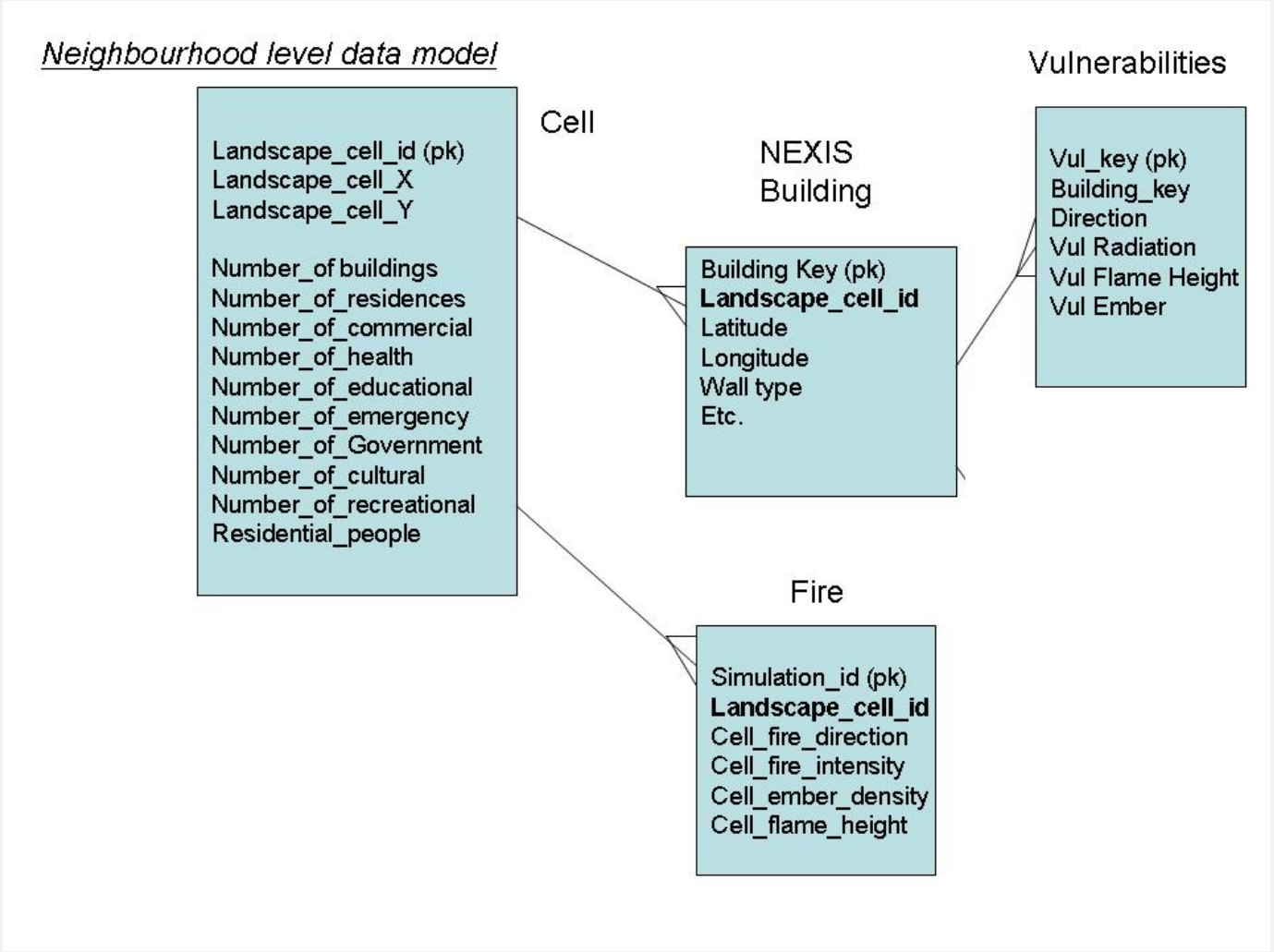
Relationships



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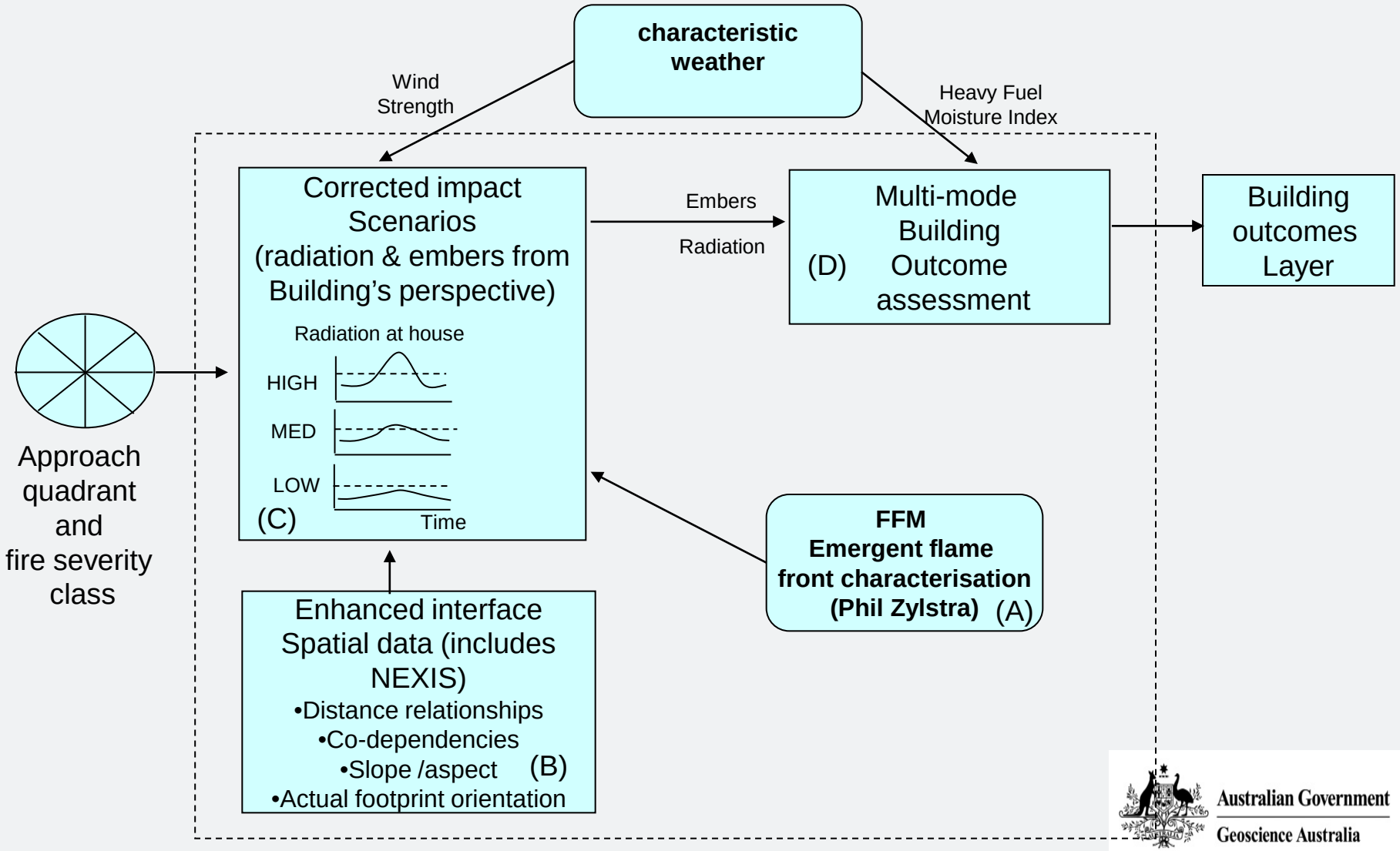
Process Diagram



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