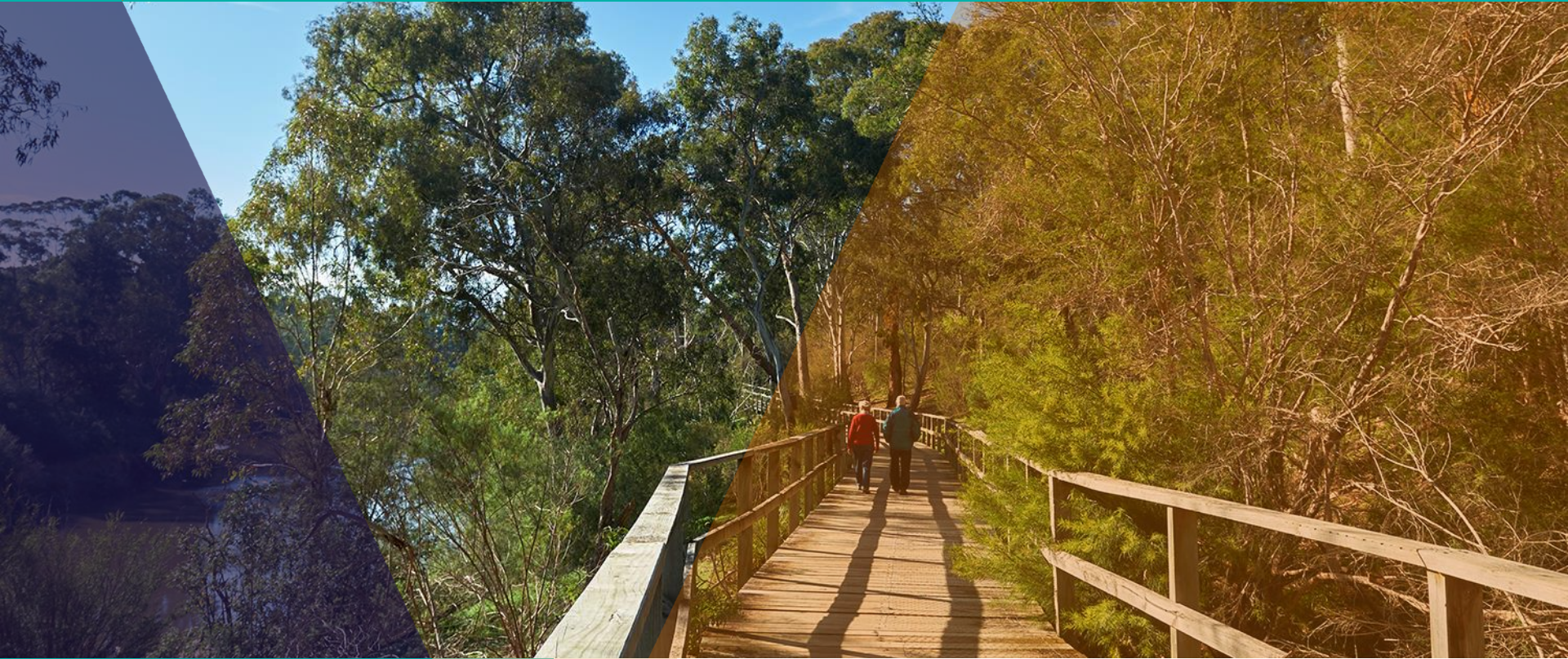


Bushfire risk at landscape-scale

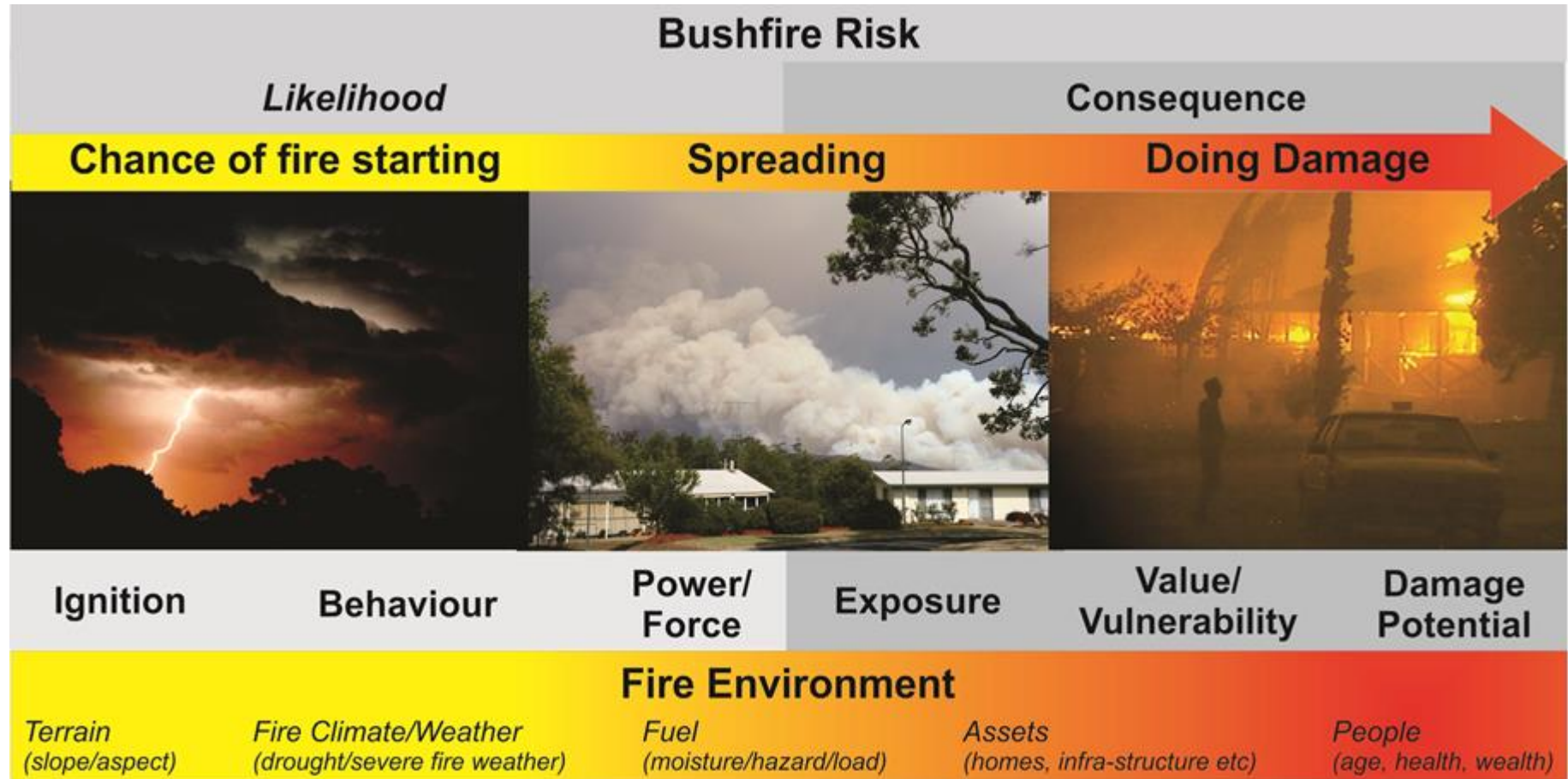


Alison Boak
West Central Bushfire Risk Landscape

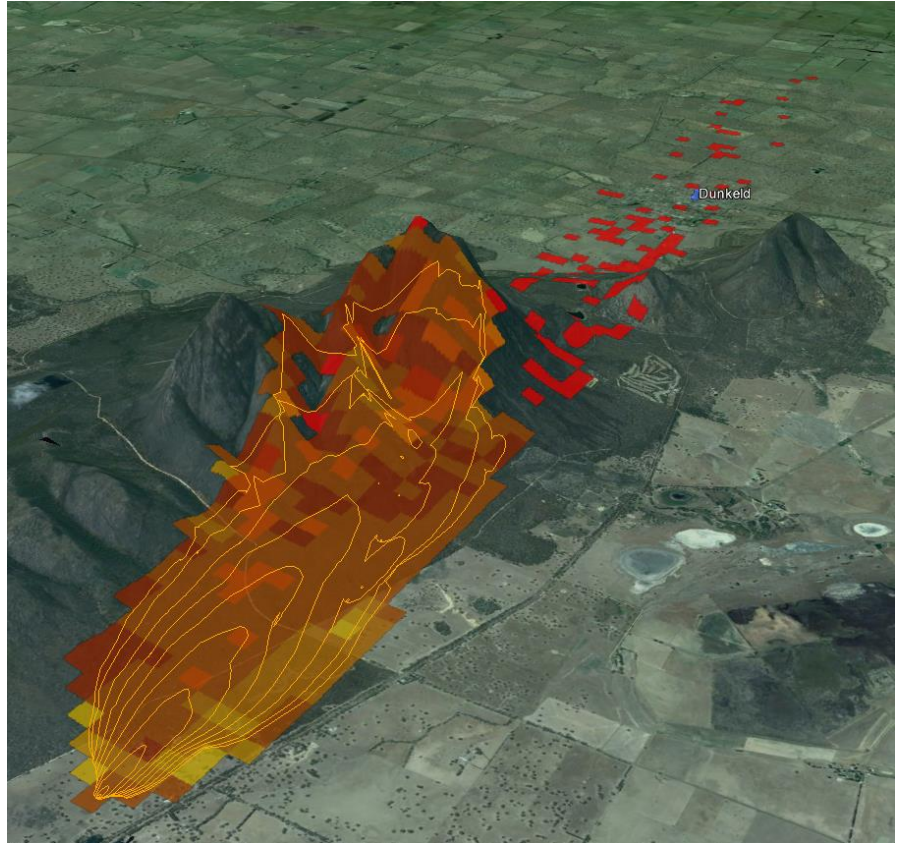


Environment,
Land, Water
and Planning

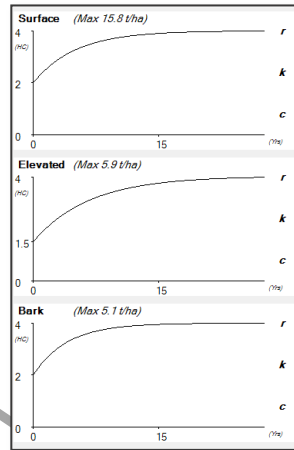
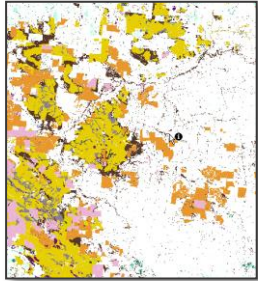
What is bushfire risk?



- Bushfire simulation model developed by the University of Melbourne, Bushfire Co-operative Research Centre and DELWP
- Developed for Victorian fuel types.
- Simulates the spread path of a bushfire based on information about terrain, fuel and weather



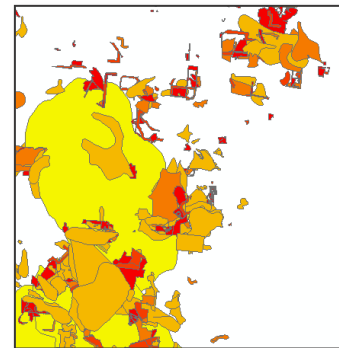
What information goes into Phoenix?



Fuel accumulation rates

Type	Start (hrs)	Duration (hrs)	Turn Around (min)	Quantity
Hand Trail / Slip-ons	0.50	24		2
Tanker (4000 litres)	0.75	24		2

Suppression rates



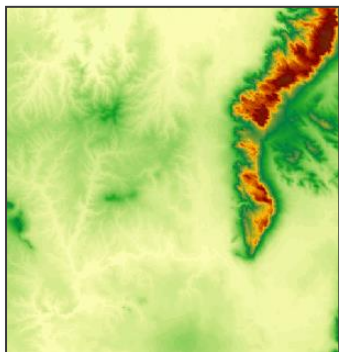
Fire History



Disruptions

Time	Temp (C)	RH (%)	Wind Dir	Wind (km/h)	Drought Factor	Curin %	Cloud %
16 Feb 2016 09:00	35	25	360	20	10	100	0
16 Feb 2016 10:00	36	22	350	30	10	100	0
16 Feb 2016 11:00	37	18	350	40	10	100	0
16 Feb 2016 12:00	38	15	340	50	10	100	0
16 Feb 2016 13:00	40	10	340	50	10	100	0
16 Feb 2016 14:00	42	8	330	50	10	100	0
16 Feb 2016 15:00	43	7	330	50	10	100	0
16 Feb 2016 16:00	43	7	320	50	10	100	0
16 Feb 2016 17:50	43	7	310	50	10	100	0

Weather

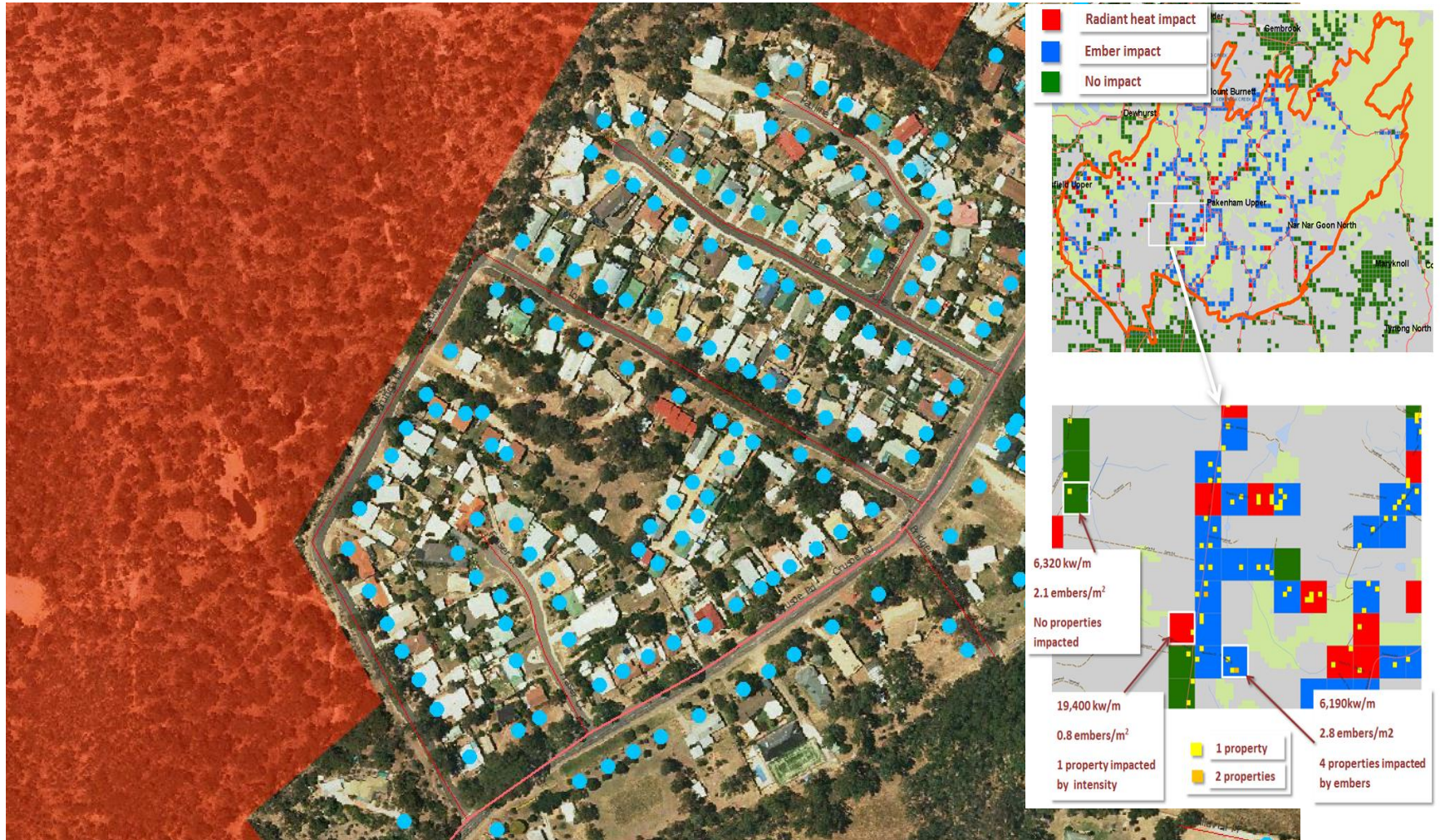


Address Points

Topography



Modelling fire impacts on properties



What information does Phoenix produce?

Blue cells =
Fire was
suppressed

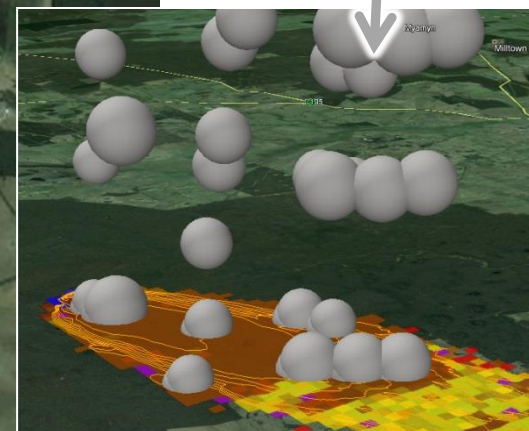
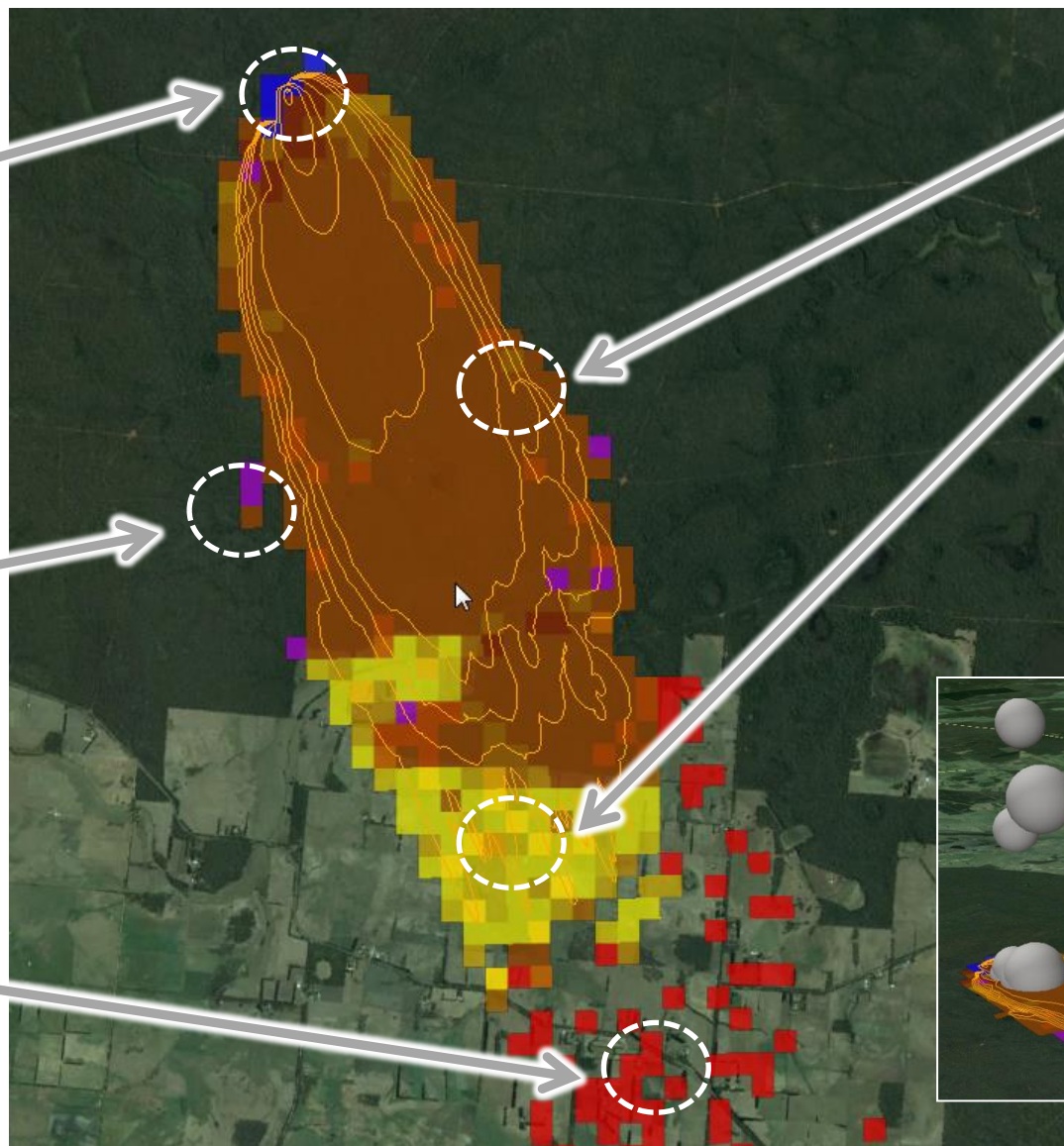
Purple cells
= Fire went
out

Red cells =
Maximum
spotting
distance

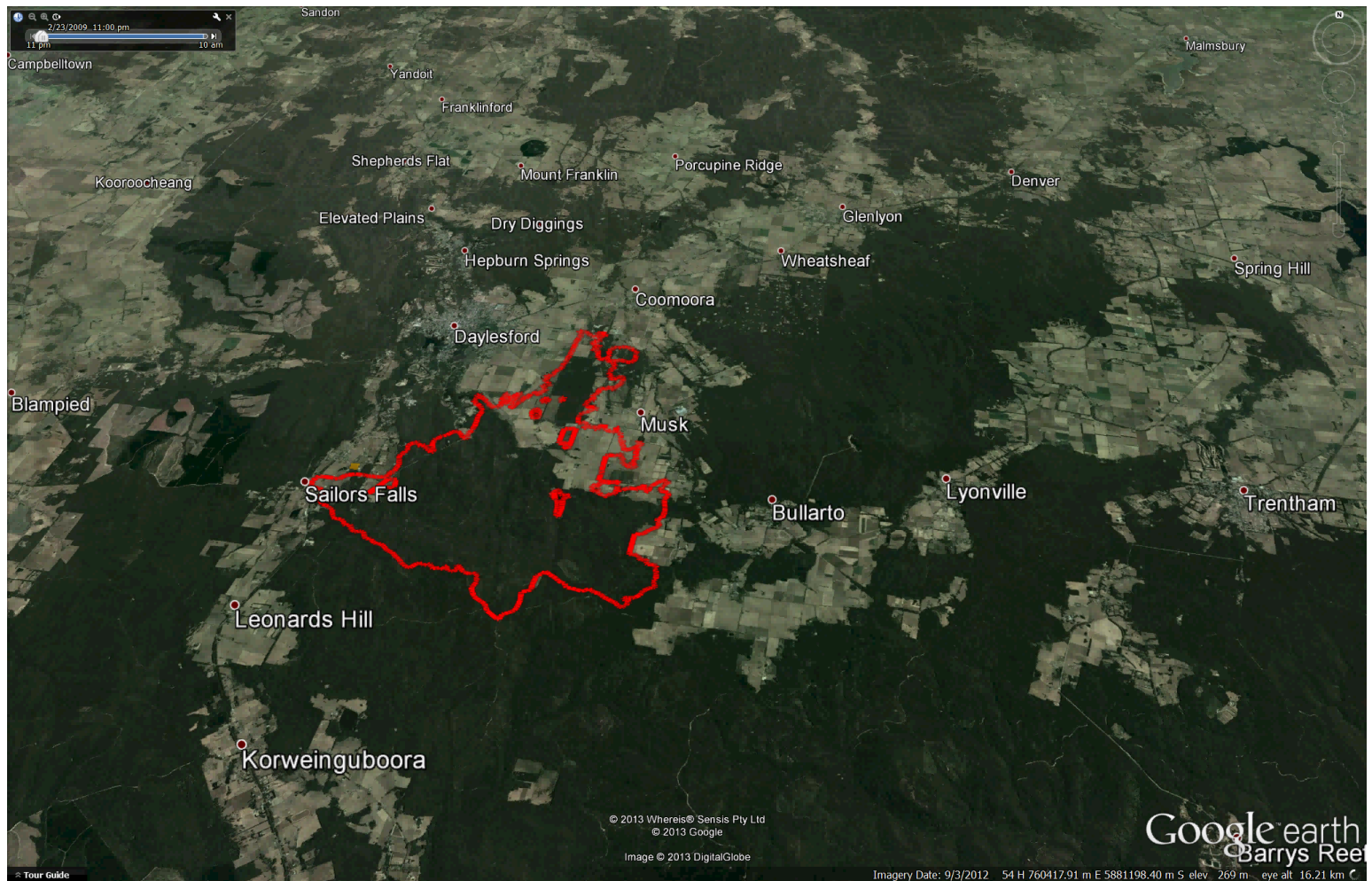
Orange lines=
Fire perimeter

Yellow - brown
cells =
Flame height

Bubbles=
Convection



A Phoenix re-creation of the Muskvale bushfire, Feb 2009

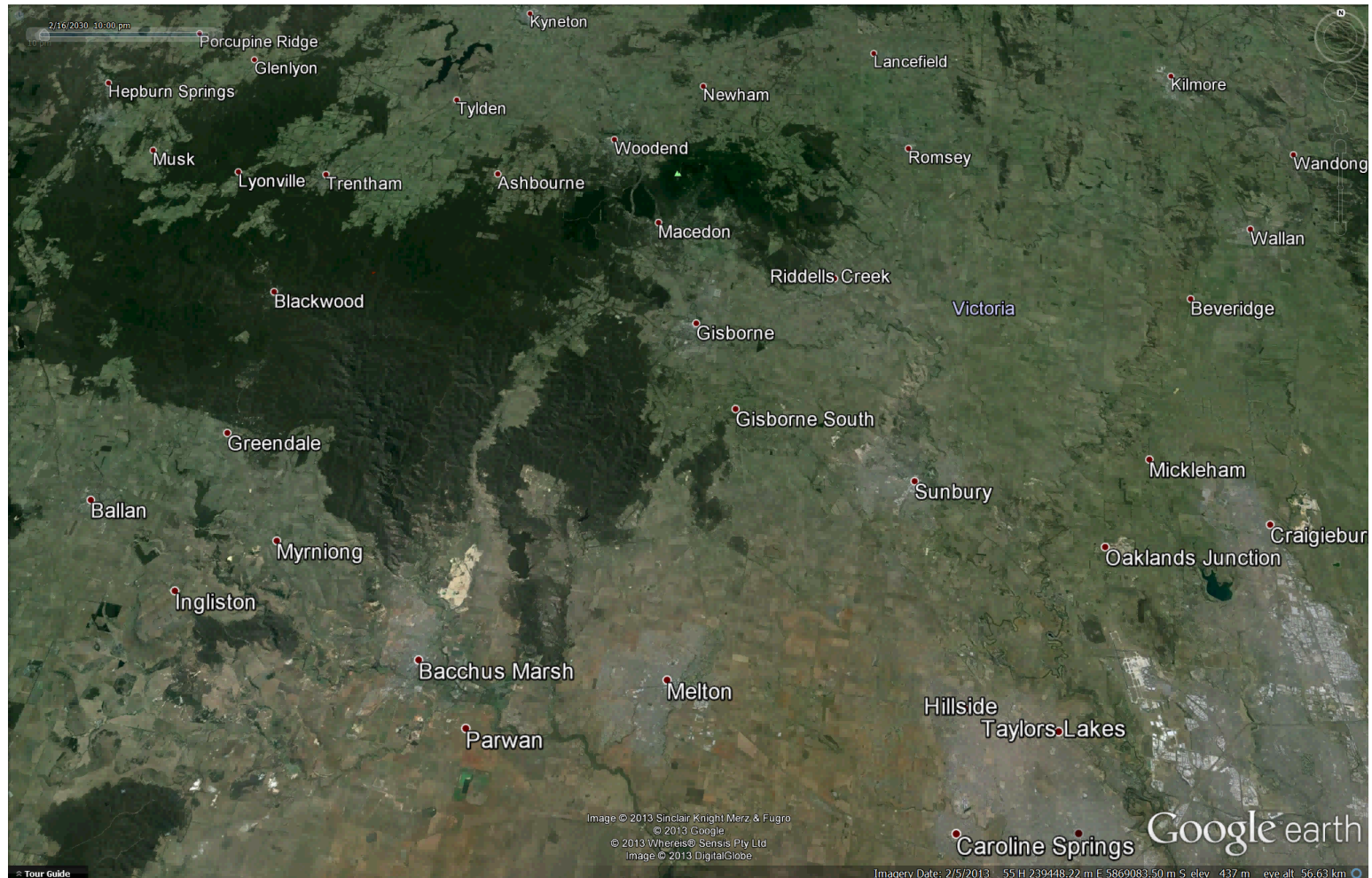


Red line = actual fire extent; Red – spotting, yellow/brown – flame height, purple – fire goes out, blue – fire suppressed; Phoenix model uses weather from day at Melbourne Airport minus 30 mins

Phoenix -“Code red” weather and maximum fuel loads

On a day with weather conditions like those on Black Saturday 2009, a fire starting in the Wombat Forest has the potential to travel long distances.

Note: This simulation only goes for approx. 12 hours after the fire starts. Red – spotting, yellow/brown – flame height, purple – fire goes out, blue – fire suppressed



Modelling bushfire risk in the West Central landscape

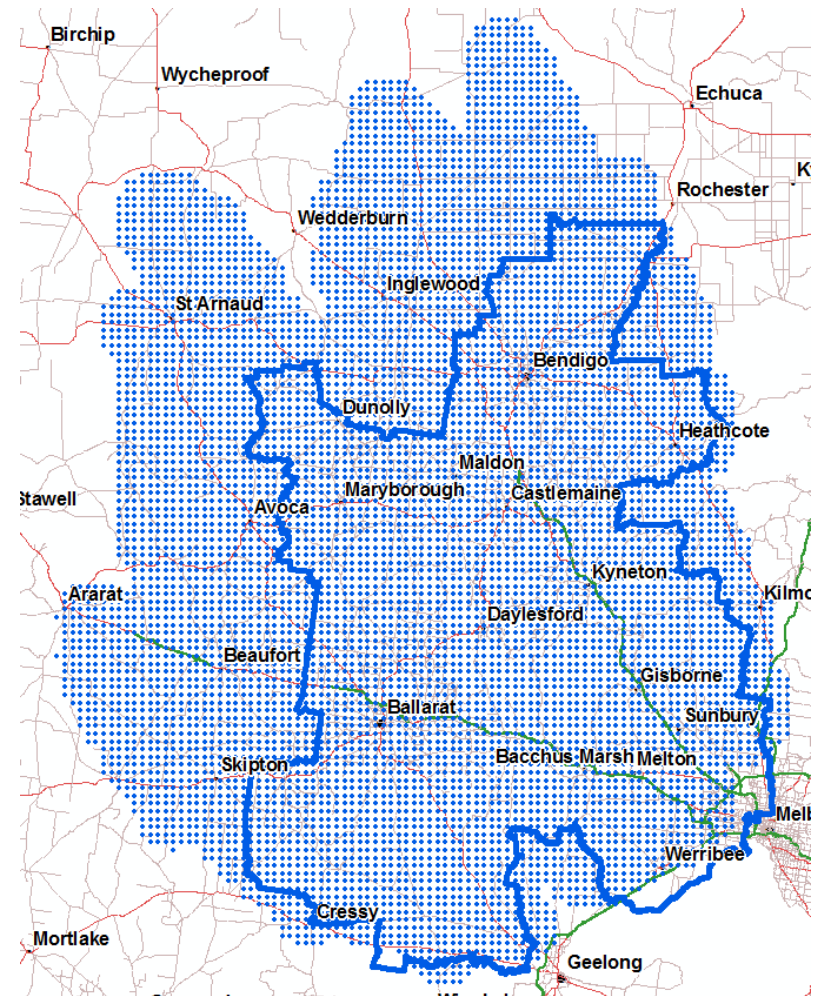
8036 ignition points, 2km apart

Black Saturday 2009 - type weather
- hot, dry strong NW winds followed by
SW change in afternoon

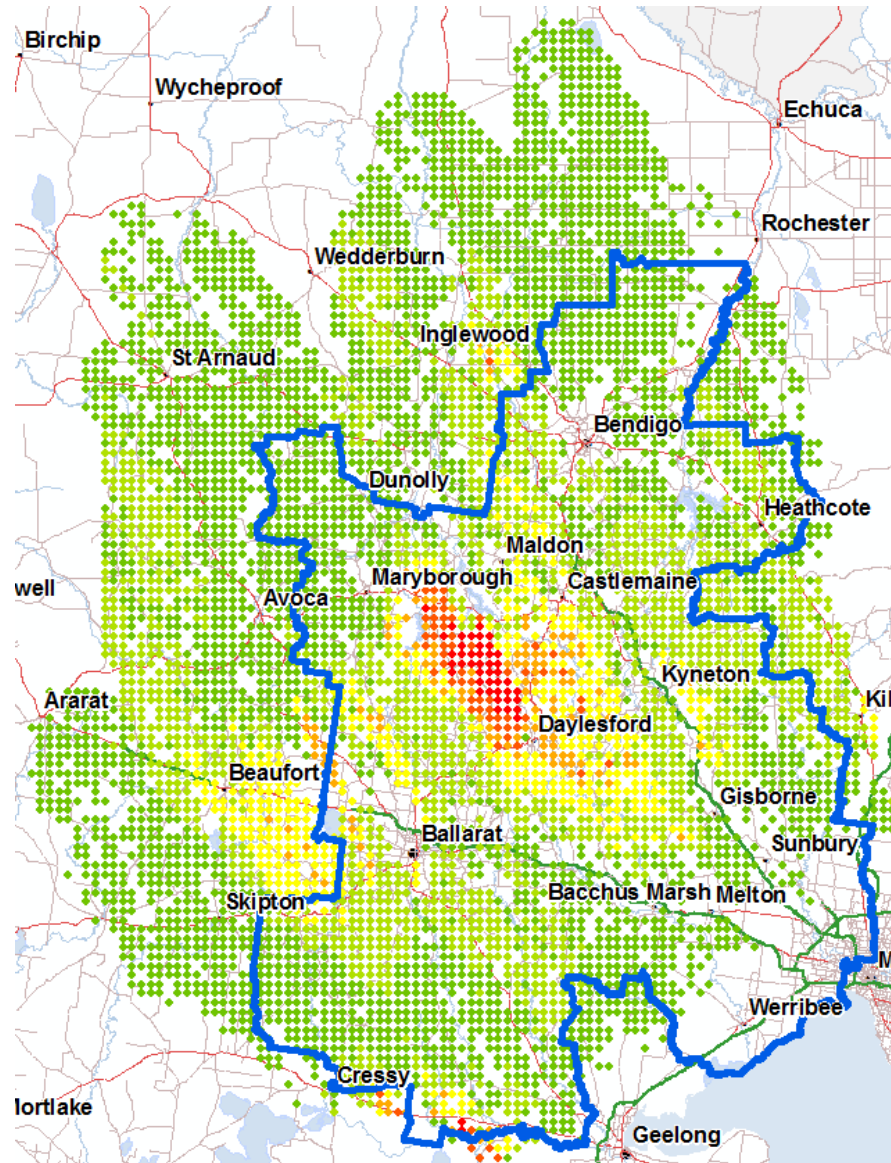
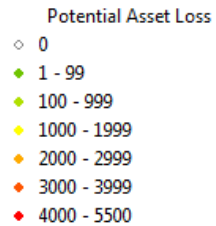
Maximum forest fuel loads (no fire history)

Drought-condition grass fuel loads

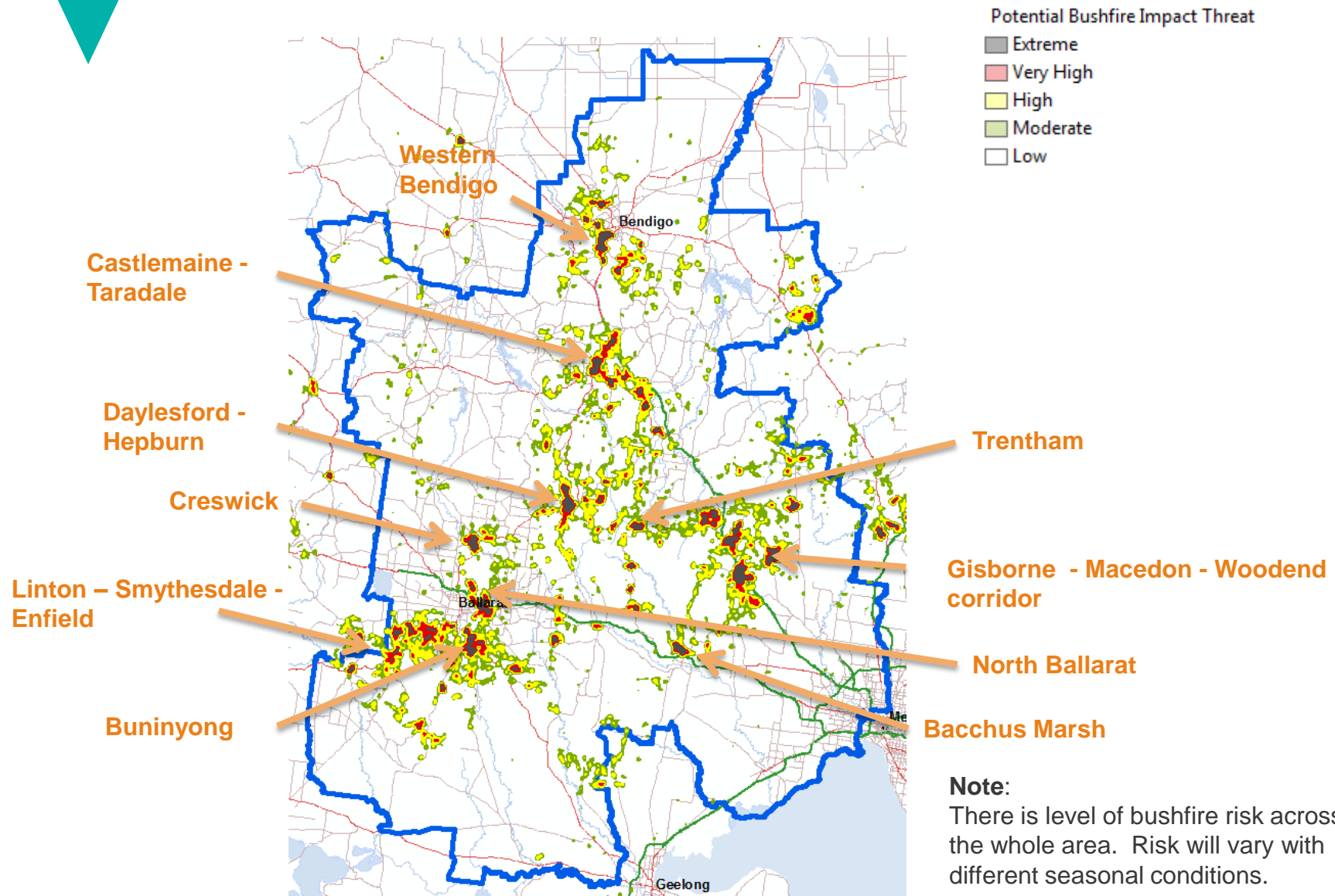
First attack suppression



Where do bad bushfires start?

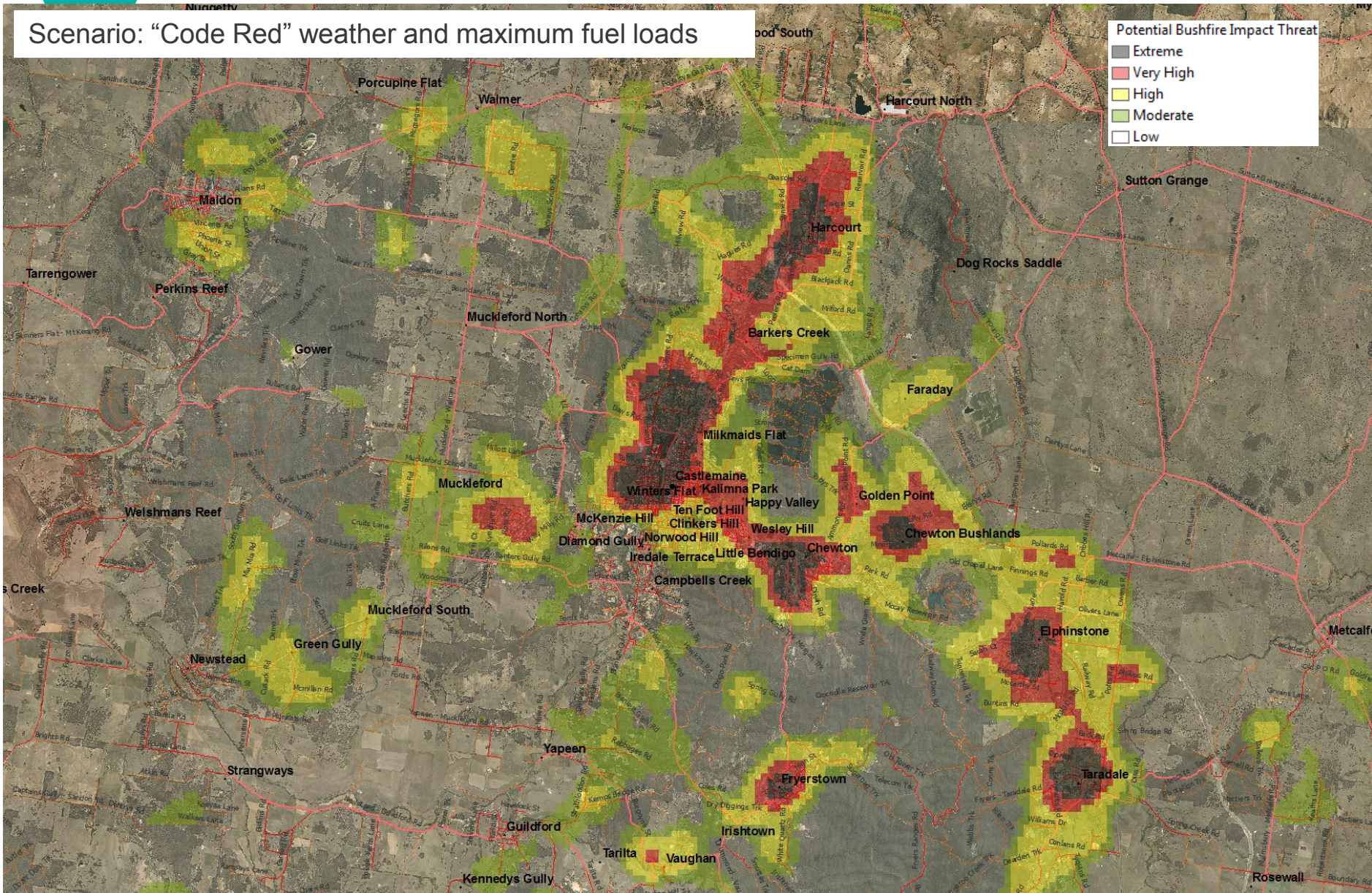
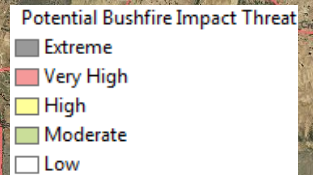


Where do bushfires impact?

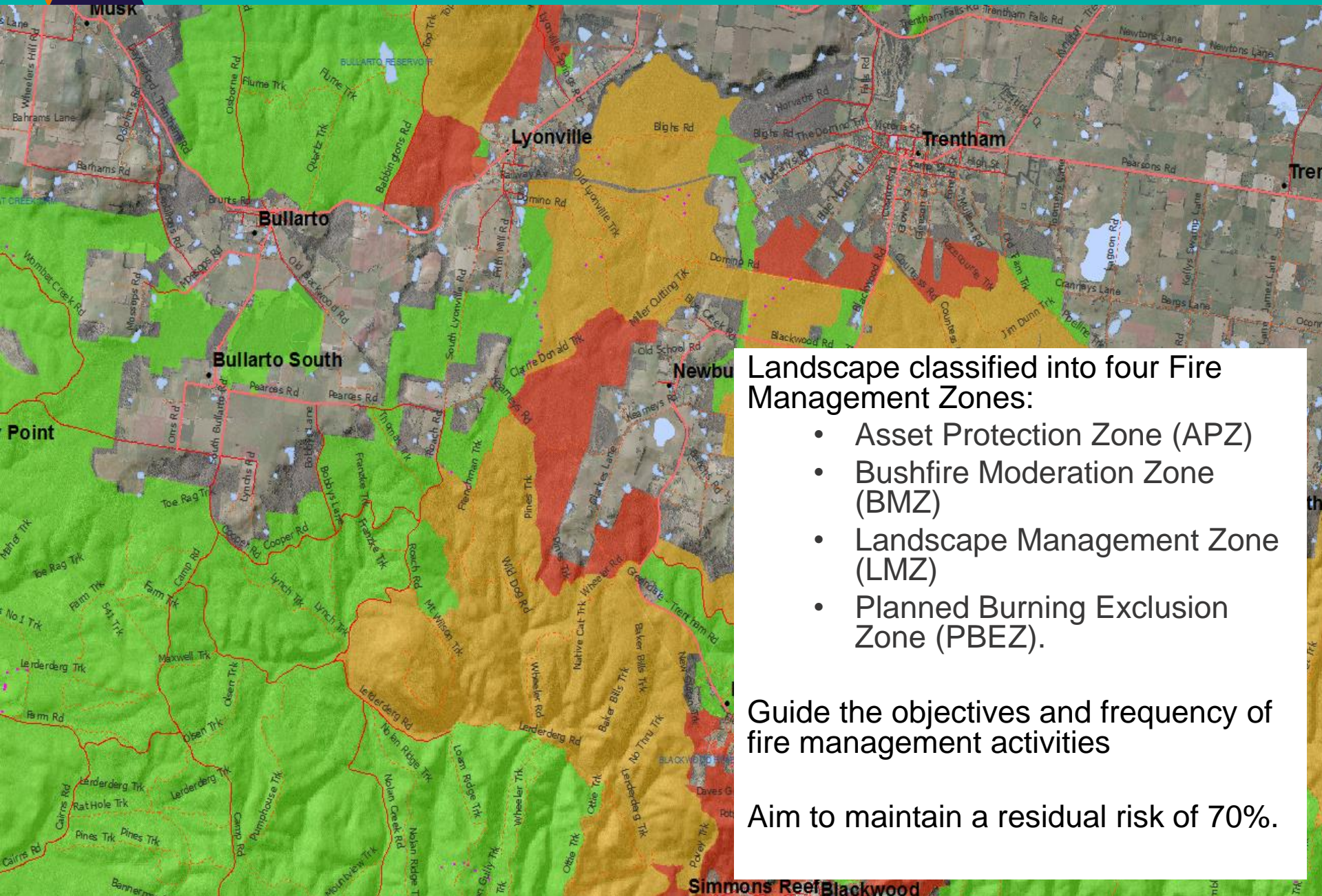


Where is the bushfire threat in this area?

Scenario: "Code Red" weather and maximum fuel loads



Managing the bushfire risk on public land



Landscape classified into four Fire Management Zones:

- Asset Protection Zone (APZ)
- Bushfire Moderation Zone (BMZ)
- Landscape Management Zone (LMZ)
- Planned Burning Exclusion Zone (PBEZ).

Guide the objectives and frequency of fire management activities

Aim to maintain a residual risk of 70%.

Have your say on fire management zones

Have your say on new fire zones.



Did you know that Fire Management Zones decide how fuel treatment is conducted on public land?

Our latest bushfire modelling has led to proposed changes to Fire Management Zones (FMZs) on public land in the West Central Bushfire Risk Landscape.

We are interested in hearing your thoughts about the proposed changes and what they might mean for your local area, as well as any local knowledge about landscape values we may have not considered.



Have Your Say @ DELWP

- Current Projects
- Have your say on new fire zones

Public comment ends on 25 November 2016

Safer Together

- **Managing bushfire risk across all land: DELWP / PV / CFA / Shires / Landowners**
- **Involving the community in decision-making**

What we do	What we do together	What you do
<p>Monitor and predict fire weather to help us suppress and patrol fires</p> <p>Use aircraft and fire towers to watch for fires</p> <p>Issue fire danger warnings and advice</p>	<p>Share information during fire events through channels like community meetings and social media</p> <p>Build an understanding of bushfire risk in our area</p>	<p>Develop and practice your bushfire plan and share with others</p> <p>Fully extinguish camp fires</p> <p>Keep up to date with weather and fire danger warnings</p>
<p>Maintain critical infrastructure</p> <p>Reduce fuel through planned burns, mulching, slashing</p> <p>Reside vegetation and manage</p>	<p>Develop and implement fire recovery plans</p>	<p>Work with your community to recover from bushfire events</p> <p>Review how your bushfire plan worked last Summer</p>
<p>Work with agencies to plan for bushfire management</p> <p>Conduct bushfire science research</p>	<p>Develop plans for protecting what is at most at risk</p>	<p>Share your bushfire knowledge and experience with new residents</p> <p>Get to know your local emergency services personnel</p>
<p>Build and maintain fire trails in parks and forests</p> <p>Recruit and train firefighters</p>	<p>Attend community bushfire education events</p> <p>Create community fire information guides</p> <p>Run bushfire simulations to better understand fire behaviour</p>	<p>Join a community Fire Guard group</p> <p>Prepare your property by mulching, slashing, clearing gutters, checking pumps</p>

