

EUCALYPT FORESTS AND BUSHFIRE

How do eucalypt forests survive bushfires?



Adapted to fire regimes

- Fire has been part of the Australian landscape for millions of years.
- The plants and animals are adapted to fire regimes.
- The amount of time between fires is important.



Two main fire response strategies

resprouters



Shoots emerge from a burnt trunk (Photo A. Wong)

seeders



A seedling starts from scratch (Photo S. Gould)

Resprouters

- Nearly all *Eucalyptus* trees can resprout from buds on their trunks that have been protected by thick bark or below ground buds that have been insulated by soil.
- More than two thirds of the plant species in eucalypt forests are resprouters.



Resprouting ferns, palms and trees (S. Gould)

Eucalyptus trees

- Individual eucalypt trees can live for hundreds of years, surviving droughts and bushfires.
- The ability to survive bushfires and keep growing provides great stability to the eucalypt forests.



Just add leaves (Photo S. Gould)

Seeders

- About a quarter of plant species in eucalypt forests, are “seeders”.
- Seeders recover from fire-resistant seed banks.



Making use of the space and light (Photo S. Gould)

Rainforest

- Patches of rainforest occur where the landscape and climate provide suitable conditions and where fire only occurs very infrequently.



An unburnt patch in Monga NP (Photo A. Wong)

Forest animals and fire

- Large animals and birds may be able to avoid a fire if it is small, slow moving and not too hot.
- Many animals will only survive if they can find shelter from the heat and smoke - in a gully, under a rock, under thick bark, in a hollow log, in a tree hollow, in a burrow.



Wombat burrow in Monga NP (Photo A. Wong)

After the fire

- After the fire many more individuals will die from dehydration or starvation or predation.
- Unburnt patches and gullies help animals survive fire and provide resources for population recovery.



An echidna survives (Photo A. Wong)

Altered fire regimes

- Even though the plants and animals have strategies for surviving bushfire there is no room for complacency.
- First, the forests are already under pressure from multiple threats.
- Second, fire regimes are changing.



Disturbance on top of disturbance (Photo A. Wong)

Forest recovery

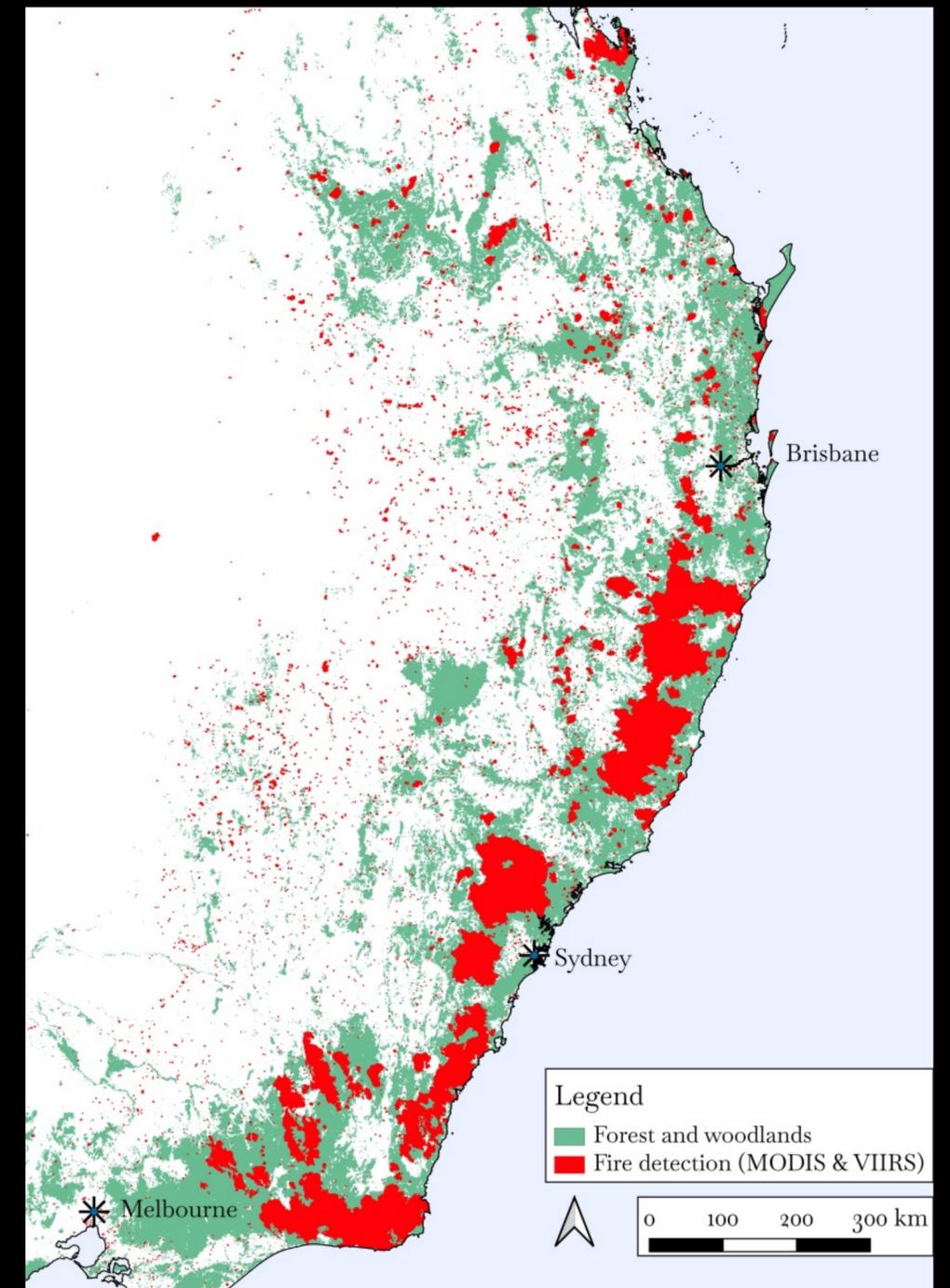
- Allow natural regeneration to occur;
- Don't disturb burnt areas any further;
- Assist the recovery of animal populations in burnt and unburnt areas; and
- Address all threats to population recovery.



Forest recovery in Monga NP (Photo A. Wong)

More broadly, we need

- Improved protection, fire planning and fire response to retain unburnt patches, particularly sheltered gullies and key biodiversity areas.
- Urgent action on climate change mitigation to help avoid repeated events like the summer 2019-2020 mega-fires.



Extent of the 2019-2020 megafires