

2023 ANZIF Conference

# Climate change and Tasmanian production forests

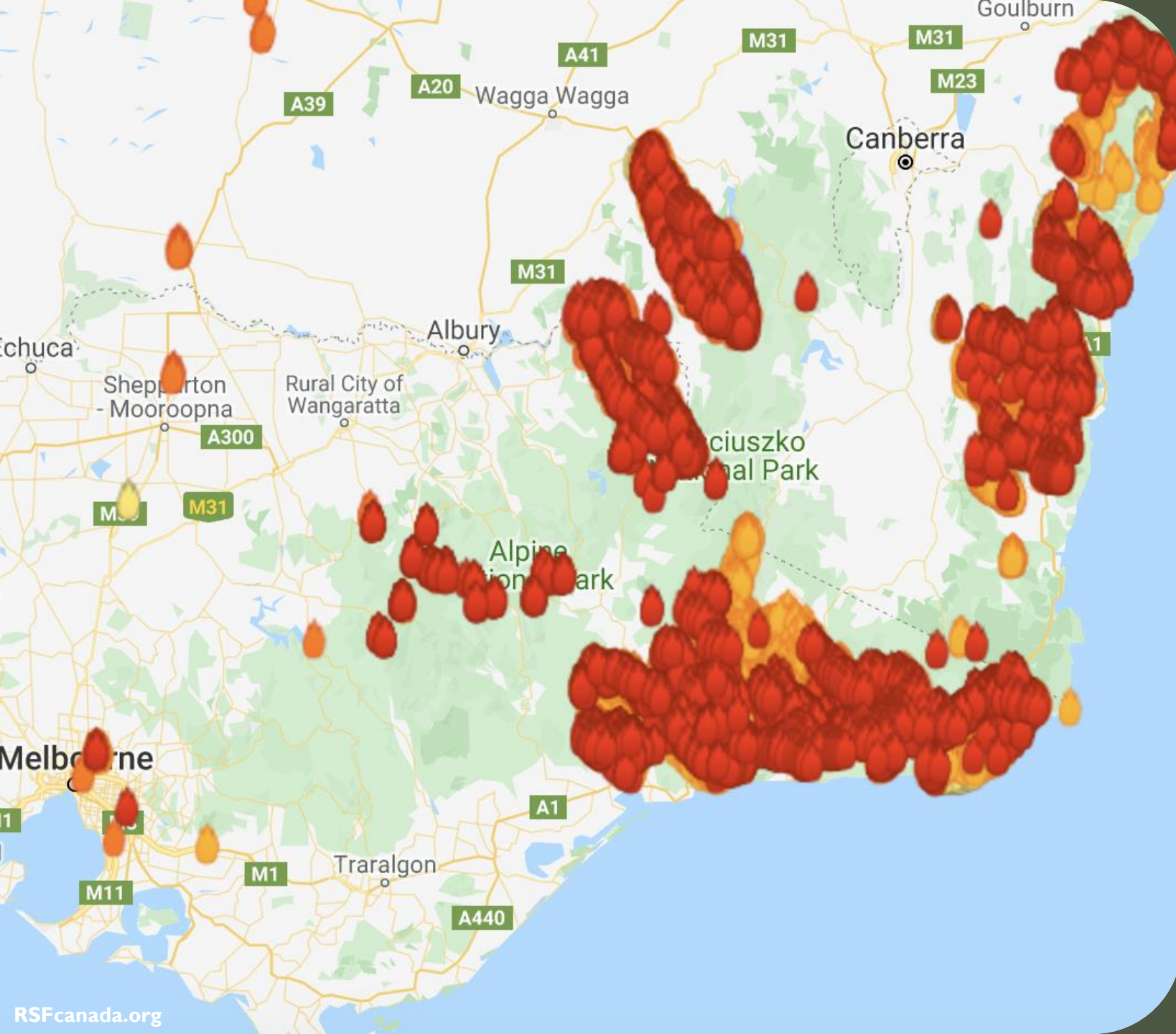
Presented by:  
Angela Gardner  
on behalf of  
Dr Amy Koch

Date:  
17 October, 2023



# FPA

FOREST PRACTICES AUTHORITY  
TASMANIA AUSTRALIA



LaTrobe University



Scimex

# Project aim

To identify the ways in which climate change is expected to impact Tasmanian production forests and provide recommendations on how the forest practices system could respond



# Key issues

**Forest health**

**Fire**

**Soils**

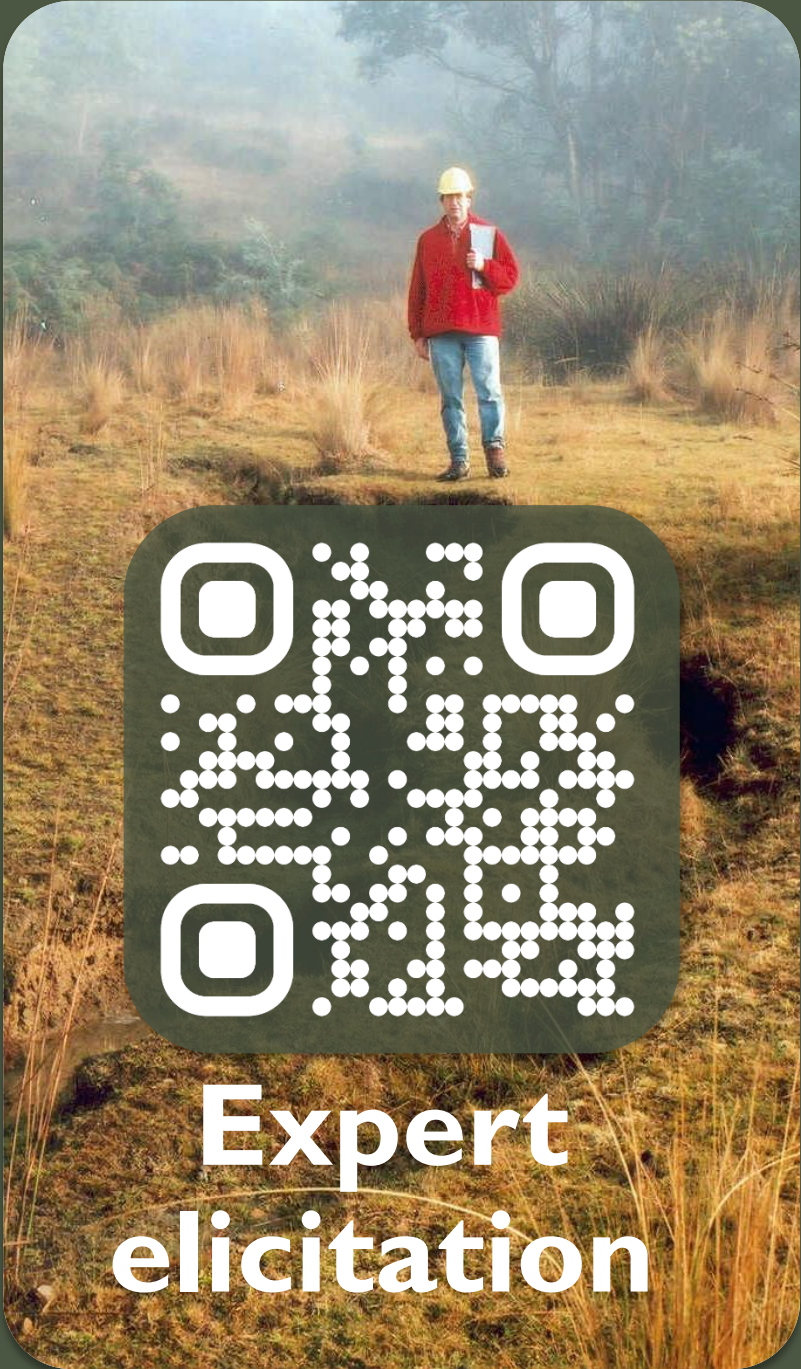
**Water**

**Biodiversity**

**Pests and diseases**

**Carbon**

- *What are the potential impacts?*
- *What are potential adaptation strategies?*
- *What are the key knowledge gaps?*
- *What factors will inhibit uptake of adaptive action?*



# Some potential impacts

- Decrease in forest productivity (in some areas)
- Increase in tree and stand mortality (heatwave, drought, fire, disease)
- Lower seedling establishment
- Reduced window to do planned burns
- Increased erosion and soil degradation
- Changes in stream flow and temperature
- Widespread shifting or loss of ecological niches
- Increased prevalence of pest and disease outbreaks



# Impacts already being felt



Luke Cooper(2022)



The Examiner Tasmania (2022)



Forest Practices Authority (2020)

# Case studies

- Forest Practices Code review
- Erosion and sediment control
- Stand mortality/failed regeneration
- Spatial assessment of values at risk
- Riparian reserve management
- Post-disturbance (salvage) harvesting
- Threatened species management
- Shifting seed sources
- Research and knowledge gaps

## Summary of scientific expert feedback on the potential impact of climate change on Tasmania's production forests and potential adaptation strategies

Background report



Amelia Koch

Report to the Board of the Forest Practices Authority

Hobart

August 2022

FPA Scientific Report 32

FPA

FOREST PRACTICES AUTHORITY  
TASMANIA AUSTRALIA



# Case study: Code-of-practice review

## Potential impact:

- Climate change will have considerable impacts on production forests in a variety of ways

## Potential adaptation strategies:

- Update Code to encourage greater consideration of climate change risks and carbon impacts

## Forest Practices Code 2020



FPA  
FOREST PRACTICES AUTHORITY

FPA

FOREST PRACTICES AUTHORITY  
TASMANIA, AUSTRALIA

# Case study: Erosion control

## Potential impact:

- More episodic and intense rainfall
- Current erosion measures may be inadequate

## Potential adaptation strategies:

- Assess erosion in recently-harvested areas that have experienced intense rainfall
- Review *Forest Practices Code* measures

# Case study: Stand mortality/failed regeneration

## Potential impact:

- Increase in stand-level mortality due to fire, drought, heatwaves, and pathogens
- Flow-on effects for other forest values

## Potential adaptation strategies:

- Liaise with policy makers to draft policy on when regeneration efforts are required, and by whom

# Case study: Values at risk

## Potential impact:

- Some forest values will be particular at risk from fire, drought etc
- Increased incidence of these threats in the landscape

## Potential adaptation strategies:

- Aggregate or develop spatial layers to identify values at risk
- Develop management strategies for these locations/values at high risk

# Case study: Riparian management

## Potential impact:

- Impacts of climate change will occur at a landscape scale. Greater landscape resilience is required through riparian reserve management

## Potential adaptation strategies:

- Conduct socio-economic assessment of impact of widening headwater streams.
- Wider riparian buffers will help protect streams from erosion, would help maintain corridors of older trees which are more resilient to fire and drought, and provide networks for biodiversity values.

# Case study: Post-disturbance harvesting

## Potential impact:

- Increase in stand mortality (fire, drought etc)
- Loss of production forest and increase in fire risk due to increase in dead wood (standing or fallen)

## Potential adaptation strategies:

- Develop management approach to post-disturbance harvesting
- Conduct research to assess whether management approach is appropriate

# Case study: Threatened species

## Potential impacts:

- Threatened species may be particularly vulnerable to climate change given their low population levels and other threats

## Potential adaptation strategies:

- Review management approach to threatened species using a climate change lens
- Implement monitoring programs to collect baseline data

# Case study: Seed source

## Potential impact:

- The climate envelope for some species may shift to outside their current geographic range
- This could lead to decreased stand productivity and health and ecosystem structures

## Potential adaptation strategies:

- Do more research on best source of seed to promote vigorous regeneration
- Develop seed selection guidelines for forest managers



# Case study: Research

## Potential impact:

- We are entering the unknown – impacts and appropriate adaptation strategies are uncertain

## Potential adaptation strategies:

- Do more research on a range of high risk topics that will help inform future management (e.g. landscape management)



# Practitioner workshop



# Status update

- Background report done
- Practitioner workshop held

## Next steps:

- FPA strategic planning – Forest Practices Code review?
- Seeking funding and collaboration for research
- Exploring funding for planning tool development

# Many thanks

To Dr Amy Koch for driving this project including synthesising expert responses, organising symposiums and workshops, report writing and more

To all the people who have provided feedback and input on the project

To the Board of the FPA for supporting the project

To the FPA Socio-economic Program for funding



Contact: [Amy.Koch@fpa.tas.gov.au](mailto:Amy.Koch@fpa.tas.gov.au)



**FPA**  
FOREST PRACTICES AUTHORITY  
TASMANIA AUSTRALIA