




Department of
**Primary Industries and
Regional Development**



PestFacts WA webinar

Acknowledgment of Country

The Department of Primary Industries and Regional Development acknowledges the traditional custodians throughout Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures; and to Elders both past and present.



Webinar agenda

WA's climate outlook for 2024.

Ian Foster. DPIRD senior research scientist.

Pests that growers need to watch out for in 2024.

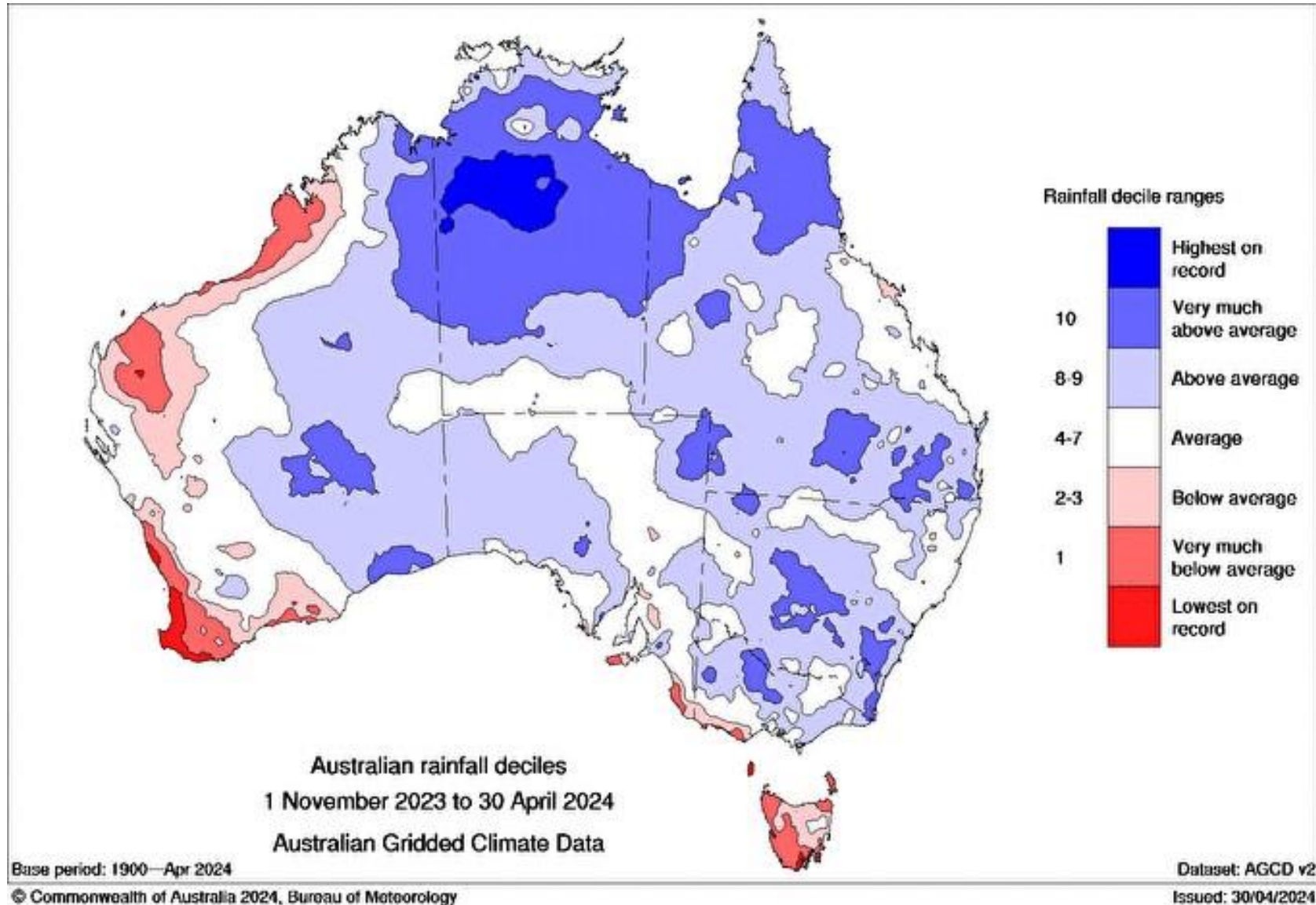
Svetlana Micic. DPIRD research scientist.

Question and Answer session.

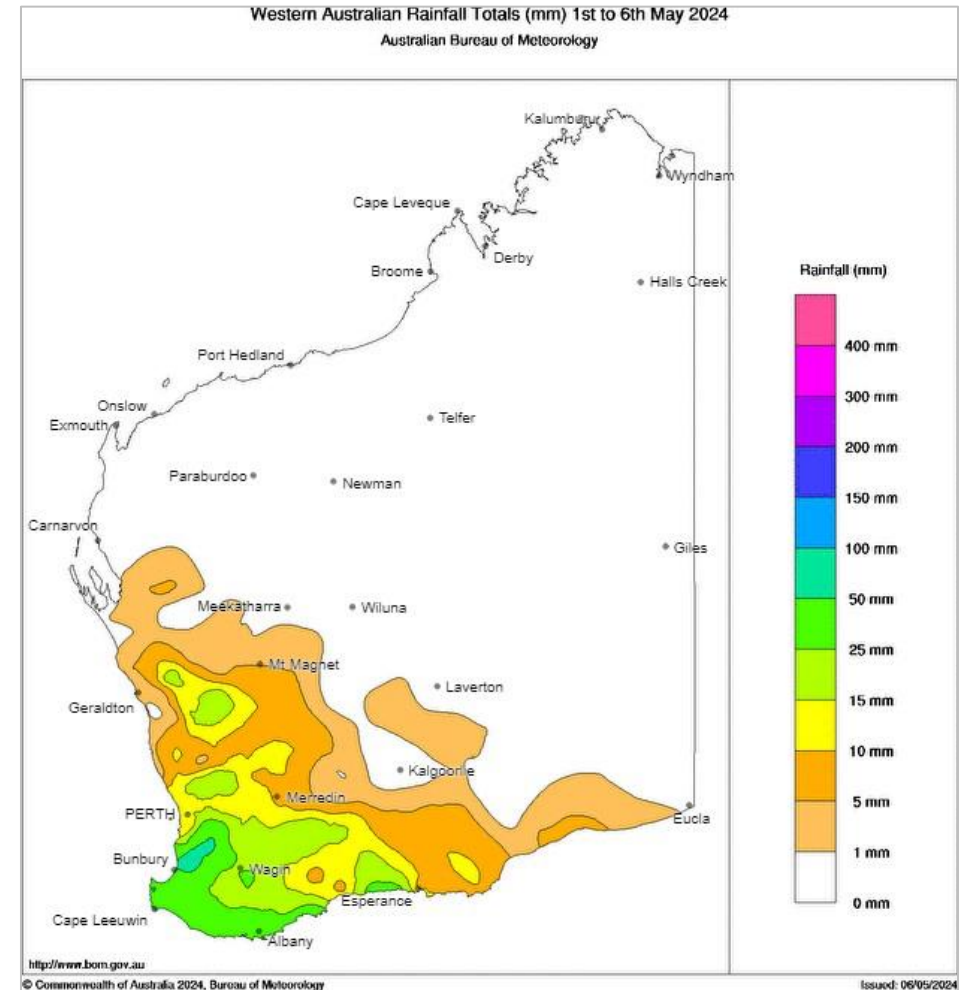
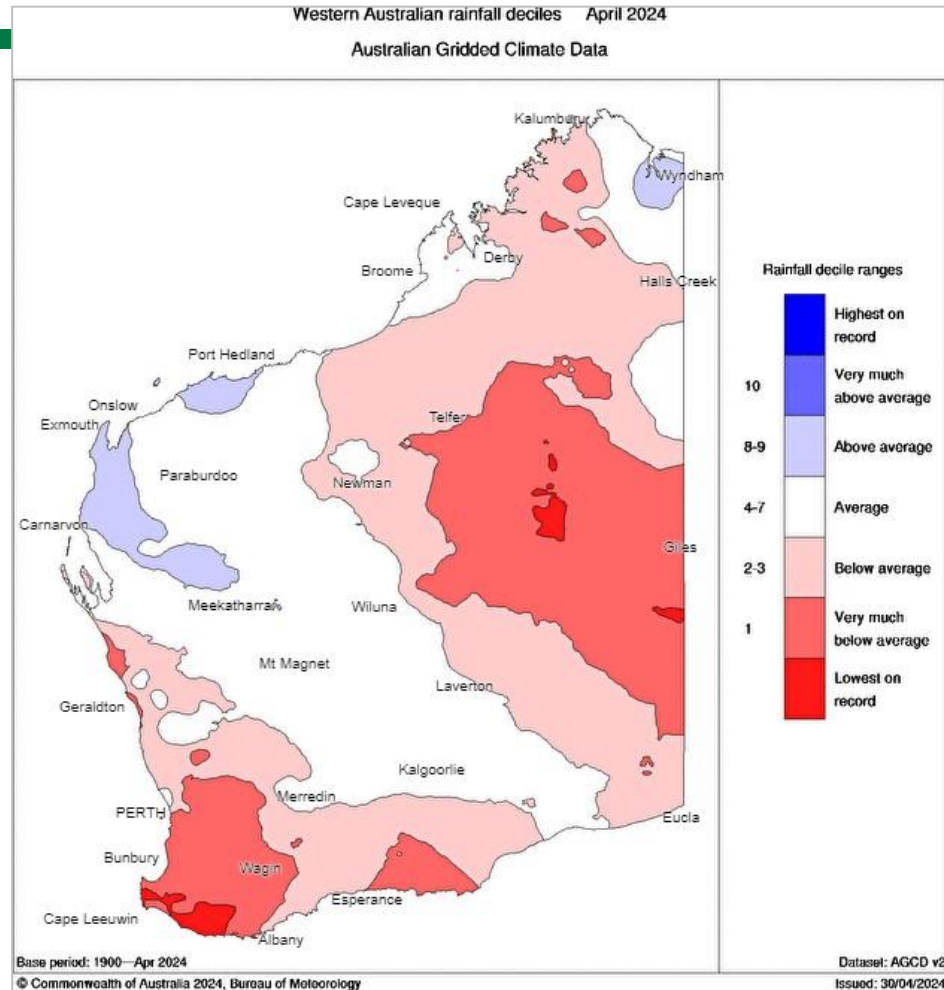
Outline

- Recap of summer rain
- Rain to date 2024
- Seasonal rain outlook for winter 2024
- Atmospheric pressure and sea surface temperature outlooks.

Summer rain 2023/24

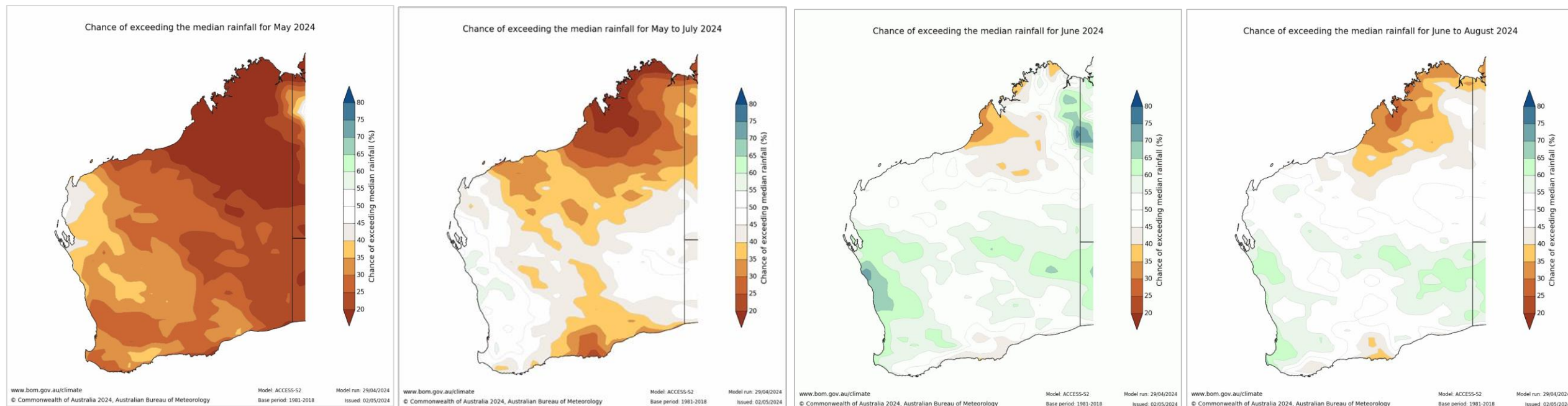


April and May to date 2024



Autumn/winter rain outlook 2024

Chances of exceeding median rainfall



May

May-July

June

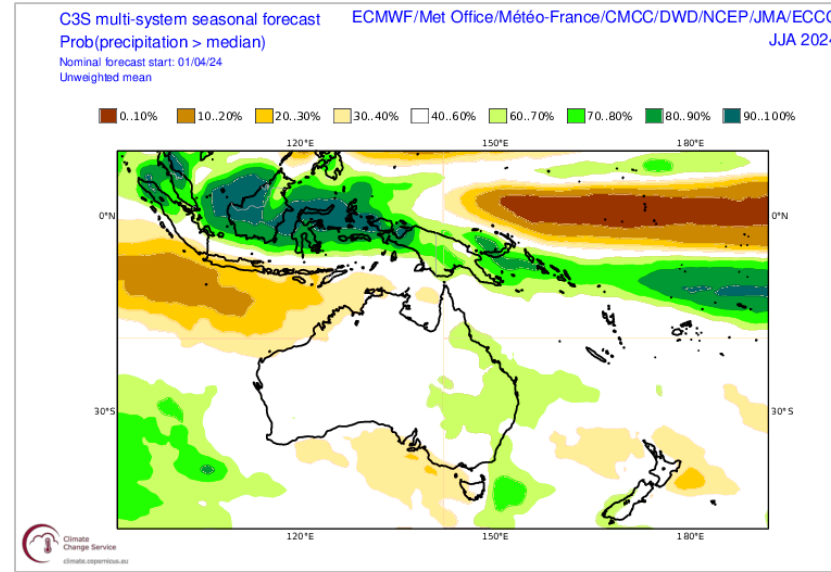
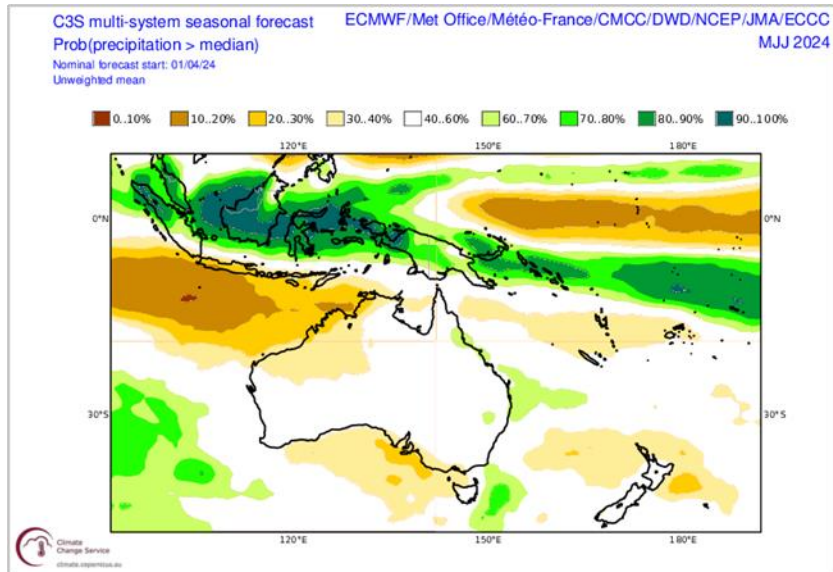
June-August

..and it is expected to be warmer than normal for the whole period.

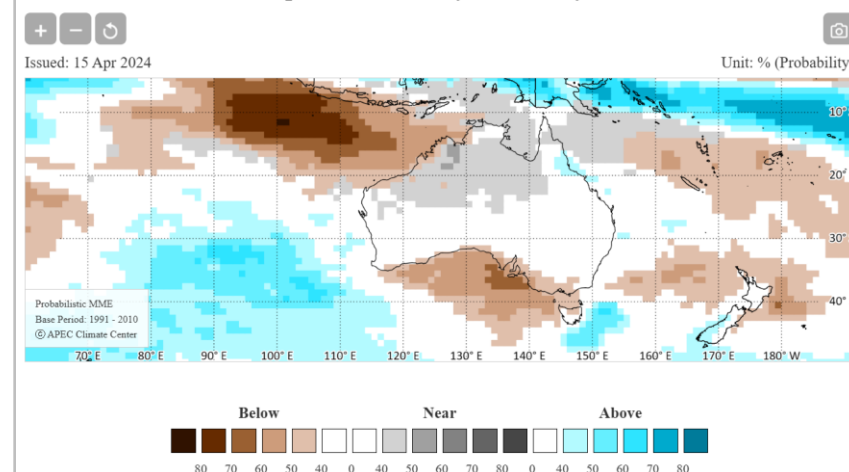
Issued 2 May 2024

Seasonal rain outlook 2024

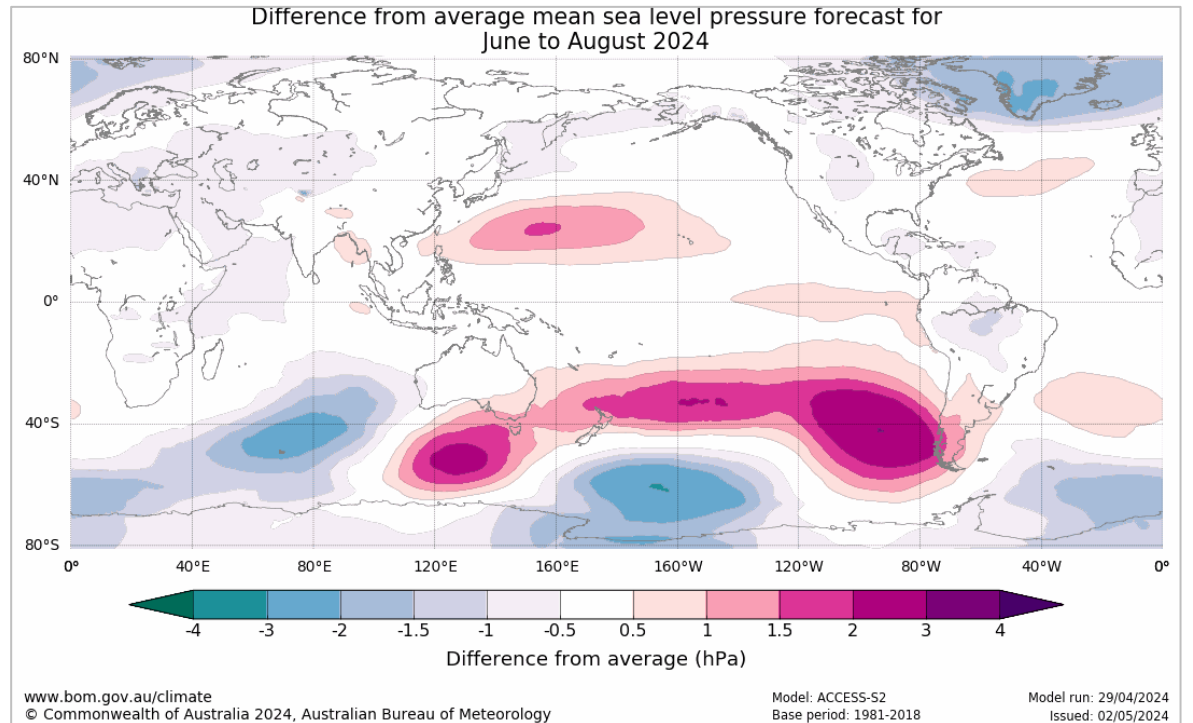
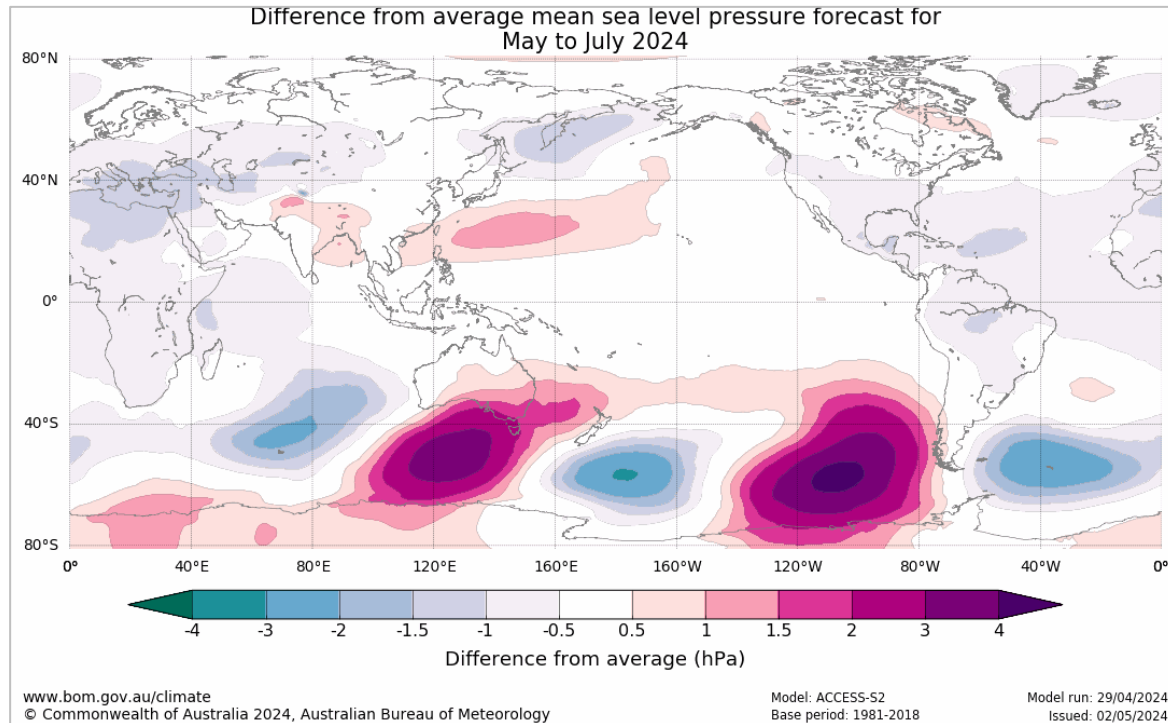
Global models – Copernicus and APEC



Precipitation for May 2024-July 2024



Sea level pressure outlook 2024



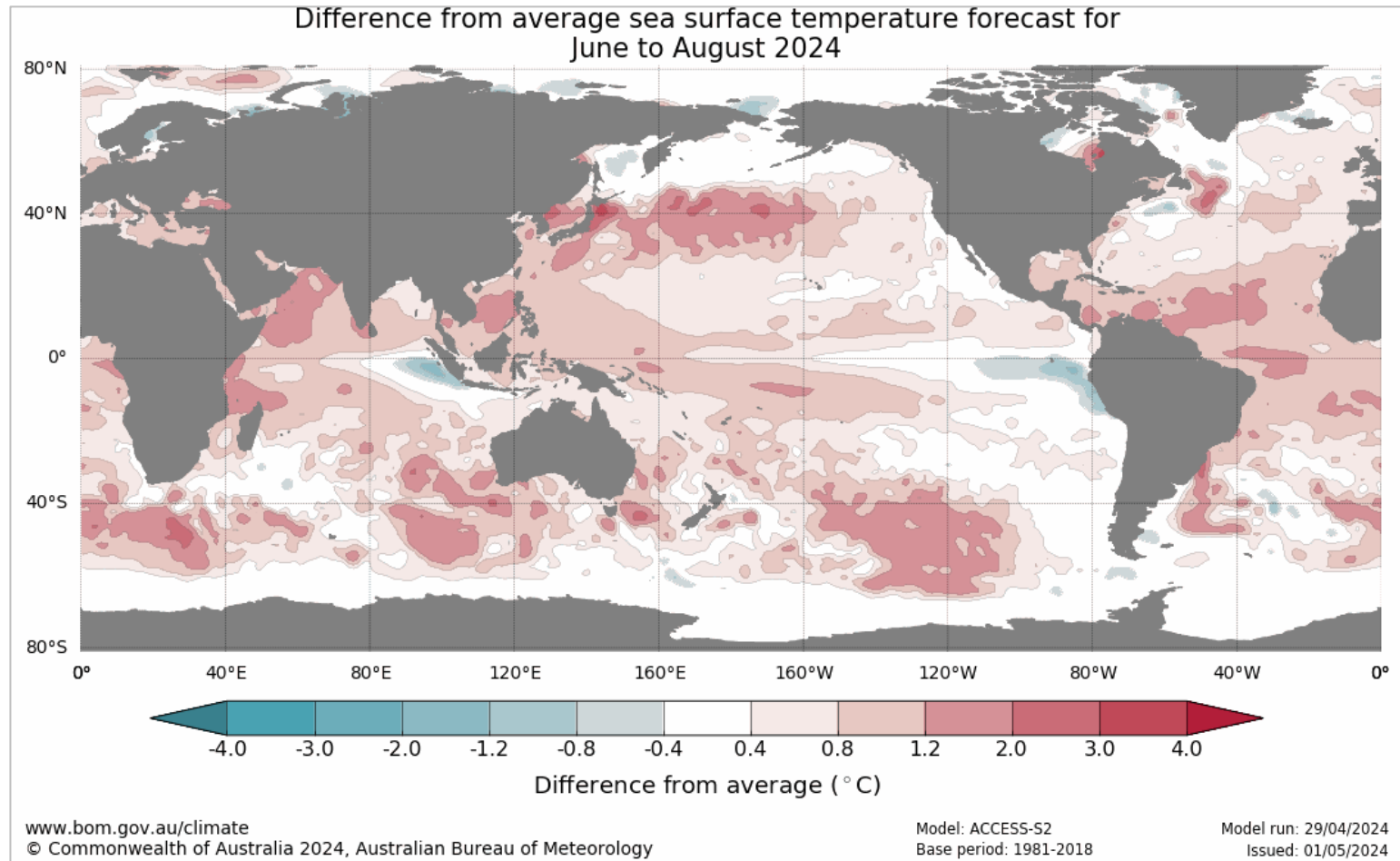
Red: higher pressure
Blue: lower pressure

Source: Bureau of Meteorology.

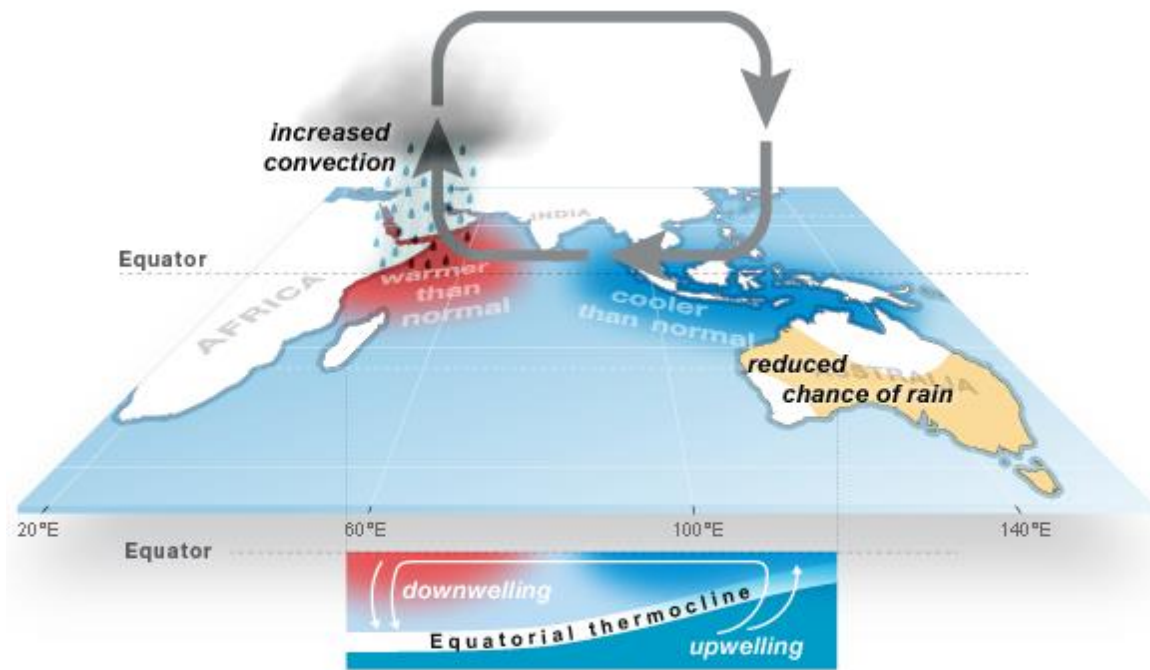
Sea surface temperatures 2024

Possible Indian Ocean Dipole - positive event.

Maybe La Nina.

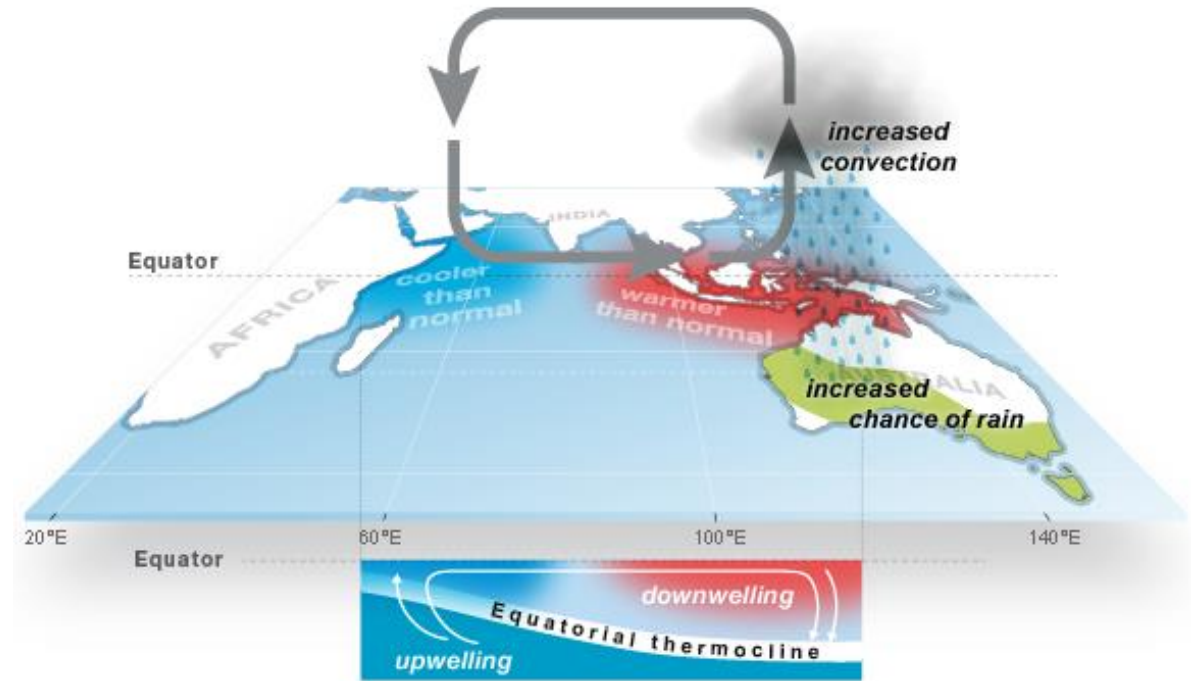


Indian Ocean Dipole



Indian Ocean Dipole (IOD): **Positive phase**

© Commonwealth of Australia 2013.



Indian Ocean Dipole (IOD): **Negative phase**

© Commonwealth of Australia 2013.

Source: Bureau of Meteorology

Take home messages

- Very dry conditions over summer and into autumn.
- Early May rain has been useful in some areas.
- Rain outlooks improve from June.
- An IOD-positive event is possible, though models have less skill at this time of year.

Pest outlook for 2024

Presentation outline

- What does a dry summer mean for resident pests?
- Predicting where the fly-in fly-out (FIFO) pests will be.



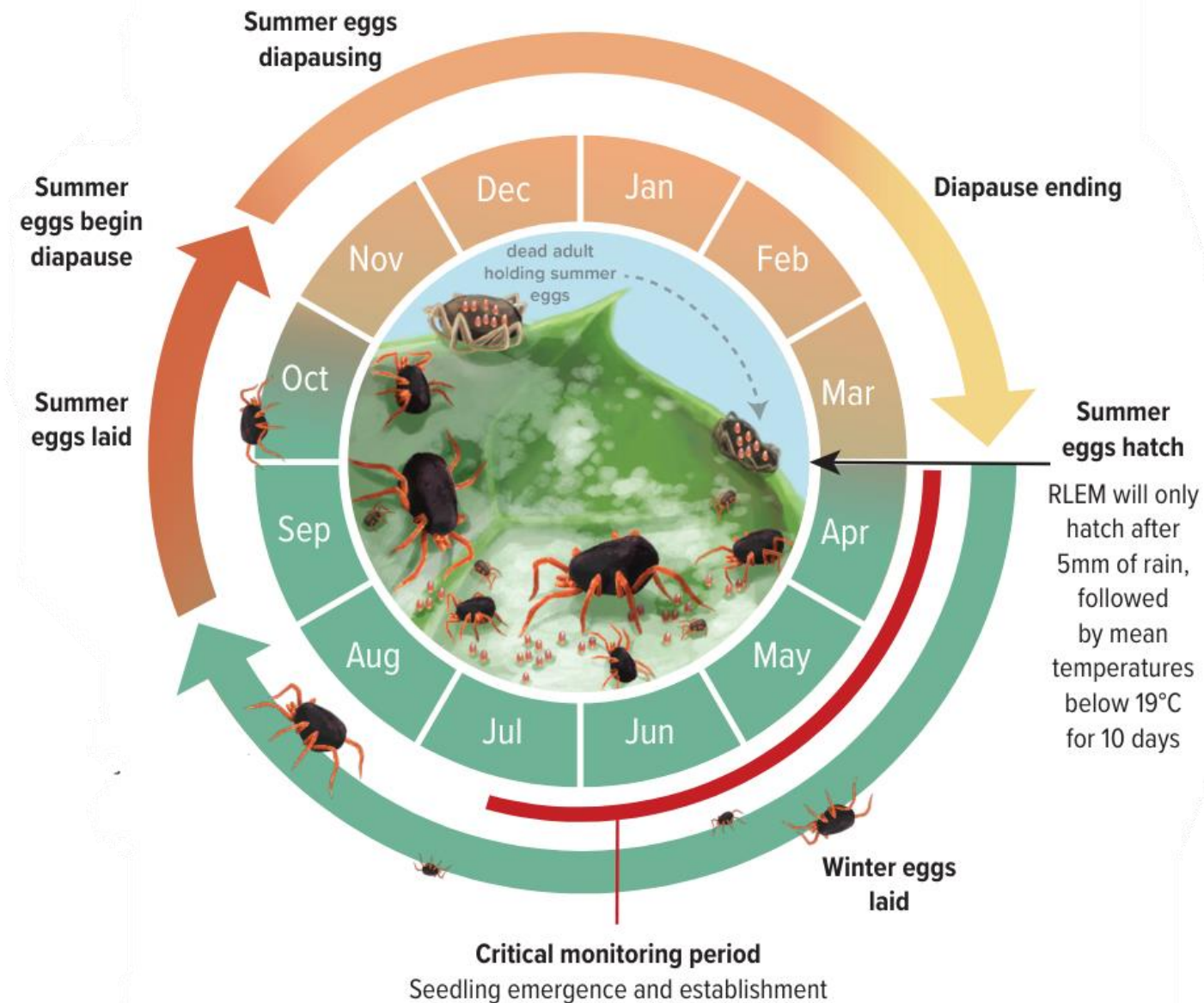
Chewed canola seedling

Redlegged earth mite (RLEM) resistance testing & management update



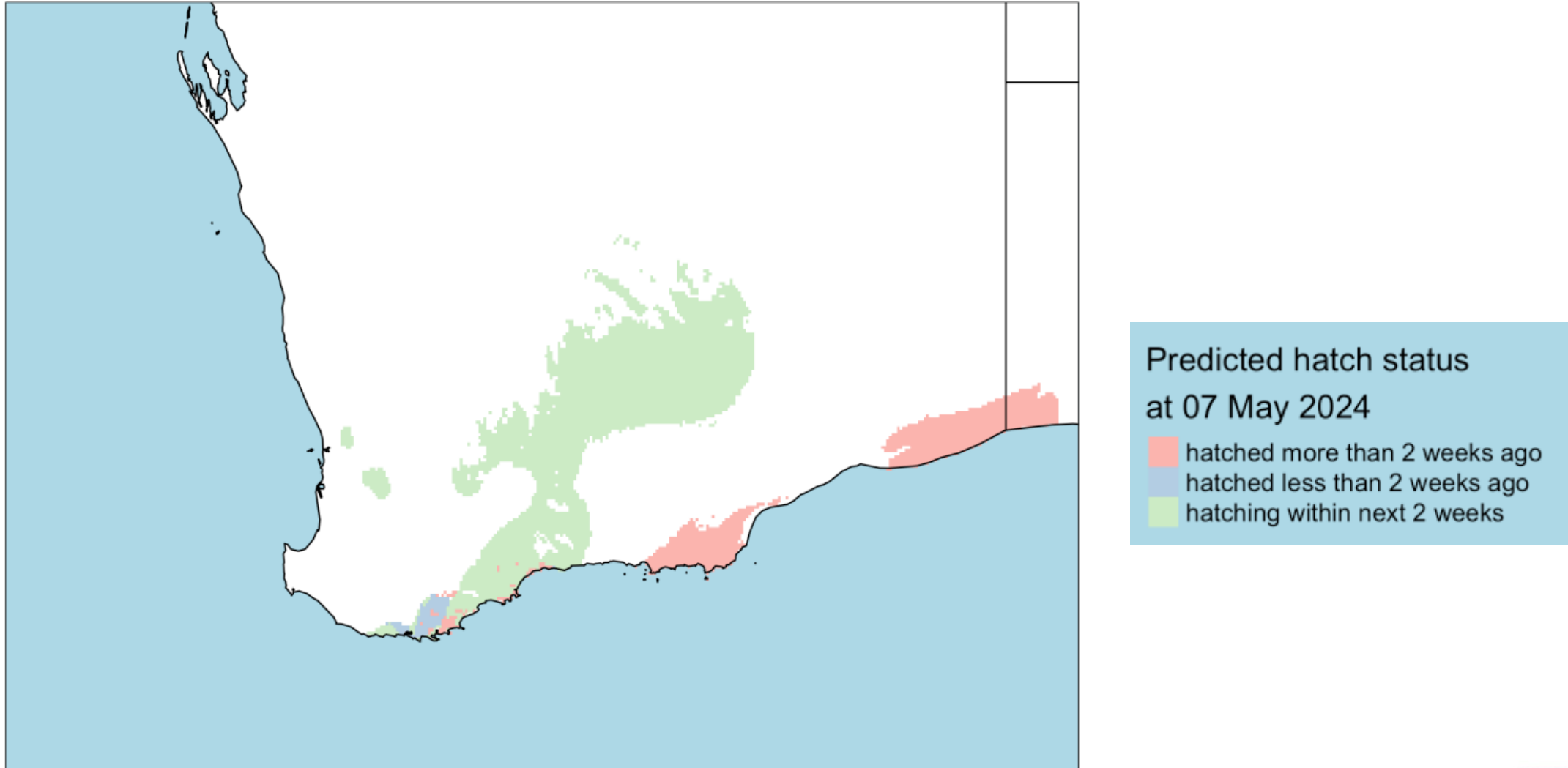
Redlegged earth mite feeding on canola

RLEM lifecycle



RLEM hatch model

<https://cesaraustralia.shinyapps.io/RLEM-hatch/>



RLEM hatch model

<https://cesaraustralia.shinyapps.io/RLEM-hatch/>

RLEM hatch tool

Predict if mites are hatched, unhatched, or soon-to-hatch using current climate data.

Estimate About

KATANNING WA 6317

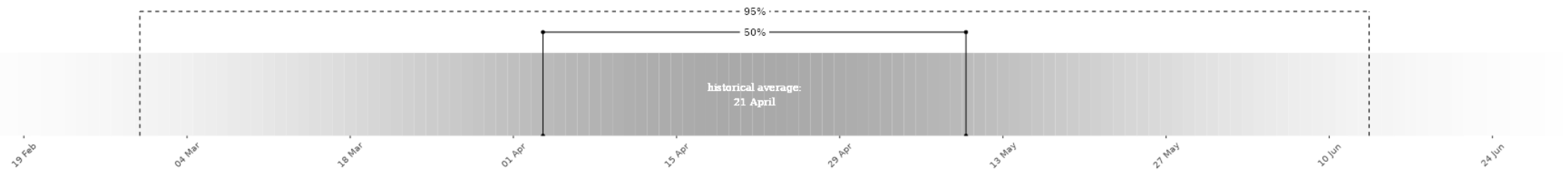
☐ Irrigation applied this year

Estimate hatch

UNHATCHED

Predicted hatch date:
Rainfall and temperature conditions not yet met
KATANNING WA 6317

Historical Hatch Probability



RLEM hatch model

<https://cesaraustralia.shinyapps.io/RLEM-hatch/>

RLEM hatch tool

Predict if mites are hatched, unhatched, or soon-to-hatch using current climate data.

Estimate

About

WEST RIVER WA 6346

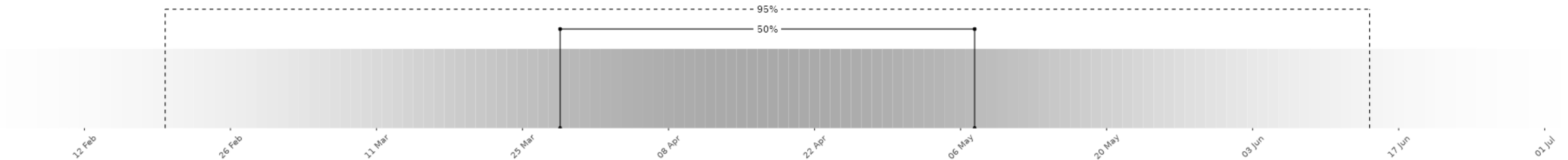
☐ Irrigation applied this year

Estimate hatch

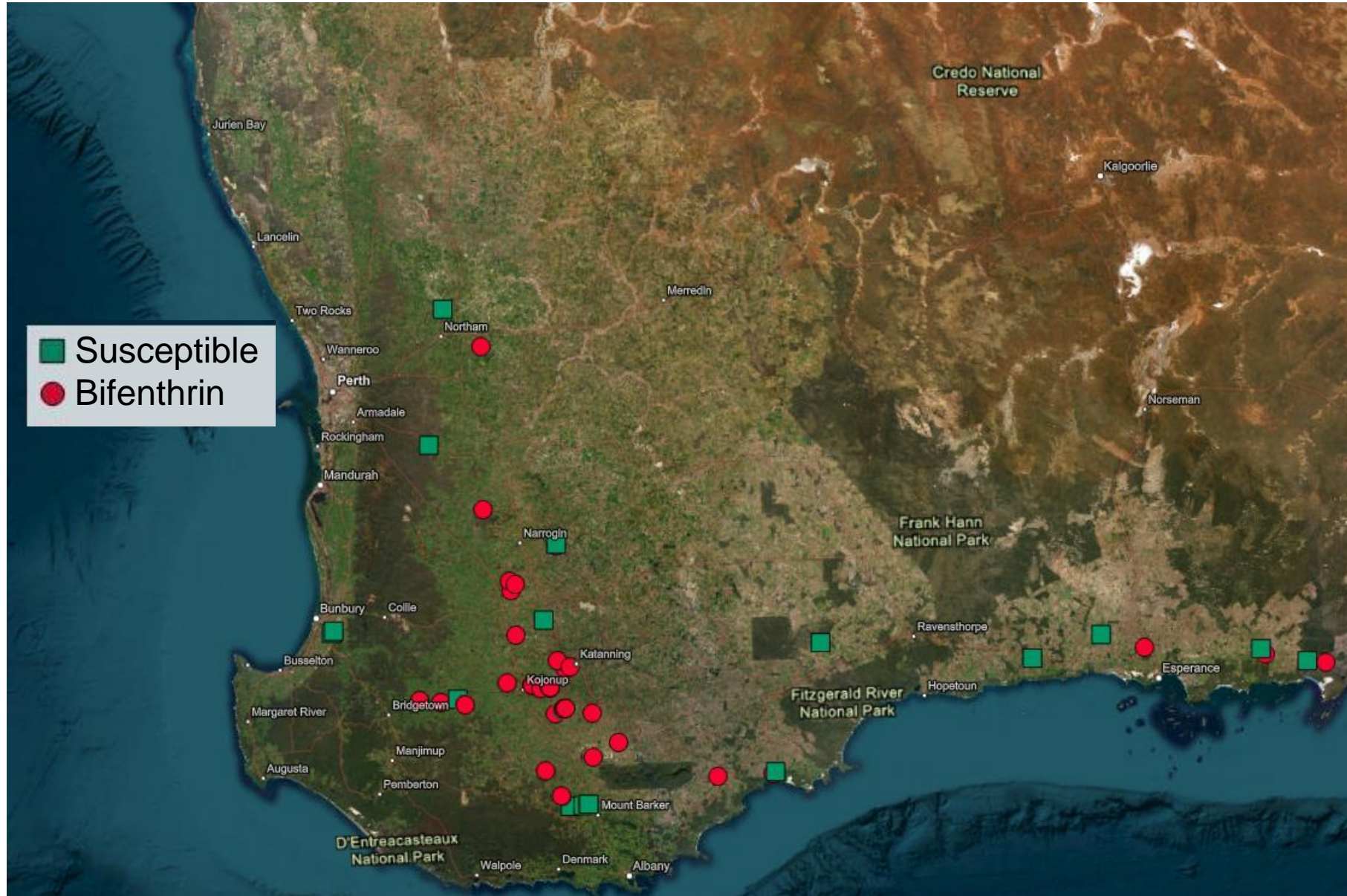
SOON TO HATCH

Predicted hatch date:
15 May 2024
WEST RIVER WA 6346

Historical Hatch Probability

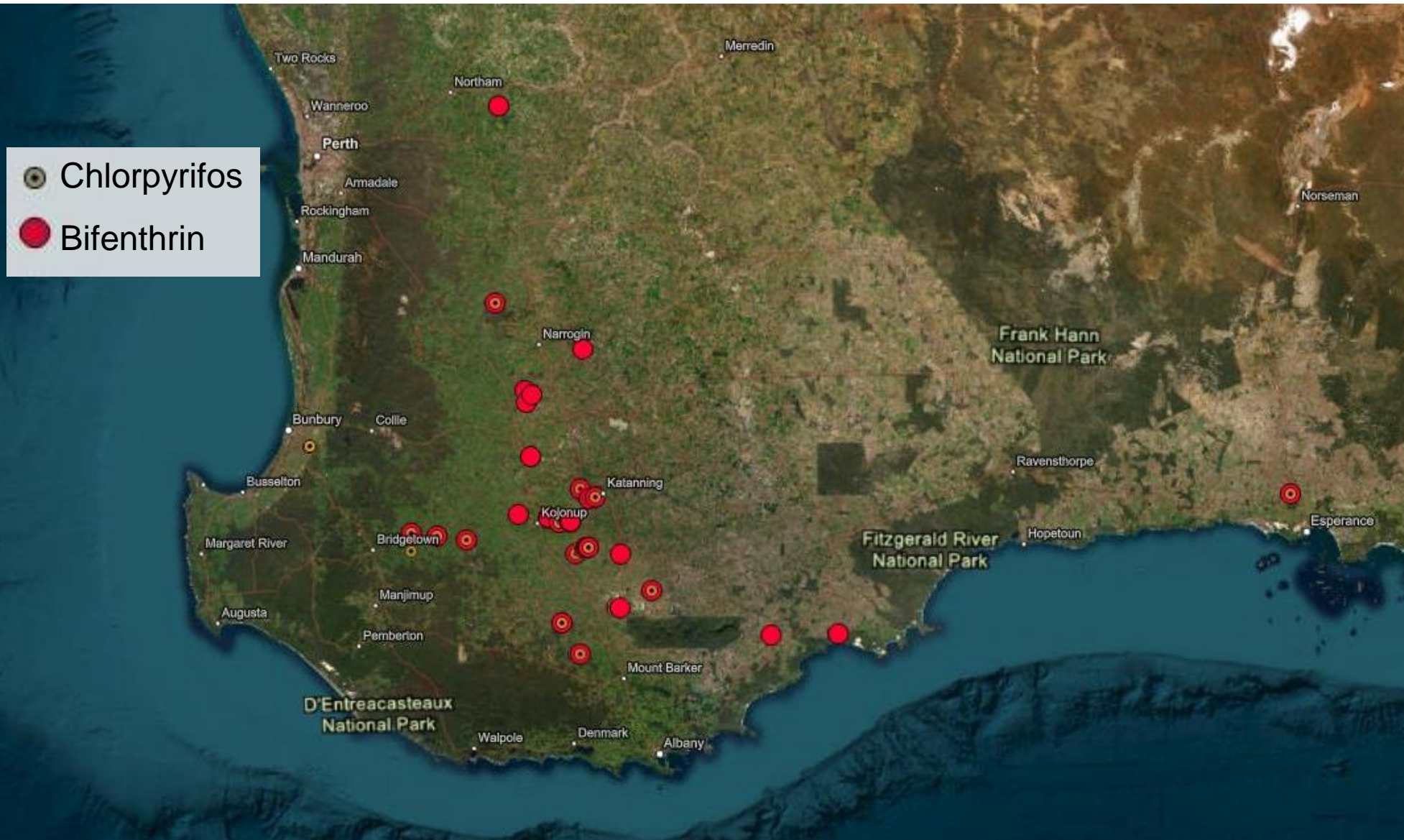


2023 RLEM resistance testing results



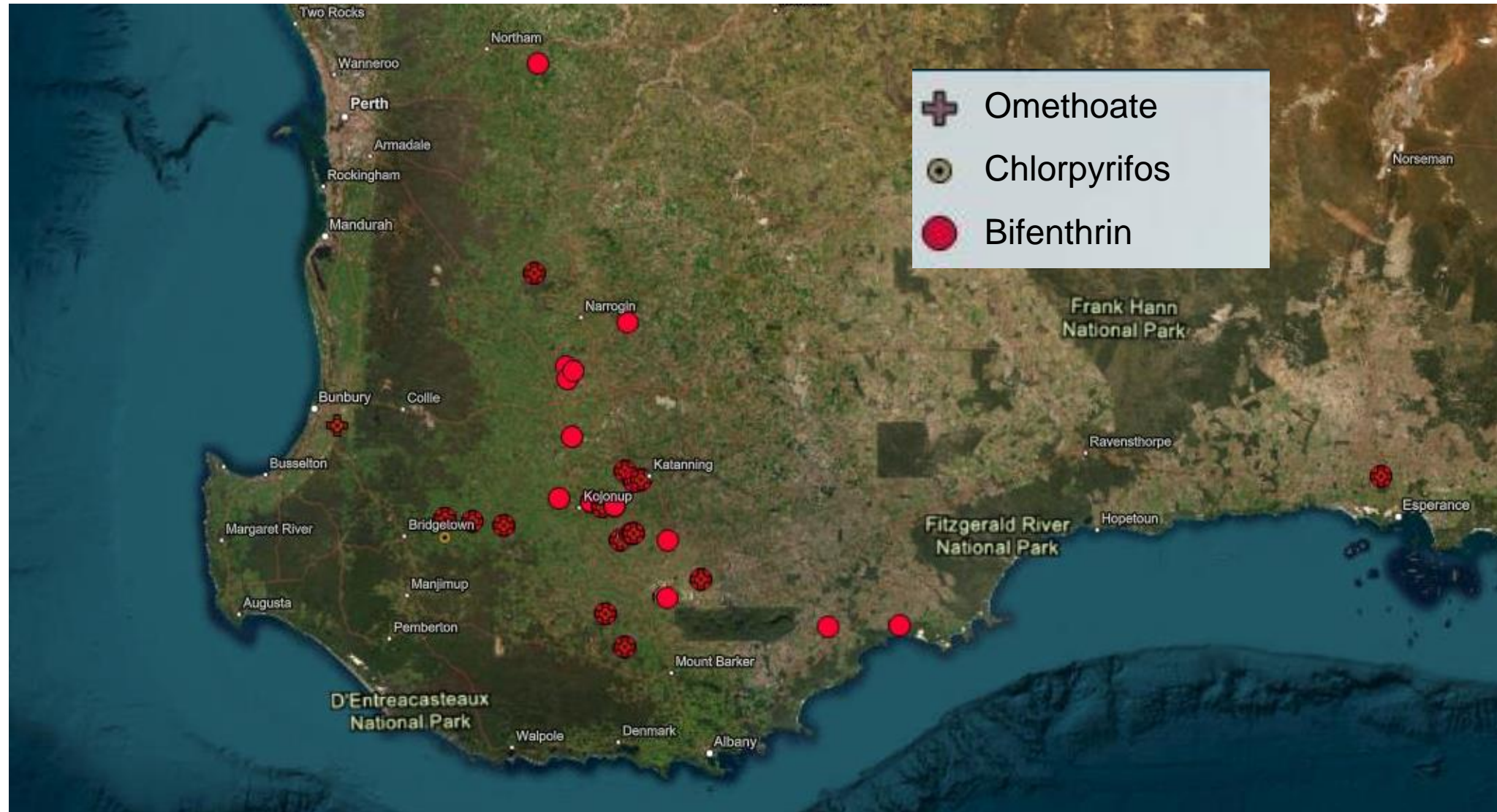
- 62 mite populations bioassayed.
- 57 populations resistant to Synthetic Pyrethroids (SP's).

2023 RLEM resistance testing results



- 57 populations resistant to SP's.
- 14 populations resistant to SP's + Chlorpyrifos.

2023 RLEM resistance testing results



- 57 populations resistant to SP's
- 14 populations resistant to SP's + Chlorpyrifos + omethoate

RLEM management options

- Avoid organophosphate (OP) and SP sprays unless necessary.
- Have SP and OP resistance? Options are limited.
- Management strategy at:
<https://grdc.com.au/FS-RLEM-Resistance-strategy>
- Contact PestFacts WA to get RLEM tested for resistance in 2024



Redlegged earth mite on canola

Other mites to look out for



Bryobia mite

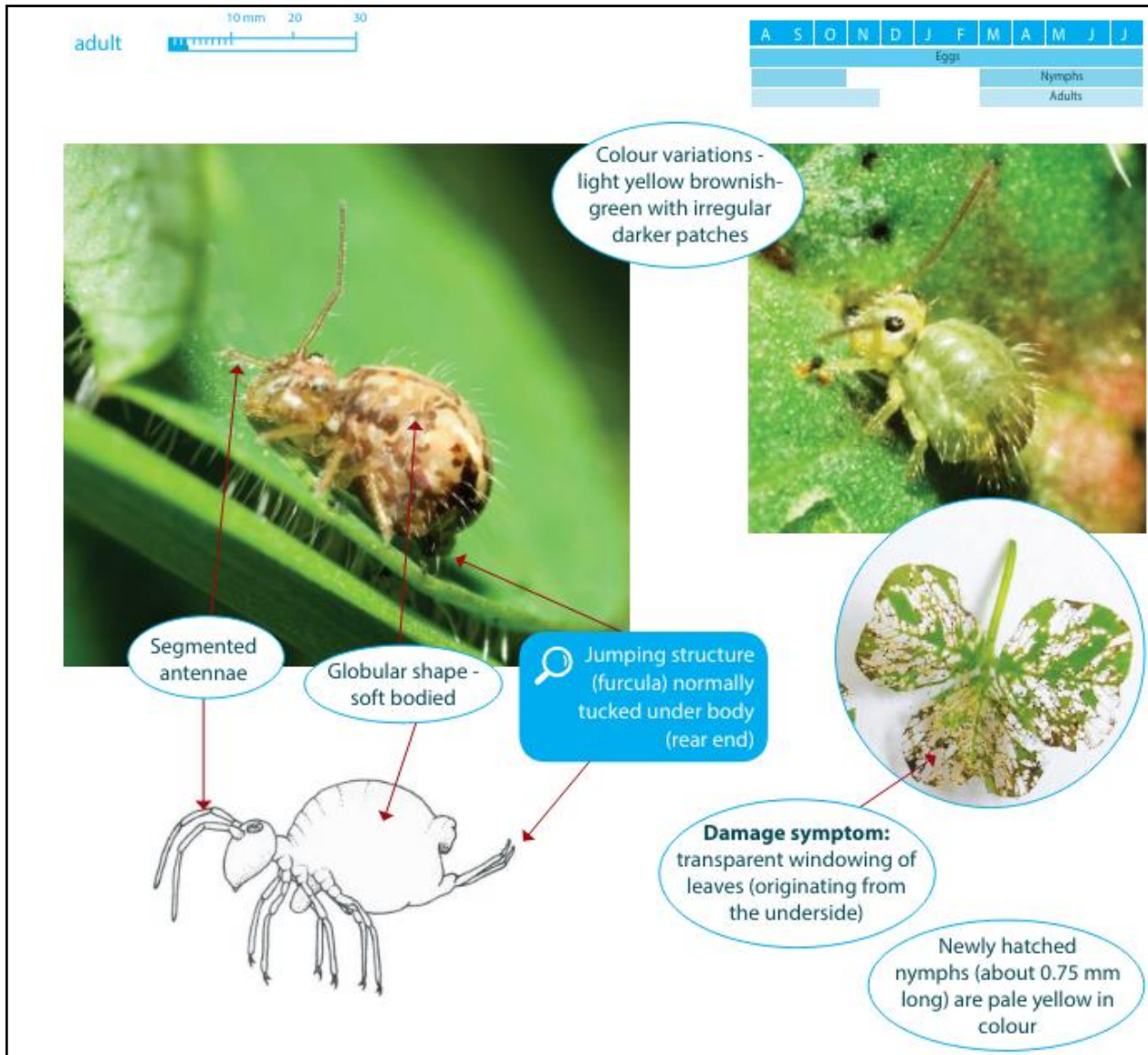


Brown wheat mite



Balaustium mite

Lucerne flea



- Female lucerne flea coat eggs in clay.
- Hatch with rain events.
- No temperature requirement.



Lucerne flea: Predicting hatching

- Automated pitfall traps, placed in paddocks with history of lucerne flea occurrence.
- Predict hatching times of this pest.
- Results shared via PestFacts WA.

Slugs and Snails

Survive hot, dry summers.

Slugs

- Bait after seeding.



Black keeled slug

Snails

Snails

- Round snails – well timed bait gives good control.
- Small pointed (conical) snails - budget to bait more than once.



Small pointed snail

Snails

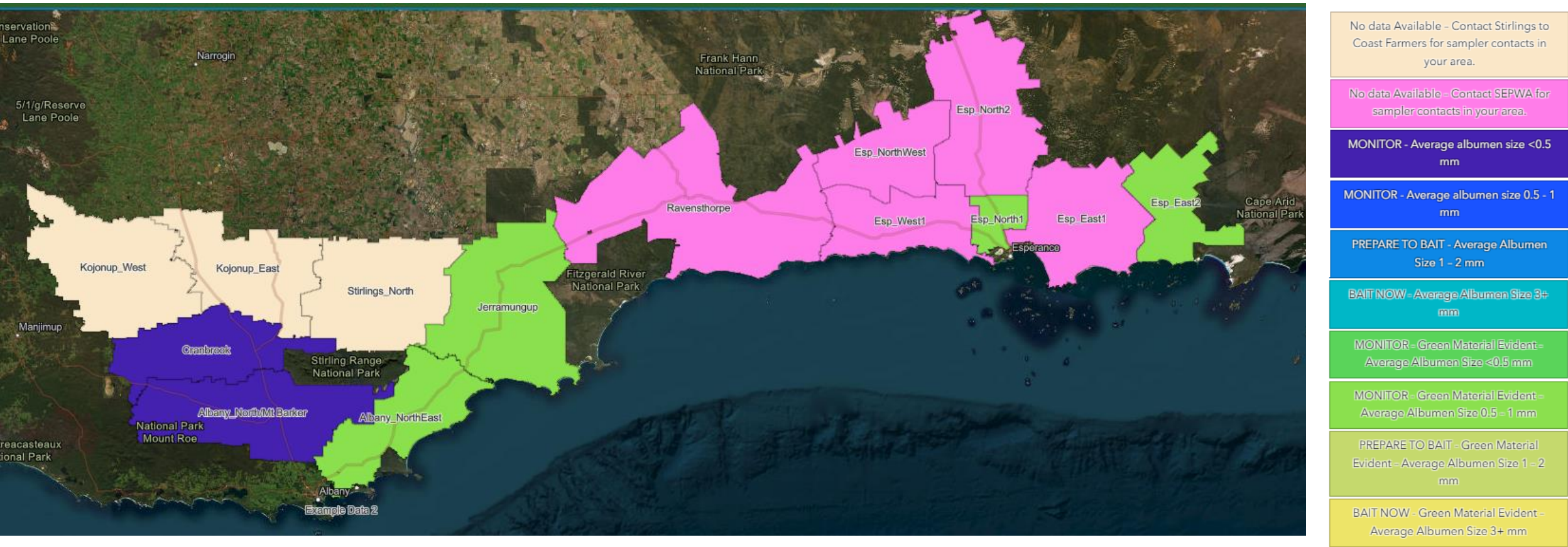
Bait before egg lay



Albumen gland from dissected small pointed snails

When is the best time to bait for snails?

<https://bit.ly/snails-map>



Dissections of small conical snails are also being undertaken by agronomists, farmers and grower groups under a project led by the Stirlings to Coast Farmers (SCF) grower group in collaboration with the South East Premium Wheat growers Association (SEPWA) and DPIRD. The Grains Research and Development Corporation (GRDC) is funding the initiative as part of its Snails Surveillance for the South Coast baiting program.

Snails are on the move and feeding

- Cameras monitoring for snail movement.
- Watch for updates in X (formerly Twitter) posts from SCF and SEPWA, as well as #PestFactsWA.



Automated camera installation for snail movement

Weevils

Desiantha weevil



Small lucerne weevil



Vegetable weevil



Desiantha weevil

- Automated pitfall traps are monitoring movement.
- Trials on larvae's preferred host plants.
- Susceptibility to SP's being tested.
- Check PestFacts WA for updates or to report desiantha weevils.



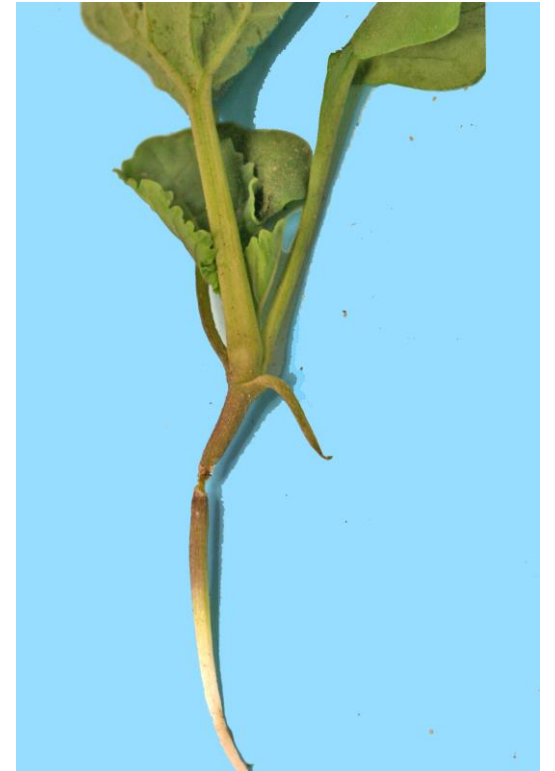
Automated image from pitfall trap

Vegetable beetle

- Will feed if temperatures are above 18°C.



Vegetable beetle feeding on canola



Vegetable beetle damage to canola

European earwigs

- Thrive under drier conditions.
- Use registered baits.



European earwig damage to lupin seedling

What about the Fly-in fly-out (FIFO) pests?

Finding unknown pests?

- Take a clear photo
- Email it to pestfactswa@dpird.wa.gov.au for identification.

PestFacts WA Reporter app will be back online soon.



Aphid risk without a green bridge?

Canola aphids



Green peach aphid

Cereal aphids



Top L-R: Oat aphid, Russian wheat aphid, Bottom: Corn aphid

Pulse/legume aphids



Cow pea aphid

Know your beneficials

- Beneficials help control pests.
- See Beneficials chemical toxicity table for off target effects of insecticides:

<https://cesaraustralia.com/resources/beneficials-toxicity-table/>

- Canola Allies project (CSP2309-004RTX). GRDC co-investment.



Carabid beetles are predatory

Project acknowledgements

- “Future options for the control of redlegged earth mites in Australian grain crops” is a GRDC funded project led by Cesar Australia, in collaboration with DPIRD and University of Melbourne.
- "Investigating systems for control of desiantha weevil in relation to resistance and biology in WA" is a COGGO funded project led by DPIRD.
- "More effective control of pest snails in Australia grain crops" is a GRDC funded project led by SARDI in collaboration with DPIRD, University of Adelaide, University of South Australia, SEPWA, SCF, CSIRO and Data Effects.
- "Minimising damage of invertebrate pests in canola through a better understanding of the impact of beneficial insects" – also known as Canola Allies –is a GRDC funded project led by CSIRO in collaboration with NSW DPI, SARDI, DPIRD and Murdoch University.
- "NGN-Snails surveillance project for the South Coast" is a GRDC funded project led by SCF with partners DPIRD and SEPWA.

Question and Answers session



- Please use the “Q&A” tool to ask your question.
- You can email us after today’s session at:
pestfactswa@dpiird.wa.gov.au
- Webinar recording will be put on DPIIRD’s YouTube channel.
- Follow @DPIIRDbroadacre on X (formerly Twitter) for #PestFactsWA posts.

Thank you

dpird.wa.gov.au



Important disclaimer

The Chief Executive Officer of the Department of Primary Industries and Regional Development and the State of Western Australia accept no liability whatsoever by reason of negligence or otherwise arising from the use or release of this information or any part of it.

Copyright © State of Western Australia (Department of Primary Industries and Regional Development), 2024.