

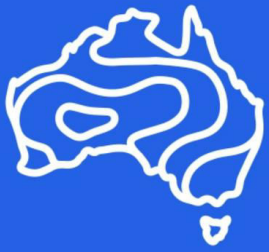


The Bureau
of Meteorology

NHRA Project T4 - A3

Long-Range Flood Outlook

Dr Wendy Sharples, Dr David Wilke, Dr Paul Fox-Hughes, Dr Carlos Velasco & Dr Carla Mooney



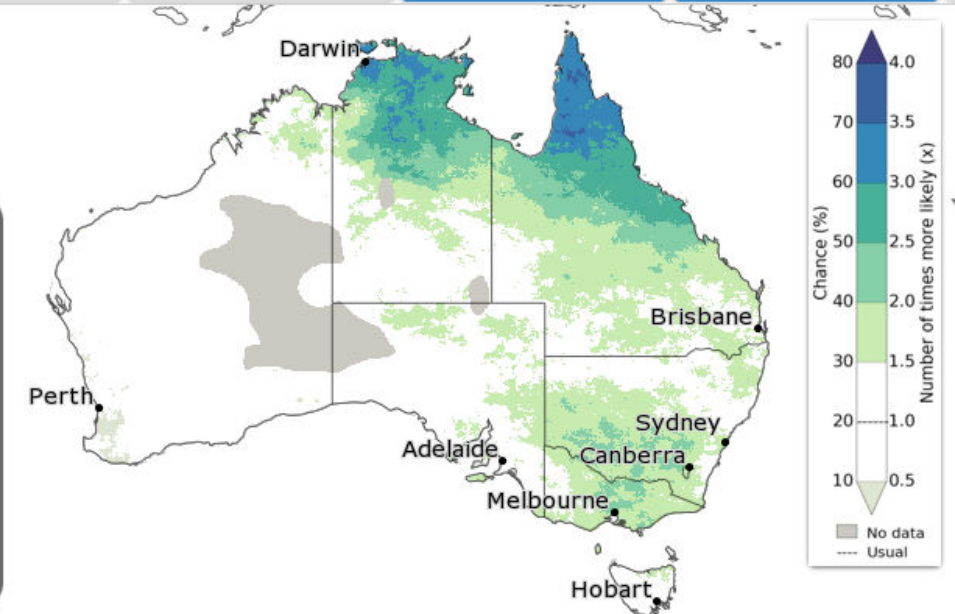
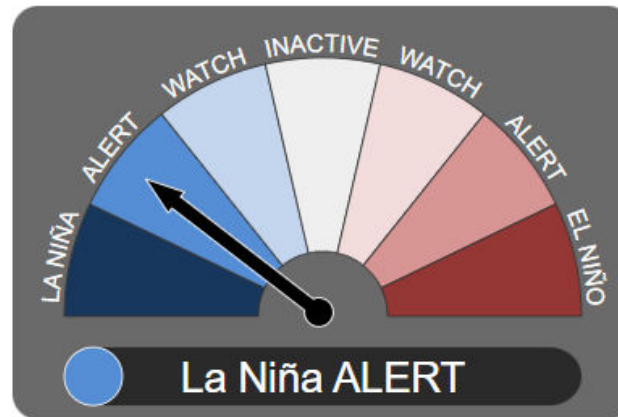
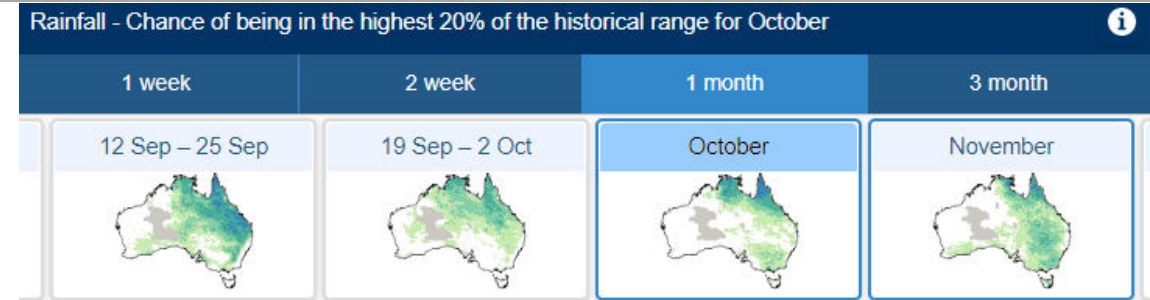
How do we currently communicate long-range flood risk?

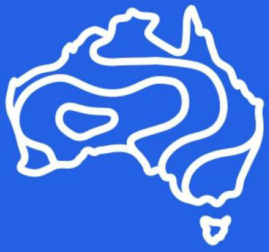
Short-term:

- Flood Watch and Warning products

Long term:

- Soil moisture / catchment conditions / water storages
- Climate Outlooks (e.g. chance of very heavy rainfall)
- Climate Drivers (e.g. IOD, ENSO)





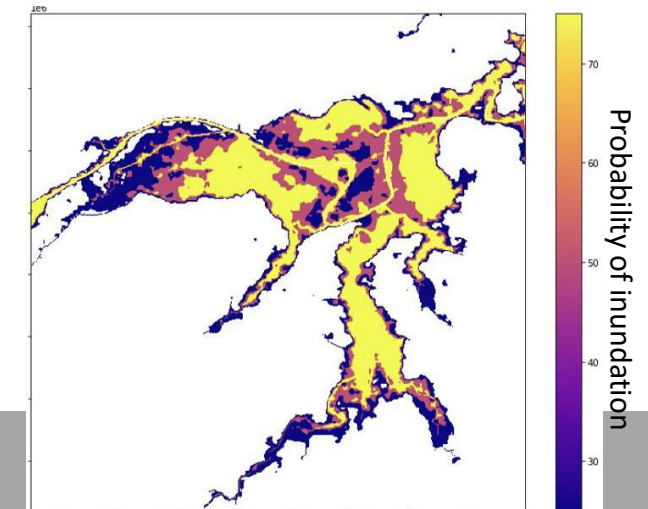
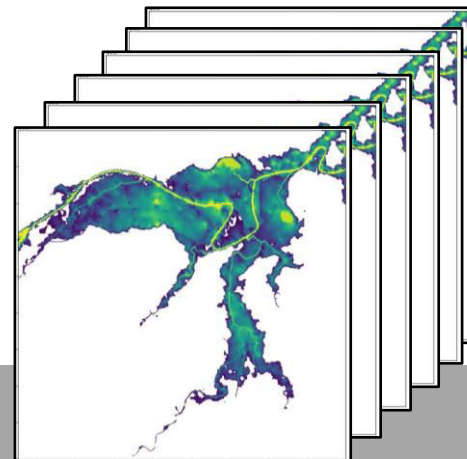
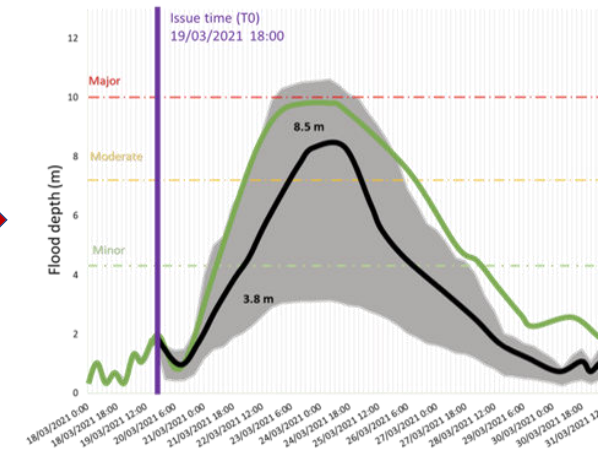
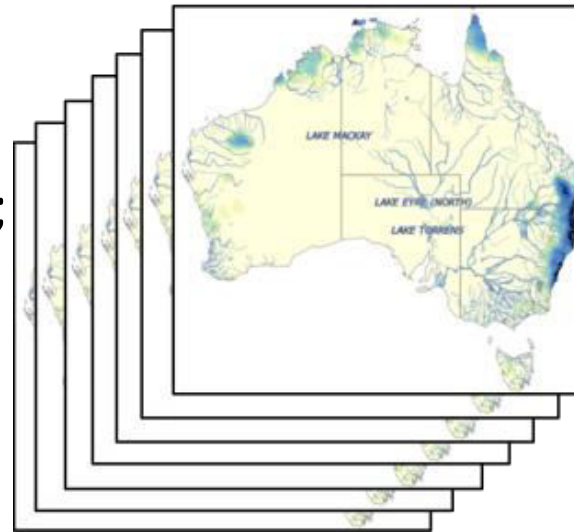
New methods to determine flood risk

Combines:

- Ensemble rainfall outlook;
- Latest hydro modelling techniques;
- Advanced statistical methods;
- Machine learning processes.

To determine:

- Probability of inundation (depth and extent) over a spatial area.





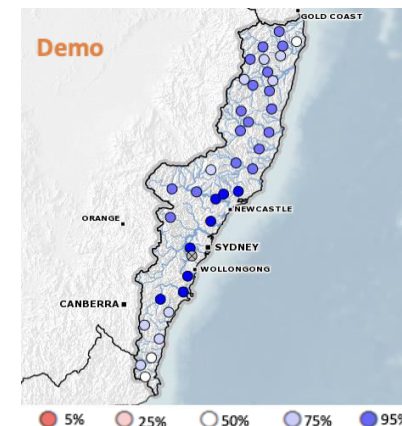
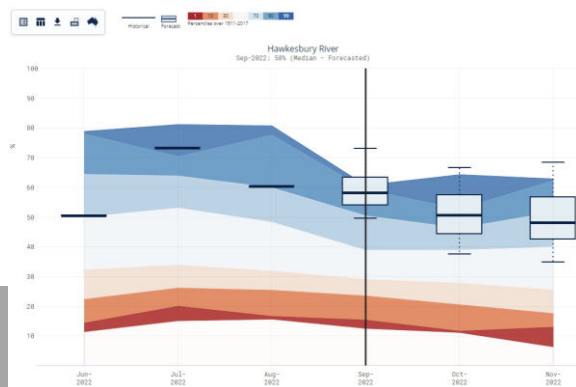
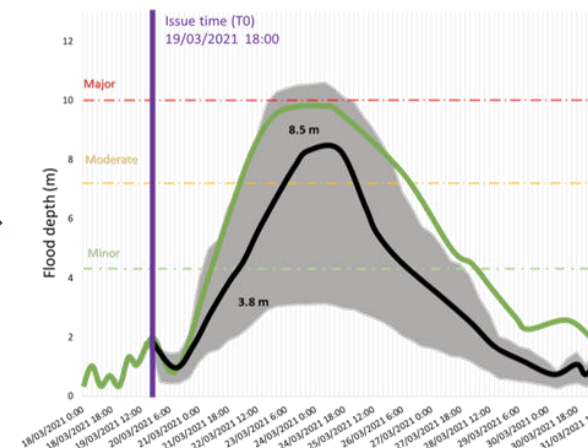
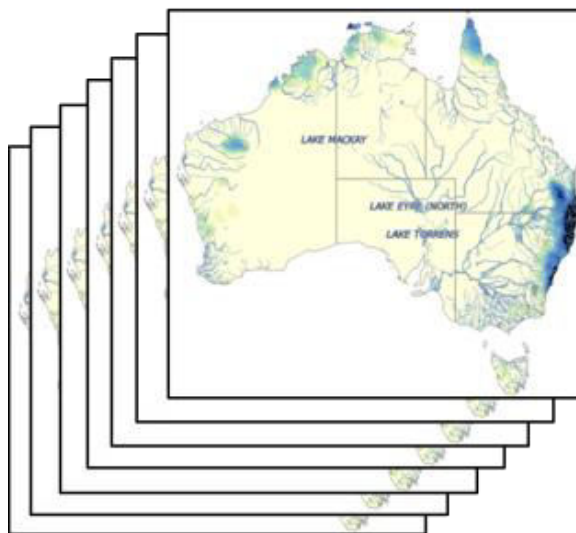
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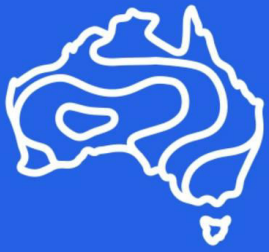
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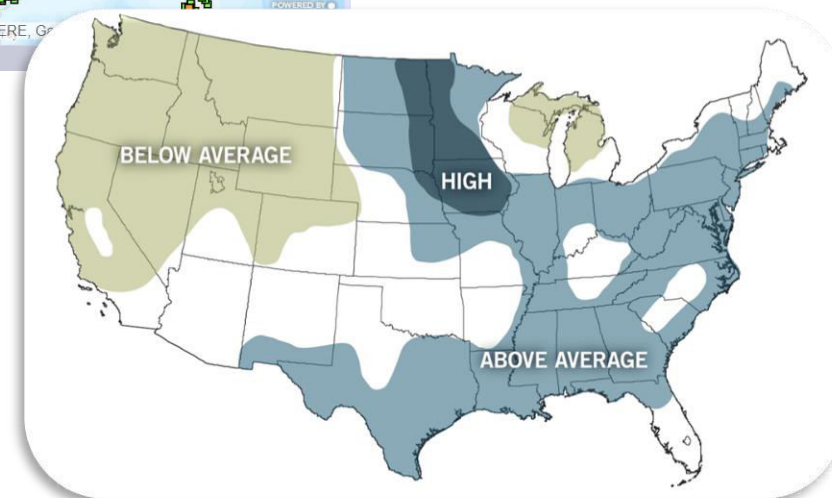
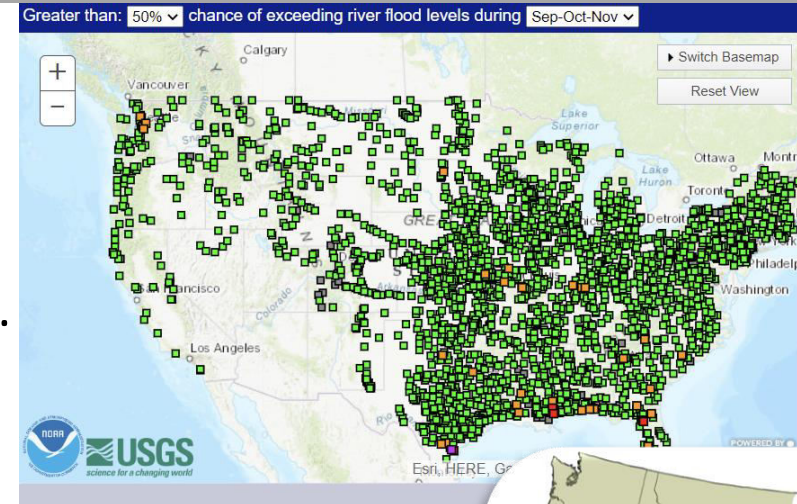
- Probability of threshold exceedance at specific locations



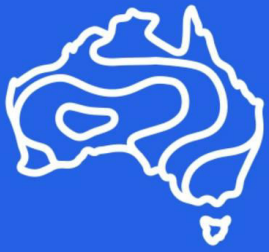


NHRA Project Concept

- Look at long-term flood risk using seasonal forecasts as input:
 - Multi-week to seasonal scale.
- Consider both spatial and point based projections, i.e. long-range...
 - Inundation outlook (probability of inundation)
 - River flood outlook (probability of exceedance - POE)
- **Test with past events to assess performance.**
- Propose operational implementation for products with skill.



US National Weather Service Long-Range Flood Risk products (NOAA)



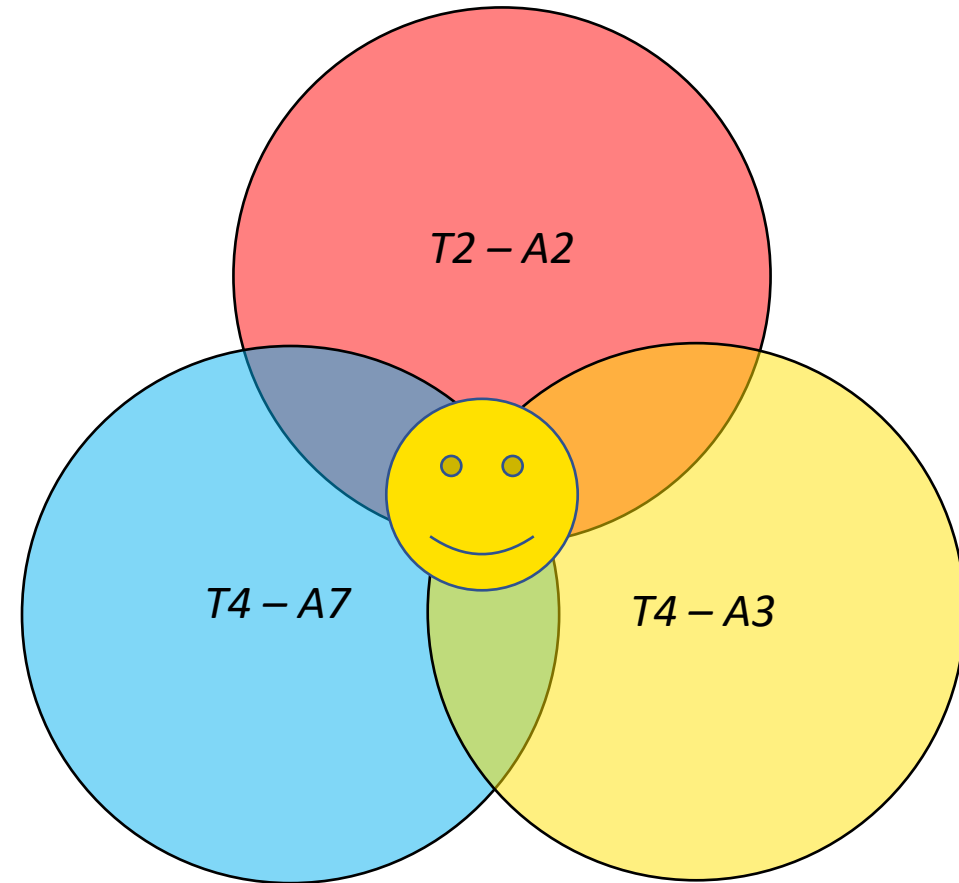
NHRA Suite of rainfall & flooding Projects

Leveraging:

- Flash flooding case studies project;
- Extreme rainfall project;
- Along with the long-range flood outlook project.

To provide:

- Optimal value

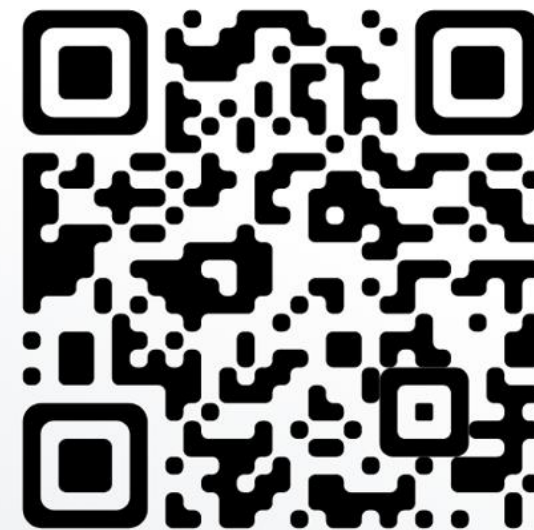




We would love your input!

- What is of most value to your organisation?
e.g. seasonal, multi-week / point-based, spatial?
- How could a long-term outlook change preparedness actions?
- What uncertainty is acceptable in a long-term flood outlook?
- Suggestions of case study areas for the project?

Thank you for having us!



slido
SCAN TO PARTICIPATE
CODE: NHRF23