

WEATHER SCIENCE TO SOCIETAL IMPACT

OPPORTUNITIES FOR AUSTRALIA IN THE WORLD METEOROLOGICAL ORGANIZATION'S HIGH IMPACT WEATHER PROJECT



bushfire&natural
HAZARDSCRC

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THE BUREAU OF METEOROLOGY SEEKS AUSTRALIAN COLLABORATORS TO PARTICIPATE IN A NEW 10-YEAR INTERNATIONAL HIGH IMPACT WEATHER PROJECT TO DEVELOP IMPROVED HAZARD PREDICTION CAPABILITIES. ITS AIMS ALIGN ON AN INTERNATIONAL LEVEL WITH THOSE OF THE BUSHFIRE AND NATURAL HAZARDS CRC.

Aim: Achieve a dramatic increase in resilience to high impact weather through

- Cooperative cross-disciplinary research with an application focus
- Improving forecasts for time scales from minutes to two weeks
- Enhancing their communication and utility in social, economic and environmental applications.

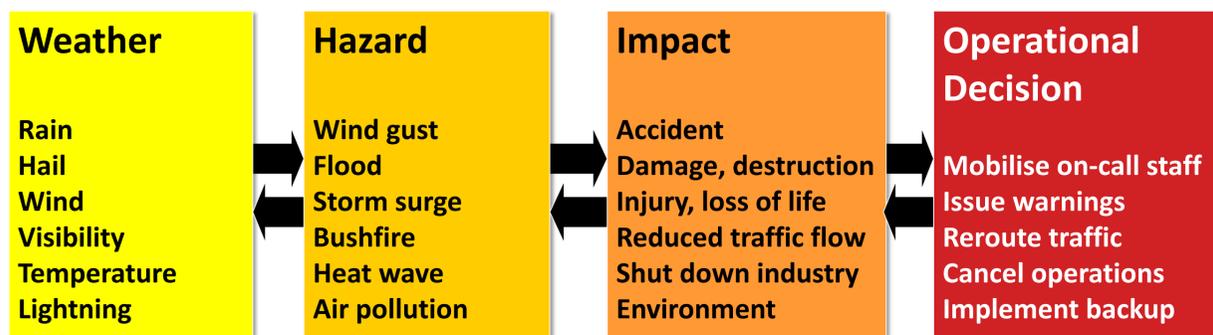


Figure 1. Translation of hazardous weather to impact and operational decisions. The nature of the operational decisions informs what types of forecast and warning applications are required.

Research questions

- How far in advance can we predict high impact weather and associated hazards?
- How can new data sources be exploited to observe weather hazards and impacts and initialise models?
- What are improved approaches to assessing weather-related vulnerability and risk?
- Many more!

Application development

- Weather, hazard and impact forecasts based on dynamic modelling, expressed as scenarios and probabilities
- Decision support tools that link hazards with risk and vulnerability
- Tools for communication and evaluation of hazards

Activities

- Forecast & Research Demonstration Projects and testbeds
- Workshops on specific hazards & applications
- Develop applications for/with specific users
- Engagement with practitioners in risk, economics, social science
- Case study evaluation
- Inter-comparisons of techniques
- Reviews of better practice

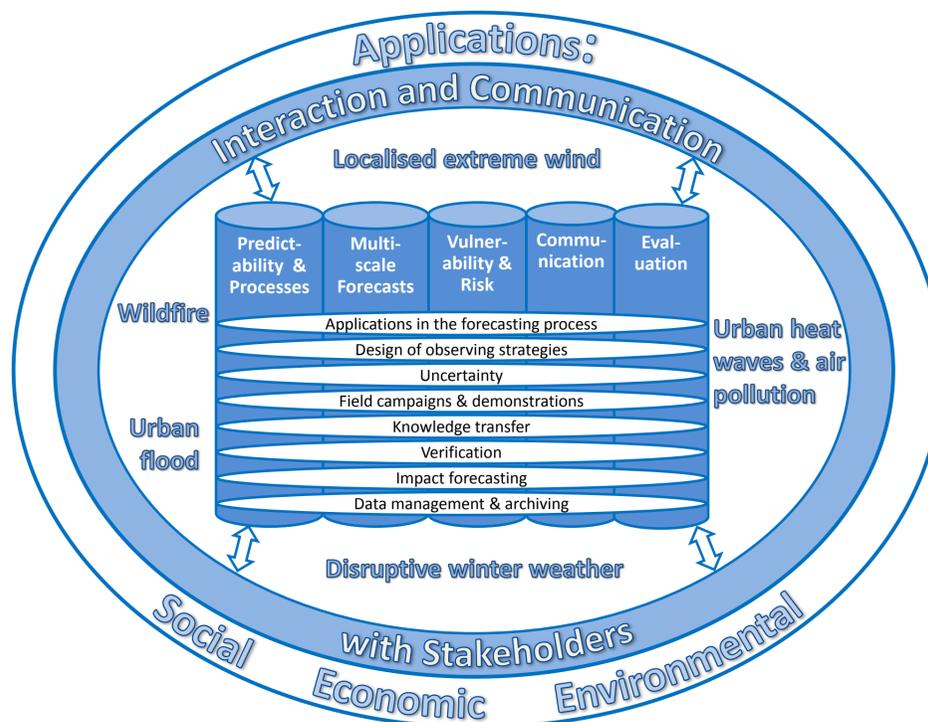


Figure 2. Themes and cross-cutting activities of the WMO High Impact Weather Project. Focus will be given to five hazards: flood, wildfire, localised extreme winds, urban heat waves and air pollution, and disruptive winter weather.

Benefits

- Improved high impact weather services based on
 - Advances in weather science
 - Applications for key weather hazards and their impacts
 - Improved communication and evaluation
- Access to world-leading science and applications developed overseas
- Potential to demonstrate international leadership in fire weather prediction and tropical cyclone impacts

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