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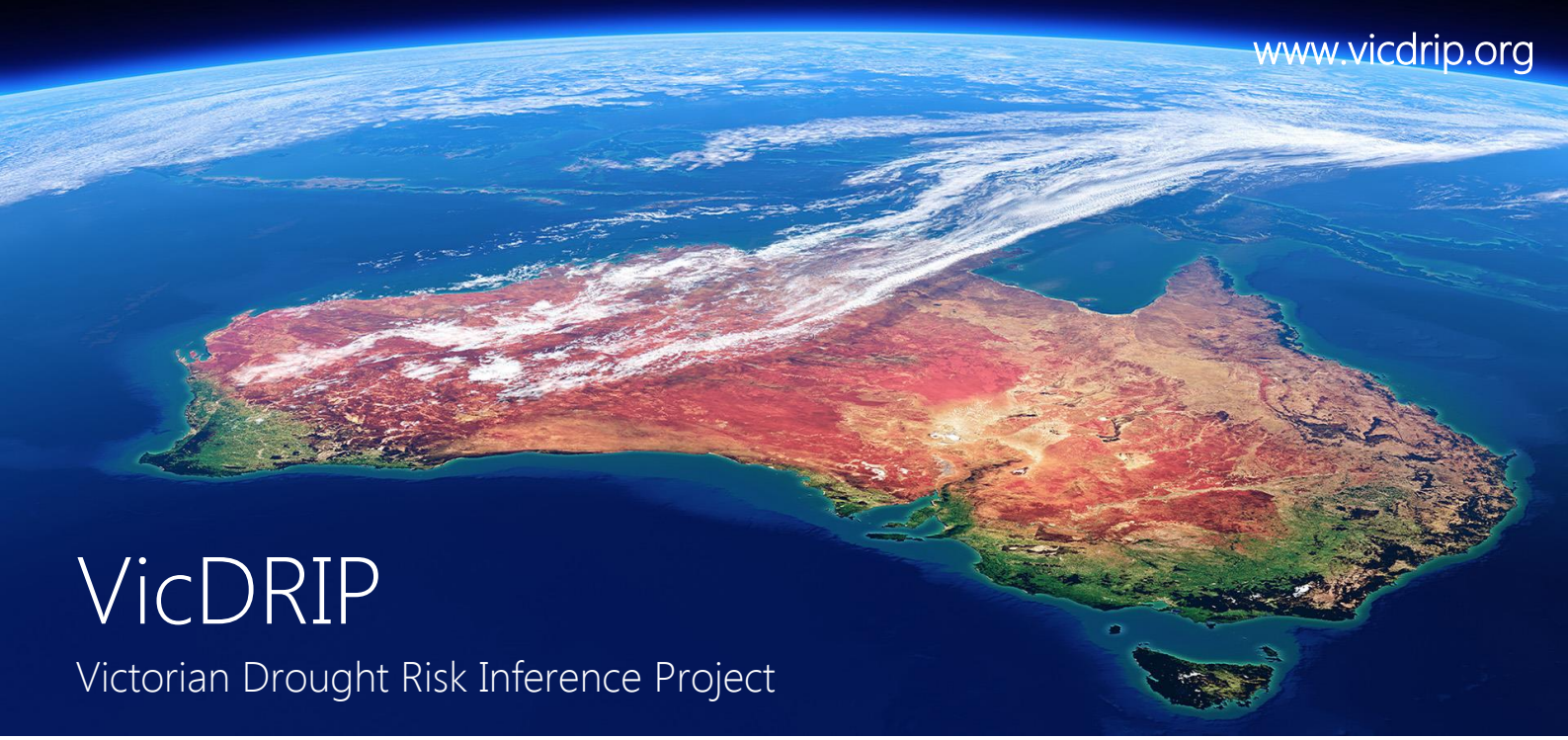

VicDRIP

Victorian Drought Risk Inference Project

Overview

VicDRIP is an Australian Research Council Linkage Project between the University of Melbourne, Monash University, Melbourne Water, The Victorian Department of Environment, Land, Water and Planning (DELWP) and the Bureau of Meteorology. This interdisciplinary project, "*Megadrought likelihood and its water resource impacts in Australia*" (LP150100062), assembles a team of leading hydrologists, climate scientists and water managers to investigate the history and future risk of decadal to multidecadal droughts, or megadroughts. The project has a three-year duration, for the period 2016-2019.

Despite Australia's vulnerability to water scarcity, the likelihood and impacts of persistent megadrought has not been comprehensively assessed. This has resulted in an inadequate capacity to prepare for and adapt to megadrought under climate change. This project uses the latest palaeoclimate reconstructions, observations and climate change projections to characterise hydroclimatic variability, advancing the decision-making capacity of Australian water resource managers.

Subprojects

Subproject 1: Assess the likelihood of megadrought using palaeoclimate and instrumental data
Subproject 2: Utilise climate model simulations of decadal-scale variability under climate change
Subproject 3: Develop stochastic simulations of hydrologic data
Subproject 4: Undertake water resources drought risk evaluation

Australian Government
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MONASH University

Australian Government
Bureau of Meteorology

VicDRIP

Victorian Drought Risk Inference Project

Progress

Recent progress has included a number of journal publications related to Subprojects 1 and 2, as listed below.

1. Australian regional rainfall reconstructions (Subproject 1):
Freund, M., Henley, B. J., Karoly, D. J., Allen, K. J. and Baker, P. J. (2017) 'Multi-century cool and warm season rainfall reconstructions for Australia's major climatic regions', *Climate of the Past Discussions*, pp. 1–35. doi: 10.5194/cp-2017-28.

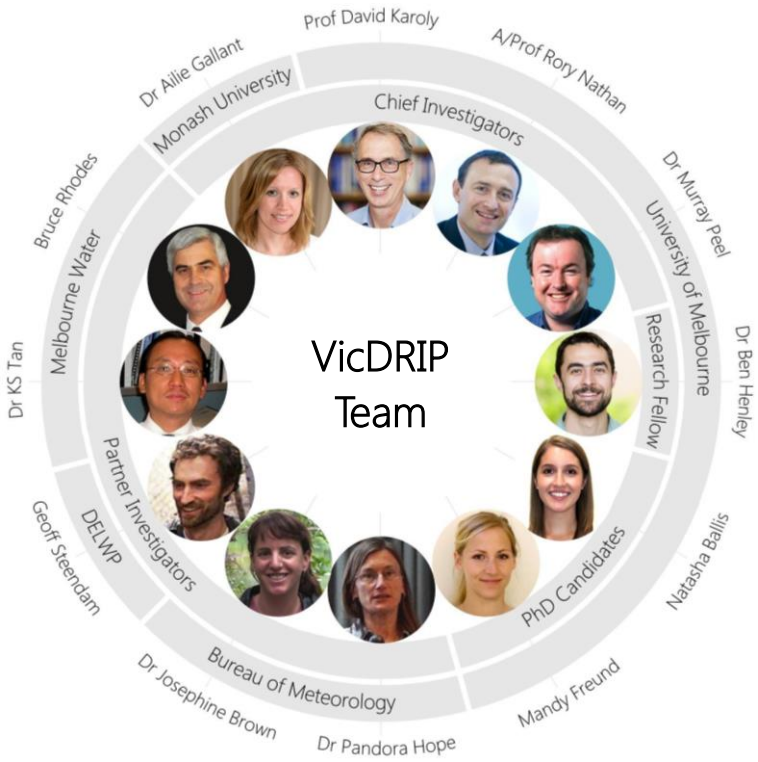
2. Pacific decadal variability in climate models (Subproject 2)
Henley, B. J., Meehl, G., Power, S. B., Folland, C. K., King, A., Brown, J. N., Karoly, D. J., Delage, F., Gallant, A. J. E., Freund, M. and Neukom, R. (2017) 'Spatial and Temporal Agreement in Climate Model Simulations of the Interdecadal Pacific Oscillation', *Environmental Research Letters*, in press, pp. 1–33. doi: 10.1088/1748-9326/aa5cc8.

3. Southern Hemisphere rainfall variability (Subproject 1)
Gergis, J. and Henley, B. J. (2016) 'Southern Hemisphere rainfall variability over the past 200 years', *Climate Dynamics*. doi: DOI 10.1007/s00382-016-3191-7.

5. Climate model simulations of decadal variability towards 1.5°C (Subproject 2)
Henley, B.J. & King, A.D., 2017. Trajectories towards the 1.5°C Paris target: modulation by the Interdecadal Pacific Oscillation. *Geophysical Research Letters*, in press.

6. Climate extremes at 1.5 and 2°C (Subproject 2)
King, A.D., Karoly, D.J. & Henley, B.J., 2017. Australian climate extremes at 1.5 and 2 degrees of global warming. *Nature Clim. Change*, in press.

4. PhD Confirmation: Natasha Ballis' PhD candidature was successfully confirmed on 3 March 2017



Contact

Please visit vicdrip.org for regular news and contact Ben for pre-prints of publications or further information about the project. Collaborations and contributions welcome! bhenley@unimelb.edu.au