


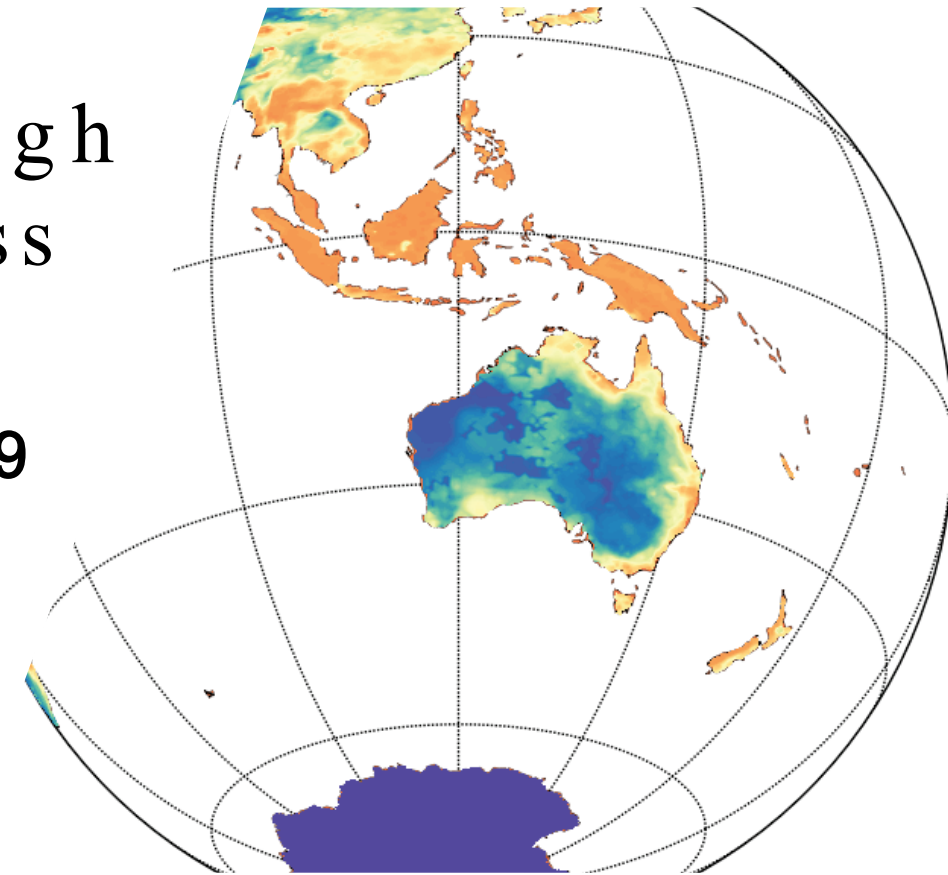


# Mitigating the effects of severe fires, floods and heatwaves through the improvements of land dryness measures and forecasts.

Research Advisory Forum / **October 2019**

- Dr Vinod Kumar / Bureau of Meteorology
- Dr Imtiaz Dharssi / Bureau of Meteorology
- Dr Paul Fox -Hughes / Bureau of Meteorology

 @bnhcrc  @bnhcrc



# JASMIN

JULES based Australian Soil Moisture Information

## ■ Status against milestones

- On target.
- 2018/19 annual report submitted.
- Positive end -user feedback.

## ■ Recent progress

- Routine updates to JASMIN.
- Tech -report on downscaling submitted.
- Research on soil – fuel moisture content relationship under way.

## ■ Research impacts

- Assessed in WA -DBCA research study.
- JASMIN methodology adopted in BARRA for soil moisture initialization.
- Tas Parks evaluated JASMIN for placing open fire restriction on national parks.

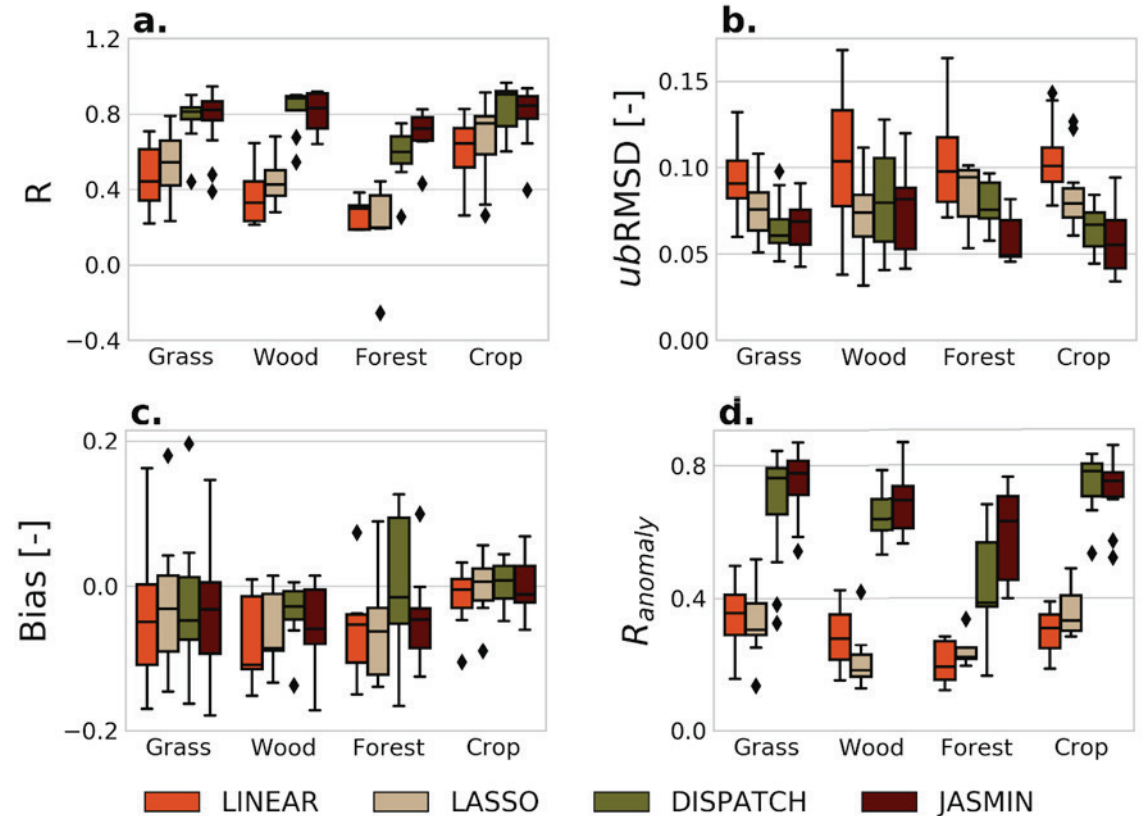
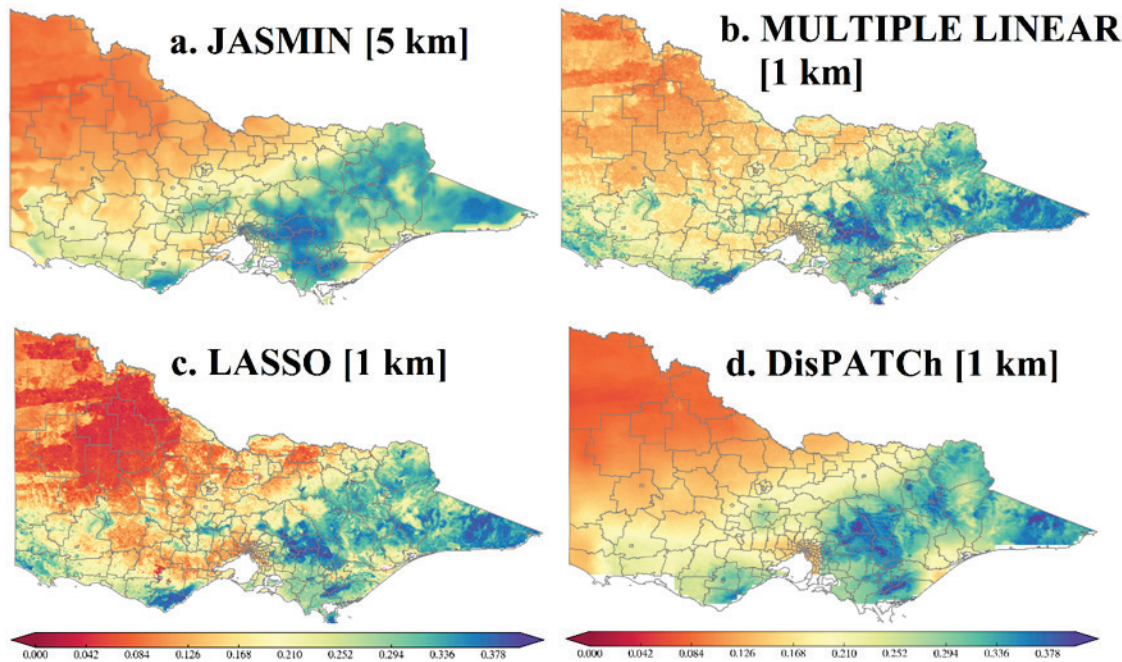
## JASMIN: A prototype high resolution soil moisture analysis system for Australia

Intiaz Dharssi and Vinodkumar  
October 2017



# JASMIN

## Downscaling



DisPATCh the best performing approach – better over arid/semi-arid areas



# JASMIN

## Current work

Soil – Fuel moisture relationship

liaison with end-users

WA Pemberton dataset

Alex Holmes (RFS) comparing JASMIN/AWRA with FRP

Employing AFMS dataset to establish relationships (no prizes for guessing this is tricky!)

Porting to Gadi at NCI



# JASMIN - future

Towards operations:

WA proposal to implement as operational soil moisture product

Within BoM: discussions with Water team re piggybacking on AWRA infrastructure

business case for operational implementation

SW Tas soil moisture sensor – calibration against organic soils

# Thank you

## Acknowledgements

- BNHCRC and the end -users.
- Marta Yebra / ANU / AFMS.
- BoM colleagues in StS.
- Monash University & University of Melbourne for OzNet .
- CSIRO for CosmOz .
- TERN for OzFlux .

## Correspondence

- Vinod Kumar: [vinod.kumar@bom.gov.au](mailto:vinod.kumar@bom.gov.au)
- Paul Fox -Hughes: [paul.fox-hughes@bom.gov.au](mailto:paul.fox-hughes@bom.gov.au)
- Imtiaz Dharssi: [imtiaz.dharssi@bom.gov.au](mailto:imtiaz.dharssi@bom.gov.au)