

# Introduction to ACCESS AMIP experiments

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**Australian Government**  
Bureau of Meteorology

The Centre for Australian Weather and Climate Research  
A partnership between CSIRO and the Bureau of Meteorology



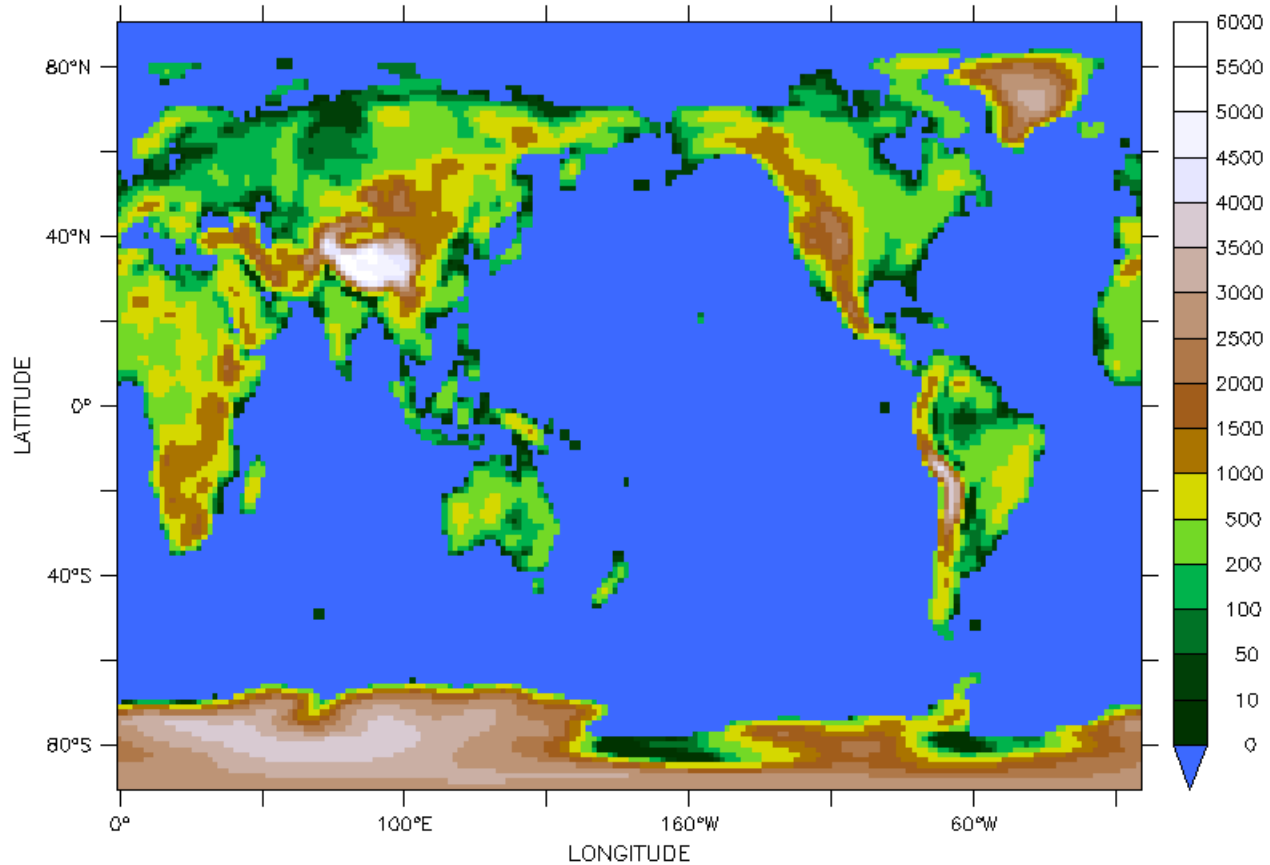
# Model description



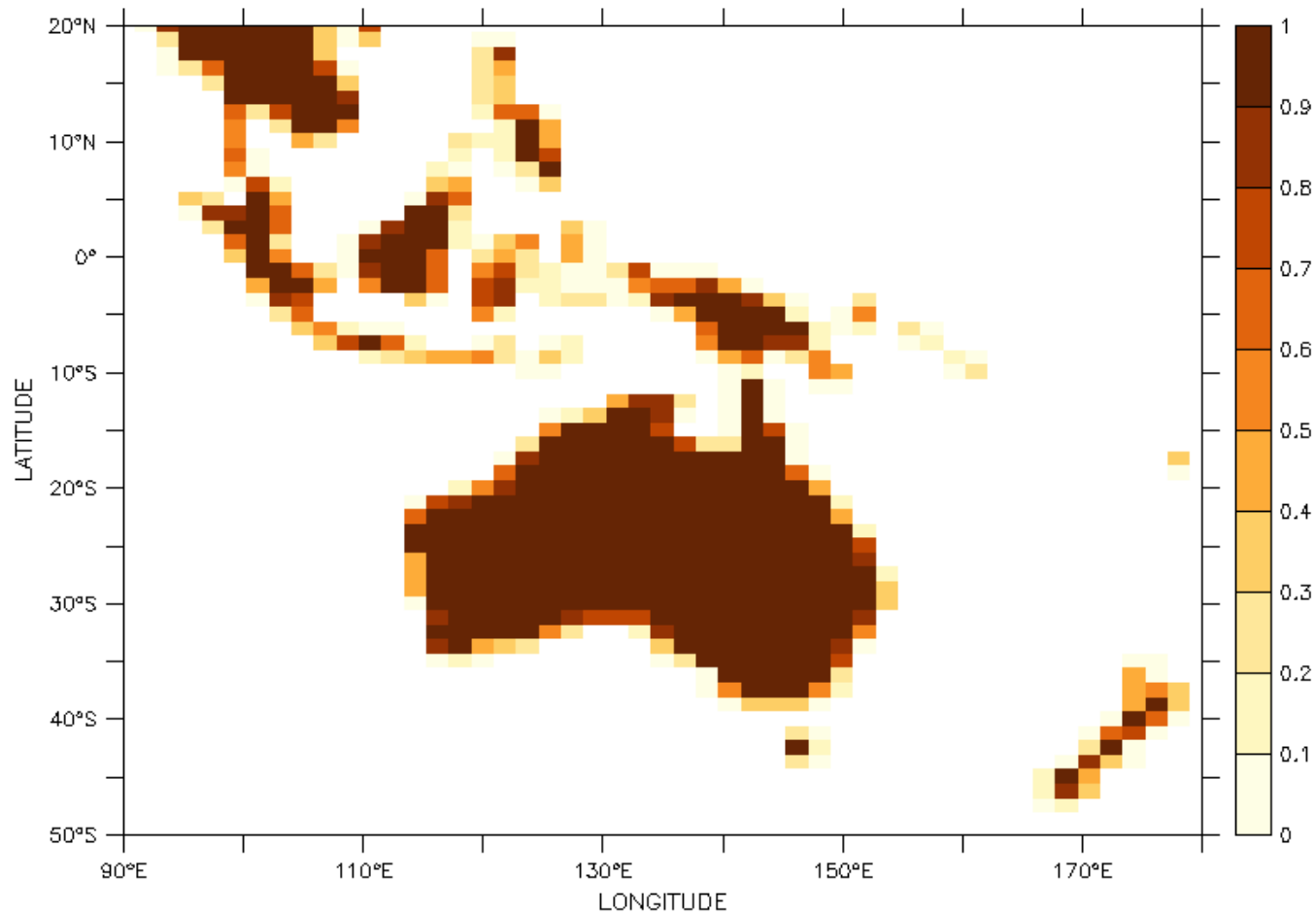
- ACCESS coupled model will use UM atmosphere, CABLE land surface, AUSCOM (MOM4), CICE (LANL), OASIS
- AMIP model based on Met Office HadGEM2-A atmospheric model
- Resolution N96 (1.875 x 1.25 degrees), 38 levels (top approx 4 hPa)
  - C grid, hybrid z vertical coordinate
- Differs from HadGEM2 in using the new PC2 cloud scheme (likely to be used in HadGEM3)
- Aerosol scheme including sulphate, sea-salt, dust, soot, biomass burning.
- MOSES II land surface scheme with tiling, fractional land along coasts.



# N96 model orography



# N96 land fraction



# AMIP Experiment setup



- Specified SST and sea-ice 1979-2000
- Ozone and GHGs fixed at average values
- Historical aerosol emissions
- 360 day calendar
- Requires approx 1000 processor seconds per day on SX-6



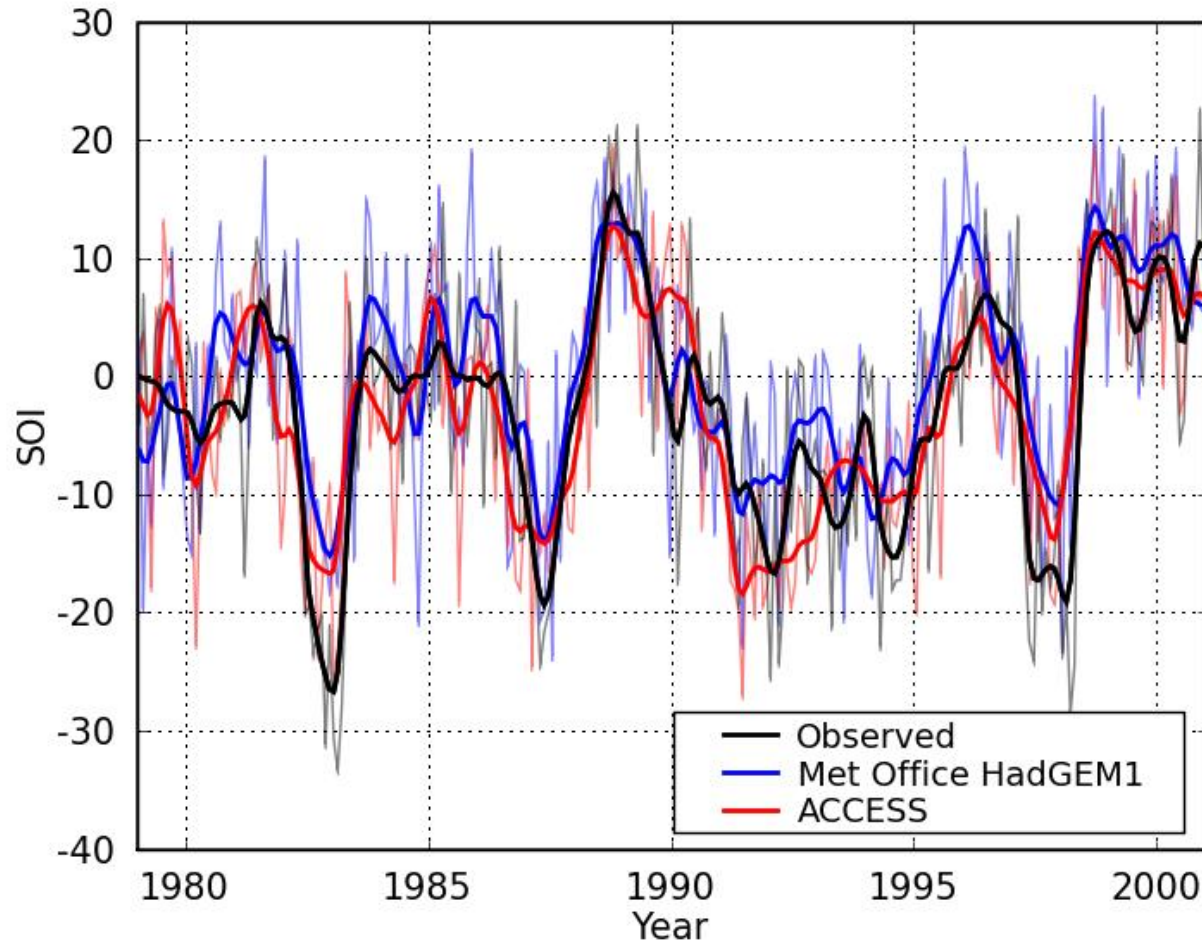
# Data



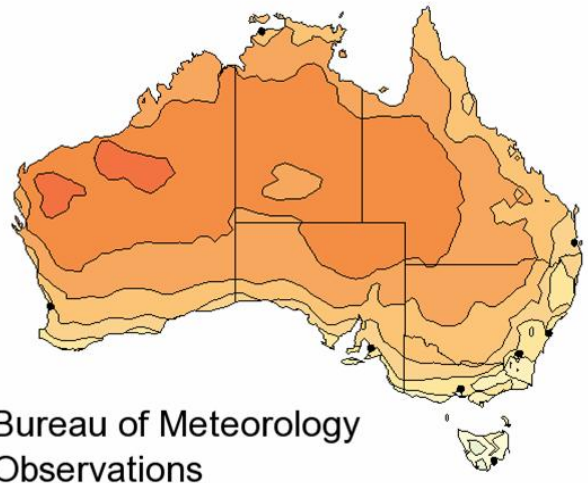
- UM has flexible system for specifying which diagnostics are saved
  - Large set of daily and monthly fields
- Uses own binary file format
  - We've converted to netCDF
- Full list of fields saved at  
[http://hpsc.csiro.au/users/dix043/access\\_amip/ACCESSClimateModelExperimentsVarList.html](http://hpsc.csiro.au/users/dix043/access_amip/ACCESSClimateModelExperimentsVarList.html)
- Available via OpenDAP from  
<http://opendap.csiro.au/opendap/ACCESS/>



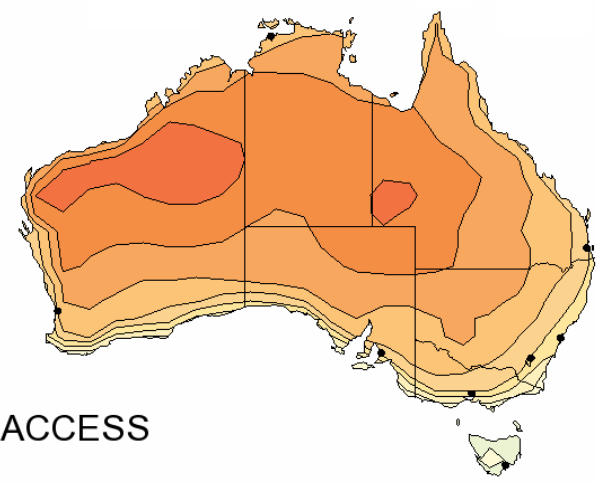
# Southern Oscillation Index



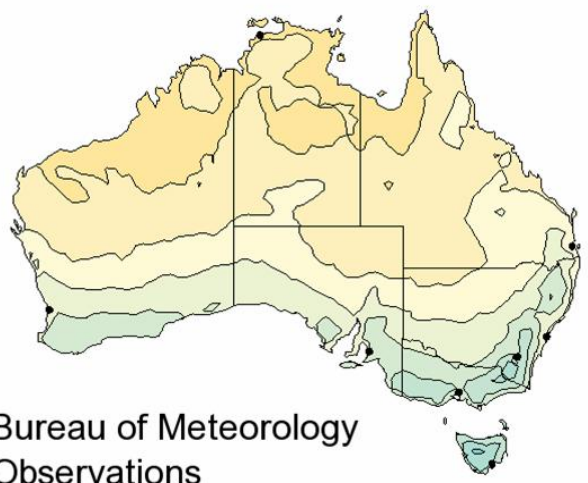
# Summer max and min temperatures



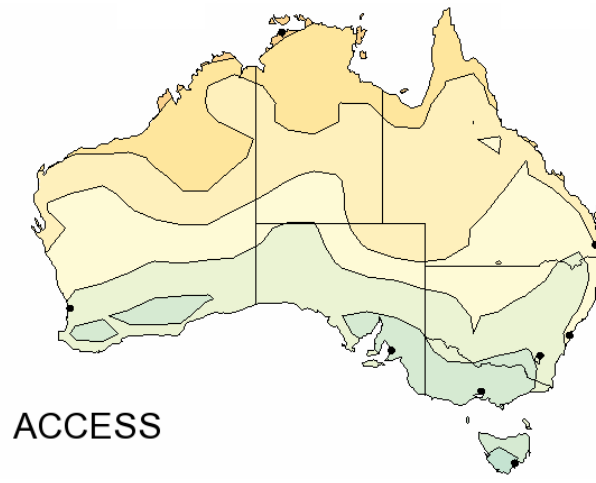
Bureau of Meteorology  
Observations



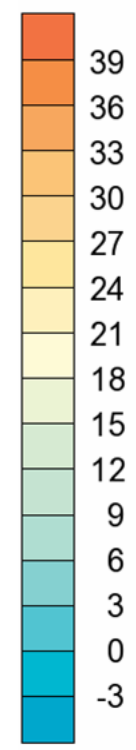
ACCESS



Bureau of Meteorology  
Observations



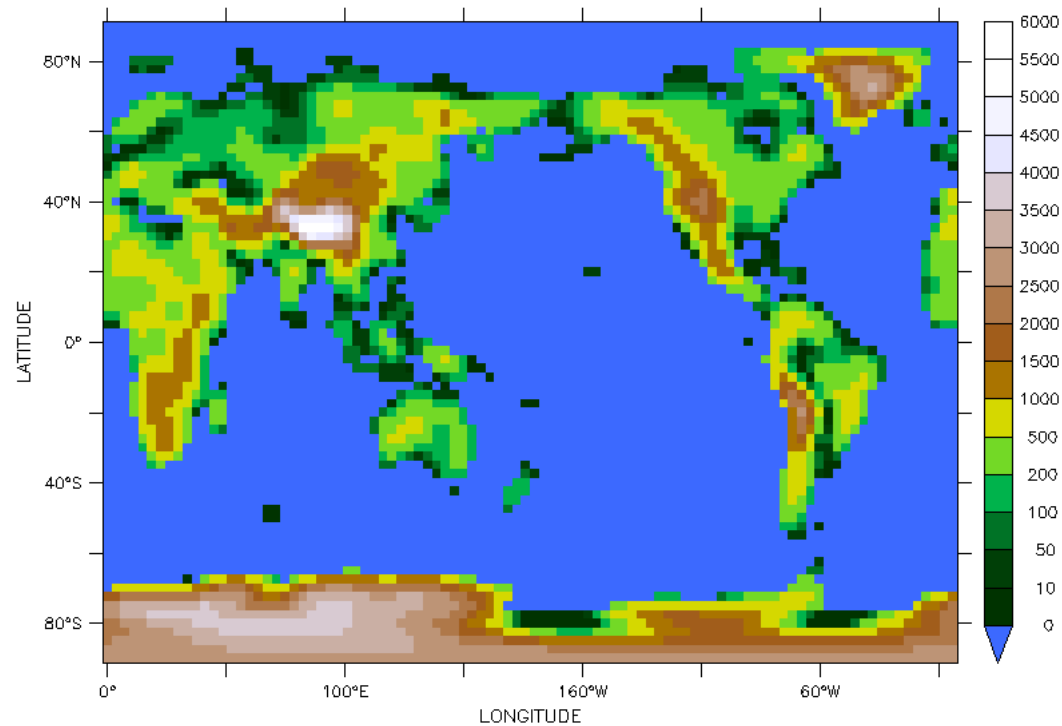
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# Low resolution version



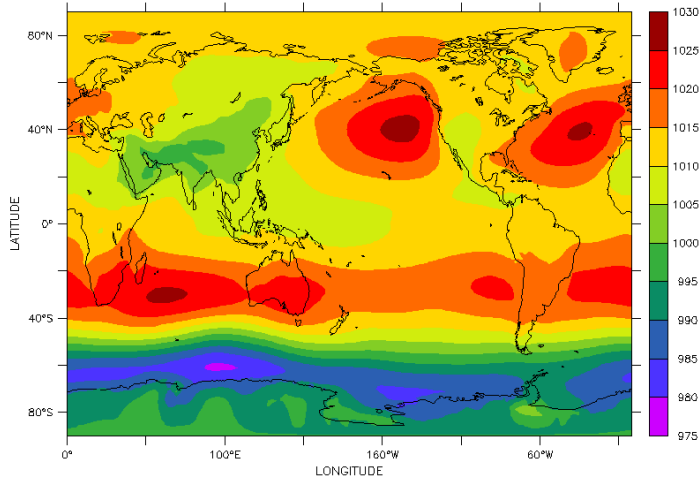
- N48, 3.75 x 2.5 degrees, 38L
- Same physics



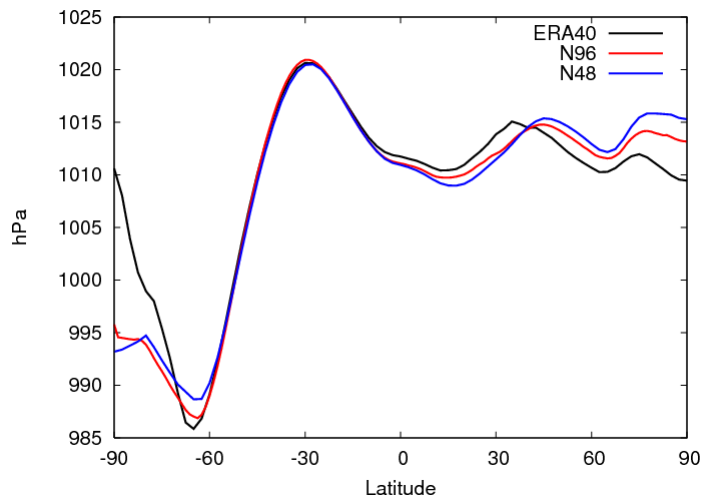
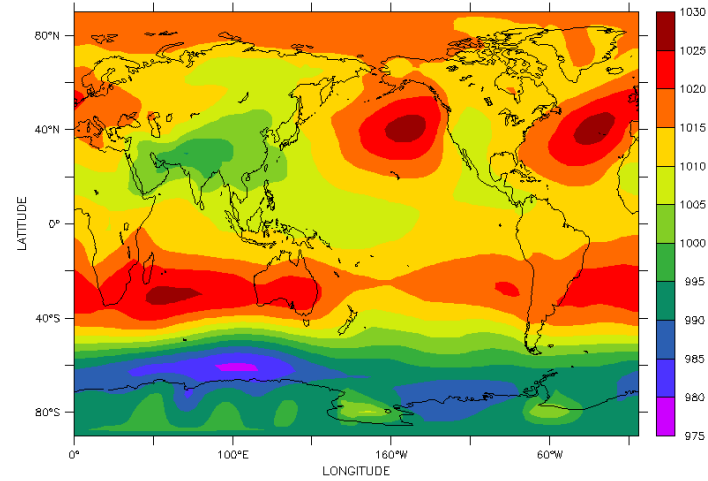
# JJA sea level pressure



## N96



## N48



(only 4 years so far)



# Future?



- Include CABLE
- UKCA?
- Use most recent base UM version (7.1 soon?)
- Best Met Office PC2 settings
- Extend runs to present?
- Ensembles?
- User training
- Porting to other systems (certainly NCI at ANU)





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# Thank you

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