

# Recent upgrades to the Bureau of Meteorology ACCESS NWP system

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**ACCESS is the Australian Community Climate and Earth-System Simulator which implements the NWP components from the UK Met Office (OPS/VAR/SURF/UM)**

## •Current ACCESS-G APS1 → APS2 upgrade (December 2015)

- NWP components update (cf. Met Office PS32)
- Increase in horizontal resolution (N512, 18km)
- Addition of new satellite observations:
  - Infrared sounder: CrIS, IASI Metop-B
  - Microwave sounders: ATMS, AMSU-A/MHS Metop-B
  - Geostationary Clear Sky Radiances: MTSAT-2
- Routine adjoint-based forecast sensitivity to observations

## •Future ACCESS upgrades

- New Cray XC40 supercomputer (2016)
- ACCESS-G: upgrade to match Met Office NWP components + extend observation usage (FY-3, SAPHIR, AMSR2, HIMAWARI)
- Focus on convective data assimilation (UKV-like): RUC in 1.5km city-based systems (ACCESS-C)

## •Land Surface Data Assimilation

- Soil moisture analysis: 5km resolution over Australia (EKF built around SURF/JULES)
- Active use of ASCAT + SMOS data
- Significant application: Fire Danger warnings
- Operational 2016/2017

