

Smoke Plume Behaviour - Variable Source Heights

Alan Wain

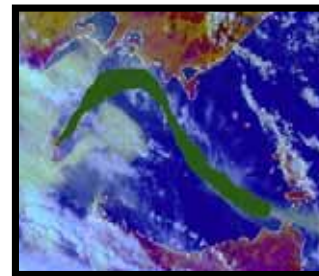
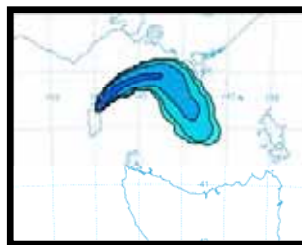
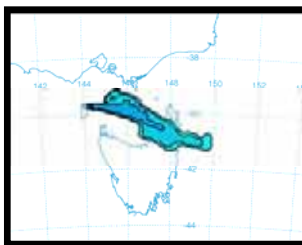
Bureau of Meteorology Research Centre, Melbourne

- Correct plume height reduces one source of forecast error
- Current fixed height of 1500m is not a bad approximation but is not suitable in all cases
- A dynamic method for specifying plume height is desirable
- Full plume rise model not currently practicable
- Mixed Layer Depth is proposed as interim solution
- Initial results are very encouraging
- Operational implementation beginning soon

Fixed Plume 1500m Height

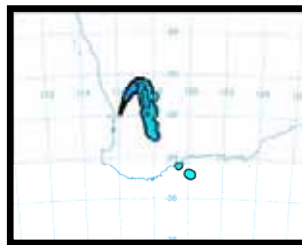
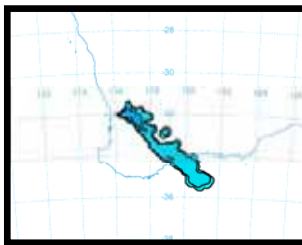
Plume Height = MLD, updated hourly

Verification



King Island 0800 UTC 11 Jan 2001

NOAA AVHRR



Perth 0100 UTC 18 Jan 2005

Terra -MODIS

Concentration Scale

