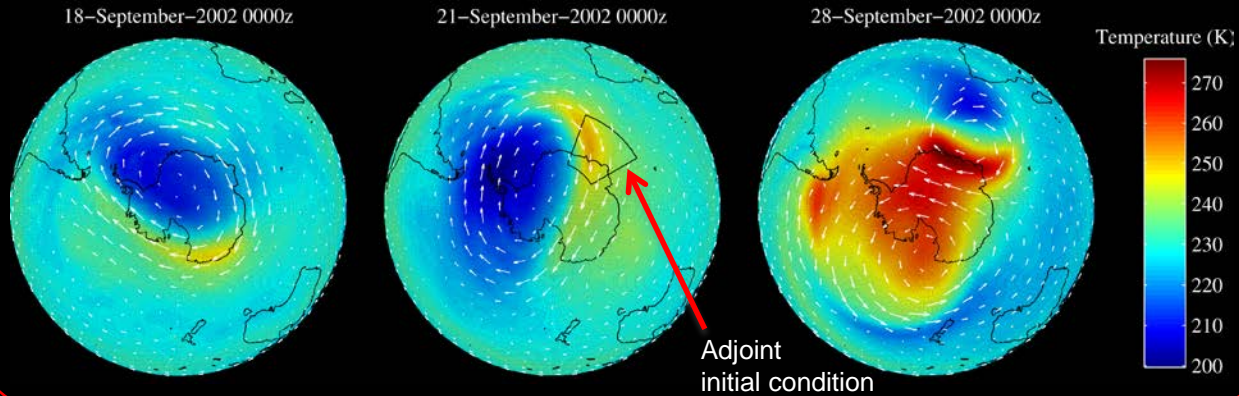


Tracking sudden stratospheric warming (SSW) onset with the adjoint

GEOS-5 10 day forecast at 10hPa, southern hemisphere SSW of 2002



Forecast perturbed by adjoint sensitivity in troposphere: no SSW occurs

