## A Comparison of extratropical cyclones in recent reanalyses

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Extratropical cyclones are identified and compared for the winter periods in both hemispheres using data from four recent reanalyses: ERA-Interim, NASA-MERRA, NCEP-CFSR and JRA-25. This study focuses primarily on spatial and intensity distributions and differences. Further work, matching storms between reanalyses, also investigates separation distances and composite cyclone diagnostics. Results show Northern Hemisphere cyclones correspond well between reanalyses in terms of spatial distribution but there are larger uncertainties in cyclone intensities which depend on the parameter used for intensity: MSLP, 925hPa winds or 850hPa vorticity. There is a significant improvement in the Southern Hemisphere (SH) for the latest reanalyses in terms of cyclone distribution, but still with larger uncertainties in intensities. Largest differences are found to occur between the older, lower resolution JRA-25 reanalysis when compared with the newer, high resolution reanalyses, in particular in the SH. In general, these results indicate there is a significant improvement in the correspondence of cyclones between the new reanalysis than was the case for the older reanalyses, in particular in the SH.