



## **Estimation of the accuracy of ECMWF ERA-40 and NCEP/NCAR 50-year reanalyses in the summer hemisphere UTLS during the pre-satellite era**

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In 1971 and 1972, 480 long-duration superpressure balloons were launched from Argentina in the framework of the ÉOLE experiment to document the dynamics of the southern-hemisphere UTLS. The mean flight duration achieved during the campaign was 103 days, and the collected 80,000 observations of wind and temperature are used to estimate the accuracy of modern reanalyses. This estimation is fully independent of reanalyses since the ÉOLE dataset has not been assimilated, and covers areas that are poorly sampled by classical observations (Antarctica and southern oceans). Results on the geographical distribution of the analysis bias and variance with respect to the observations will be presented. New projects using long-duration balloons that may be of interest for the assimilation community will be presented as well.