

The Proposed "SPARC Reanalysis/Analysis Intercomparison Project (S-RIP)"

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Reanalyses are invaluable datasets for middle atmosphere science community, serving as proxies for the real atmosphere in process studies, as verification data for chemistry climate model validations, and perhaps eventually for trend analyses. However, reanalyses are found to differ in various aspects concerning the middle atmosphere such as the strength of the Brewer-Dobson circulation, polar vortex evolution, temperature trends, tropical wave spectra and tidal depiction. Thus, in order to provide guidance to middle atmosphere scientists as well as feedback to reanalysis data providers, a new SPARC (Stratospheric Processes and their Role in Climate) project has been proposed in which all available global reanalysis data sets (8 currently) will be examined in terms of some key middle atmospheric diagnostics. This is a collaborative effort between the SPARC community and the reanalysis centers. The main goals of this project are to open a good communication platform between the SPARC community and the reanalysis centers, to understand the current reanalysis products, and to contribute to future reanalysis improvements in the middle atmosphere region. The project will operate through three major components: (1) the management team which deals with the overall coordination including the SPARC-reanalysis center connection and with the data archiving, (2) the scientific working group which suggests the diagnostics covered and has the responsibility for editing and writing the final report, and (3) all SPARC-related researchers who make the data analysis, write journal papers, and contribute to the final report. The project will hold two or three dedicated workshops, where analysis results are discussed among the SPARC community and the reanalysis centers, and produce the final report as a SPARC report, which reviews the then past and near-future publications. The project duration is expected to be 3-5 years for the first phase.

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