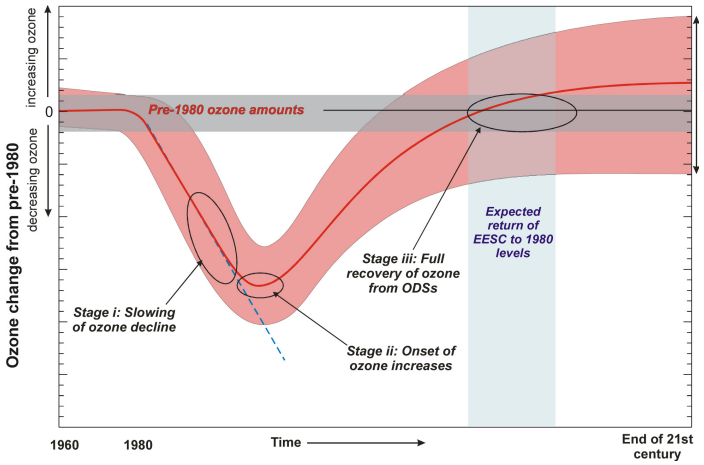
WCRP NEWS
World Climate Research Programme

The WCRP core project Stratospheric Processes and their Role in Climate (SPARC) addresses key questions in climate research in the context of three main themes: (a) climate-chemistry interactions; (b) detection, attribution, and prediction of stratospheric change; (c) stratosphere-troposphere dynamical coupling. SPARC co-leads, with the IGBP's International Global Atmospheric Chemistry Project (IGAC), the WCRP-IGBP joint research activity on Atmospheric Chemistry and Climate, which has a leading role in the preparation of the WMO/UNEP Scientific Assessments of Ozone Depletion. Through its modelling and data assimilation activities SPARC is contributing directly to the knowledge base which supports the development of next generation weather analysis systems and weather and climate prediction models. In addition, SPARC, through its research activities in stratosphere-troposphere dynamical coupling, contributes to the understanding that is required as underpinning for the development of next-generation weather, climate and Earth system prediction models.



SPARC provided significant direct input into the last three WMO/UNEP Assessments of Ozone Depletion (1998, 2002 and 2006).

SPARC research and subsequent reports and publications have been widely used and cited. They served as key sources of knowledge for major assessments such as the IPCC AR4. Components of the WCRP/SPARC research programme such as the studying the coupling of stratosphere and troposphere are important not only for predicting climate change but also for improving numerical weather prediction.

More: www.atmosp.physics.utoronto.ca/SPARC.

Examples of SPARC accomplishments:

- SPARC's Chemistry-Climate Model Validation (CCMVal) organizes model simulations and analyses that were a central element of the WMO/UNEP Scientific Assessments of Ozone Depletion.
- SPARC-related scientists served on the WMO/UNEP Assessment Steering Committee, as lead and contributing authors, and reviewers.
- SPARC comprehensive peer-reviewed reports include:
  - Trends in the Vertical Distribution of Ozone,
  - Upper Tropospheric and Stratospheric Water Vapour,
  - Intercomparison of Middle Atmosphere Climatologies,
  - Stratospheric Aerosol Properties.
- SPARC reports in preparation include: Chemistry-Climate Model Validation and an updated Assessment of Upper Tropospheric and Stratospheric Water Vapour.