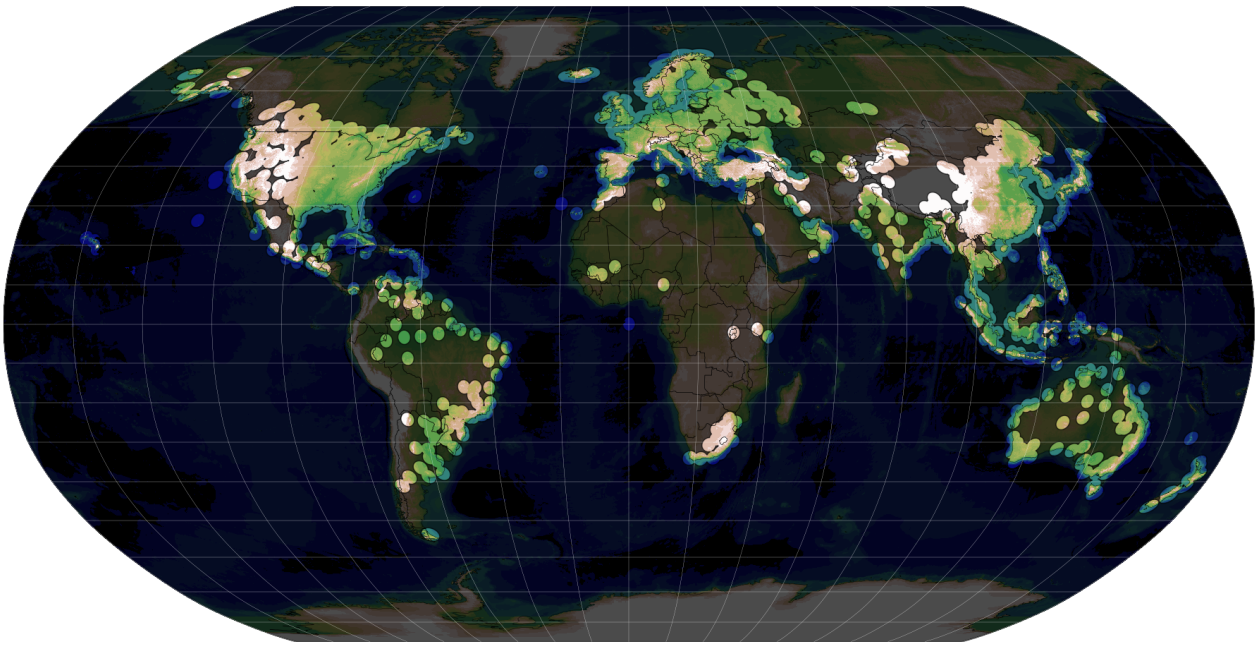
# Decades of weather radar data: Global availability, preservation challenges and success stories

*Joshua S Soderholm[3], Elena Saltikoff[1], Katja Friedrich[2], Katharina Lengfeld[4], Brian Nelson[5], Andreas Becker[4], Rainer Hollmann[4], Bernard Urban[6], Maik Heistermann[7], Caterina Tassone[8]

1. Finnish Meteorological Institute, Helsinki, Finland, 2. Department of Atmospheric and Oceanic Sciences, University of Colorado Boulder, Boulder, Colorado, USA, 3. Meteorological Institute, University of Bonn, Bonn, Germany, 4. Deutscher Wetterdienst, Offenbach am Main, Germany, 5. NOAA/National Centers for Environmental Information, Asheville, North Carolina, 6. Météo-France, Toulouse, France, 7. Institute of Environmental Sciences and Geography, University of Potsdam, Germany, 8. GCOS Secretariat, WMO, Geneva, Switzerland

Atmospheric observations and the metadata describing the measurement are precious; this data cannot be recovered once it is degraded or lost. For weather radars, the copious amount of data generated, complexity of metadata and diversity of configurations compound the challenge of preserving data. Recent climatological studies using long-term datasets demonstrate the significant scientific value of having these archives made available. These studies have included quantifying the spatial and temporal distribution of rain rates, hail size, dynamics and microphysical processes. To ensure the vast amounts of existing and future weather radar observations are available for research, it is essential to review how to correctly manage and present the data and metadata. This presentation outlines the efforts of The Radar Task Team set by the Atmospheric Observation Panel for Climate (AOPC) to review the requirements of weather radar archiving, and capture the existence and availability of radar archives from a recent international survey of 45 national weather services. Examples of recent climatological studies from the US, Australia and Germany are used to demonstrate the benefits of maintaining long-term radar archives. Finally, recommendations for archiving existing and future data are presented.

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