

**Managing climate data and data federation at NOAA's National Climatic Data Center**Stephen Delgreco<sup>†</sup>;<sup>†</sup> NOAA National Climatic Data Center, USALeading author: [Stephen.A.Delgreco@noaa.gov](mailto:Stephen.A.Delgreco@noaa.gov)

The National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center (NCDC) is experiencing exponential growth in scientific data and information. Incoming annual dataset volumes that not too long ago were gigabytes up to a few terabytes are now terabytes to petabytes. Scheduled deployments of new satellite and radar campaigns and higher resolution model output will fuel this growth in climate data and information volume. Resultantly, there is a critical need for robust data management systems for ingesting large streaming digital data for archive and long-term preservation, deriving high-resolution products, and providing proper access to these data and information. At the same time, NOAA needs to function in a wider information landscape that leverages federated systems (e.g., the cloud) and distributed data using technologies and standards that allow interoperability and utilize high performance computing and storage facilities. This paper describes NCDC's vision for data management, archiving and access to global- and local-scale Climate Data data and information using distributed processes.