

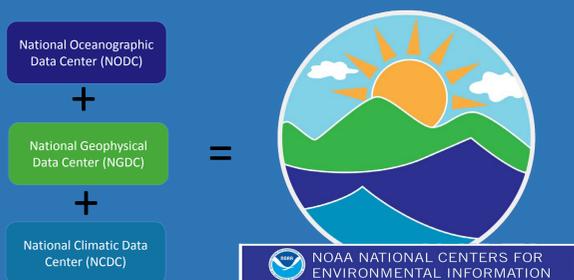
# Integration of Cloud Technologies for Data Stewardship at NCEI

Kenneth S. Casey and Scott Hausman, NOAA National Centers for Environmental Information (NCEI)

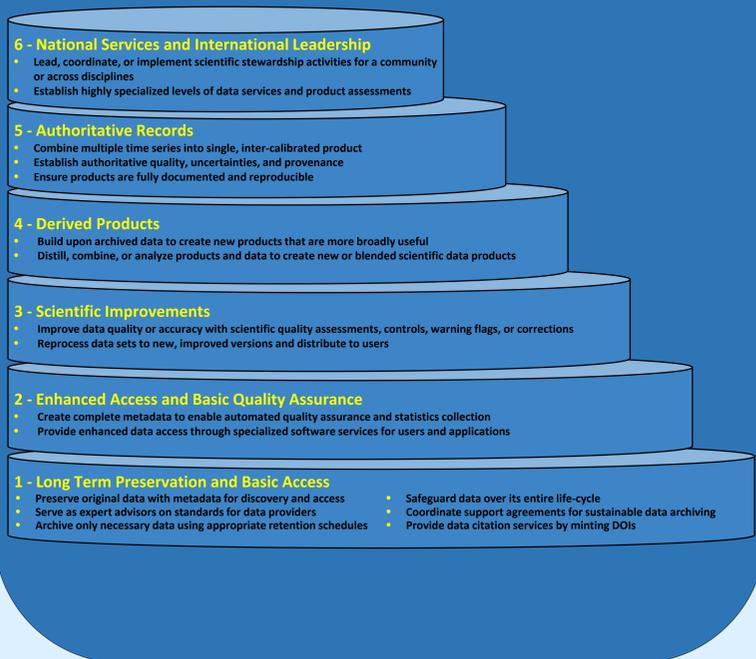
**Abstract:** In the last year, the NOAA National Oceanographic Data Center (NODC) and its siblings, the National Climatic Data Center and National Geophysical Data Center, were merged into one organization, the NOAA National Centers for Environmental Information (NCEI). Combining its expertise under one management has helped NCEI accelerate its efforts to embrace and integrate private, public, and hybrid cloud environments into its range of data stewardship services. These services span a range of tiers, from basic, long-term preservation and access, through enhanced access and scientific quality control, to authoritative product development and international-level services. Throughout these tiers of stewardship, partnerships and pilot projects have been launched to identify technological and policy-oriented challenges, to establish solutions to these problems, and to highlight success stories for emulation during operational integration of the cloud into NCEI's data stewardship activities. Some of these pilot activities including data storage, access, and reprocessing in Amazon Web Services, the OneStop data discovery and access framework project, and a set of Cooperative Research and Development Agreements under the Big Data Project with Amazon, Google, IBM, Microsoft, and the Open Cloud Consortium. Progress in these efforts is highlighted along with a future vision of how NCEI could leverage hybrid cloud deployments and federated systems across NOAA to enable effective data stewardship for its oceanographic, atmospheric, climatic, and geophysical Big Data.

## Data Stewardship

### What is NCEI?

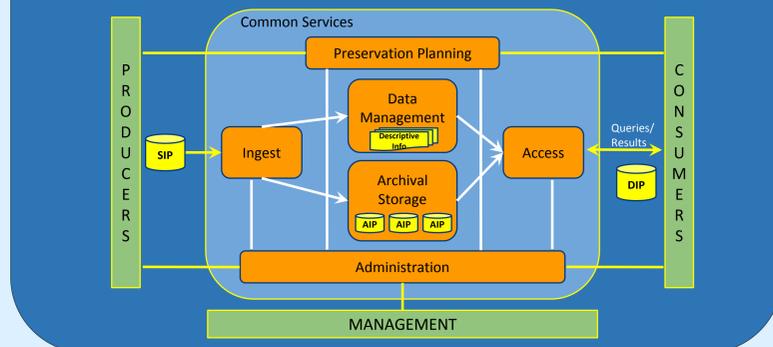


### Tiers of Stewardship



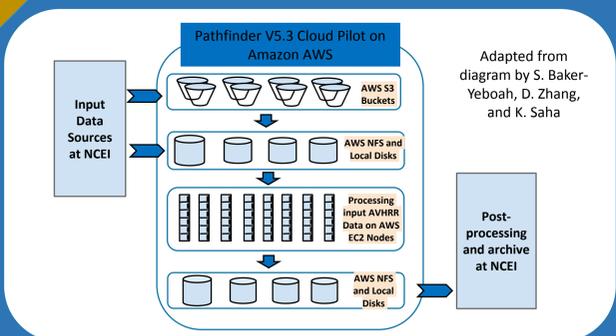
## Current and Future Cloud Stewardship Efforts

### An OAIS Archive



### NCEI Cloud Pilots

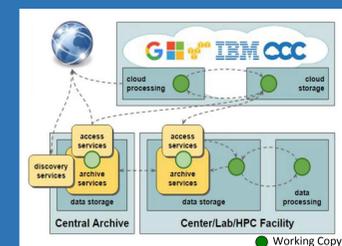
- Phase 1: Access in AWS S3
- Phase 2: OpenStack Private Cloud
- Phase 3: Compute in AWS EC2



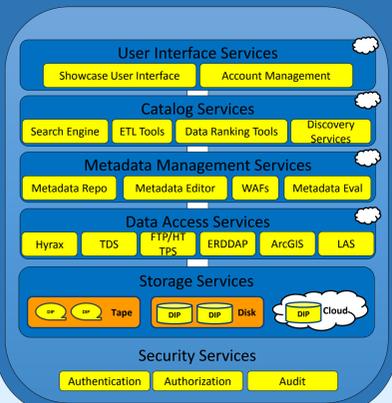
### Big Data Project



### Federated Archives



### OneStop



### Future Considerations

