NOAA's Climate Data Record Program has transitioned 25 CDRs from research to initial operational capability (IOC), a major milestone characterized by the archiving and public release of the CDR data, source code, and documentation and a commitment to sustained product generation. This poster outlines the core processes (Research-to-Operations, Operations and Maintenance, and Climate Applications) involved in CDR life-cycle management.

Steps

1) Assessment
   - Identify the CDR package (code, documents, and data)
   - Determine if a candidate research CDR is sufficiently mature for transition to IOC.

2) Submission
   - NOAA can plan for archive and access of the data in a formal Submission Agreement, such as
     a KDP.
   - Identify the CDR package (code, documents, and data) to NCDC for Validation.

3) Transfer
   - Transfer the complete dataset, source code, and documentation to NCDC for Validation.
   - Ensure the CDR source code, documentation materials to NCDC for Validation.

4) Validation
   - NOAA assesses the CDR source code, documentation, and data are consistent with the CDR Program's coding and metadata standards.

5) Archival
   - The complete CDR package (data, code, and documentation) is put under version control and data are consistent with the CDR Program's coding and metadata standards.

6) Access
   - NOAA ensures the CDR source code, documentation, and data are consistent with the CDR Program's coding and metadata standards.

Operations and Maintenance

1) Production
   - Develop a prototype application and modify it through Agile development based on user feedback and resources available.

2) Change Request
   - Submit Change Request
     - Improvements to Algorithm or New Satellites
     - Submit Change Request
     - Rebaseline CDR

3) Implement
   - Update Code
     - Update CDR
     - Rebaseline CDR

Applications

1) Select
   - Rank potential applications based on users' needs, resources available, and sustainability. Select application to prototype.

2) Develop
   - Select Application
     - Build/Modify Application
     - Test
     - Gather Feedback
     - Advertise to Existing Users

3) Sustain
   - Update with New Data
     - Update with New Data
     - Compile Feedback

Example CDR Products and Applications

- Precipitation
- Sea Ice
- Sea Surface Temperature (SST)
- Normalized Difference Vegetation Index (NDVI)

Normalized Difference Vegetation Index (NDVI)

Sea Surface Temperature (SST)

Precipitation

Sea Ice

Normalized Difference Vegetation Index (NDVI)