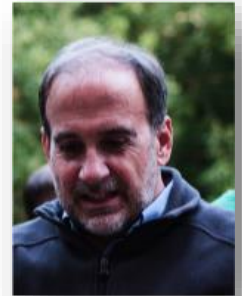


Data Sharing and Archiving

Bob Cook

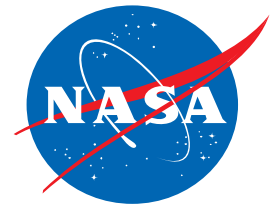
ORNL Distributed Active Archive Center
Oak Ridge National Laboratory
Oak Ridge, TN



ABOVE Science Team Meeting
St. Paul, Minnesota
October 2, 2015

ABOVE Solicitation

Terrestrial Ecology Solicitation: NNH14ZDA001N-TE



- ORNL DAAC as archive for ABOVE

...much of the data collected through ABOVE will be archived and distributed by the ORNL DAAC.

NASA anticipates the possibility that some ABOVE data might be more appropriately archived at another NASA DAAC or other long-term archive...

Topics

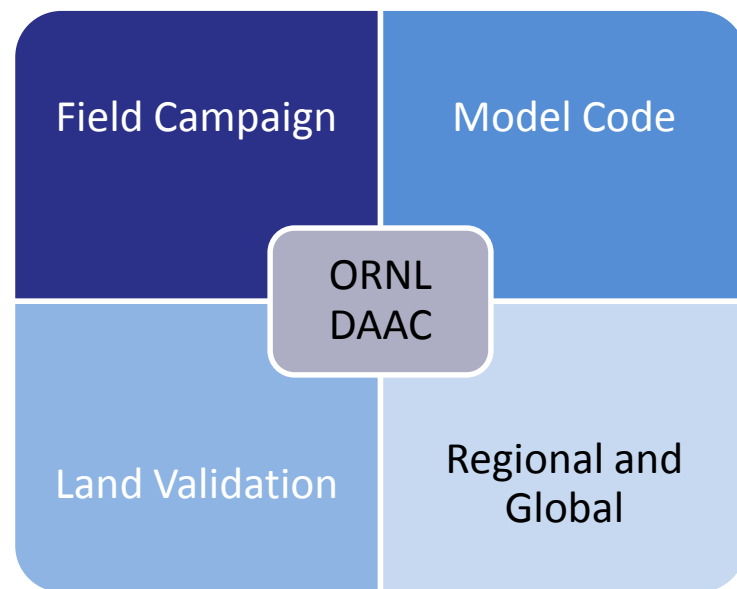


- ORNL DAAC
 - Curation
 - Archiving data from manuscripts
- Science Data Working Group

Oak Ridge National Laboratory Distributed Active Archive Center



Assemble, distribute, and provide data services for a **comprehensive archive of terrestrial biogeochemistry and ecological dynamics observations and models** to facilitate research, education, and decision-making in support of NASA's Earth science.

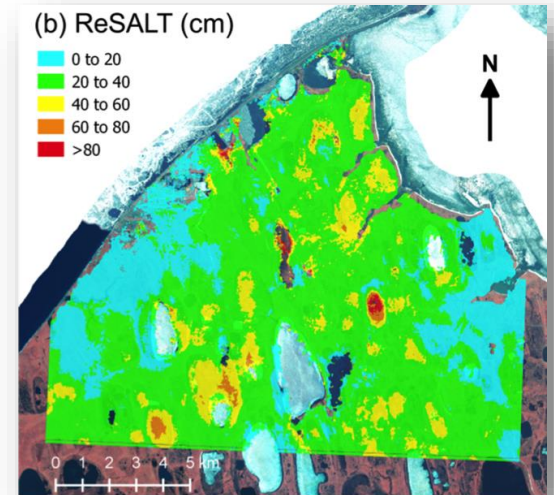


<http://daac.ornl.gov>

Data Products Archived

ABOVE (3 from Kevin's Project)

Liu, L., K. Schaefer, A. Chen, A. Gusmeroli, E. Jafarov, S. Panda, A. Parsekian, T. Schaefer, H. A. Zebker, T. Zhang. 2015. Pre-ABOVE: Remotely Sensed Active Layer Thickness, Barrow, Alaska, 2006-2011. ORNL DAAC, Oak Ridge, Tennessee, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1266>



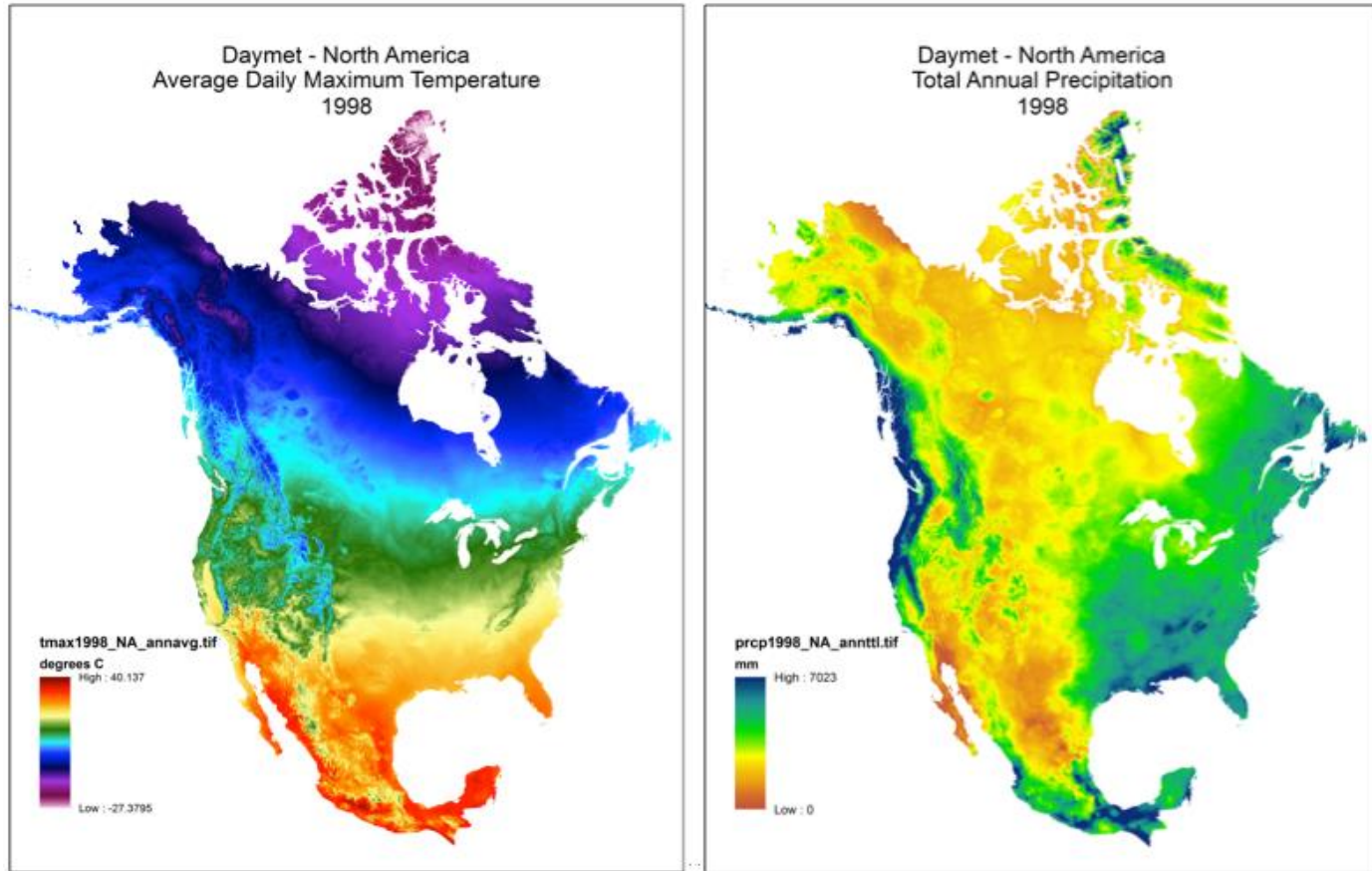
CARVE

Veraverbeke, S., B.M. Rogers, and J.T. Randerson. 2015. CARVE: Alaskan Fire Emissions Database (AKFED), 2001-2013. ORNL DAAC, Oak Ridge, Tennessee, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1282>



Daymet for North America

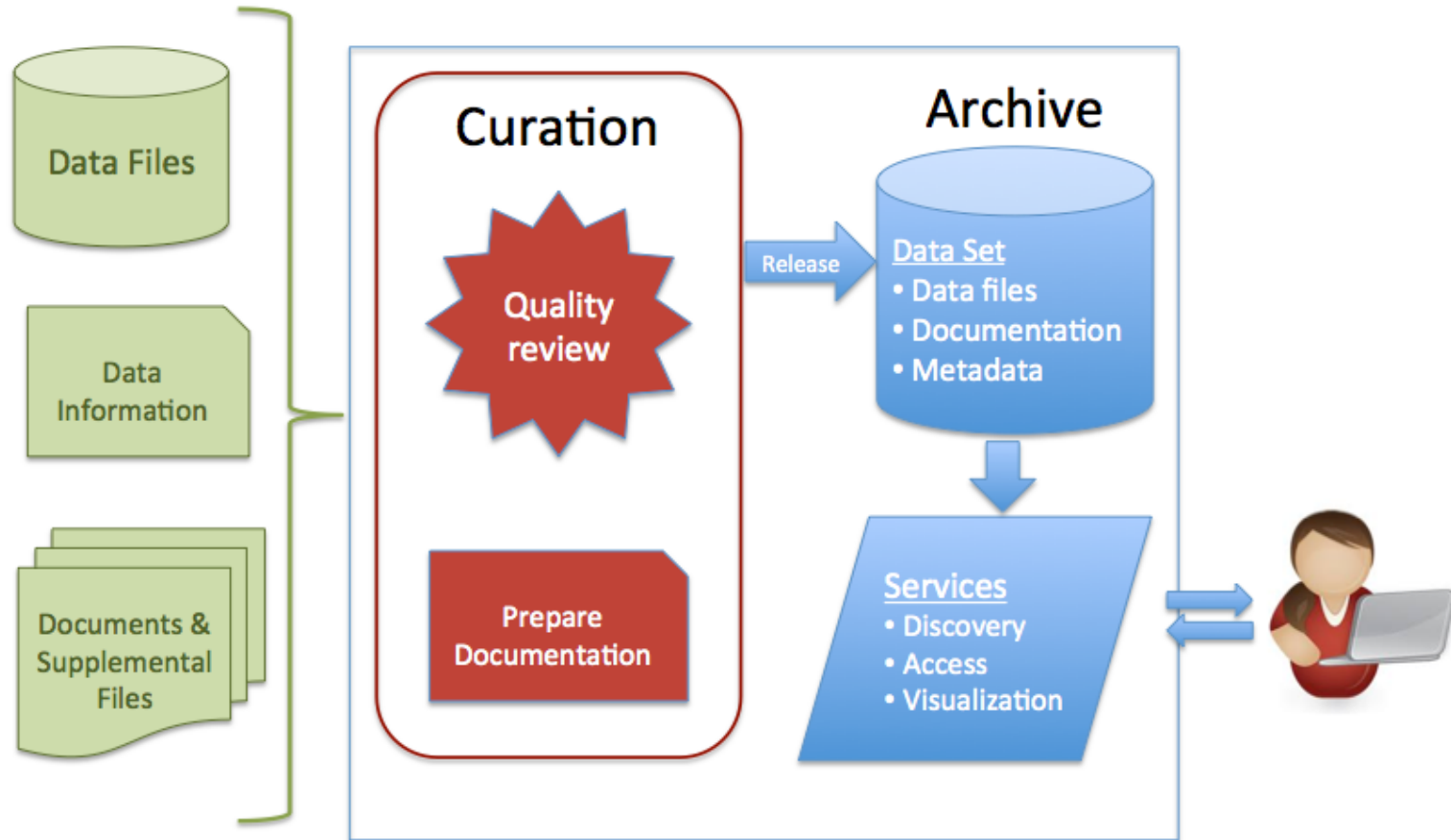
Available in Fall 2016



Daily 1-km resolution estimates of min and max temperature, precipitation, vapor pressure, snow water equivalent, and short-wave radiation as a continuous surface

- Current product: 1980 – 2014, North America south of 52N
- [doi: 10.3334/ORNLDAAC/1219](https://doi.org/10.3334/ORNLDAAC/1219)

Curation and Archive



Photos courtesy of S. Wullschleger, M. Mack, G. Shaver, and E. Kasichke

Data Providers

ORNL DAAC
for a user 20 years from now

Data Users

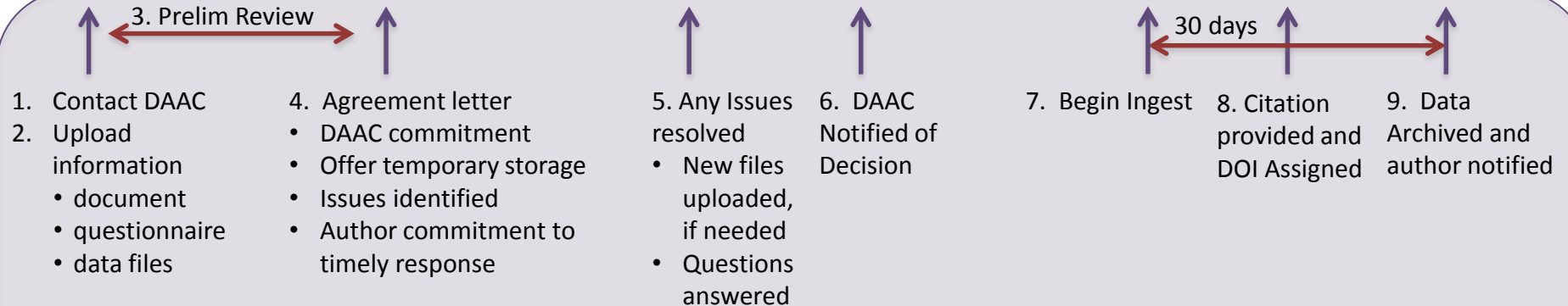
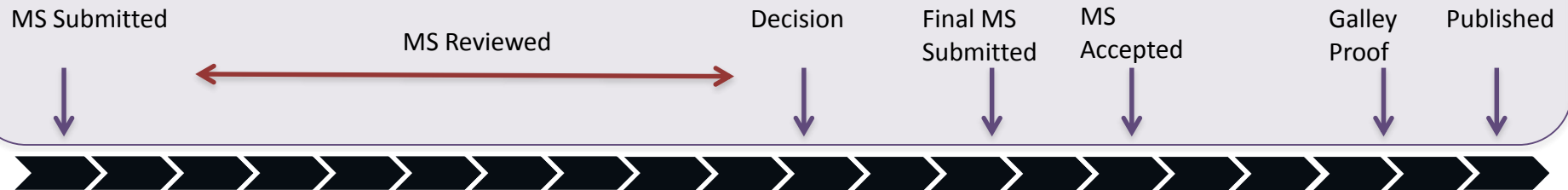
ORNL DAAC New Service

archiving data associated with an article

- Many journals now require that original data used in a manuscript be archived
- ORNL DAAC has a new workflow for manuscript data that provides an archived data product and citation
 - During the manuscript review process
- Requires close coordination between authors and the DAAC

Timeline for Archiving a Data Set for a Manuscript

Manuscript Publication at a Journal



Data Set Archival at ORNL DAAC

ORNL DAAC Best Practices

http://daac.ornl.gov/PI/pi_info.shtml

DAAC Home > Help > Data Management > Manage

Data Management for Data Providers

Click an arrow to follow the data management path of a data set from planning to curation.

Overview → Plan → **Manage** → Archive → DAAC Curation

Data Management and Data Collection

A small amount of time invested in consistently defining, organizing, and documenting your data products during collection will save time and effort in the future when preparing data to archive.

Best Practices for Data Management

Keeping a few best practices in mind during the data collection phase will make the process of documenting your data set quick and easy when the time comes.

Click on a best practice for more info

- Define the contents of your data files
- Assign descriptive data set titles
- Assign descriptive file names
- Use consistent data organization
- Use stable file formats
- Preserve information
- Protect your data

Best practices for data management

The ORNL DAAC has developed **best practices for data management** to help data providers more efficiently manage their data. These practices do not need to be completed sequentially.






Click on a best practice to display more information.

View a webinar on [fundamental data practices](#)

Define the contents of your data files

In order for others to use your data, they must fully understand the contents of the data set, including the parameters

Data Management
Overview
Plan
Manage
Archive
DAAC Curation

Related Links
[DAAC Help](#)
[Best Practices](#) 
[Tabular Webinar](#) 
[Spatial Webinar](#) 
[Workshops](#)
[DataONE](#) 
[ESIP](#) 

ORNL DAAC Best Practices

http://daac.ornl.gov/PI/pi_info.shtml

DAAC Home > Help > Data Management > Archive

Data Management for Data Providers






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Data Management

- Overview
- Plan
- Manage
- Archive
- DAAC Curation

Related Links

- DAAC Help
- Best Practices 
- Tabular Webinar 
- Spatial Webinar 
- Workshops
- DataONE 
- ESIP 

Data Sharing and Archival

Now that you have planned your project and data management, collected data, integrated imagery, or generated model output, it is time to share your data products with the scientific community and public by archiving them at the ORNL DAAC.

The archived holdings at the ORNL DAAC are organized into **data sets** that include all the information associated with a single research effort. For submission purposes, a complete data set includes:

Click a data set item for more info

- Data files
- Document(s) describing data
- Supplemental files
- Metadata record(s)
- Data provider questions

What a data set contains

A data set contains data that typically share the same investigator(s) and methods over possibly several sites or years.

Click a data set item to display more information.

The ORNL DAAC also archives **model products** that contain the methodological detail of numerical modeling studies. Because numerical models evolve continuously over time, an archived version of a model must contain a complete description of the model. Before considering archiving your model product with us, check the ORNL DAAC [recommendations for model archival](#).

If you are interested in archiving your data set or model product at the ORNL DAAC, fill out this short [archival interest form](#).

Data Management Best Practices for Archival

Science Data Working Group: Example Topics

- Develop ABoVE Data Policy
- How can ABoVE facilitate sharing data to address ABoVE team research questions?
 - Develop: ABoVE projection, variable names, formats, methodologies, etc.
- Identify and make available critical existing data products.
- What data products are required to support the topics discussed at the Thematic and Crosscutting Breakout sessions?

Data Policy

- Based on NASA's Open Data Policy
- Elements (suggested)
 - What is ABoVE data?
 - Giving credit to data collectors
 - Protecting the rights of students
 - Sharing and archiving data
 - Sharing and archiving model source code
 - Acknowledging ABoVE project
- Example Policies: [NACP](#), [LBA-ECO](#), [SAFARI 2000](#)
- Policy should be developed by the ABoVE Science Team

Resources

- ORNL DAAC <http://daac.ornl.gov>
- Data Management Best Practices http://daac.ornl.gov/PI/pi_info.shtml
- Bob Cook cookrb@ornl.gov



@ornldaac



Curation at the ORNL DAAC

Files and documentation suitable for a user 20 years from now

- Documentation
- Metadata
- Quality Review
 - Files received as sent
 - Documentation describes files
 - Variables and units defined (community of practice)
 - Time and geospatial information standardized
 - Values are physically reasonable