

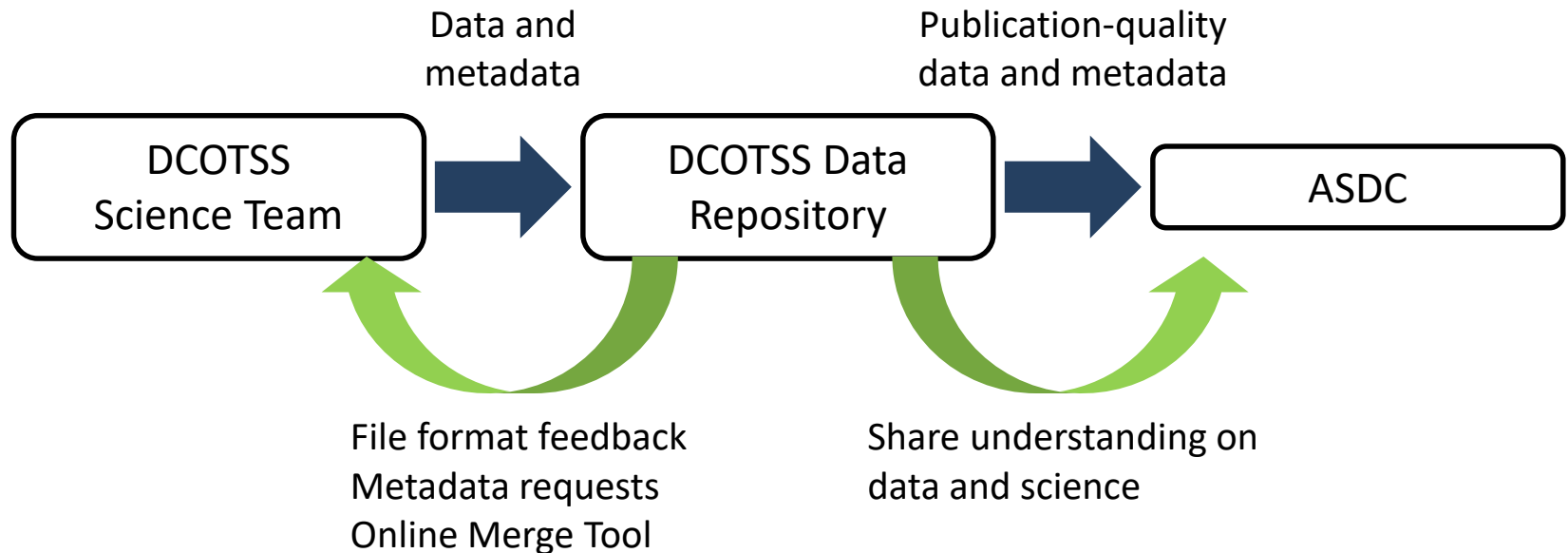
**DCOTSS Field Data Repository**  
**[www-air.larc.nasa.gov](http://www-air.larc.nasa.gov)**

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# DCOTSS Data Flow Overview

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DCOTSS field data repository has been setup to host data products (ER-2 data, NEXRAD Radar, GOES Satellite, trajectories, and model outputs) and reports (flight reports, science reports, and forecaster reports)

DCOTSS data repository: <https://www-air.larc.nasa.gov/missions/dcotss/index.html>

# DCOTSS Data File Naming Convention

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## DataID\_LocationID\_YYYYMMDD\_R#\_Description.extension

- DataID: a short description of measured parameter/species, instrument, or model prefixed by “DCOTSS”
- LocationID: an identifier of measurement platform: e.g. ER2, will be provided on the website in a drop-down box
- YYYYMMDD: UTC date when the flight take off or the beginning of the measurement for ground sites
- R#: Revision number. Typically RA, RB, RC, ... for field data and R0, R1, R2, ... for the publication quality data. *Note: archived files cannot be overwritten, only replaced with subsequent revisions*
- Description: optional additional description of the file if necessary
- Extension: “ict” for ICARTT files, and “h5” for HDF 5 files, nc for netCDF files, etc.
- The underscore, “\_”, is used ONLY to separate the different fields of the filename
- Examples: the filename for CAMP2Ex LARGE CN concentration measurement made on July 15, 2018 flight may be:

CAMP2EX-LARGE-CPC\_ER2\_20180715\_RA.ICT (for field data)

CAMP2EX-LARGE-CPC\_ER2\_20180715\_R0.ICT (for preliminary or final data)

# Difference between DCOTSS and SEAC4RS

## Reporting Requirements

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- Keep the same number of variables and variable names for same dataID
  - needed facilitate online merge tool as the online merge tool UI is based on the last submission
  - Required for publication quality files
- Use fixed variable name(s) for Time Stamps, i.e., Time\_Start, Time\_Stop, and Time\_Mid
- Indicate if the data is synched with the sampling time standard
- Align 1 sec files start and stop times with the nav file
- Variable standard names are required for publication quality data .ict files
- Add attributes for standard names when using netCDF or HDF format to maintain the uniformity

# Difference between DCOTSS and SEAC4RS


## Standard Names


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- Standard name is designed to enhance data discoverability, usability, and ingest process
  - Measurement category and CoreName are for discoverability across missions and archival process
  - Attributes: information for data use and more detailed search
- Please use the standard names on the list:  
<https://www-air.larc.nasa.gov/missions/etc/AtmosphericCompositionVariableStandardNames.pdf>
- New standard names can be added by contacting Morgan, Gao, Megan, or Kasey
- A spreadsheet will be posted to link all DCOTSS PI variables to standard names, including definitions
- Best practices:
  - Use “none” for non-data product variables, e.g., total temperature
  - Use the same standard name for main variable and ancillary variable, e.g., O3 and O3\_unc
  - Additional information should be provided in long name

# Data Submission Process


- DataID Registration:
  - PI will need to first register dataID(s) before files can be submitted
  - dataID is part of the filename and will be used to organize PI files on the data repository
  - The website will be open for dataID registration in late July
  - **New: instrument acronym and a brief top level data description required for each dataID**
- Data Submission:
  - File submission will be through a scanning tool for checking filenames and ICARTT file integrity:
    - File header: structure and keywords
    - Data Flags for missing data, LOD codes
    - Time Stamps: monotonically increase with no overlaps
    - Variable names, order, and standard names for final data
  - Support zipped multi-file upload
- Online merge tool will be enabled after data submission starts

➔ Data Archive: DCOTSS 2020 

➔ Custom Data Merging Tool (ER-2) 

➔ Recommended Standard Variable Names For Atmospheric Composition 


**Relevant Data / Links**


[File Sharing \[private\]:](#)   
Telecons, Meetings, Reports, etc.

➔ DCOTSS Data Use Policy

**Data Upload Tools**




➔ Steps for submitting data to the Archive

➔ Data Submittal / Scanning   
» [Help FScan](#)

➔ Register PI dataIDs 

➔ ICARTT Data Format Document

**Useful Tools**

- Download HDFView -- visual tool for browsing & editing HDF files 
- Download FileScanning S/W for Windows (Requires IE)   
» [What's New](#)
- Download Flight Planning S/W for Windows (Requires Google Earth) 

# DataID Registration Page (1)

PI Last Name :  PI First Name :  Platform (LocationID) :

dataID: (max 45 chars) <i>Prefix with "camp2ex-" e.g., camp2ex-CO2</i>		Data Description: (max 380 chars) <i>Describe your measurements; e.g., Carbon Dioxide Mixing Ratio</i>	Instrument(s): (max 190 chars) <i>List Instruments; e.g., LI-COR 6252</i>
<input type="button" value="Reset"/>	<input type="text" value="camp2ex-hsking"/>	<input type="text" value="Aircraft Navigation&lt;br/&gt;Aircraft Attitude"/>	<input type="text" value="GPS&lt;br/&gt;INS"/>

OVERWRITE my previous record (i.e., ALL previously registered dataIDs for this mission will be removed).

To link instruments with data products, separated by CR

Link to PI webpage, instrument, or experiment description document:

*Optional: to display on LaRC Archive webpage*

Text describing PI experiment or measurements (e.g., NASA LaRC DIAL - Troposphere O3, Aerosols, and Clouds Profiles):

*Optional: to display on LaRC Archive webpage*

## Current Registered dataIDs on the Server for CAMP2EX 2019

PI Name: Last.First	LocationID	Registered dataIDs
<input type="button" value="Edit"/> AKNAN.ALI ( <a href="#">PI Link</a> )	P3B	camp2ex-test1;camp2ex-TEST3 <input type="button" value="+ Show Description"/>
<input type="button" value="Edit"/> YANG.MELISSA	P3B	camp2ex-hsking <input type="button" value="+ Show Description"/>
<input type="button" value="Edit"/> AKNAN.ALI	MODEL	camp2ex-test1;camp2ex-TEST3;camp2ex-TEST4 <input type="button" value="+ Show Description"/>

Click on "[Refresh](#)" to retrieve the latest list.

# DataID Registration Page (2)

## Current Registered dataIDs on the Server for CAMP2EX 2019

PI Name: Last.First	LocationID	Registered dataIDs
<a href="#">Edit</a> AKNAN.ALI ( <a href="#">PI Link</a> )	P3B	camp2ex-test1;camp2ex-TEST3 <a href="#">+ Show Description</a>
<a href="#">Edit</a> YANG.MELISSA	P3B	camp2ex-hsking <a href="#">- Hide Description</a> <b>dataID:</b> camp2ex-hsking <b>Data Description:</b> Aircraft Navigation Aircraft Attitude Dew Point Temperature Pressure Winds <b>Instrument(s):</b> GPS INS Cryo-Hygrometer TTS PT Derived
<a href="#">Edit</a> AKNAN.ALI	MODEL	camp2ex-test1;camp2ex-TEST3;camp2ex-TEST4 <a href="#">+ Show Description</a>

Click on "Refresh" to retrieve the latest list



# DCOTSS ER-2 Data Merges

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- Project merge will be provided by Steve Wofsy
  - Initial Merges (field data merge)
    - updated every 48 hours based on available data
    - 1s, 10s, pre-defined intervals
    - ICARTT format
    - Other products desired?
  - Post-Deployment Merges
    - Available starting from 1 month after the deployment
    - Each file includes all flights, parameters, model data
    - 1s, 10s, defined intervals
    - netCDF Format
- A beta-online merge tool is available at data repository
  - Input: .ict files, choice of variables and variable type, and merge time base
  - Equations available at: <https://www-air.larc.nasa.gov/missions/etc/onlinemergedoc.pdf>
  - Performance will depend on the quality and consistency of the data files

# Online Merge Tool User Interface Example

## CAMP2EX/2019 - P3B\_AIRCRAFT

Variable search:

### Platforms

P3B\_AIRCRAFT

### Principal Investigators

Please Note: these parameters are pre-selected: Day\_Of\_Year; Latitude; Longitude; Pressure\_Altitude; Static\_Air\_Temp; Static\_Pressure; Solar\_Zenith\_Angle;

#### Navigational/Meteorological Data

DIGANGI.JOSHUA

DISKIN.GLENN

CAMP2EX-DLH-H2O

CAMP2EX-DLH-H2O-20Hz

CAMP2EX-TraceGas-CH4

CAMP2EX-TraceGas-CO

(select all)

CO\_ppm

Scalar

CAMP2EX-TraceGas-CO2

CAMP2EX-TraceGas-O3

FLYNN.JAMES

LAWSON.PAUL

THORNHILL.LEE

VANDENHEEVER.SUSAN

WANG.JIAN

ZIEMBA.LUKE

### Time Settings

Fit time range to data.

Time Base Mode :

Generic, Custom, or dataID

60s  30s  15s  10s  5s  1s  0.5s  0.2s  0.1s

#### Flight Date

20190803  20190805  20190824  20190825  
 20190827  20190829  20190830  20190831  
 20190904  20190906  20190907  20190908  
 20190909  20190913  20190914  20190915  
 20190916  20190917  20190919  20190920  
 20190921  20190922  20190923  20190924  
 20190925  20190927  20190928  20190929  
 20191001  20191002  20191003  20191004  
 20191005

Auto-select all dates that include my variables.

### Processing/Output Options

avg or avg. std. nop

Submit

### Merge Configurations

Load from JSON file :

No file selected.

Variable types: scaler, vector, wind speed, wind direction, data flag, and precision variable

- **Point of Contact**

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