

Instruments @ datacite.org

Ted Habermann, Erin Robinson, Metadata Game Changers

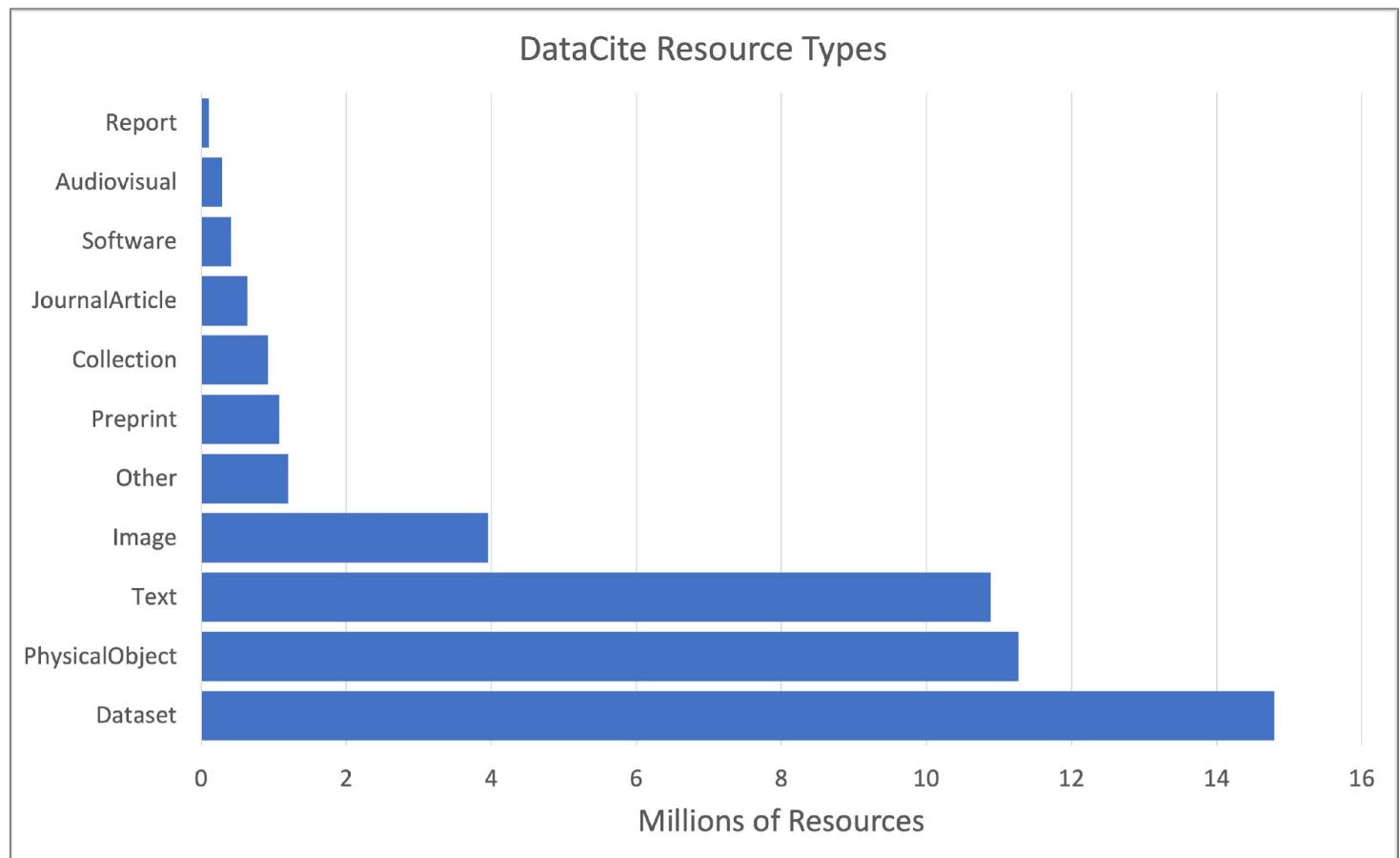


A DOI provider and repository encompassing ~3000 members.

DataCite includes ~46,000,000 resources with 28 different types.

This plot shows resource types that occur over 100,000 times.

<https://datacite.org/>



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erin@metadatagamechangers.com

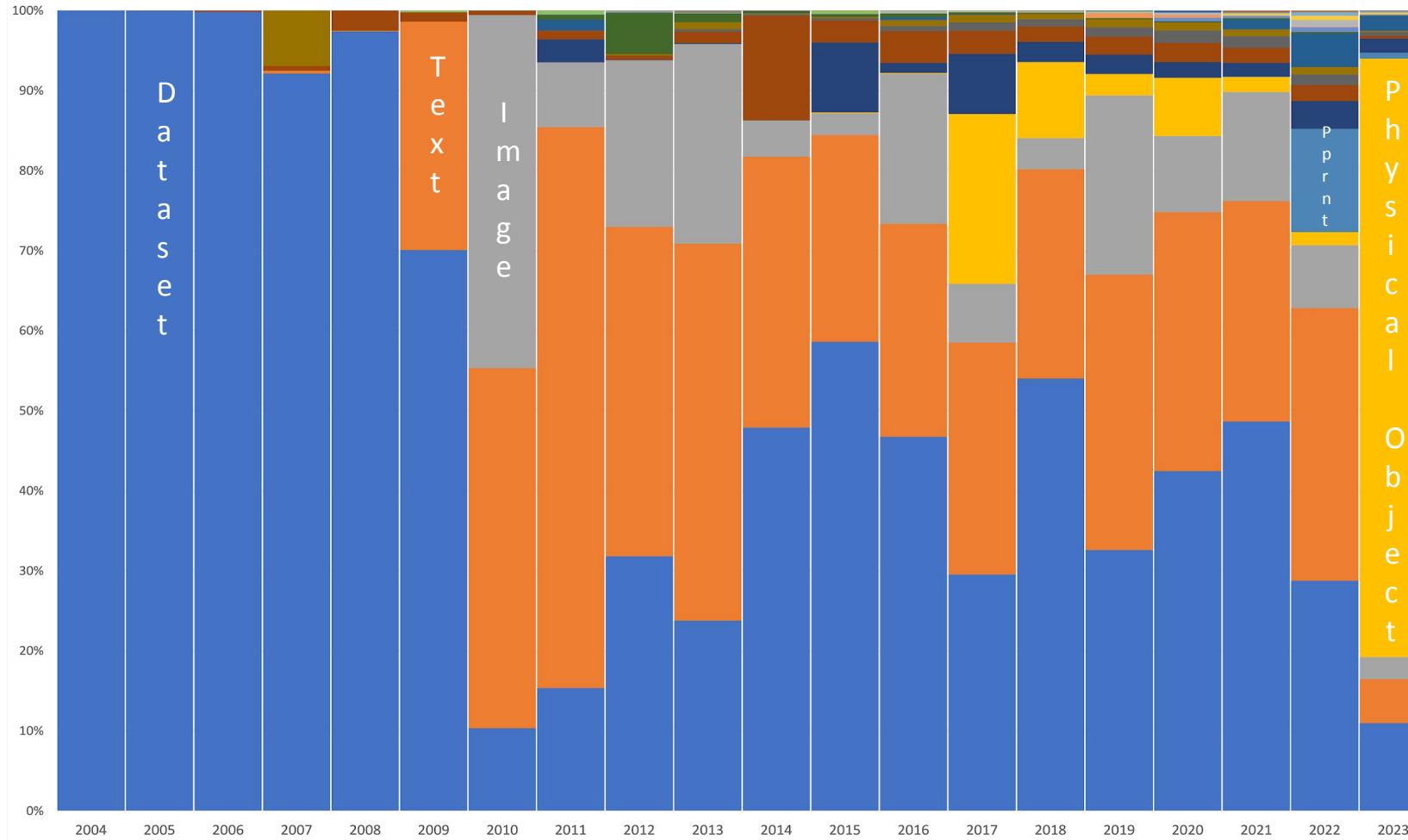
<https://orcid.org/0000-0003-3585-6733>
<https://orcid.org/0000-0001-9998-0114>

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METADATA
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resourceTypeGeneral@ datacite



resourceTypeGeneral is required DataCite metadata element from a shared vocabulary.

The diversity and distribution of DataCite resource types has evolved significantly over the last 20 years.

The introduction of over **10,000,000 samples** during 2023 is the most recent change.

commons.datacite.org

The DataCite Commons is the emerging interface to metadata in DataCite and other elements of the global research PIDGraph (Crossref, ORCID, ROR, Event Data)



Crossref

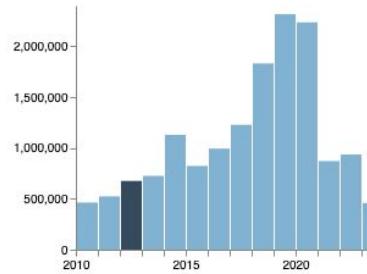


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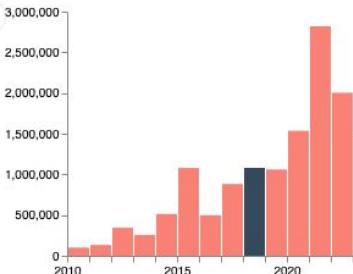
Works

DataCite Commons currently includes 77,324,432 works, with identifiers and metadata provided by DataCite and Crossref. For the three major work types [publication](#), [dataset](#) and [software](#), the respective numbers by publication year are shown below.

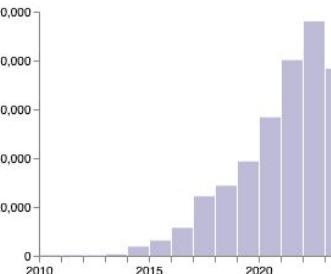
20,967,989 Publications



14,929,498 Datasets



425,519 Software



<https://commons.datacite.org/statistics>



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ucar.eol@commons.datacite.org

The screenshot shows two views of the DataCite Commons interface. The left view is the main repository landing page, featuring sections for Criteria Compliance (Enabling FAIR Data Project, FAIR's FAIR Project), Certificates (CoreTrustSeal), and Software (unknown). It includes a large blue upward arrow icon for sharing. The right view is a detailed record page for the 'HIPPO Merged 10-Second Meteorology, Atmospheric Chemistry, and Aerosol Data. Version 1.0' dataset. This page displays the creator list, publication year distribution, and work type breakdown. A red box highlights the 'Work Type' section, which lists Dataset (8,531), Physical Object (25), Text (6), Software (5), Event (1), Interactive Resource (1), and Other (1).

commons.datacite.org/repositories

DataCite Commons

Criterias Compliance

Enabling FAIR Data Project

FAIR's FAIR Project

Certificates

CoreTrustSeal

Software

unknown

Earth Observing Laboratory

Works People Organizations

8,570 Works

Share

Email Twitter Facebook

Find Related Works

8,570 Works

Work Type

- Dataset 8,531
- Physical Object 25
- Text 6
- Software 5
- Event 1
- Interactive Resource 1
- Other 1

client.uid:ucar.eol

Pages Support Sign In

8,570 Works

HIPPO Merged 10-Second Meteorology, Atmospheric Chemistry, and Aerosol Data. Version 1.0

S. Wofsy, B. Daube, R. Jimenez, E. Kort, J. Pittman, S. Park, R. Commane, B. Xiang, G. Santoni, D. Jacob, J. Fisher, C. Pickett-Heaps, H. Wang, K. Wecht, Q. Wang, B. Stephens, S. Shertz, A. Watt, P. Romashkin & T. Campos

Version 1.0 of Scientific Data published 2017 in Earth Observing Laboratory

This data set provides the merged 10-second data product of meteorological, atmospheric chemistry, and aerosol measurements from all Missions, 1 through 5, of the HIAPER Pole-to-Pole Observations (HIPPO) study of carbon cycle and greenhouse gases. The Missions took place from January of 2009 to September 2011. All of the data are provide in one space-delimited format ASCII file. The 10-second merged data product was derived by combining the NSF/NCAR GV aircraft navigation and atmospheric structure parameters for position, time, temperature, pressure, wind speed, etc., reported at 1-second frequency, with meteorological, atmospheric chemistry and aerosol measurements made by several teams of investigators on a common time and position basis. Investigators reported most continuously measured parameters at a 1-second interval. The 1 second measurements were aggregated with a median filter to 10 seconds. The fast-sample GC and whole air sample measurements reported at the greater than 10 second intervals (15-120 seconds including processing time) were aggregated to the most representative 10 second sample interval. A supplementary file is provided with this product that summarizes the completeness of the reported data values (HIPPO_10s_meta_summary.tab). The completeness entries are the number of non-missing observations for each species in the main data file for each mission and in total. The data are provided in one space-delimited format ASCII file. Note that EOL Version 1.0 corresponds to R. 20121129 previously served by ORNL.

DOI registered December 13, 2012 via DataCite.

7 Citations

Dataset English

https://doi.org/10.3334/cdiac/hippo_010

HIPPO Pressure-Weighted Mean Total, 10-km, and 100-m Interval Column Concentrations. Version 1.0

S. Wofsy, B. Daube, R. Jimenez, E. Kort, J. Pittman, S. Park, R. Commane, B. Xiang, G. Santoni, D. Jacob, J. Fisher, C. Pickett-Heaps, H. Wang, K. Wecht, Q. Wang, B. Stephens, S. Shertz, A. Watt, P. Romashkin & T. Campos

Version 1.0 of Scientific Data published 2017 in Earth Observing Laboratory

This dataset contains the total column and vertical profile data for all Missions, 1 through 5, of the HIAPER Pole-to-Pole Observations (HIPPO) study of carbon cycle and greenhouse gases. The pressure-weighted mean column concentrations of parameters reported in this data set are estimates of the quantities that would be observed from a total column instrument at the top of each profile, i.e., from an airplane looking down or from a satellite. The Missions took place from 08 January 2009 to 08 September 2011. There are five spacedelimited format ASCII files included with this data set that have been compressed into one *.zip file for convenient download. Please refer to the readme for more information. Note that EOL Version 1.0 corresponds to R. 20121129 previously served by ORNL.

DOI registered December 13, 2012 via DataCite.

1 Citation

FEEDBACK

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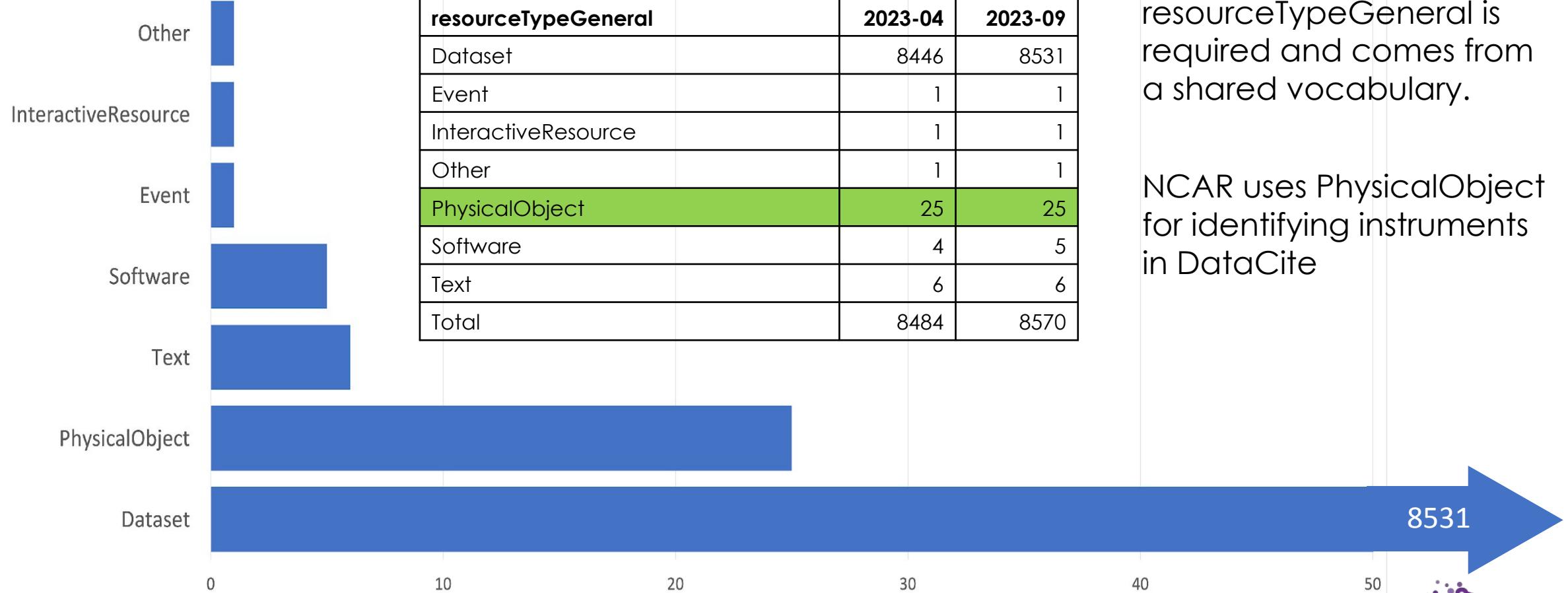
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ucar.eol.resourceTypeGeneral



ucar.eol@commons.datacite.org

The figure consists of three side-by-side screenshots of the DataCite Commons interface. The left screenshot shows the main repository landing page with sections for Criterias Compliance, Certificates, and Software. The middle screenshot shows a detailed view of a dataset record for 'HIPPO Pressure Version 1.0'. The right screenshot shows a search results page for 'client.uid:ucar.eol' with two entries: 'NSF/NCAR GV HIAPER Aircraft' and 'NSF/NCAR Hercules C130 Aircraft'. Red boxes highlight the citation counts for each entry.

Commons Repository Landing Page:

- Criterias Compliance:
 - Enabling FAIR Data Project
 - FAIR's FAIR Project
- Certificates:
 - CoreTrustSeal
- Software:
 - unknown

HIPPO Pressure Version 1.0 Record View:

Creators & Contributors:

Cooper, L.	114
Grebmeier, J.	102
Ashjian, C.	77
Sambrotto, R.	44
Staben, P.	27
Weingartner, T.	23
Gradinger, R.	21
Aagaard, D.	21
Woodgate, R.	20
Whittlesey, T.	19

Publication Year:

2023	156
2022	276
2021	178
2020	196
2019	237
2018	261
2017	359
	410
	251
	333
	718
	440
	1,356
	258

Work Type:

Dataset	8,531
Physical Object	25
Text	6
Software	5
Event	1
Interactive Resource	1
Other	1

Search Results Page:

NSF/NCAR GV HIAPER Aircraft
UCAR/NCAR-Earth Observing Laboratory
High Performance Aircraft For Atmospheric Research published 2005 in Earth Observing Laboratory
The NSF/NCAR Gulfstream-V High-performance Instrumented Airborne Platform for Environmental Research (GV HIAPER) aircraft is a cutting-edge observational platform that meets the scientific needs of researchers who study many different aspects of the earth's environment, such as atmospheric Chemistry and Climate, Chemical Cycles, Clouds and Aerosols, Solar and Terrestrial Radiative Fluxes, Upper Troposphere Lower Stratosphere Processes, Mountain Waves and Turbulence, Air Quality, and Mesoscale Weather.
DOI registered March 13, 2015 via DataCite.
268 Citations

NSF/NCAR Hercules C130 Aircraft
UCAR/NCAR-Earth Observing Laboratory
Aircraft For Earth Observations Research published 1994 in Earth Observing Laboratory
The C-130 is a versatile and capable research platform that carries a wide variety of scientific payloads. The C-130 has a 10-hour flight endurance, a 2,900 nautical mile range at up to 27,000 ft, and a payload capacity of up to 13,000 lbs. In addition to standard thermodynamic, microphysics and radiation sensors, the C-130 has a roomy fuselage payload area (414 ft²) and many versatile inlets and optical ports. The aircraft carries instruments and sensors in pods and pylons on both wings. The C-130 can carry advanced EOL and community instrumentation.
DOI registered April 1, 2015 via DataCite.
142 Citations

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M
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Automatic Giant Nuclei Impactor

The screenshot shows the DataCite Commons interface. On the left, there's a sidebar with 'Add to ORCID Record', 'Download Metadata', 'Cite as' (with a blue arrow pointing up), and 'Share' options for Email, Twitter, and Facebook. The main area has tabs for 'Works', 'People', 'Organizations', and 'Repositories'. A search bar at the top has a placeholder 'Type to search...' and a magnifying glass icon. To the right of the search bar are 'Pages', 'Support', and a 'Sign In' button. A modal window titled 'Download' is open, listing various metadata formats: Full Metadata, Citation Metadata, and Download. Under 'Full Metadata', 'DataCite XML' and 'DataCite JSON' are listed, with 'DataCite JSON' highlighted by a red box. Other options include Citeproc JSON, BibTeX, Schema.org, and RIS. Below the modal, there's a section titled 'Registration' with some descriptive text about the instrument.

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Automatic Giant Nuclei Impactor

 DataCite Commons

Type to search... 

Pages Support 

 Works  People  Organizations  Repositories

Automatic Giant Nuclei Impactor <https://doi.org/10.26023/r267-m386>

Description **Creators** **Contributors** **Funders** **Registration**

Add to ORCID Record **Download Metadata**

Cite as

Jensen, J., Schwenz, K., Carnes, J., Spowart, M., & Munnerlyn, J. *Automatic Giant Nuclei Impactor*. UCAR/NCAR - Earth Observing Laboratory. <https://doi.org/10.26023/R267-M386>

Share 

Airborne Sensor published 
<https://doi.org/10.26023/r267-m386>

```
"descriptions": [ { "lang": "en", "description": "The Auto-GNI sampling is done using free-stream impaction (i.e., no inlet losses). The exposed polycarbonate slides are stored and subsequently analyzed in EOL / RAF's GNI Microscope, an optical automated microscope with humidified air that allows for size determination using Kohler theory. When flying in marine boundary layers, typically 50000 giant aerosol particles are sampled within a 10-s exposure time; this gives excellent size distributions over the measurement range in bins of 0.2 micron dry radius. Longer sample times are possible for flight at higher altitude or otherwise in air with lower aerosol concentration."}, {"descriptionType": "Abstract"}]
```

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Automatic Giant Nuclei Impactor

 DataCite Commons

Type to search... 

Pages ▾ Support 

Works People Organizations Repositories

[Add to ORCID Record](#)

[Download Metadata](#)

[Cite as](#)

Jensen, J., Schwenz, K., Carnes, J., Spowart, M., & Munnerlyn, J. *Automatic Giant Nuclei Impactor*. UCAR/NCAR - Earth Observing Laboratory. <https://doi.org/10.26023/R267-M386>

APA

[Share](#)

Email Twitter Facebook

[Physical Object](#)

[doi](#) <https://doi.org/10.26023/r267-m386>

[Automatic Giant Nuclei Impactor](#) <https://doi.org/10.26023/r267-m386>

Description Creators Contributors Funders Register

Jorgen Jensen

Karl Schwenz

Joshua Carnes

Michael Spowart

John Munnerlyn

Airborne Sensor published 2008 in [Earth Observing Laboratory](#)

`"creators": [`
 `{`
 `"name": "Jensen, Jorgen",` `"nameType": "Personal",` `"givenName": "Jorgen",` `"familyName": "Jensen",` `"affiliation": [],` `"nameIdentifiers": [`
 `{`
 `"schemeUri": "https://orcid.org",` `"nameIdentifier": "https://orcid.org/0000-0002-2504-1277",` `"nameIdentifierScheme": "ORCID"`
 `}`
 `],`
 `{`
 `"name": "Schwenz, Karl",` `"nameType": null,` `"givenName": "Karl",` `"familyName": "Schwenz",` `"affiliation": [],` `"nameIdentifiers": []`
 `},`





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Automatic Giant Nuclei Impactor

DataCite Commons

Type to search... 

Pages ▾ Support Sign In

Works People Organizations Repositories

Automatic Giant Nuclei Impactor <https://doi.org/10.26023/r267-m386>

Add to ORCID Record

Download Metadata

Cite as

Jensen, J., Schwenz, K., Carnes, J., Spowart, M., & Munnerlyn, J. *Automatic Giant Nuclei Impactor*. UCAR/NCAR - Earth Observing Laboratory. <https://doi.org/10.26023/R267-M386>

APA

Share

Email Twitter Facebook

Physical Object

[doi](https://doi.org/10.26023/r267-m386) https://doi.org/10.26023/r267-m386

NCAR/EOL Research Aviation Facility

Research Group

Airborne Sensor published 2008 in Earth Observing Laboratory

```
"contributors": [
  {
    "name": "NCAR/EOL Research Aviation Facility",
    "nameType": "Organizational",
    "givenName": null,
    "familyName": null,
    "affiliation": [],
    "contributorType": "ResearchGroup",
    "nameIdentifiers": [
      {
        "schemeUri": null,
        "nameIdentifier": null,
        "nameIdentifierScheme": null
      }
    ]
  }
],
```



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Automatic Giant Nuclei Impactor

The screenshot shows a DataCite Commons page for the "Automatic Giant Nuclei Impactor". The page includes a search bar, navigation links for Works, People, Organizations, and Repositories, and a sign-in button. Below the navigation, there are tabs for Description, Creators, Contributors, Funders, and Registration. The "Funders" tab is selected, showing "National Science Foundation" as the funder. A large black checkmark is overlaid on the right side of the page. On the left, there are buttons for "Add to ORCID Record" and "Download Metadata", and a "Cite as" section with a citation for Jensen et al. (2008) and a "Share" section with links for Email, Twitter, and Facebook.

```
"fundingReferences": [ { "awardUri": null, "awardTitle": null, "funderName": "National Science Foundation", "awardNumber": null, "funderIdentifier": "https://doi.org/10.13039/100000001", "funderIdentifierType": "Crossref Funder ID" } ]
```

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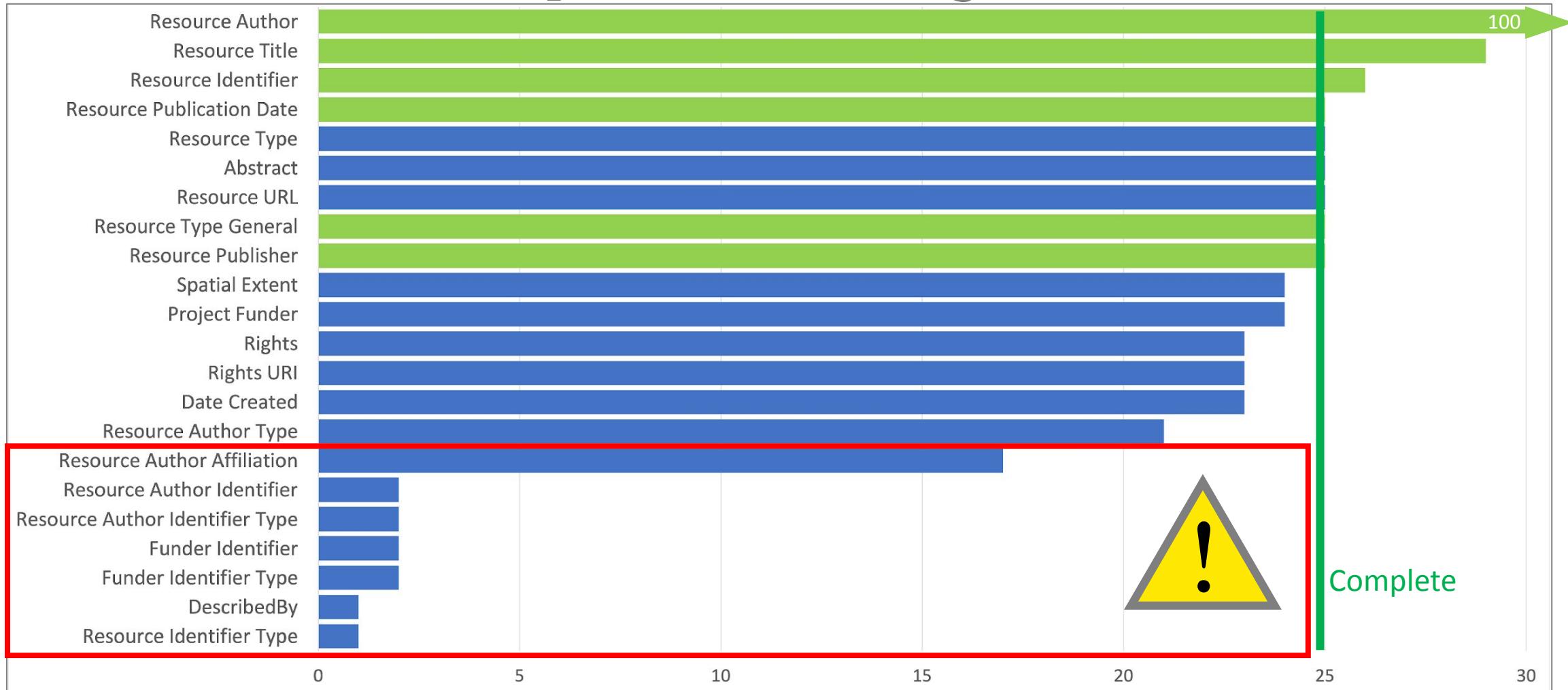
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ucar.eol.PhysicalObject.Content



<https://api.datacite.org/dois?client-id=ucar.eol&query=types.resourceTypeGeneral:PhysicalObject>



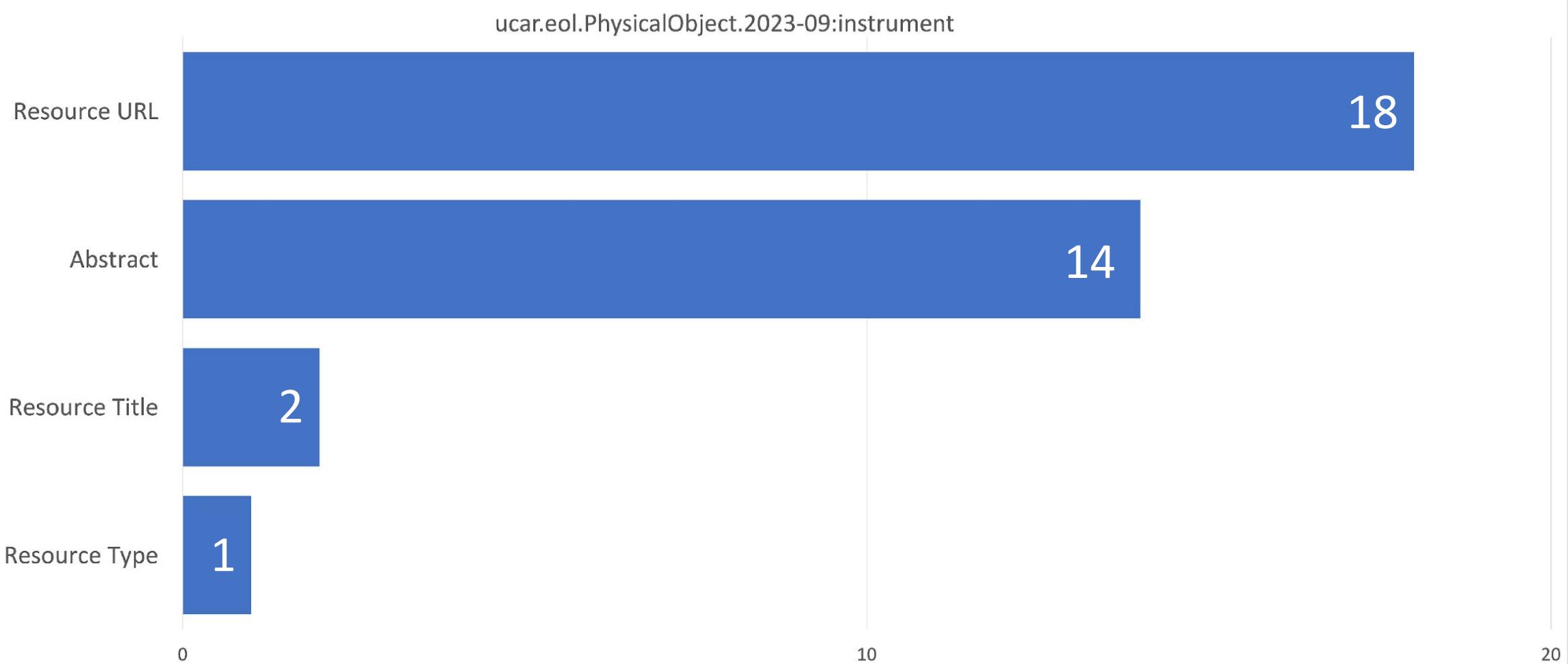
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Where is “instrument”?



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resourceURL = Landing Page

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Vertical Cavity Surface-Emitting Laser (VCSEL) Hygrometer

Short Name or Variable Name
VCSEL

The VCSEL hygrometer employs tunable diode laser absorption spectroscopy to determine the water vapor point range of -90 to +30° C. It reports the water vapor number density at 25 samples per second. From humidity-related parameters such as dew/frost point, mixing ratio, etc. are derived. It is mounted on a G draws less than 20W from 120 VAC, 60 Hz.

The hygrometer operates in two absorption modes on two wavelengths near 1853 nm: wavelength mode used for high mixing ratio conditions, direct absorption on a strong line for moderately low mixing ratios, the same strong line for low mixing ratios. The sample volume is an open-path Herriott cell, giving an ab volume approximately 15 cm long and 2 cm diameter.

Measurements Provided: Water vapor concentration from which related values (mixing ratio, dew point)

Typical Sampling Rates: 25 samples per second

Measurement Characteristics: 5% uncertainty from lower troposphere to lower stratosphere. 25 sample external open-path cell there is no delay or carryover between samples.

History of Significant Changes: 8/2010: Replaced gold mirrors with more rugged dielectric mirrors. 2013: group. 7/2018: Significant repair. Recalibration required.

Example(s) of Measurement:

Data shown below is the one second housekeeping data (beginning with SWS) and the 25 samples per data. Not shown is the spectrum which is generated every 5 minutes for QC check. Data lines are termin

The 25 s/s data record consists of the number density (#/cc), laser intensity, approximate dew point (°C averaged, normally 60.

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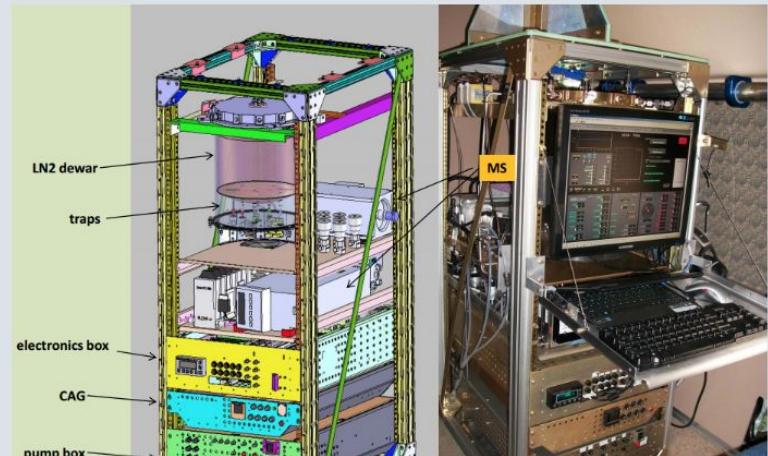
[Home](#)

Trace Organic Gas Analyzer

Short Name or Variable Name
TOGA

Website: <https://www2.acom.ucar.edu/voc-measurements/measurement-instrumentation>

TOGA is a fast gas chromatograph combined with a mass spectrometer (MS). Its main components are: Pump box, clean air generator/calibrator (CAG), electronics box, MS electronics/flow controllers, MS chamber and high vacuum pumps, and LN2 dewar assembly. These are shown below in the rack schematic and photograph:



The diagram on the left shows a cross-section of the TOGA instrument's internal components. Labels point to the LN2 dewar (top), traps (middle), electronics box (bottom left), CAG (bottom center), and pump box (bottom right). The photograph on the right shows the physical hardware, a tall metal rack with various electronic modules and a computer monitor displaying data. A yellow box labeled 'MS' points to the mass spectrometer component.

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ORCIDs for People



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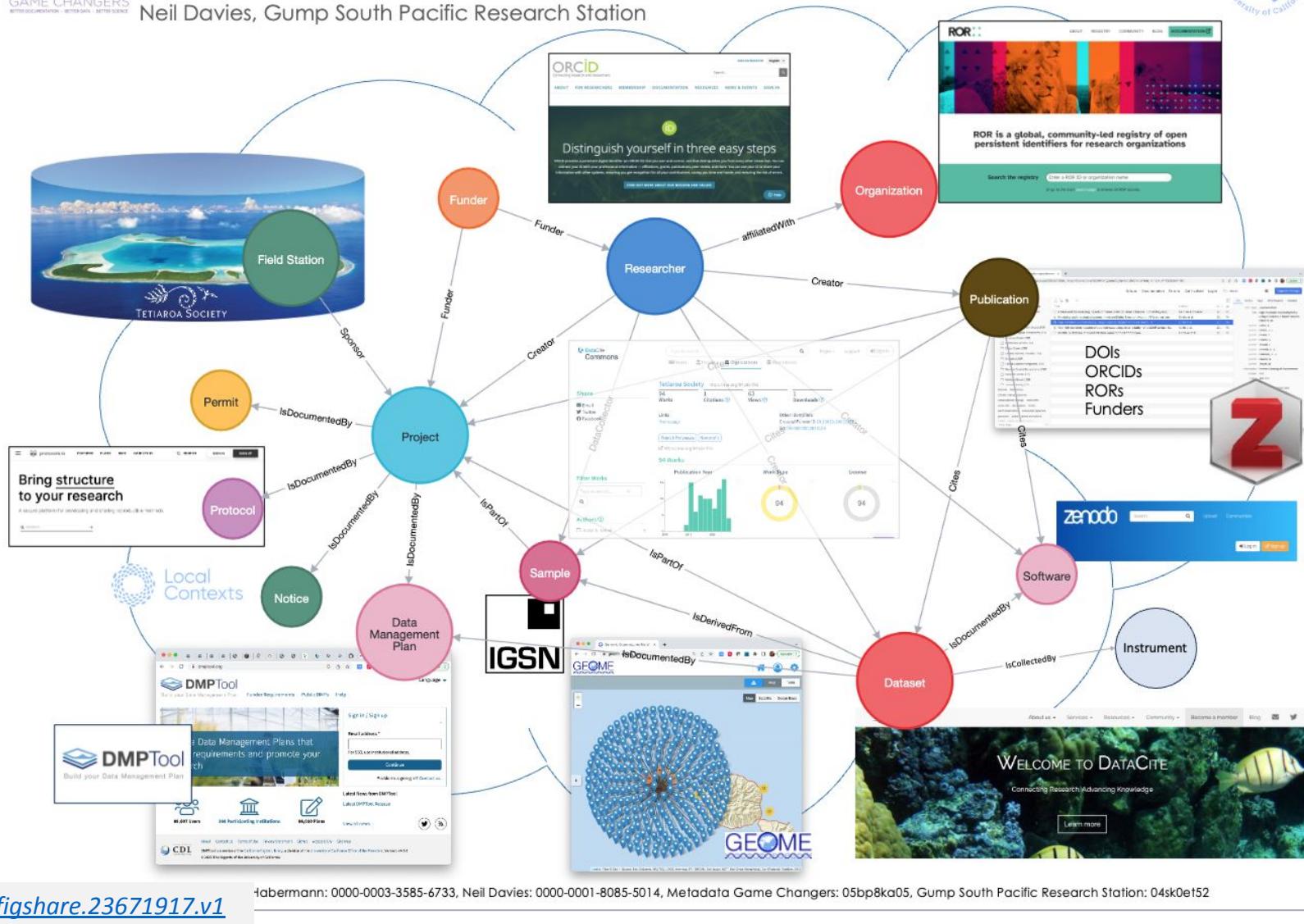
METADATA
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Connecting Place-based Research Back to the Place: Project Metadata in DataCite

Erin Robinson, Ted Habermann, Metadata Game Changers

Neil Davies, Gump South Pacific Research Station



<https://doi.org/10.6084/m9.figshare.23671917.v1>

Ted Habermann: 0000-0003-3585-6733, Neil Davies: 0000-0001-8085-5014, Metadata Game Changers: 05bp8ka05, Gump South Pacific Research Station: 04sk0et52

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A photograph of a small, white dog with brown spots sitting on a weathered wooden bench. The dog is looking towards the camera. The background shows a dry, grassy field and some bare trees under a blue sky.

Questions?

Work with us on:

- Repository Re-curation
- Repository and Journal Connectivity
- Metadata evaluation and improvement (FAIR metadata)
- Community building strategy
- International Metadata Standards (ISO, DataCite, schema.org)
- Workshop design and facilitation
- Community conventions / profiles
- Leadership coaching

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PhysicalObject.resourceType

