FAIR & PERSISTENT IDENTIFIERS (PIDs)

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Accelerating and Deepening Approaches to FAIR Data Sharing: A Workshop
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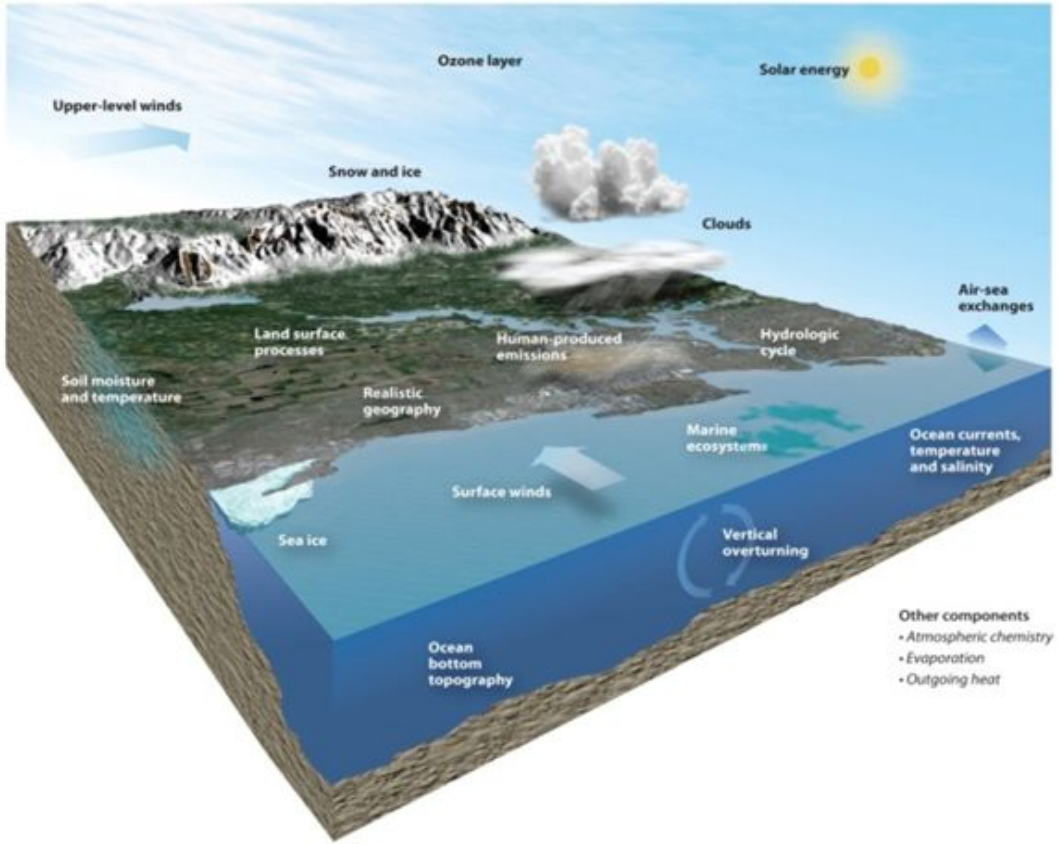
NCAR & UCAR

- NCAR is a Federally Funded Research and Development Center
- UCAR manages NCAR via a Cooperative Agreement with the NSF
- UCAR has 120+ member colleges and universities
- Provide facilities and community coordination, and conduct research
- ~1200 employees



PIDs for Facilities and Instruments

https://doi.org/10.5065/D6ZC80XJ

Integrated Surface Flux Syste

ISFS DESCRIPTION

https://doi.org/10.5065/D6WM1BG0

NSF/NCAR C-130

Aircraft Overview

The Lockheed C-130 "Hercules" aircraft is a four-engine, medium-size utility aircraft that has proven to be one of the most well-known and versatile aircraft ever built. The NSF/NCAR aircraft is a model EC-130Q, similar to the more common model C-130H model except for electrical and air-conditioning modifications. The aircraft is an all-metal, pressurized, high-wing monoplane powered by four Allison T-56- A-15 turboprop engines. It is equipped with dual-wheel, tricycle landing gear with the main gear wheels arranged in tandem and the nose gear arranged side-by-side. The C-130, maintained and

C-130

NSF/NCAR C-130

NSF/NCAR C-130 Investigator Handbook
Airborne Instrumentation
NSF/NCAR C-130 Request Guidance
Aircraft Schedules
Request the NSF/NCAR C-130
Contact RAF

https://ncar.github.io/FAIR-Facilities-Instruments/

NSF Awards #2226396, 2226397, 2226398

Persistent Identifiers (PIDs)

"The term 'persistent identifier' is usually used in the context of digital objects that are accessible over the Internet. Typically, such an identifier is not only persistent but also actionable…"

McMurry, J. A., et al. (2017). Identifiers for the 21st century: How to design, provision, and reuse persistent identifiers to maximize utility and impact of life science data. *PLOS Biology*, 15(6): e2001414. https://doi.org/10.1371/journal.pbio.2001414

FAIR Principles & PIDs

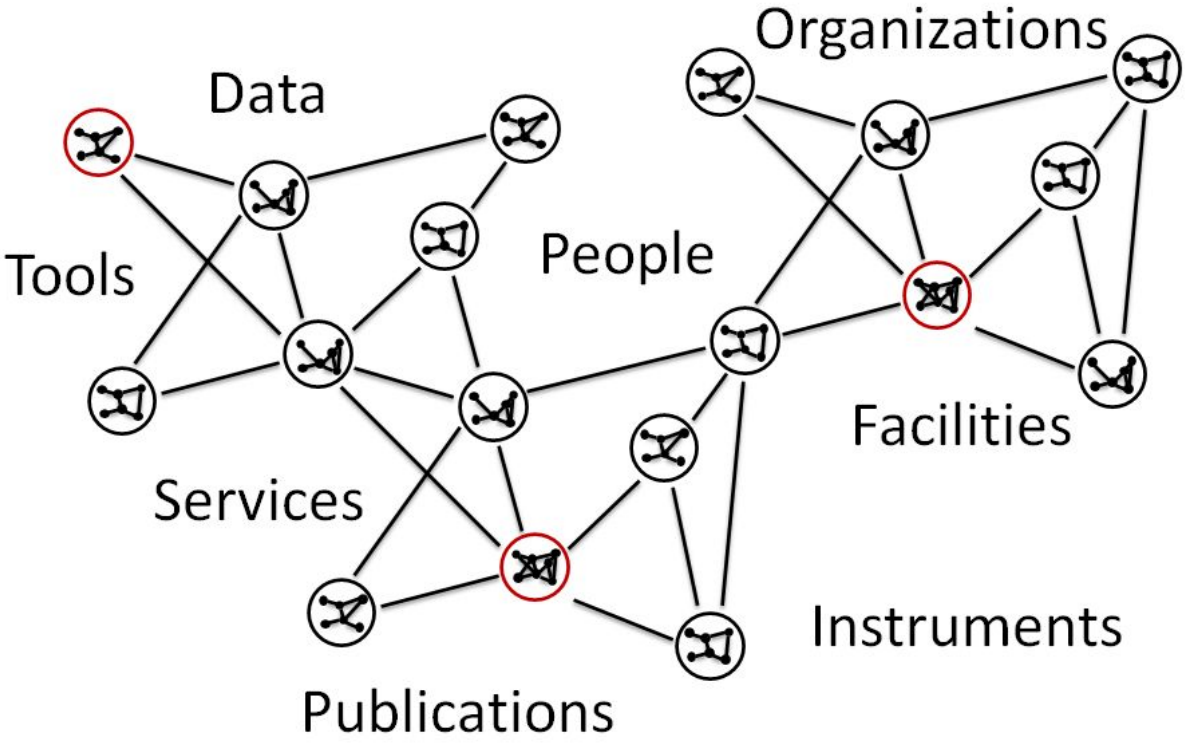
F1. (Meta)data are assigned a globally unique and persistent identifier

F3. Metadata clearly and explicitly include the identifier of the data they describe

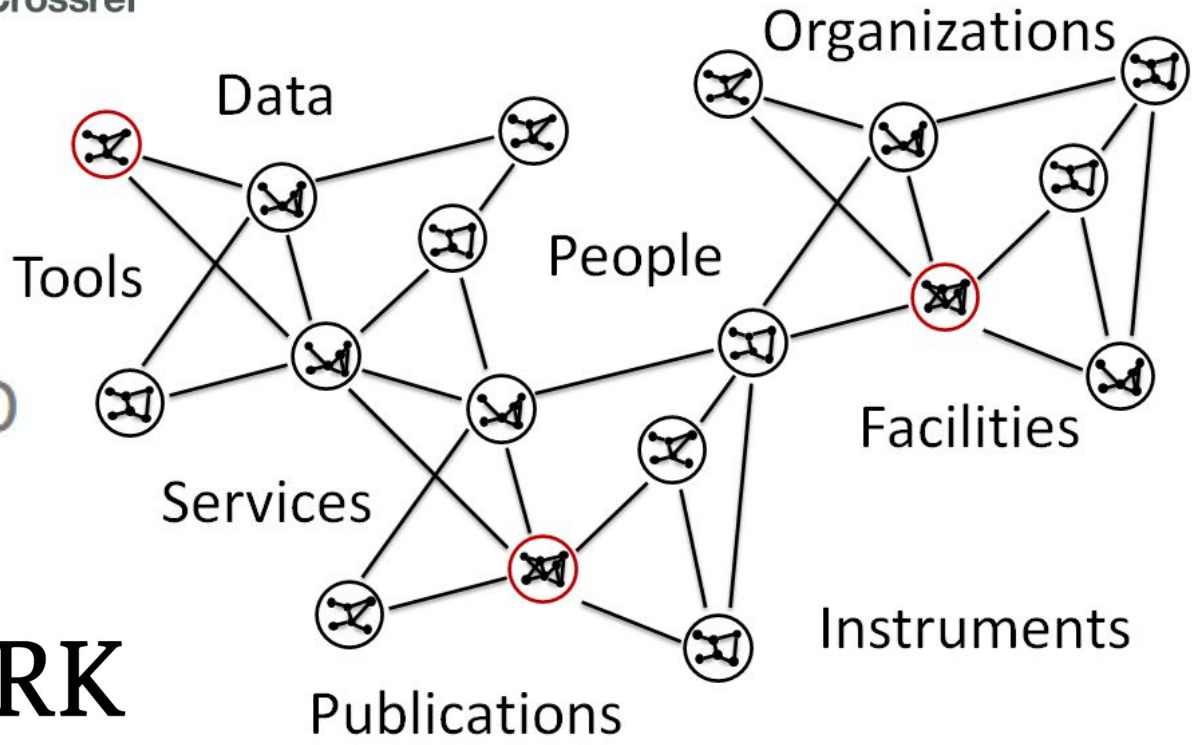
A1. (Meta)data are retrievable by their identifier using a standardised communications protocol

https://www.go-fair.org/fair-principles

Networked Science



Networked Science



Using Persistent Identifiers (PIDs)

"In order for scholars to benefit from the use of persistent identifiers, there needs to be a clear case made to them about the benefits of taking the time to do so."

Klump, J., Murphy, F., Weigel, T. and Parsons, M.A. (2017). Editorial: 20 Years of Persistent Identifiers – Applications and Future Directions. *Data Science Journal*, 16. http://doi.org/10.5334/dsj-2017-052

Uses of PIDs

- Access - ensure direct access to the artifacts
- Archival - ensure research artifacts are not lost; and that we can retrieve them at a later time
- Reference - ensure research artifacts can be precisely identified; to identify the exact item among many potentially archived copies
- Description - ensure discovery research artifacts
- Credit - ensure proper credit is given to authors and contributors

Thanks to Dan Katz, and: Research Data Alliance/FORCE11 Software Source Code Identification WG (2020). Software Source Code Identification Use cases and identifier schemes for persistent software source code identification (1.1). https://doi.org/10.15497/RDA00053

General Considerations

- PIDs alone do not provide much value - The value comes through embedding PIDs in other systems, connecting to them, visualizing connections, and leveraging relationships
- Inconsistent use of PIDs is still a limiting factor - e.g. unpopulated ORCIDs, inconsistent data citations
- Inconsistent use of PIDs can be actively deceiving - undercounts of data citations, incomplete collaboration networks based on ORCID profiles with gaps
- PIDs require management and maintenance

“Our scholarly record, to a large extent, relies on DOIs to persistently identify scholarly resources on the web. However, given our observed lack of consistency in DOI resolutions on the publishers’ end, we raise serious concerns about the persistence of these persistent identifiers of the scholarly web.”

Klein, M., Balakireva, L. (2022). An extended analysis of the persistence of persistent identifiers of the scholarly web. *International Journal of Digital Libraries*, 23, 5–17. https://doi.org/10.1007/s00799-021-00315-w