Parkes Telescope Data Access: Pulsar Data

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This document describes the ways in which pulsar data taken by the Parkes radio telescope can be accessed.

Pulsar data: Accessing data from CSIRO's Data Access Portal (DAP)

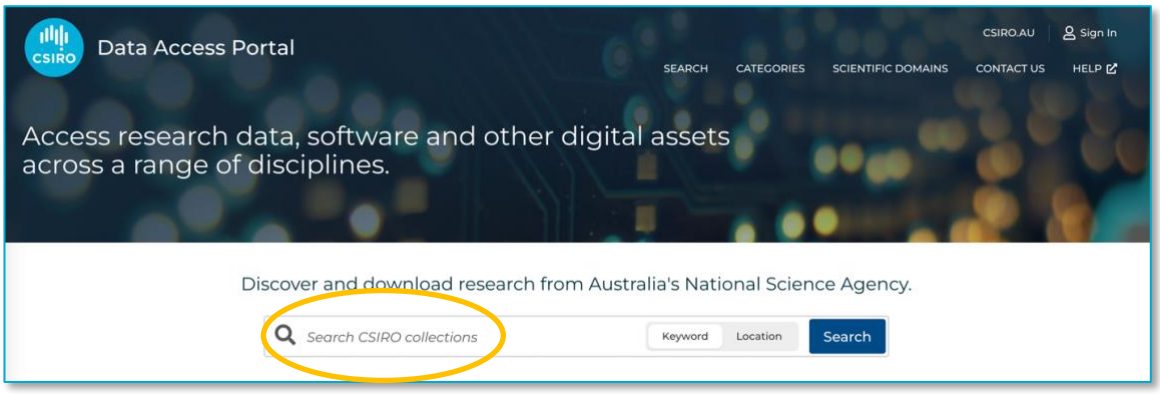
CSIRO's DAP is the most comprehensive archive for Parkes pulsar data available globally, with a volume of ~4 Petabytes and containing observations dating from the early 1990's to today.

The preferred method for pulsar data access given the large volumes is via an S3 endpoint. A step-by-step guide on how to access data from an S3 endpoint is presented here.

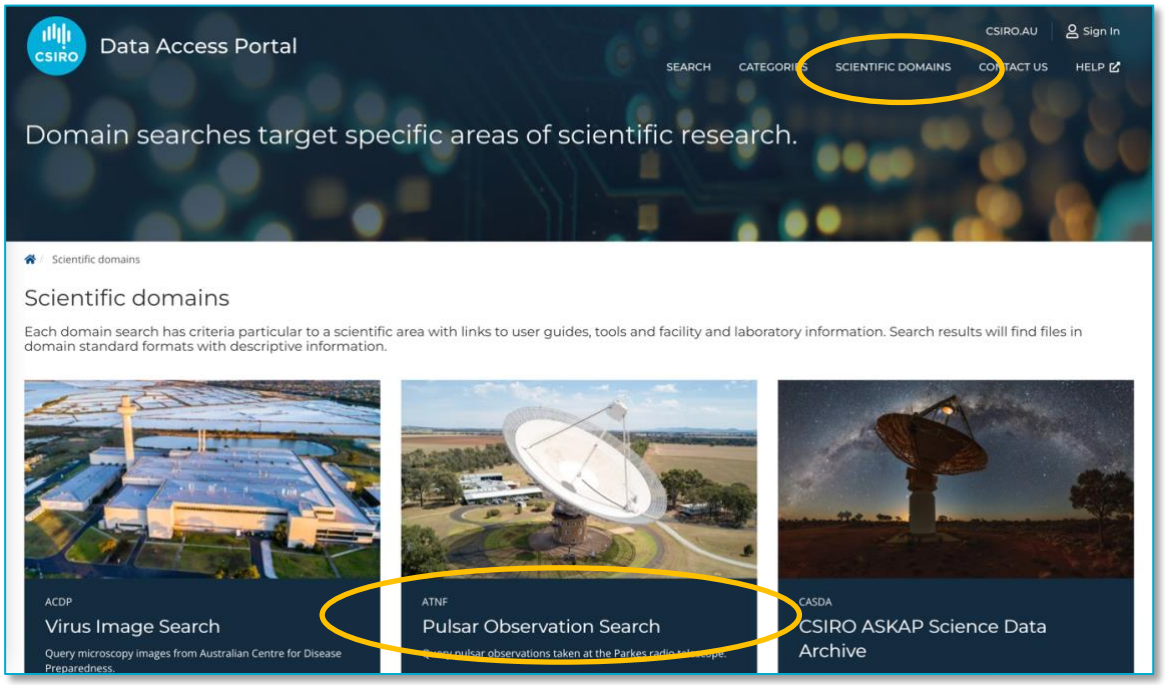
STEP 1: Conduct a search query

- Navigate to https://data.csiro.au
- Search for your data either:

  a) by conducting a keyword search, for example by Project ID:



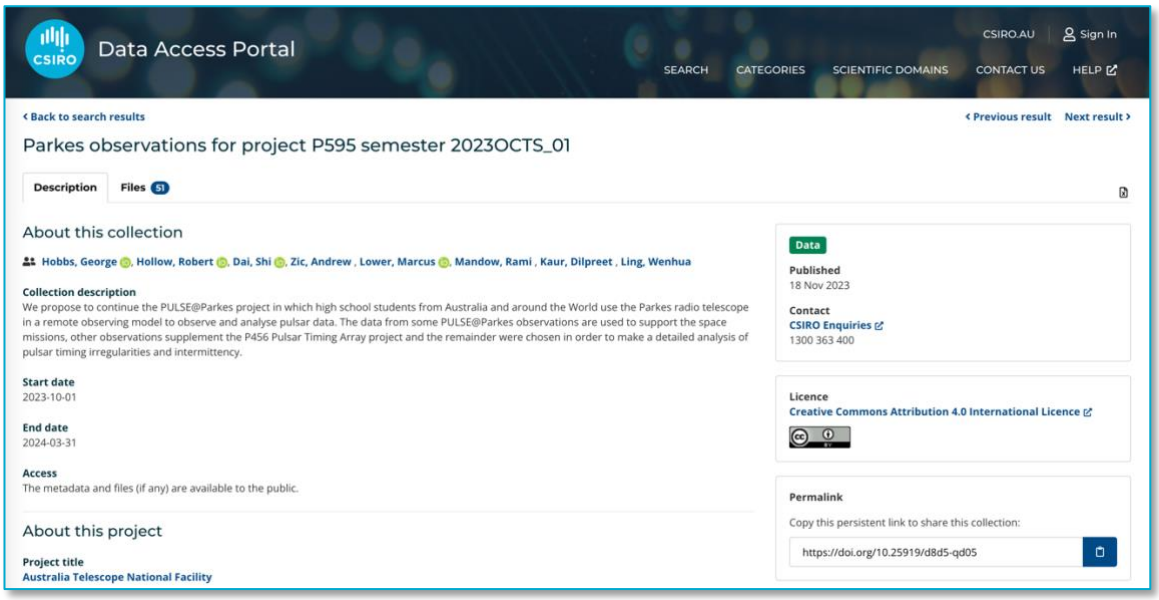
Or b), by conducting a specific 'ATNF Pulsar Observation Search', for example by source name, position, MJD, backend or filename:



STEP 2: Request access to a data collection

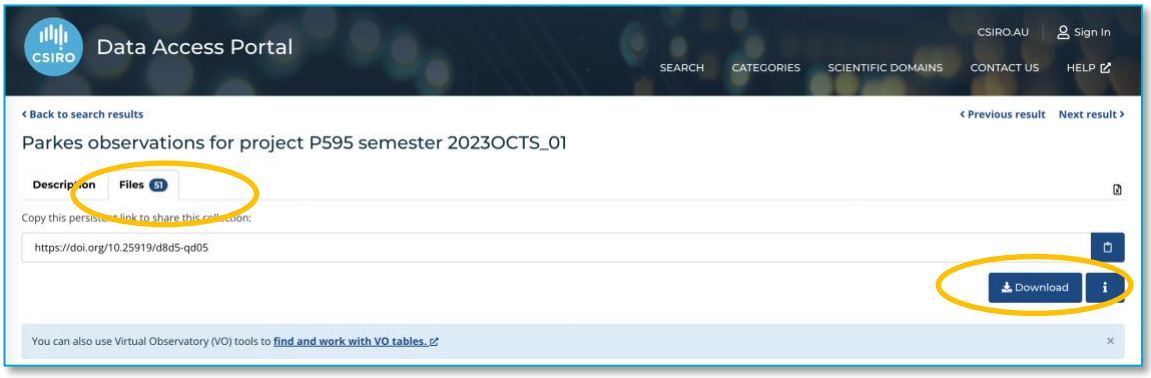
Please note: if your data are spread across multiple collections, you currently need to request each collection separately.

In the following example, the keyword search query for Project ID 'P595' returned a list of 187 collections, and the '2023APRS_01' collection was selected:

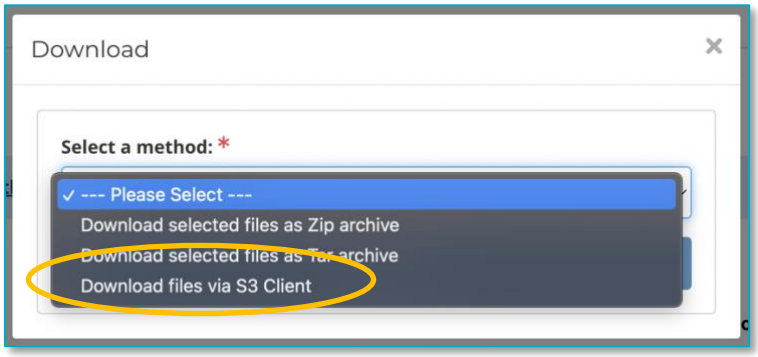


- In the example above, P595 collections are not embargoed, so anyone has access. If you are on the OPAL proposal for an embargoed collection, log in with your OPAL credentials to request the collection.

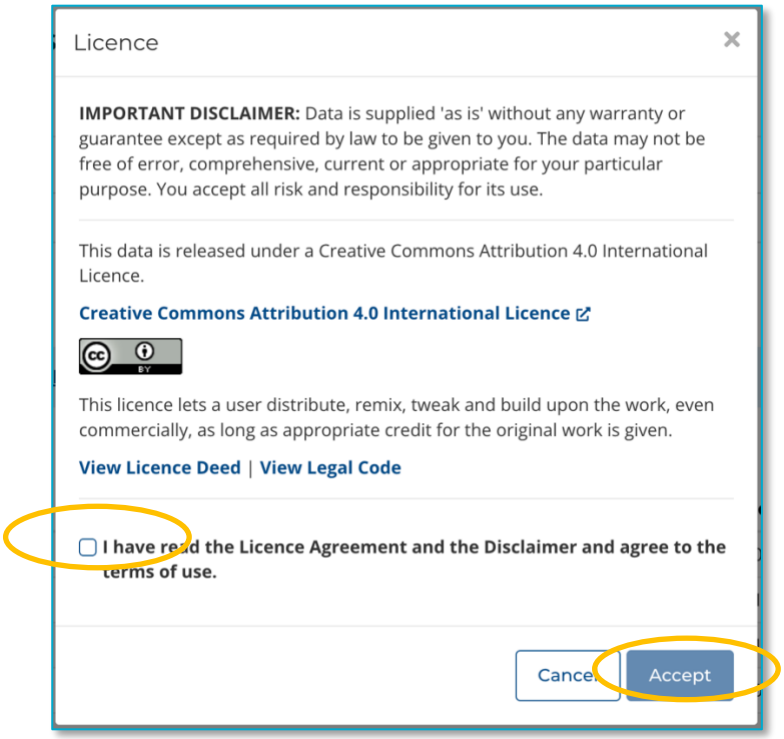
- Click the 'Files' tab and then 'Download':



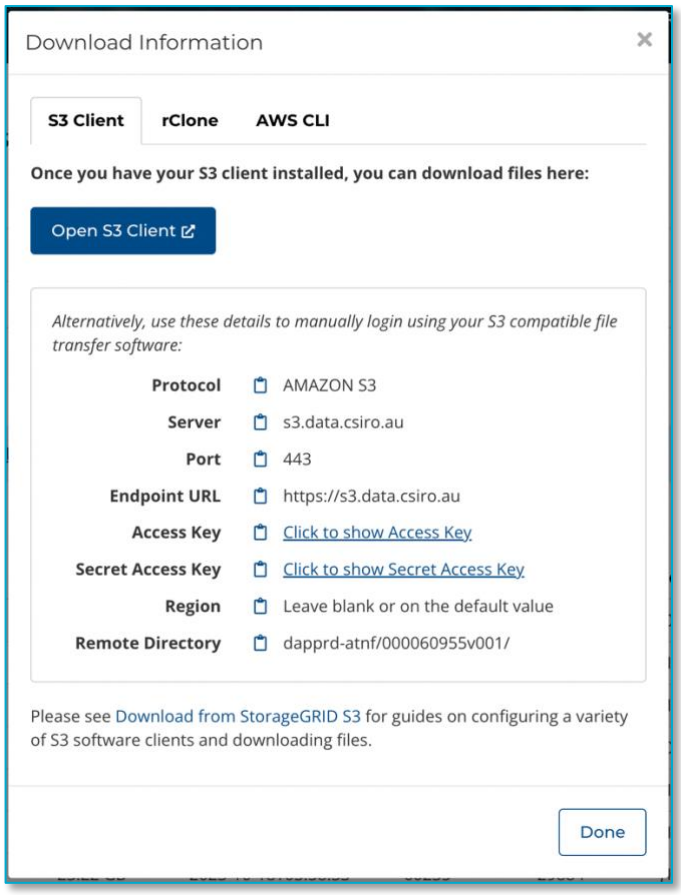
- Select 'Download files via S3 Client', enter your email address and click 'Request files':



- Agree to the licence conditions:



On receipt of the request, you will see this pop-up dialogue where you can choose your S3 client and receive relevant help information:



STEP 3: Download your data

- Choose from the selection of S3 clients as shown above, and follow the instructions supplied, and/or refer to the guide for further information.

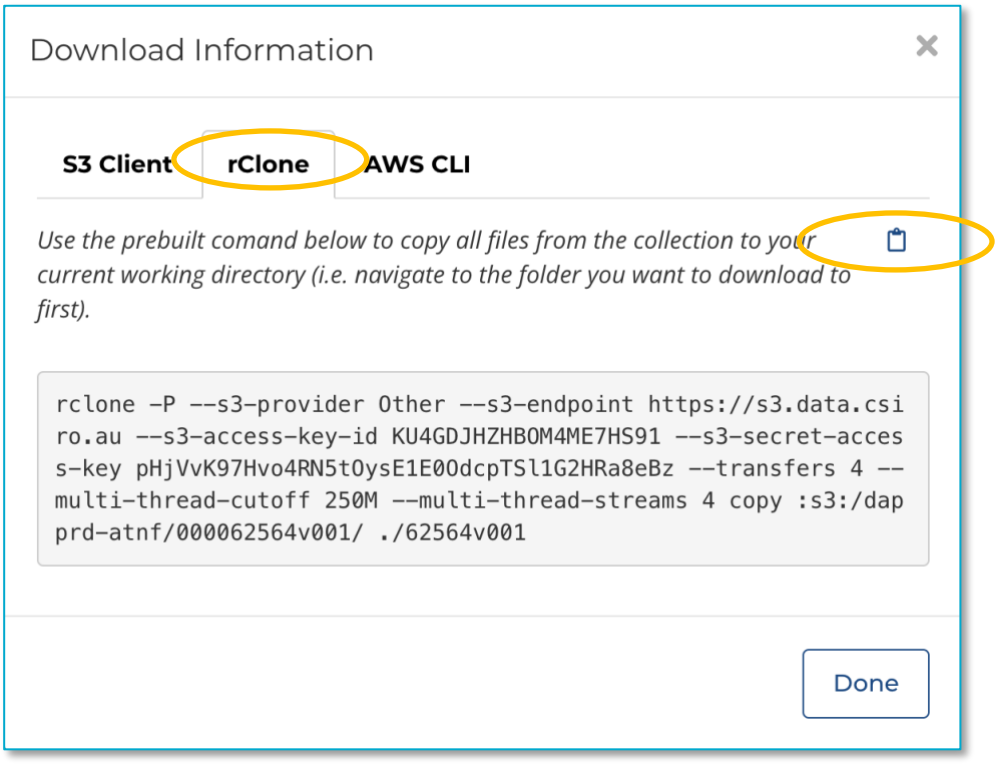
ATNF Computer Account Holders

An ATNF computer account holder can download data using *rclone* to pre-booked disk space on an ATNF machine.

- Log on to host *venice*, then a processing machine (e.g. *cetus*)
- Check for booked disk space with:

```
bookings -u your_ident
```

- To request disk space, please email bookings@atnf.csiro.au with your requirements
- Once you have been allocated disk space, data can be downloaded by copying the *rclone* command specified in the pop-up dialogue 'rClone' tab, and then pasting it into your terminal:




```
cetus-113% rclone -P --s3-provider Other --s3-endpoint https://s3.data.csiro.au --s3-access-key-id KU4GDJHZHBOM4ME7HS91 --s3-secret-access-key pHjVv
K97Hvo4RN5tOysE1E0OdcpTSl1G2HRa8eBz --transfers 4 --multi-thread-cutoff 250M --multi-thread-streams 4 copy :s3:/dapprd-atnf/000062564v001/ ./62564v0
01
2024/05/24 07:21:32 NOTICE: Config file "/u/too043/.config/rclone/rclone.conf" not found - using defaults
Transferred:       37.036M / 1.507 TBytes, 0%, 39.947 MBytes/s, ETA 10h59m12s
Transferred:            5 / 166, 3%
Elapsed time:         1.0s
Transferring:
 *                data/raw/uwl_240422_025110.cf:  3% /130.737M, 0/s, -
 *                data/raw/uwl_240422_025257.rf:  1% /967.220M, 0/s, -
 *                data/raw/uwl_240424_045217.cf: 10% /78.459M, 0/s, -
 *                data/raw/uwl_240424_045350.rf:  5% /130.748M, 0/s, -^C
```

Command-line data access tools

The ATNF provides data query and access tools – use of these is the preferred method for accessing large data volumes and/or retrieving a sub-set of observations.

On ATNF servers, the following tools are available:

- `dap-query.sh` - query the DAP database
- `get-dap-psr-data.sh` - download unembargoed DAP data specified by a dap-query.sh result set
- `get-dap-psr-collection.sh` - download embargoed/unembargoed DAP collections or specify files to download

Need help with data access?

Information about the ATNF Data Archives is available at:

https://www.atnf.csiro.au/observers/data/index.html

Contact ATNF data support at:

atnf-datasup@csiro.au

Please contact Lawrence.Toomey@csiro.au for further information.