



# CASDA Site Report

IVOA Interop – May 2023

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Australia's National Science Agency





# CSIRO ASKAP Science Data Archive

- Archive for Australian Square Kilometre Array Pathfinder (ASKAP)
- Science-ready data products
- Data formats:
  - Images & Image cubes (FITS)
  - Spectra (FITS)
  - Catalogues (VOTable)
  - Visibilities (CASA Measurement Sets)
- Joint project with
  - CSIRO Information Management & Technology,
  - CSIRO Space and Astronomy;
  - Pawsey Supercomputing Centre
- CSIRO funded project with additional funding from Astronomy Australia Ltd





# CASDA Strategy

- Publish science ready data
- Provide APIs as well as website
- Use VO for public APIs wherever possible
- Use VO to support website where suitable





# VO awareness of the community

## Existing radio community

- Little prior exposure to VO
- Used to downloading and reducing data locally
- Mostly download via website

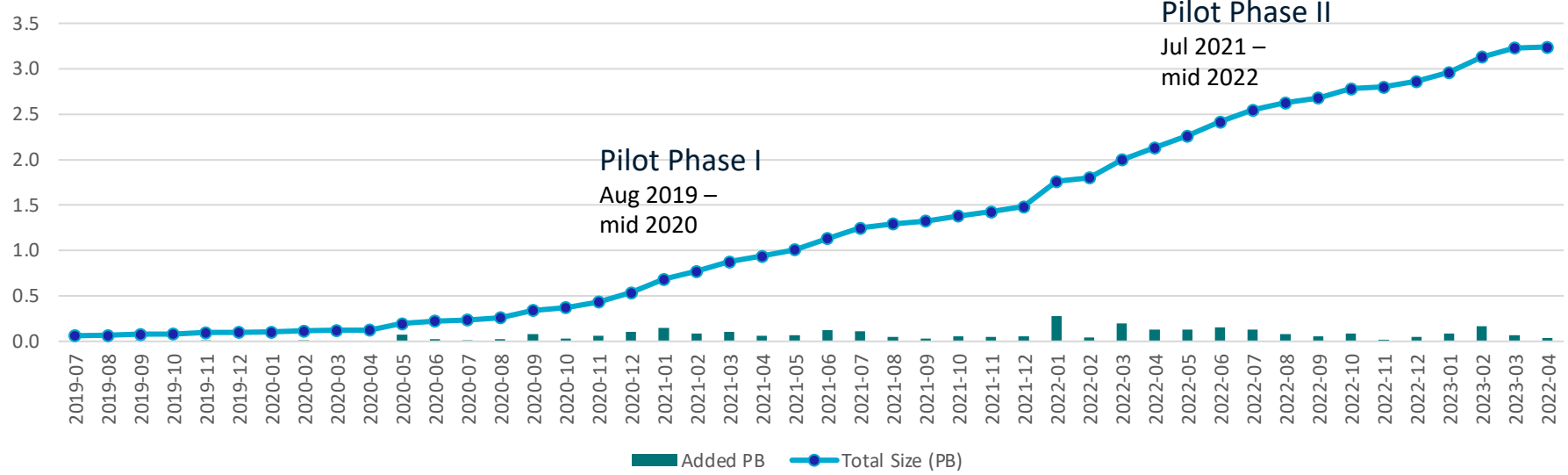
## CASDA outreach

- Regular training sessions
- ASKAP community meetings
- Push tools like TOPCAT and Aladin
- CASDA AstroQuery module



# Data Holdings Growth

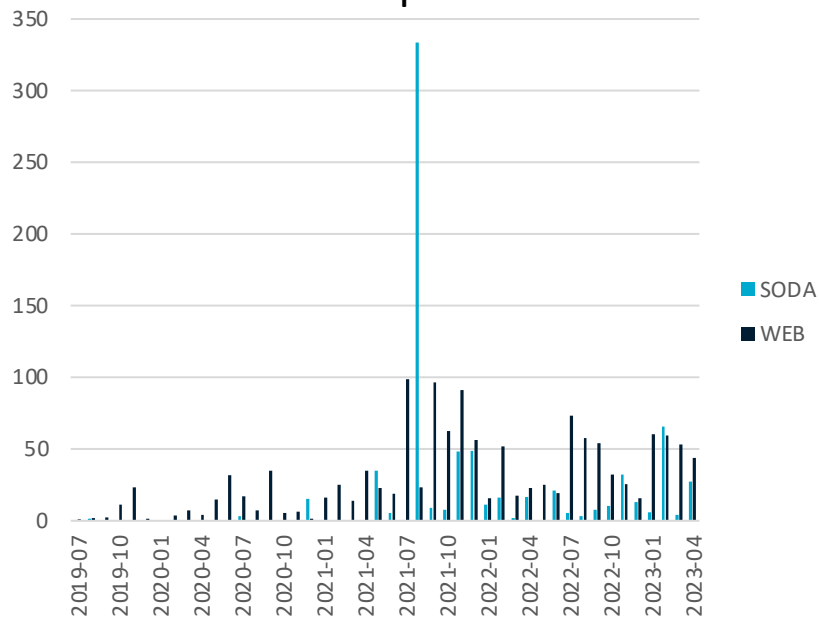
## CASDA Data Holdings Growth (PB)



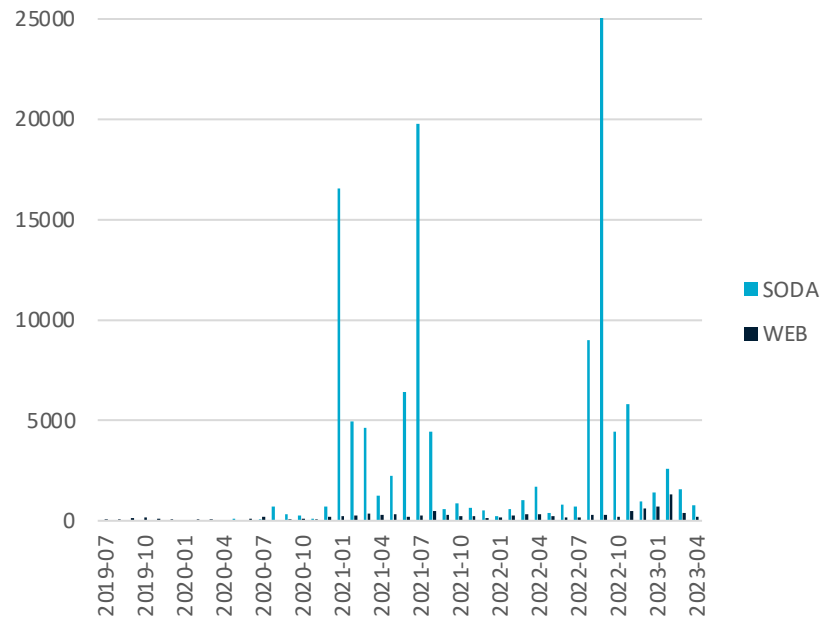


# Data Access Patterns

## TB accessed per month



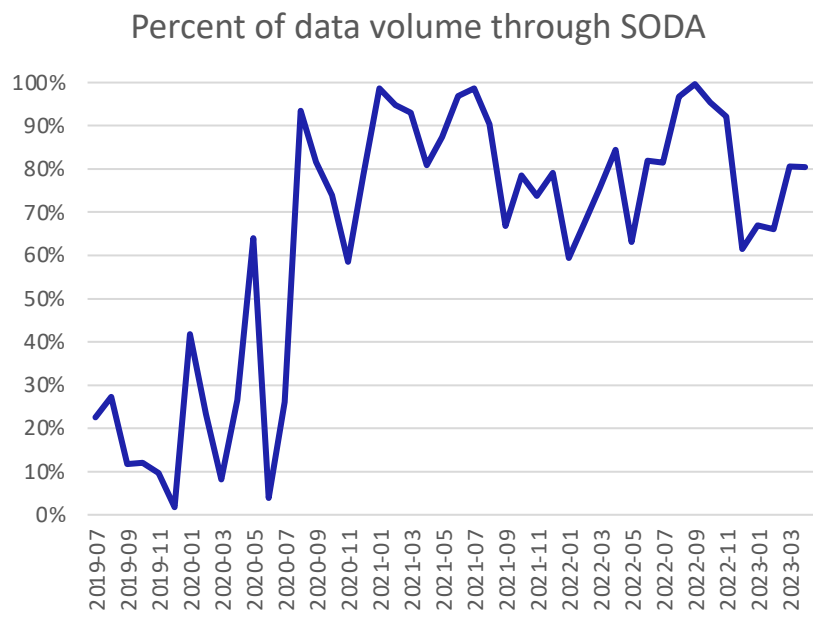
## Requests per month





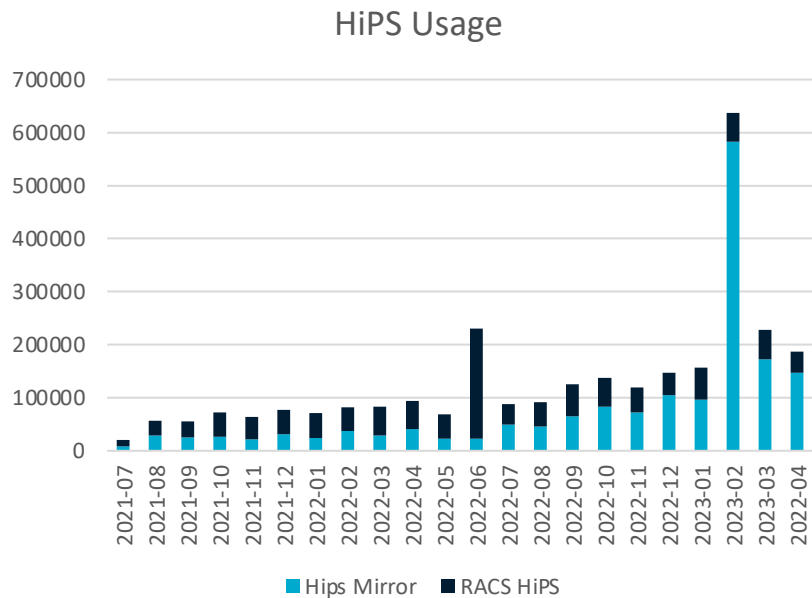
# Data Access Patterns

- Around a third our data access traffic over time is via SODA
- SODA traffic now counts for over 60% of data access
- SODA downloads added to CASDA astroquery in 2020-06





# HiPS Usage

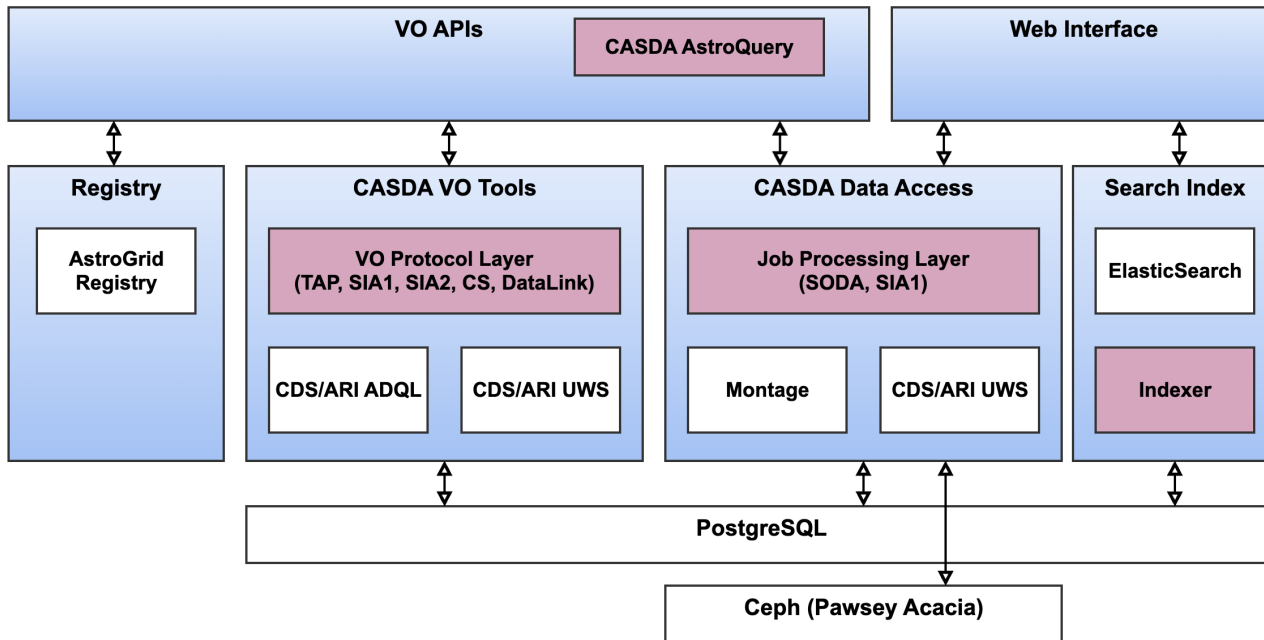


- HiPS usage is growing
- Mostly Aladin but Stellarium is growing also





# Software Stack





# Growing Pains

- Processing large numbers of small files
- ObsCore growth – indexing?
- Sustainability – spreading the knowledge



# Future

- Addition of the archives for Parkes, ATCA, and Aus VLBA
- Support for new instruments on Parkes, ATCA
- Adding ObsCore for the these telescopes
- Visibilities in ObsCore (as per radio note)
- Visualisation using Carta
- Globus and S3 access
- Updates to protocol implementations (TAP, UWS etc)

Image Credit: Emil Lenc 2011





# Thank you

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