

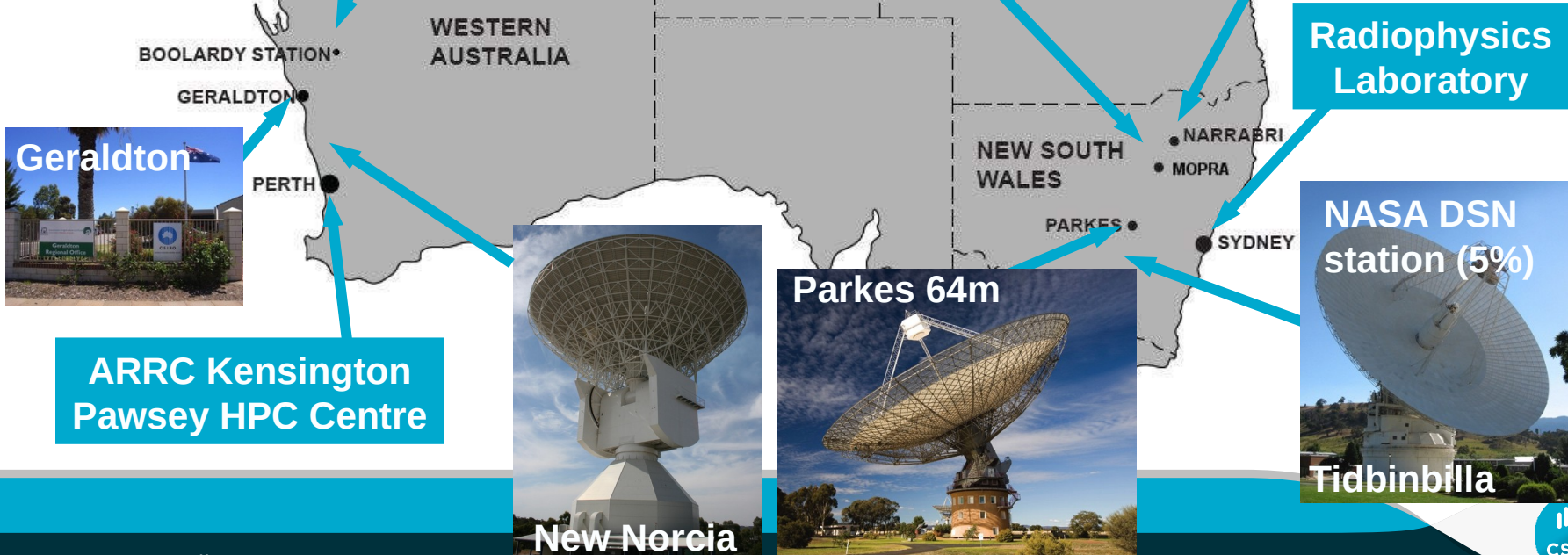
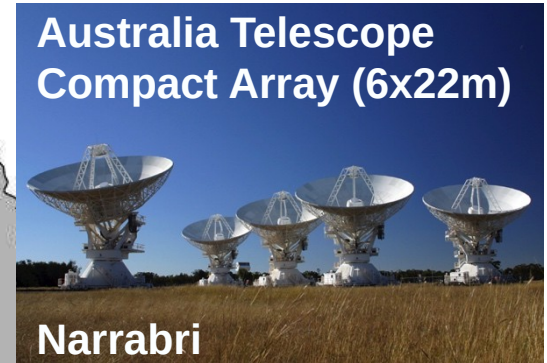
ATNF Operations

ATUC April 2019

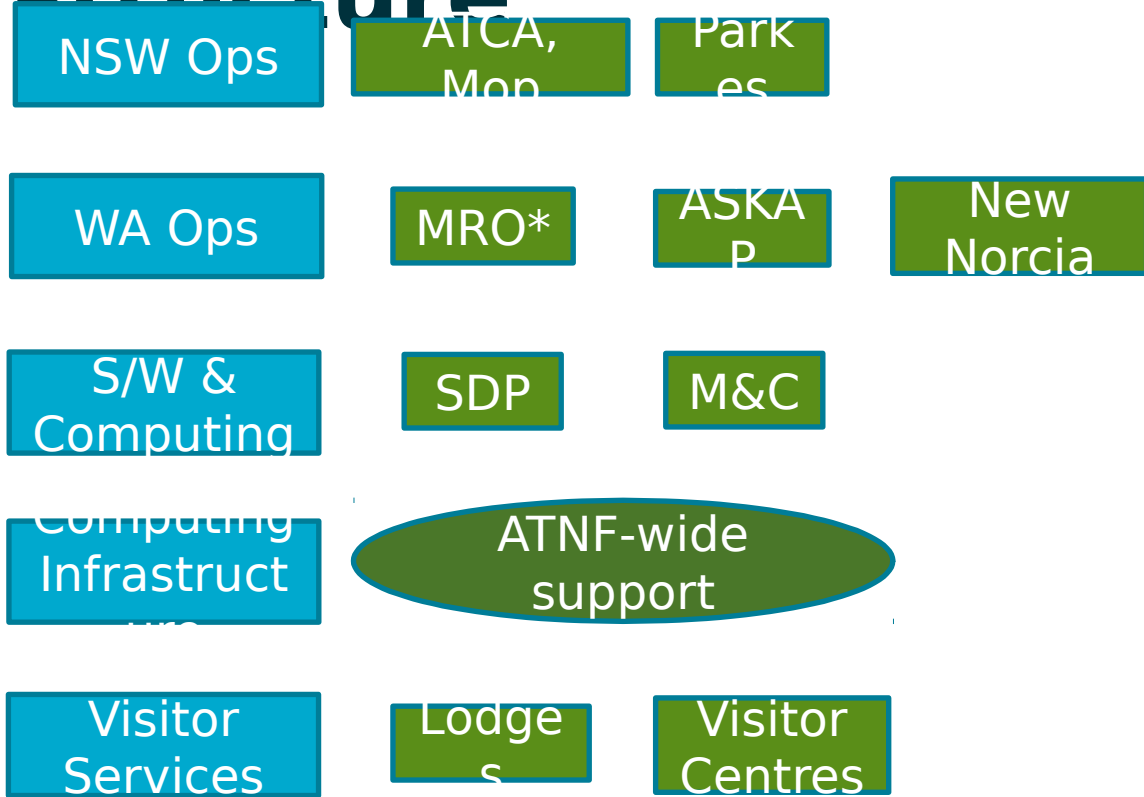
John Reynolds



The ATNF at a glance



Operations Program - overall structure



Staff changes



Welcome: Warren Sharwood

TBD: SKA Site Entity

SKA Operations

Recent highlights



21 Feb 2019



CSIRO shines a rainbow under the Milky Way to mark its first Mardi Gras



14 Dec 2018



Keeping track for European space agency



11 Dec 2018



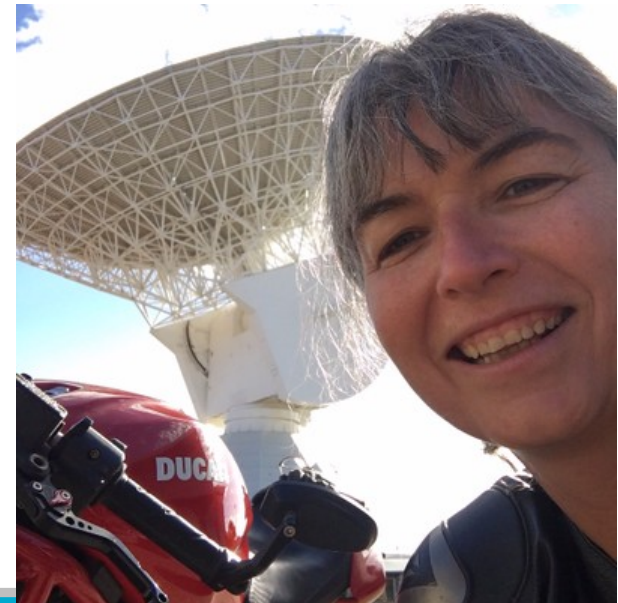
We're all ears as Voyager 2 goes interstellar



Parkes VC celebrates 50 years

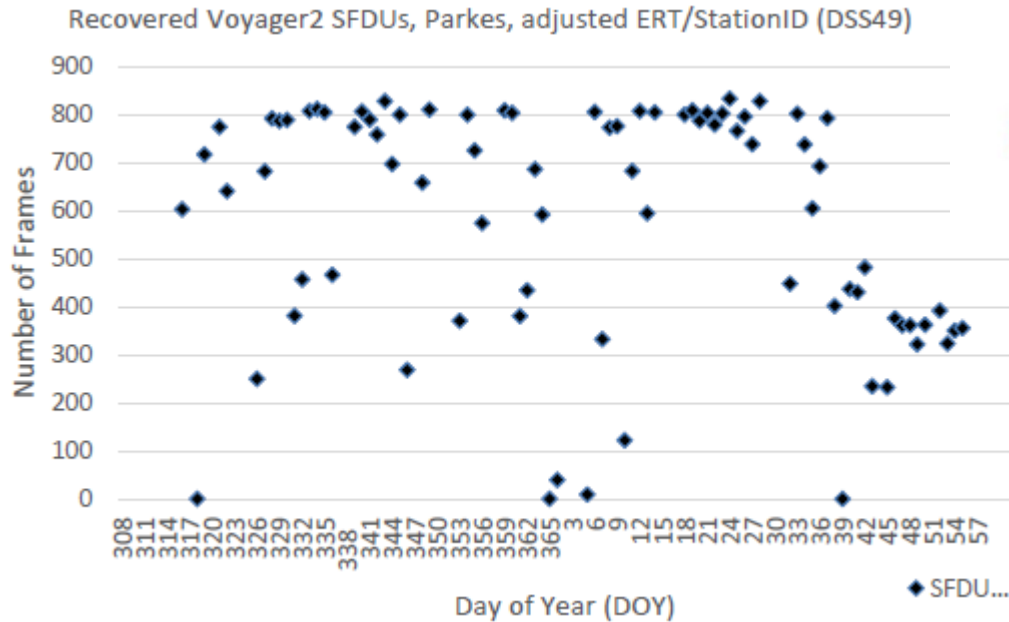
New Norcia

CSIRO (CASS) will operate ESA's New Norcia tracking facility from 1 June 2019
5-year contract initially
12-month phase-in period commenced 1 March
Technical staff on site, including site leader Suzy Jackson
Not a national facility but "housed" in Operations
ESA pushing ahead to build a second 35-metre antenna (NNO-3)
CASS engaging with ESA and Space Agency on areas for collaboration



Parkes (more detail in Jimi Greens' talk)

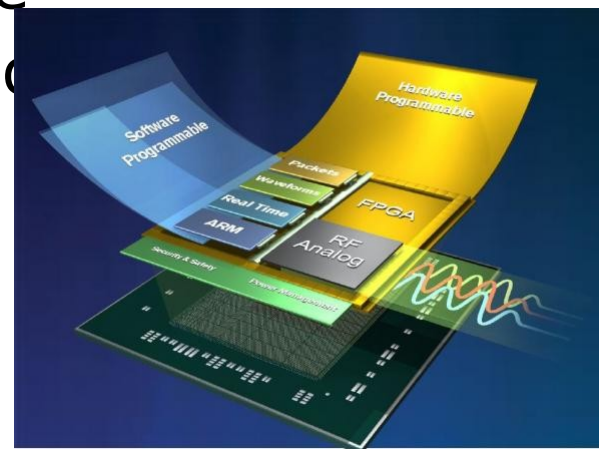
- Voyager 2 project conclude successfully, 24 Feb



- Open Weekend 20-21 July at Parkes

ATCA, Mopra, LBA - Jamie and Chris' talks

- ATCA contributing to ASKAP FRB follow-up
- Limited success with Sale-of-Telescope time to date, but remain open for offers
- CABB replacement in initial phase GPU solution with RF on chip (RFoC)



Data Archiving (from Minh Huynh)

CASDA

Currently contains:

- early science datasets (NGC7232 continuum, WALLABY cubes Reynolds et al. 2019, Lee-Waddell et al. 2019, EMU cosmology fields)
- 36 beam, full spectral res (48 MHz BW) cubes from WALLABY early science (NGC7232) soon

Future developments:

- CASDA Stage 3 begins May/June 2019, possibly more work over next two years
- Gathering use cases and stories, **CASDA planning meeting Apr 30**
- Possibles: enhancing VO, more example python scripts, more emphasis on Level 7 data

ATOA

- Currently sits outside of DAP
- Need to be able to cope with Parkes UWL spectral line data and ATCA BIGCAT
- Options being explored/studied for ATOA future
- ***Expect user survey in May 2019 to gauge the community***

KPIs: Telescope usage

Period: 2018Apr+2018Oct	Parkes	ATCA
Successful observing time	77.0 %	77.4 %
Maintenance time	17.3 %	15.1 %
Time lost to equipment failure	3.2 %	1.4 %
Time lost to weather	2.2 %	0.9 %
Idle time	0.3 %	5.1 %



SKAP KPIs to be presented to the AT Steering Committee next month

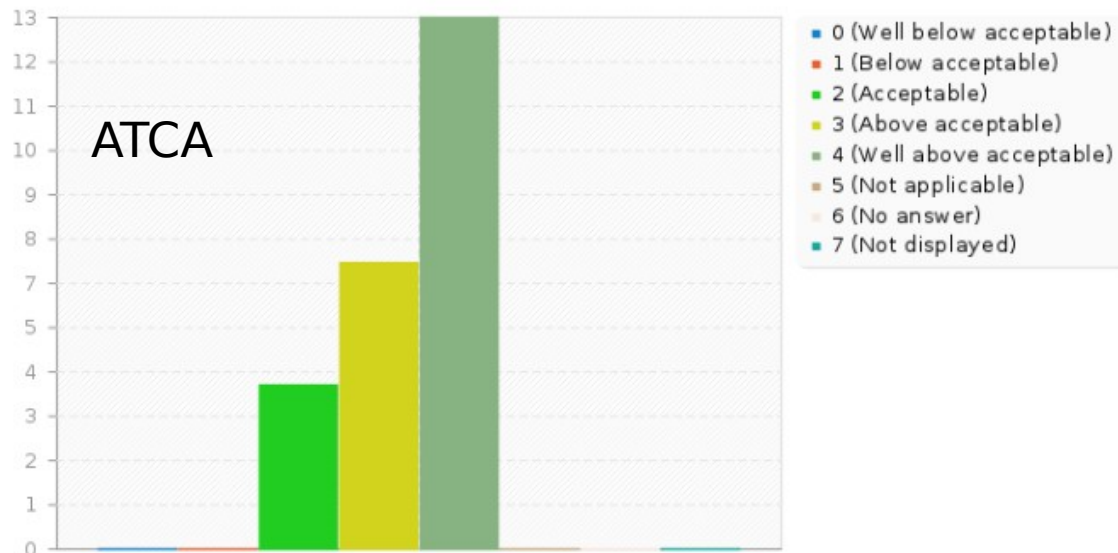
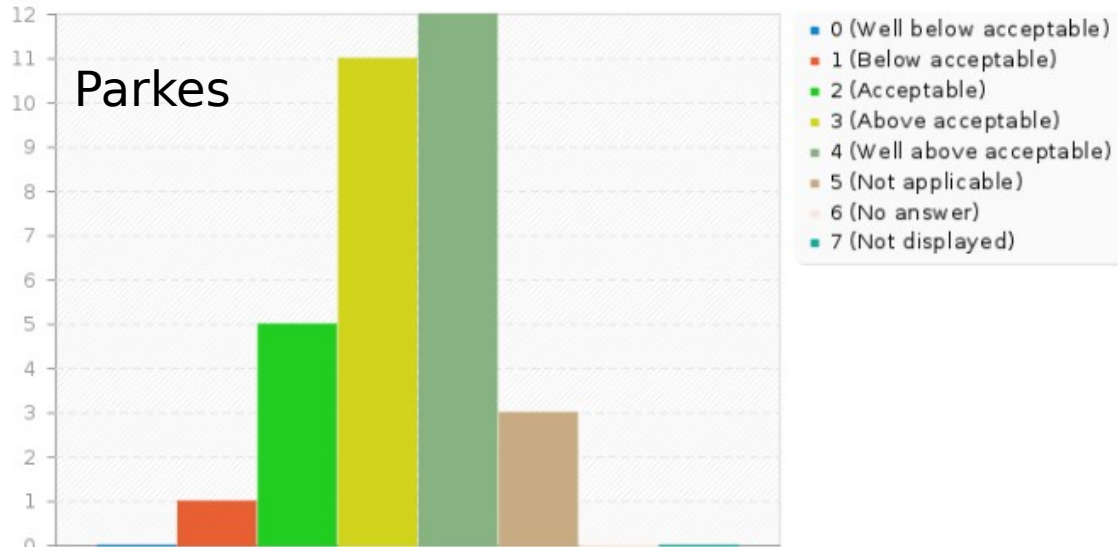
User Feedback

Responses for last 12 months:

32 (26) Parkes
24 (18) ATCA

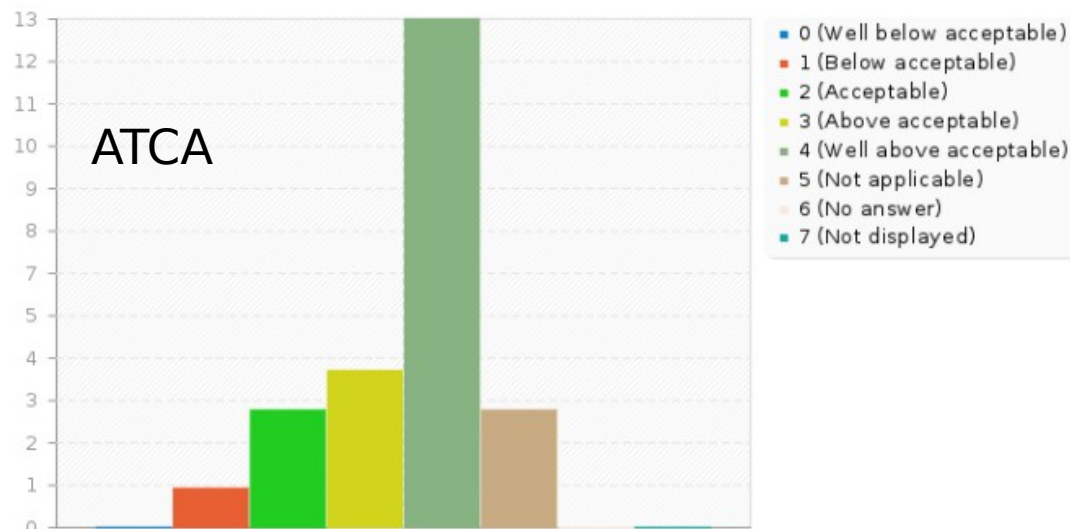
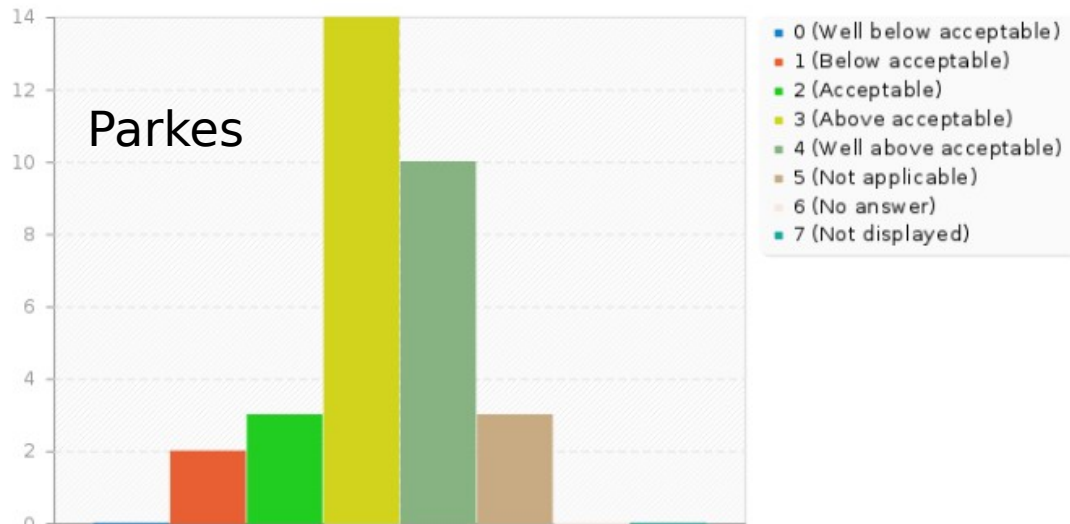
Prodding still required!

← Support during observation
(includes ATCA D/A)

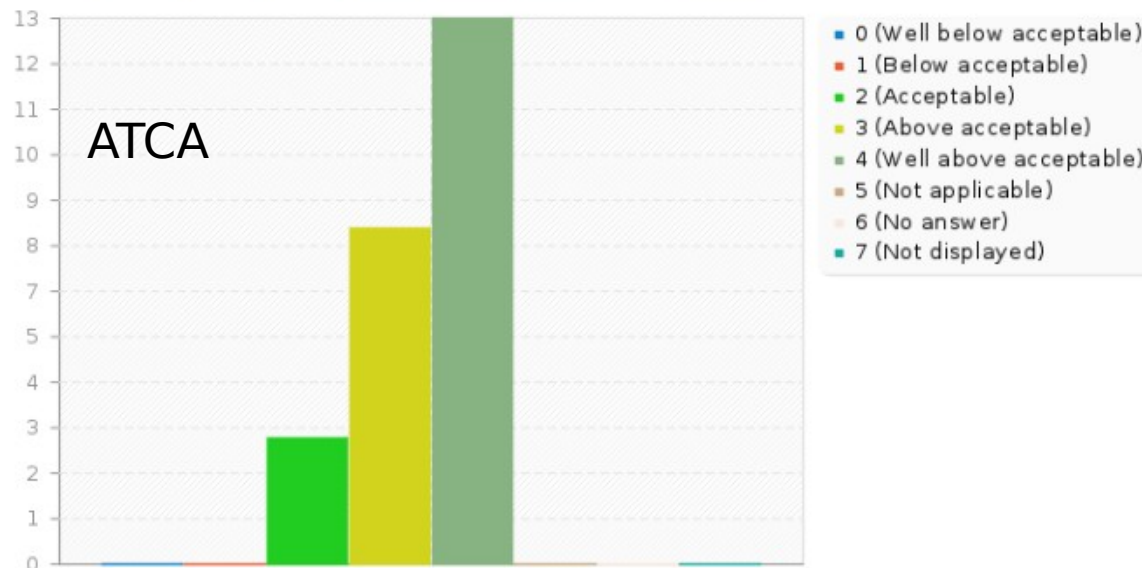
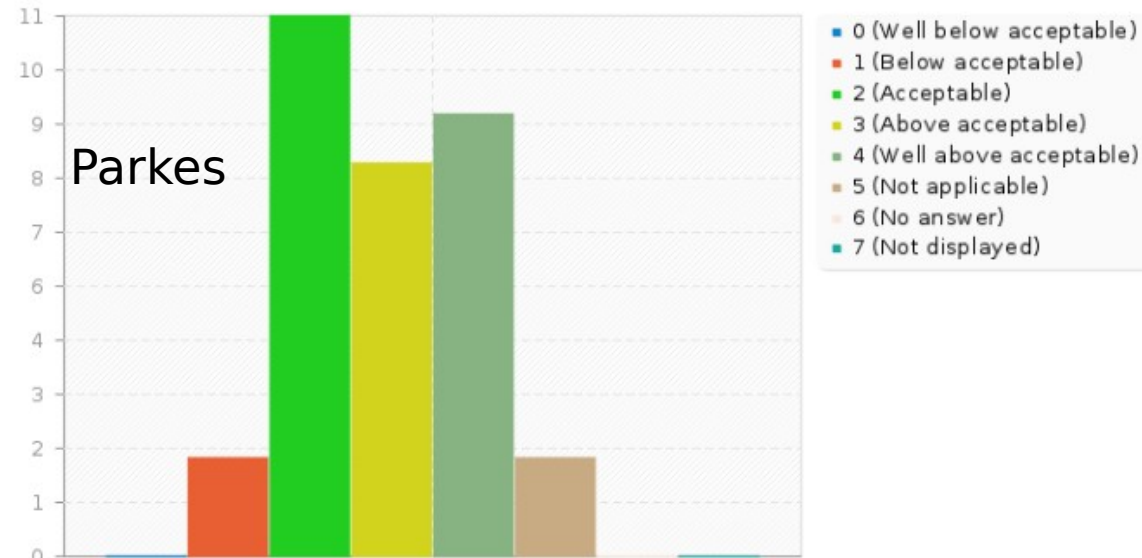


User Feedback:

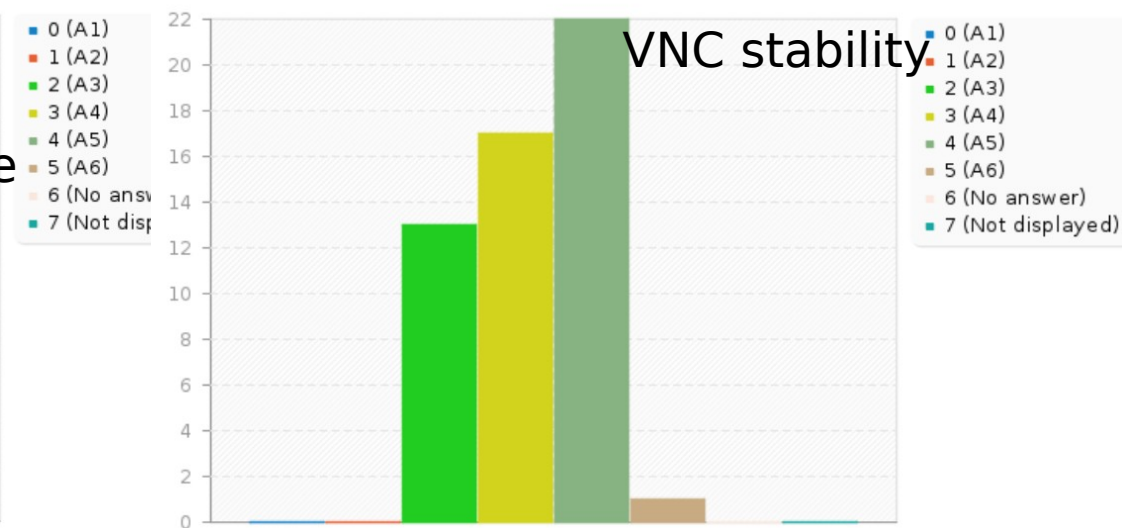
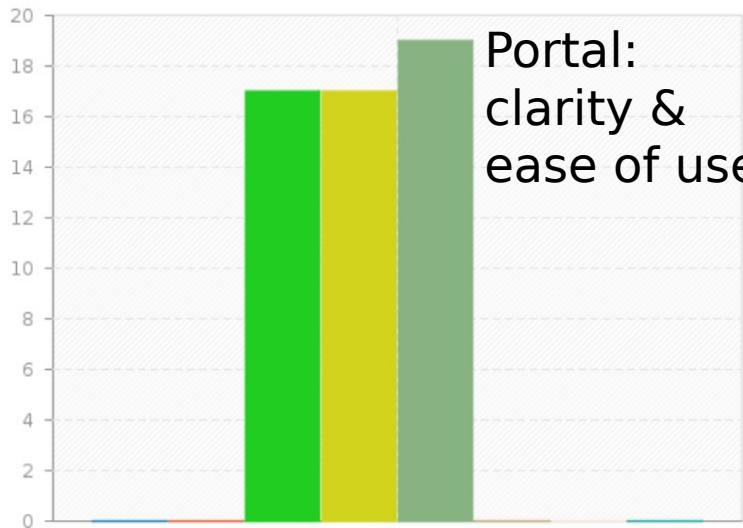
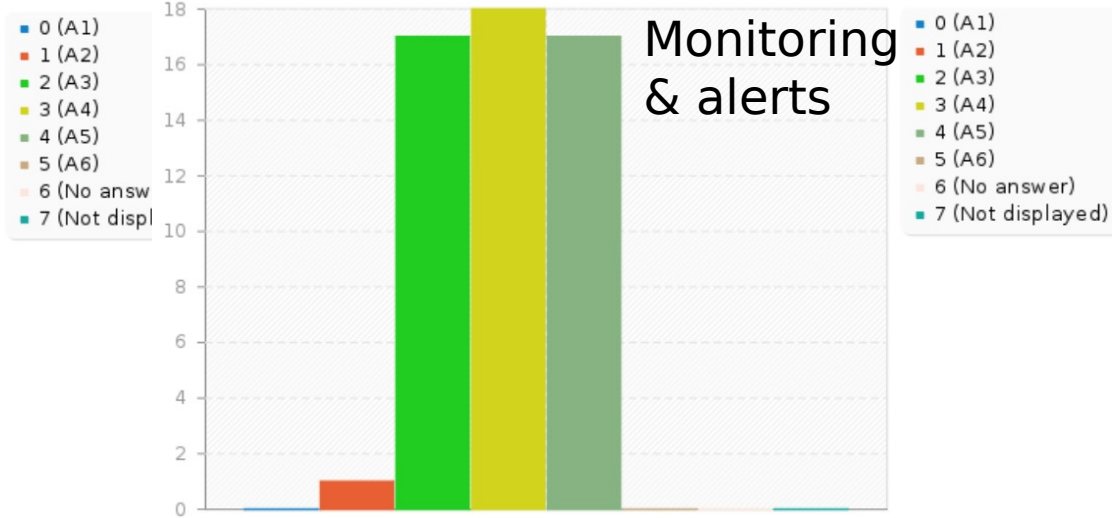
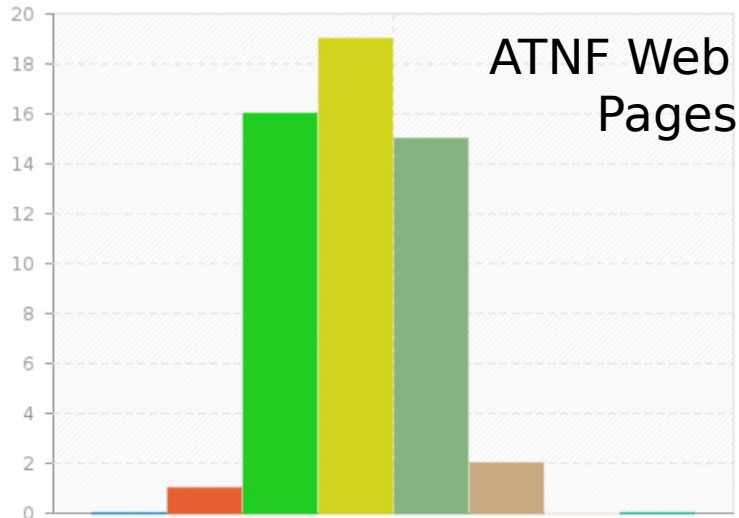
Pre-observation support / training



User Feedback: User Guide



More user Feedback:



ASKAP update

ASKAP Update - April 2019

All h/w now delivered (Sep 18)

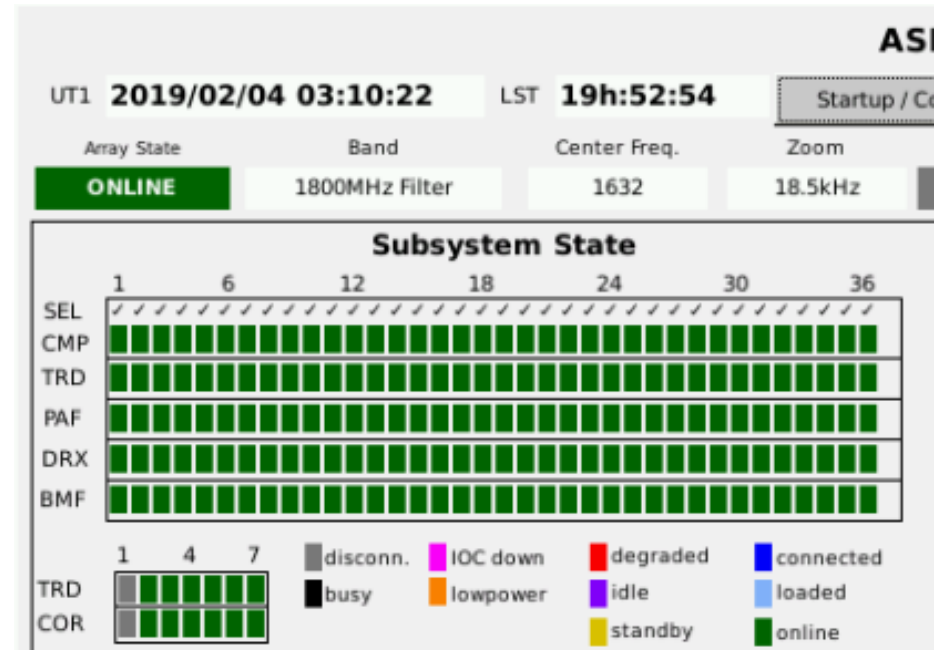
Gearbox problems in hand

Demonstration of 36-antenna,
36-beam 288MHz ingest, Feb 19

Demonstration of zoom mode

Pilot Surveys imminent

RACS commenced



ASKAP - first 36-antenna image

ASKAP single-beam combination of 44 h observation, 36 antennas, 288 MHz bandwidth centred on 888 MHz, 19x15 arcsec resolution.
The central source (B1934-638) peaks at 14.21 Jy and the image noise is 10 μ Jy/beam.
(Observed 22nd February - 1st March 2019, Imaged 10th March 2019)

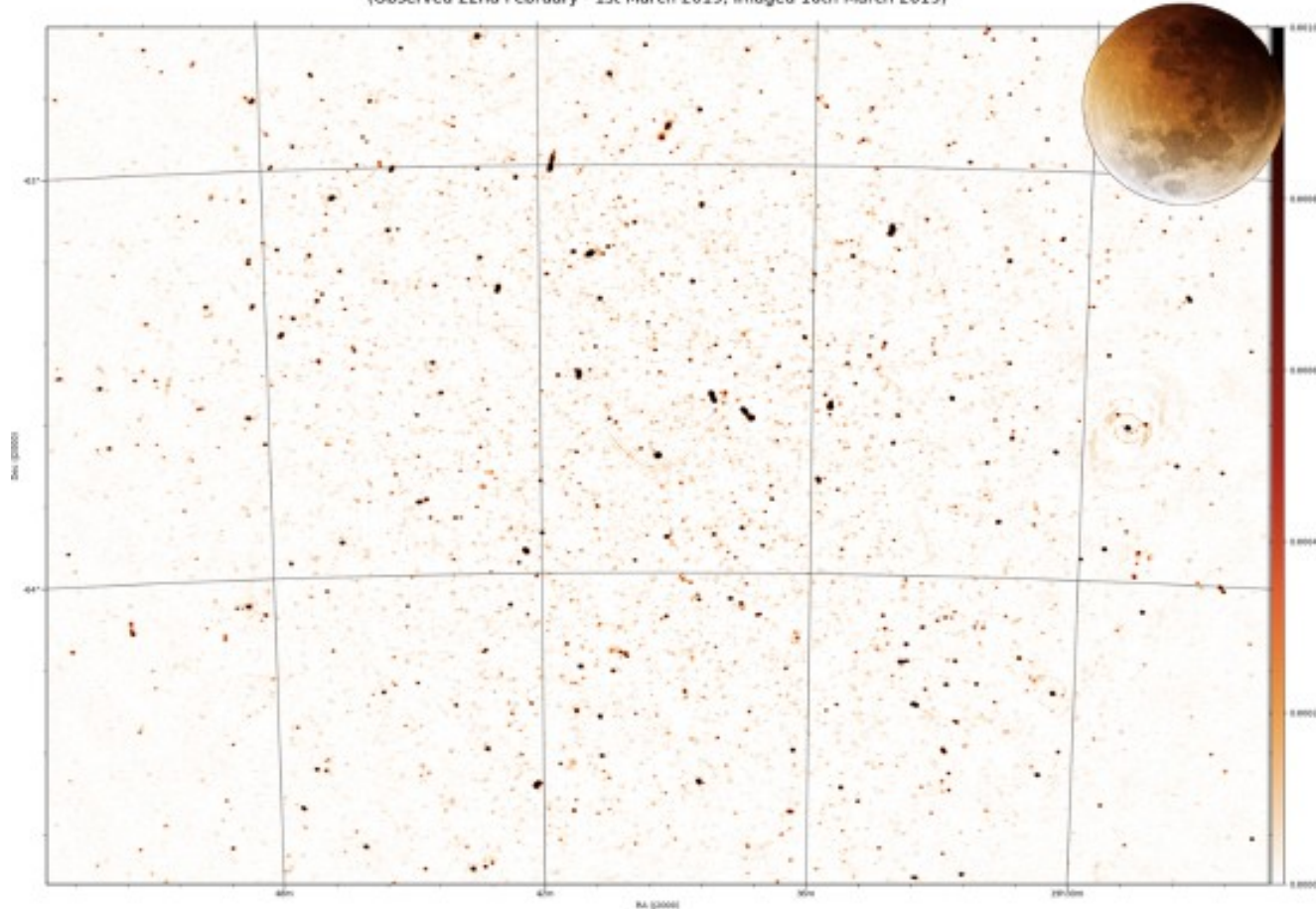


Image: Emil Lenc

RACS - Rapid ASKAP Continuum



ASKAP pubs list

ASKAP Publications

This page lists papers that report the results of observations made with ASKAP antennas or describe the array's capabilities, or planned Survey Science Projects. The link to each paper is to the ADS (SAO/NASA Astrophysics Data System) page for that paper from which the paper or its preprint can usually be accessed.

1. James, C. et al. 2019, PASA, 36, 9
[*The performance and calibration of the CRAFT fly's eye fast radio burst survey*](#)
2. Macquart, J.-P. et al. 2019, ApJL, 872, 19
[*The spectral properties of the bright fast radio burst population*](#)
3. Bhandari, S. et al. 2019, MNRAS, in press
[*A Southern sky search for repeating Fast Radio Bursts using the Australian SKA Pathfinder*](#)
4. Qiu, H. et al. 2019, MNRAS, in press
[*A Survey of the Galactic Plane for Dispersed Pulses with the Australian Square Kilometre Array Pathfinder*](#)
5. Lee-Waddell, K. et al., 2019, MNRAS, in press
[*WALLABY Early Science - II. The NGC 7232 galaxy group*](#)
6. Di Teodoro, E.M., et al., 2019, MNRAS, 483, 392
[*On the dynamics of the Small Magellanic Cloud through high-resolution ASKAP H I observations*](#)
7. Reynolds, T.N., et al., 2019, MNRAS, 482, 3591
[*WALLABY early science - I. The NGC 7162 galaxy group*](#)
8. Allison, J.R., et al., 2018, MNRAS, 482, 2934
[*PKS B1740-517: an ALMA view of the cold gas feeding a distant interacting young radio galaxy*](#)
9. Sokolowski, M., et al., 2018, ApJ, 867, L12
[*No Low-frequency Emission from Extremely Bright Fast Radio Bursts*](#)

ASKAP - draft timeline for SSP review

- May 2019 ASKAP SSP pilot surveys commence
- Dec 2019 Issue call for revised SSP plans, in conjunction with ASKAP
community briefing
- Dec 2019 Publish revised ASKAP specifications and capability document
- Mar 2020 Closing date for submission of revised SSP plans
- May 2020 SSPAP meets, face-to-face
- Jun 2020 SSPAP submits final report, SSTs informed of outcomes
- Jul 2020 Draft SST time allocation for 2020 circulated.

Pawsey Update

- Pawsey Refresh Project Board, chaired by Paul Nichols (Curtin)
- Project Manager, Stacy Tyson
- Four Reference Groups: **Technical, User**, Contract & Finance, Procurement
- JC Guzman is ASKAP rep. on Technical committee: kickoff meeting 30/4
- ~3 PB High-Speed Storage due around mid-year (replacing 1 PB /astro).
-
- Galaxy replacement specs to be finalized by October
 - SSTs to nominate technical liaison reps. to JC asap.
- New Galaxy to be installed mid-2020 - but will need ~6 month overlap with old Galaxy
- AAL support to deploy ASKAPSoft to other HPC sites, SUT, NCI ...

ASKAP : Extended Modes Project

ASKAP in full operation at basic level, but more work to be done under new project plan, with six main streams of work;

- Coherent Fast Radio Burst Detection
 - Commensal GPU based coherent FRB detection.
- Telescope Flexibility
 - incl. non-contiguous bands, BW vs #beams ...
- Performance Improvements
- Telescope Services
- Pawsey Upgrade
 - Calibration & imaging pipeline, slow transient pipeline, extra BW ...
- Tied Array Processing
 - VLBI

We acknowledge the Wajarri Yamatji people as the traditional owners of the Murchison Radio-astronomy Observatory site

Click to edit Master text styles Third level
Second level

CSIRO ASTRONOMY AND SPACE SCIENCE

www.csiro.au

