

# Performance indicators

The ATNF assesses its performance through key performance indicators, based on those used generally by CSIRO but adapted to be appropriate for a National Facility.

## 1 Scheduled and successfully completed observing time

For the Parkes and Narrabri Observatories, the ATNF sets a target that at least 70% of the time available should be allocated for astronomical observations. (The remaining 30% is needed for maintenance and upgrading the facilities.) A second target is that the time lost during scheduled observations from equipment failure should be below 5%.



Photo: Kristen Clarke

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The following values show the use of time for the year 2002:

	<b>Narrabri</b>	<b>Parkes</b>
Time allocated for scheduled observations	79.1%	82.0%
Downtime during scheduled observations	2.4%	5.2%

The downtime for the Parkes telescope includes time lost for wind stows (3.8%).

## 2 Response of the ATNF to recommendations by the Users Committee

The ATNF Users Committee (ATUC) meets twice a year, to represent the user community in the ATNF decision-making process. After each meeting the committee presents a list of recommendations to the Director. ATUC considers matters raised by the user community and current operations, and sets priorities for future developments. Typically, 90% of ATUC recommendations are followed up by the ATNF.

### 3 Adoption by users and organisations of practices, instruments and processes developed by CSIRO

This indicator lists a selection of hardware and software developments at the ATNF which are now in use at other organisations. Some examples are:

- ◆ **Karma visualisation software** developed at ATNF is used by more than 30 astronomical institutions.
- ◆ **Miriad data reduction software** jointly written at the ATNF and BIMA, is in routine use at radio astronomy institutions around the world.
- ◆ **ATNF digital correlator hardware and control software** are in use at the Tidbinbilla, Hobart, Ceduna, Hartebeesthoek, Jodrell Bank and SEST Observatories.
- ◆ **Multibeam observing techniques and data management systems** developed for the Parkes Observatory have been adopted by Jodrell Bank.
- ◆ **Components of AIPS++ software** including visualisation routines and fundamental measures, written at ATNF, are being used by several institutions including the Herzberg Institute for Astrophysics (Canada), Jodrell Bank and the Joint Institute for VLBI in Europe (JIVE).
- ◆ **Indium phosphide MMIC chips** are an essential component of the FARADAY (Focal-plane Arrays for Radio Astronomy: Design, Access and Yield) project, funded by the European Union. This is a co-operative program between the UK, The Netherlands, Poland, Italy and Australia that aims to produce prototypes of intergrated focal plane arrays and to study large arrays for future implementation.
- ◆ **ATNF engineers** are building a multibeam receiver for the Arecibo L-band Feed Array (ALFA). This seven-feed system, operating near 1.4 GHz, will allow extremely high sensitivity surveys to be conducted using the 305-m Arecibo telescope in Puerto Rico.

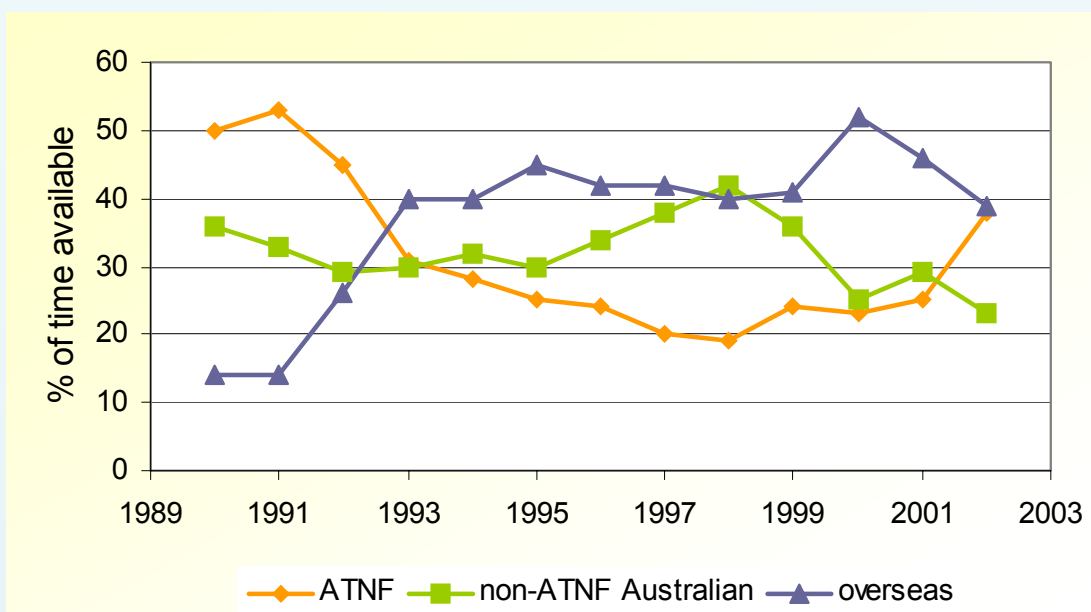


Figure 3 Compact Array time allocation, 1990 – 2002.

## 4 Time allocation on ATNF facilities

The allocation of time on the ATNF facilities is done on the basis of scientific merit. In 2002 a total of 205 proposals were allocated time on ATNF facilities (each proposal is counted once only per calendar year although some proposals are submitted two or three times). Of these, 138 were for the Compact Array, 48 were for the Parkes telescope, six were for the Mopra telescope and 13 were for the Long Baseline Array. A summary of the observing programs is given in Appendix D. Figures 3 and 4 show the time allocated to observing teams on the Compact Array and Parkes radio telescope as a percentage of the total allocated time, by affiliation of the team leader.

In 2002 the proposals allocated time on ATNF facilities included a total of 416 different authors. Of these, 42 authors were from the ATNF, 83 were from 13 other Australian institutions and 297 were from 126 overseas institutions in 24 countries. Figure 5 shows the number of authors from each country in 2002. Figure 6 shows the total number of institutions, authors and countries for the years 1999 – 2002.

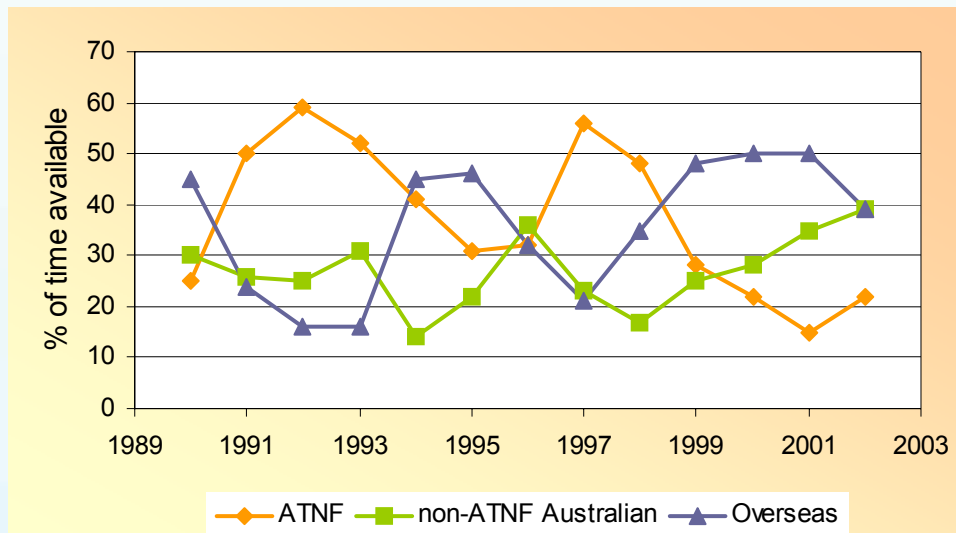


Figure 4 Parkes time allocation, 1990 – 2002.

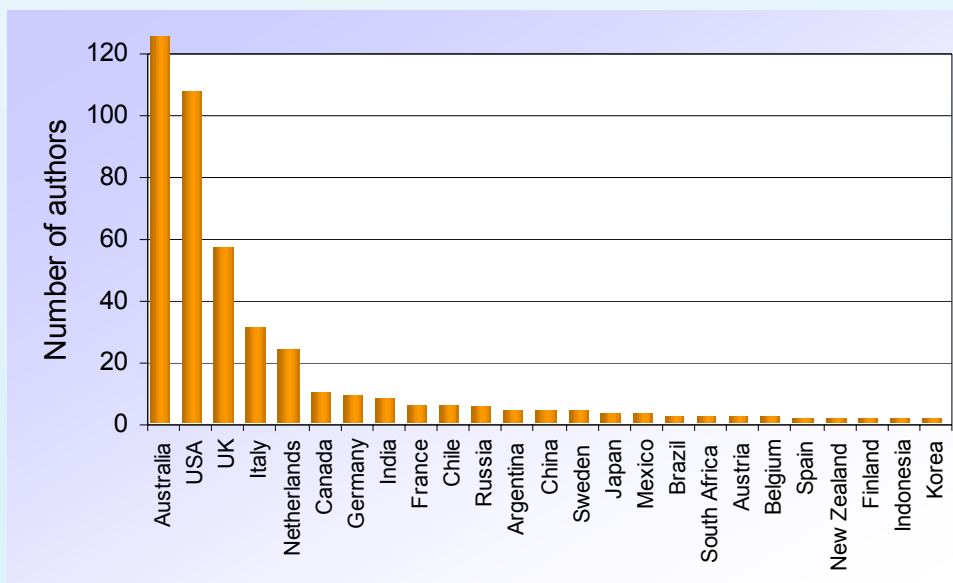


Figure 5 Australian and overseas participation, 2002.

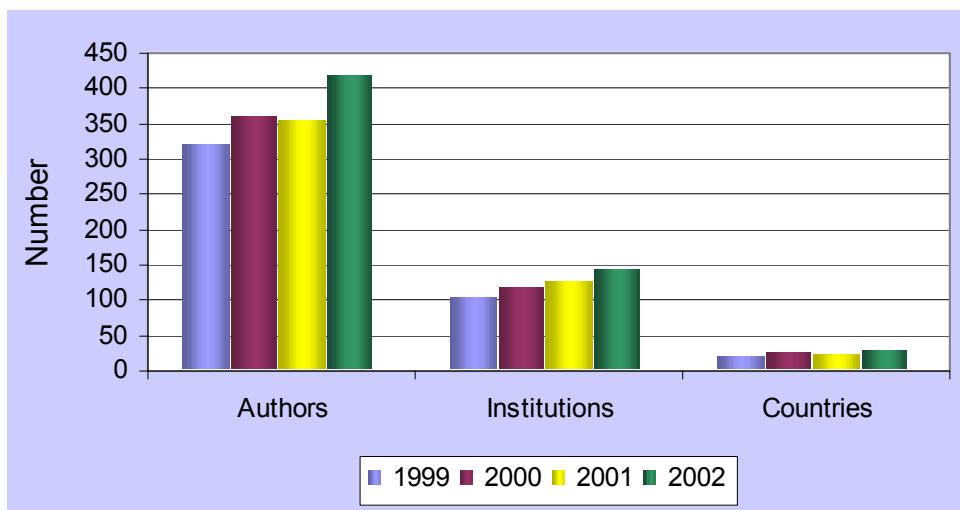


Figure 6 Australian and overseas participation in 1999 – 2002.

## 5 Teaching, measured by the number of postgraduate students supervised by ATNF staff

In December 2002 ATNF staff were co-supervising 26 PhD students. Their affiliations and project titles are listed in Appendix H.

## 6 Number of publications

Figure 7 shows the number of publications in refereed journals and conference proceedings, that include data obtained with the Australia Telescope. The publication counts include papers dealing with operations or data reduction but do not include IAU telegrams, abstracts, reports, historical papers, articles for popular magazines, or other papers by ATNF authors. Appendix G lists the 103 papers published in refereed journals and the 76 papers published in conference proceedings in 2002.

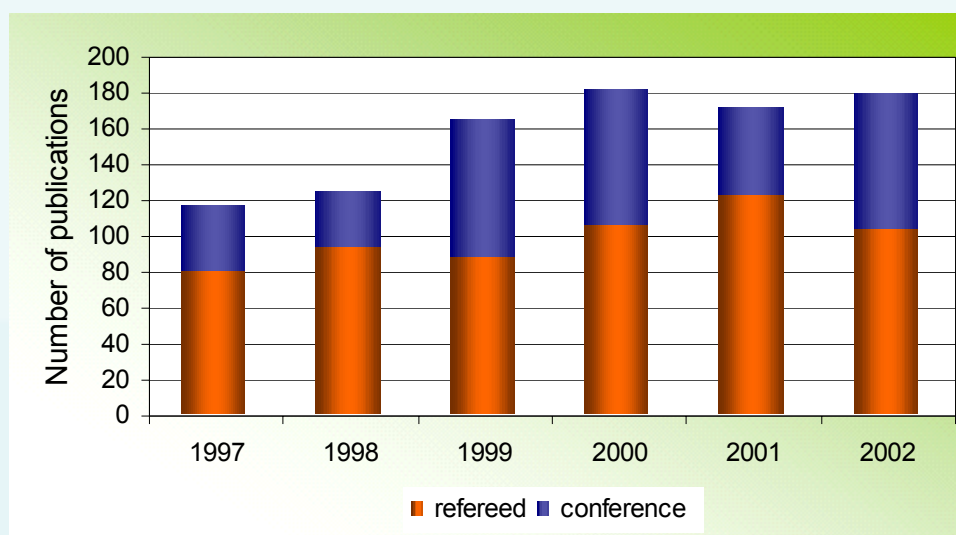


Figure 7 Papers from data obtained with the Australia Telescope, published in refereed journals and conference proceedings.

## 7 Public relations activities

Figure 8 shows public relations activities for the years 1999 – 2002. During the year the ATNF issued six media releases (Appendix F) and featured in at least 100 press items. ATNF staff gave at least 30 television interviews and 45 radio interviews while approximately 45 talks were given to school, university and community groups.

The numbers shown in Figure 8 have been verified where possible. However, the numbers for media reports (television, radio, newspapers) for all years are likely to have been undercounted.

Figure 8 also shows the number of web hits to the central ATNF website. This includes internal use by staff and hits generated by external search engines. The number of web hits increases from year to year, with 15.1 million hits recorded for 2002.

Figure 9 shows the number of visitors to the Narrabri and Parkes Visitors Centres. Approximately 10,000 people visited the Narrabri Visitors Centre in 2002. The number of visitors to the Parkes Visitors Centre increased greatly in 2001, following the release of the film *The Dish* in October 2000 and the opening of the new Visitors Centre building and upgraded facilities in March 2001. The increased number of visitors continued throughout 2002.



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*The Visitors Centre at the Narrabri Paul Wild Observatory attracts approximately 10,000 visitors each year.*

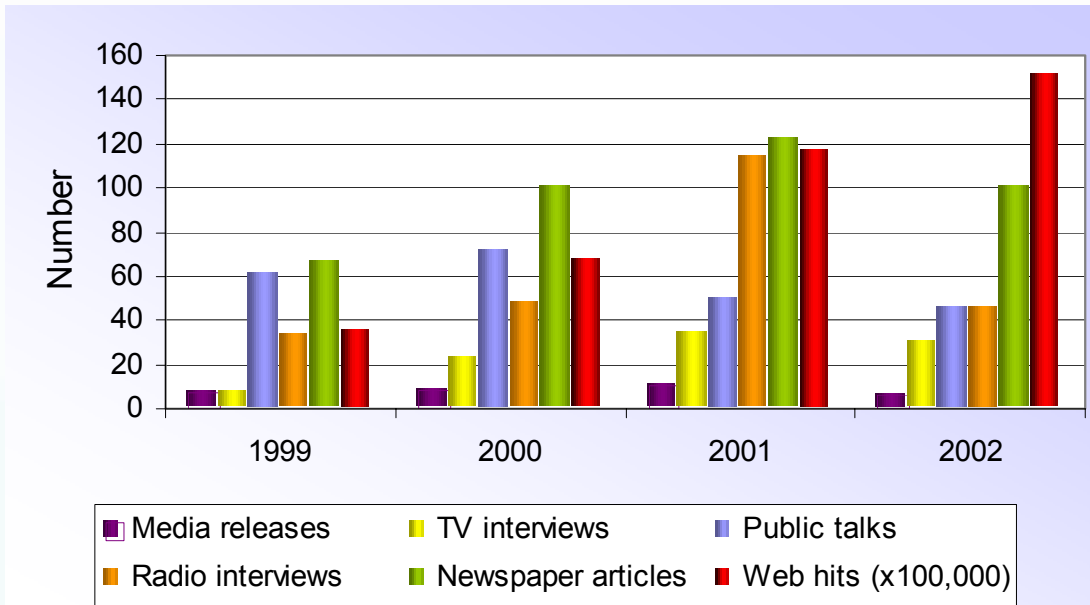


Figure 8 ATNF public relations activities.

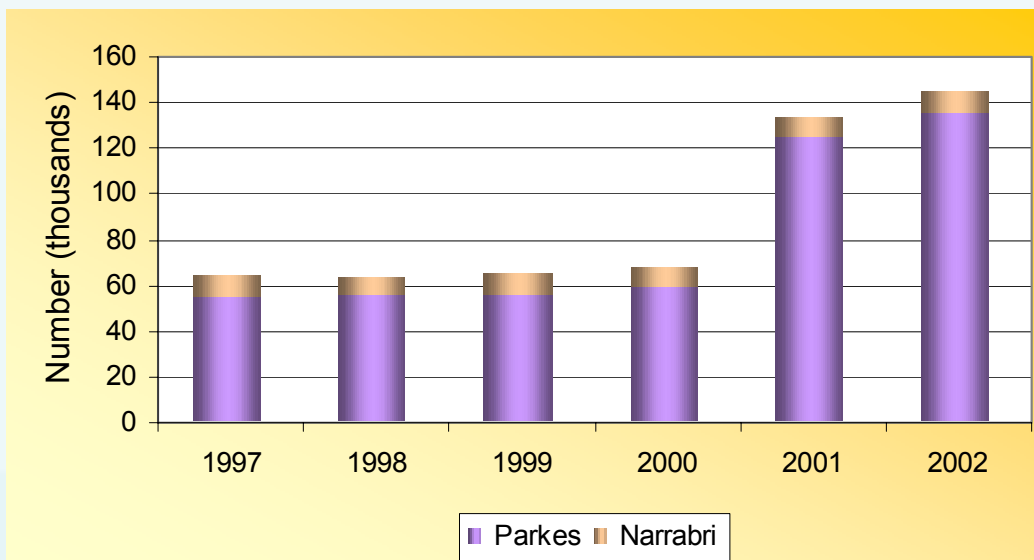


Figure 9 Number of visitors to the Parkes and Narrabri Visitors Centres.

## 8 User feedback at Narrabri and Parkes

Observers at the Narrabri and Parkes Observatories are asked to complete a user feedback questionnaire. Figures 10 and 11 show that the level of satisfaction with facilities provided is generally high. In 2002 the average over all items ranked was 85% for the Narrabri Observatory and 84% for the Parkes Observatory.

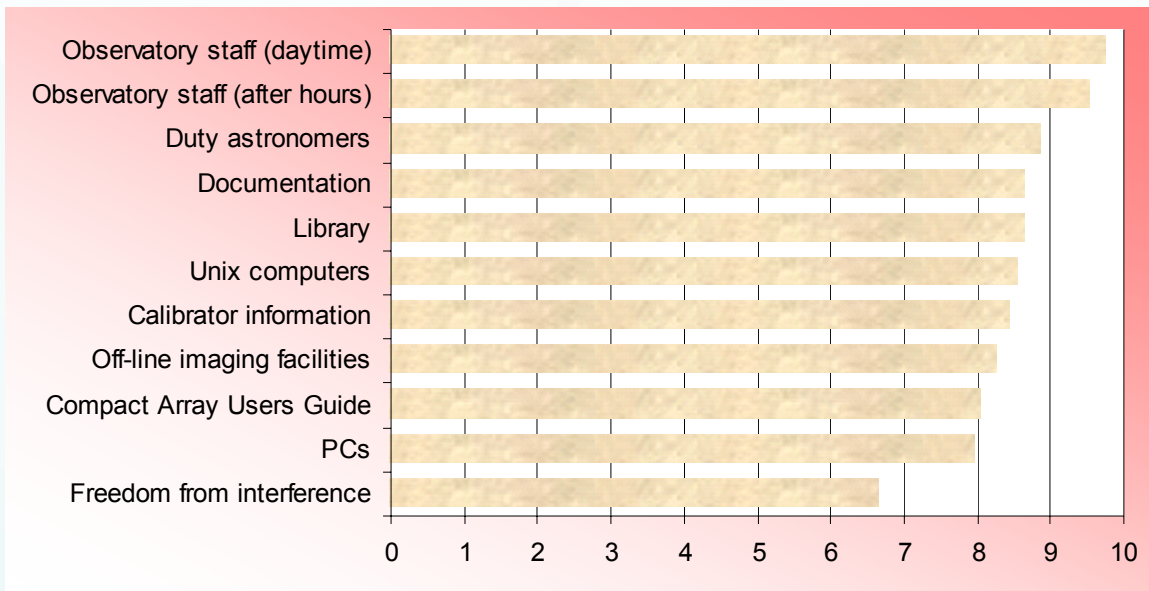


Figure 10 Narrabri user feedback on a scale of 1 – 10 where 1 = poor and 10 = excellent.

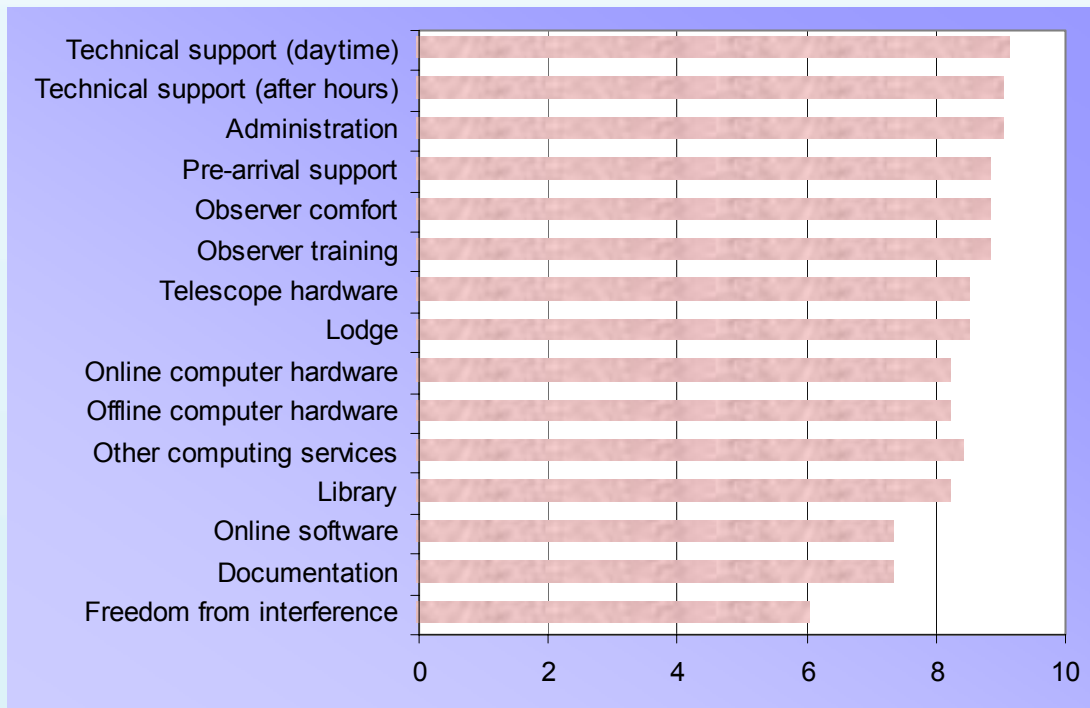


Figure 11 Parkes user feedback on a scale of 1 – 10 where 1 = poor and 10 = excellent.