Recap of Annual Report to the ARC Board of Governors

3.5m Director's Report

Nancy Chanover, Director

Ben Williams, Deputy Director



2026 Operations Summary

(see 3.5m Operations Report Slides for more details)

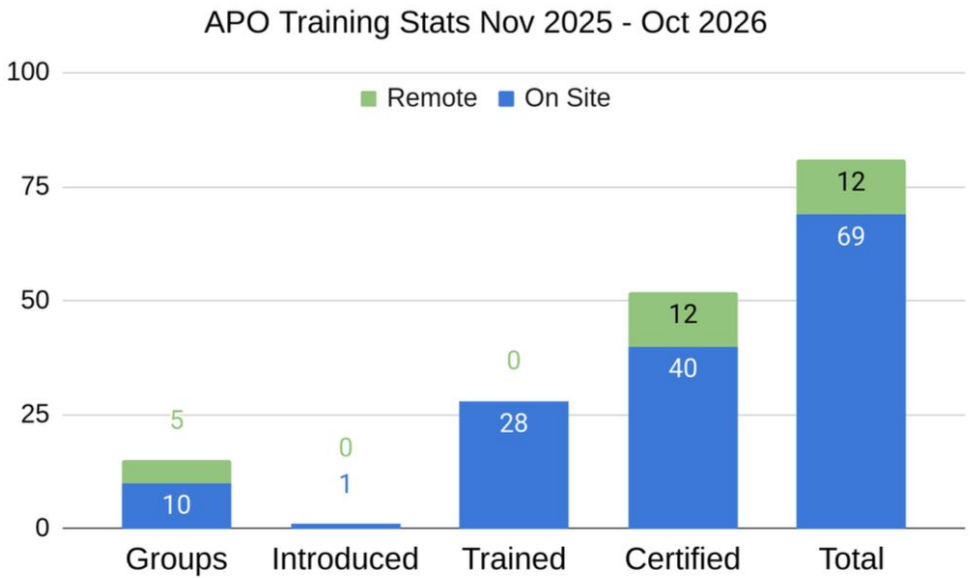
- Excellent telescope operations (0.3% loss time for equipment)
- Weather loss (38.5%) same as last year; on high end of normal variations seen over decade timescale
- M2 & M3 coatings degrading; planning mirror work in 2027 (M2/M3 recoating ~ $10k, M1 primary mirror band ~ $60)
- Site infrastructure review held in Feb. 2026 - working through recommendations
- Three new instrument efforts are underway



Training Summary

15 groups of observers (ranging from 1-16 people) were trained from Oct 2025 to Oct 2026!

52 observers became certified for solo remote observing, 30% through our virtual training program



Definitions:

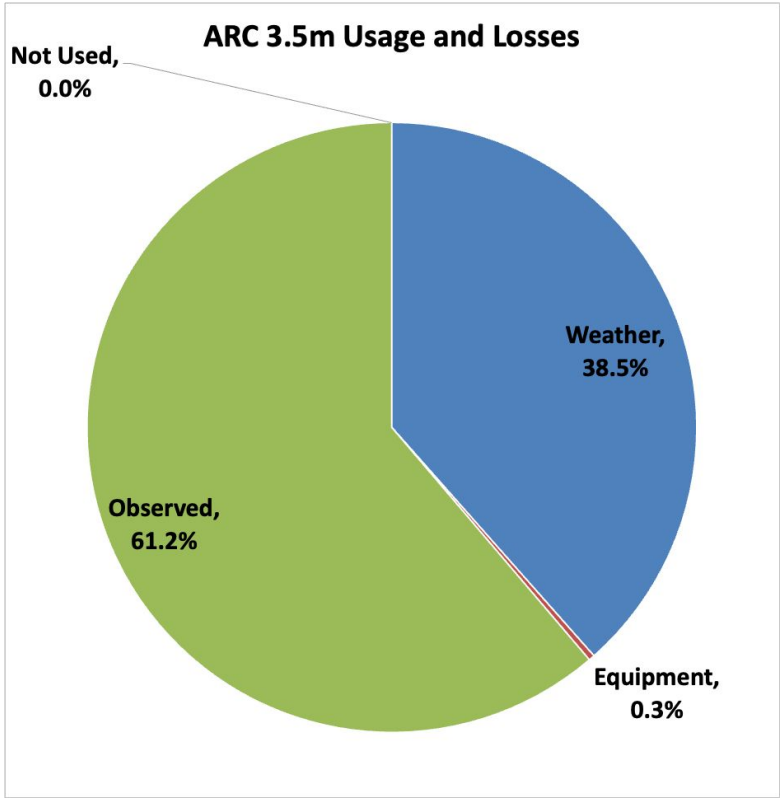
Certified: eligible for solo remote observing on the 3.5m upon completion of training

Trained: provided with a remote observing experience without the expectation that they will eventually be doing solo remote observing

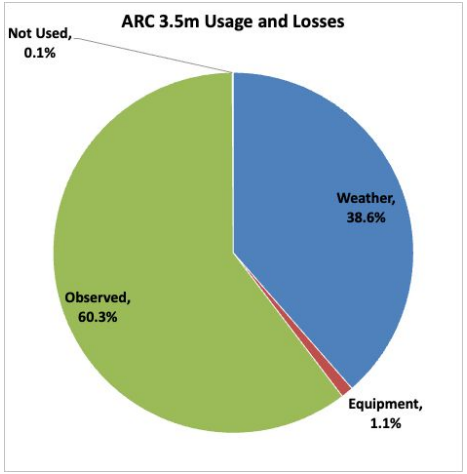
Introduced: given some experience with TUI but did not use 3.5m (due to weather or because using only ARCSAT)



ARC 3.5m 2026 Usage and Losses

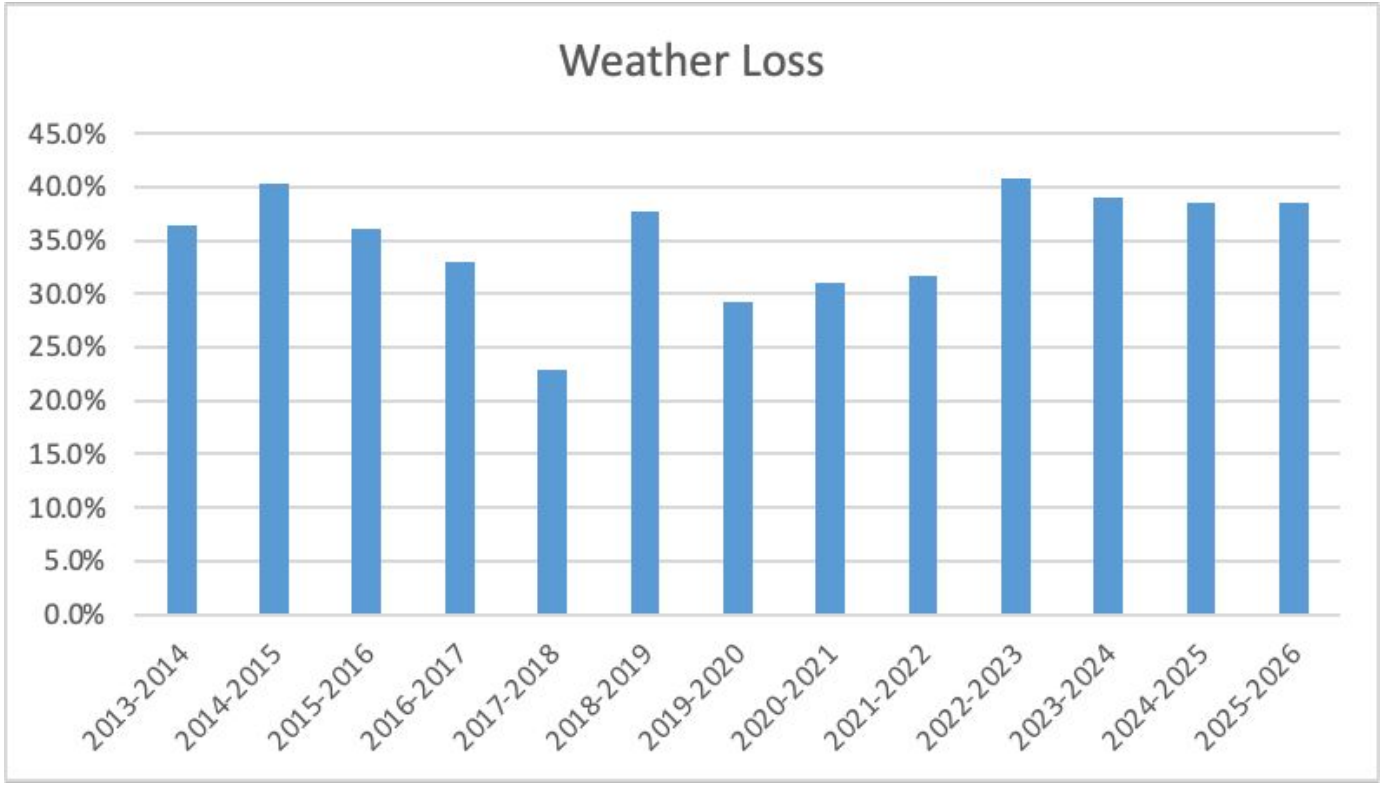


2025 data for comparison



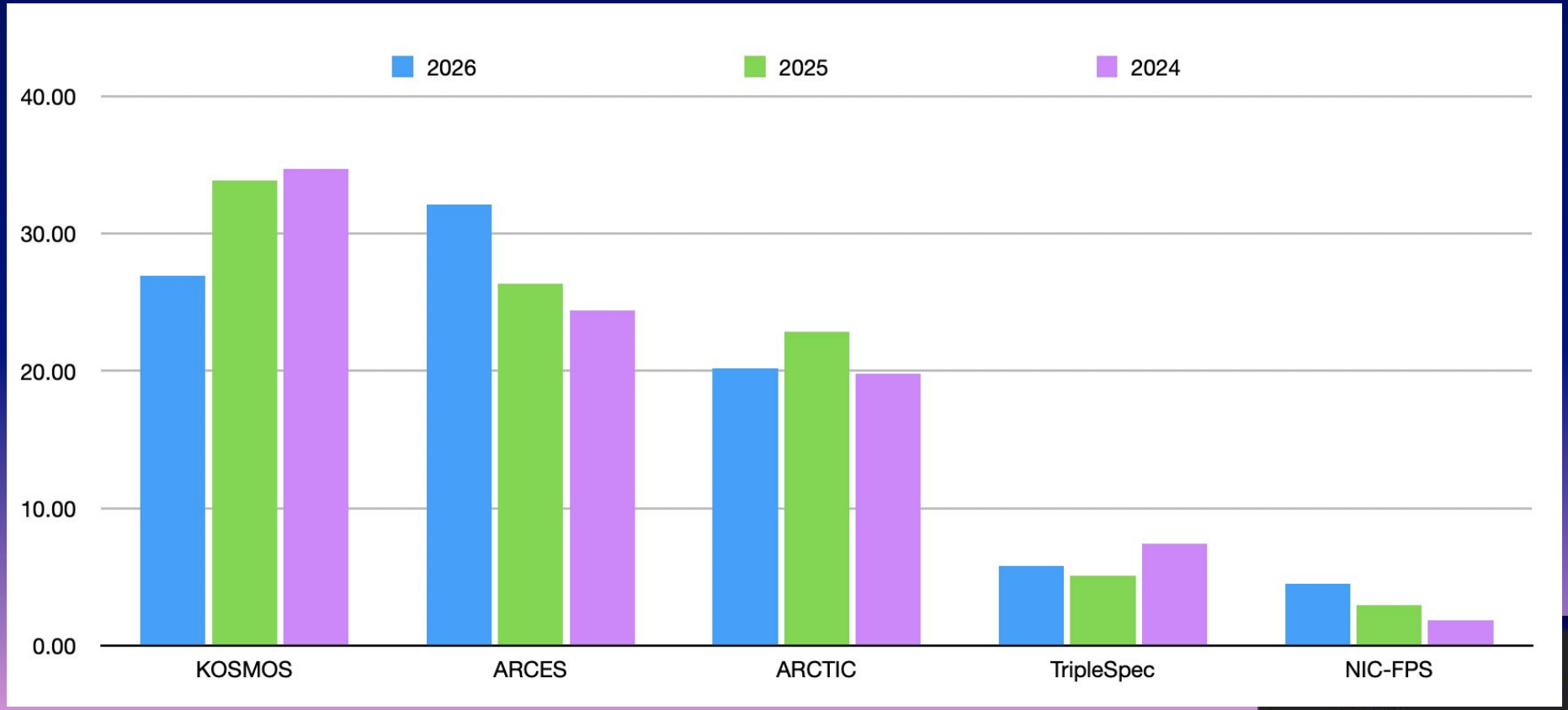


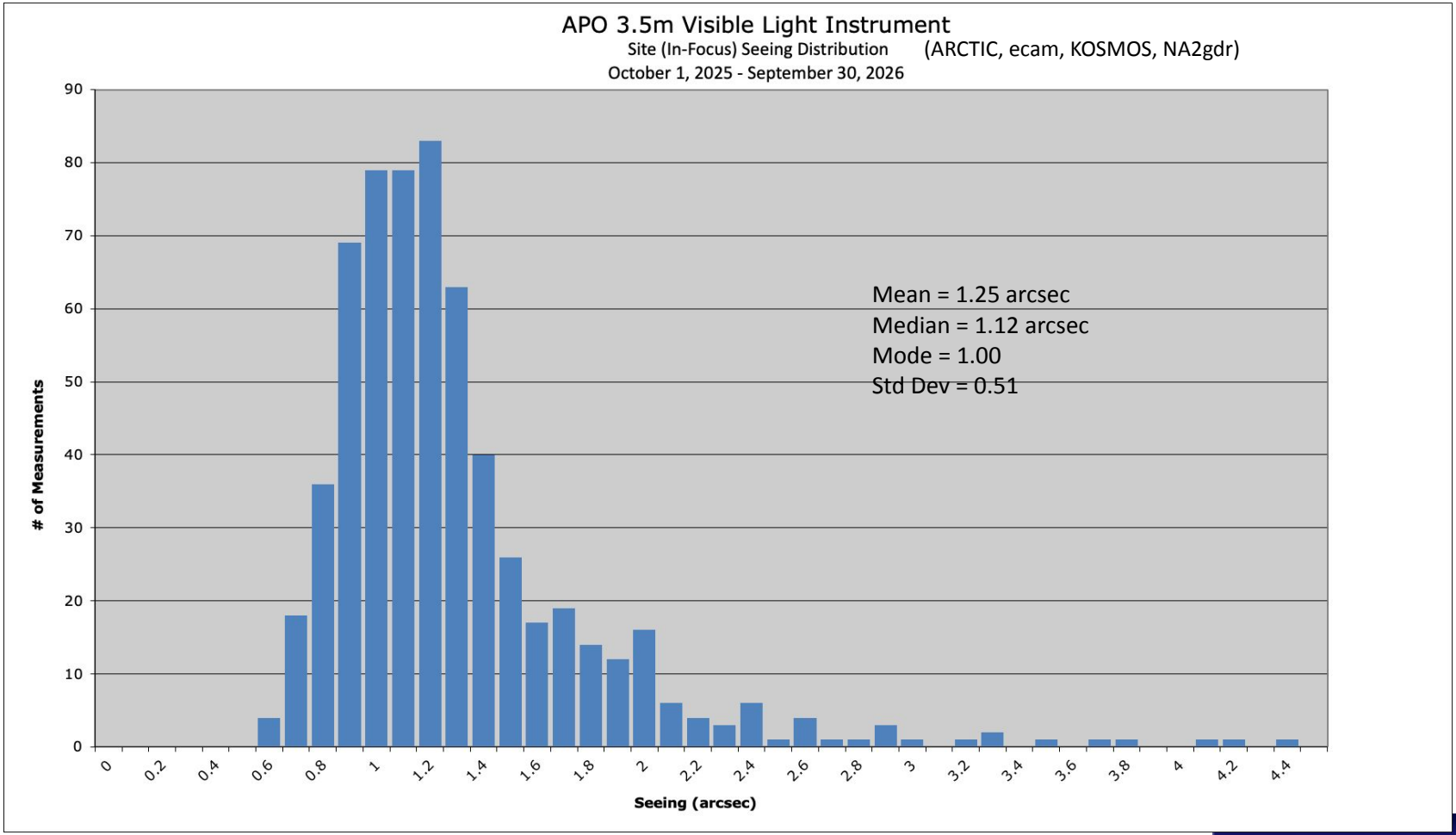
Historical Weather Data



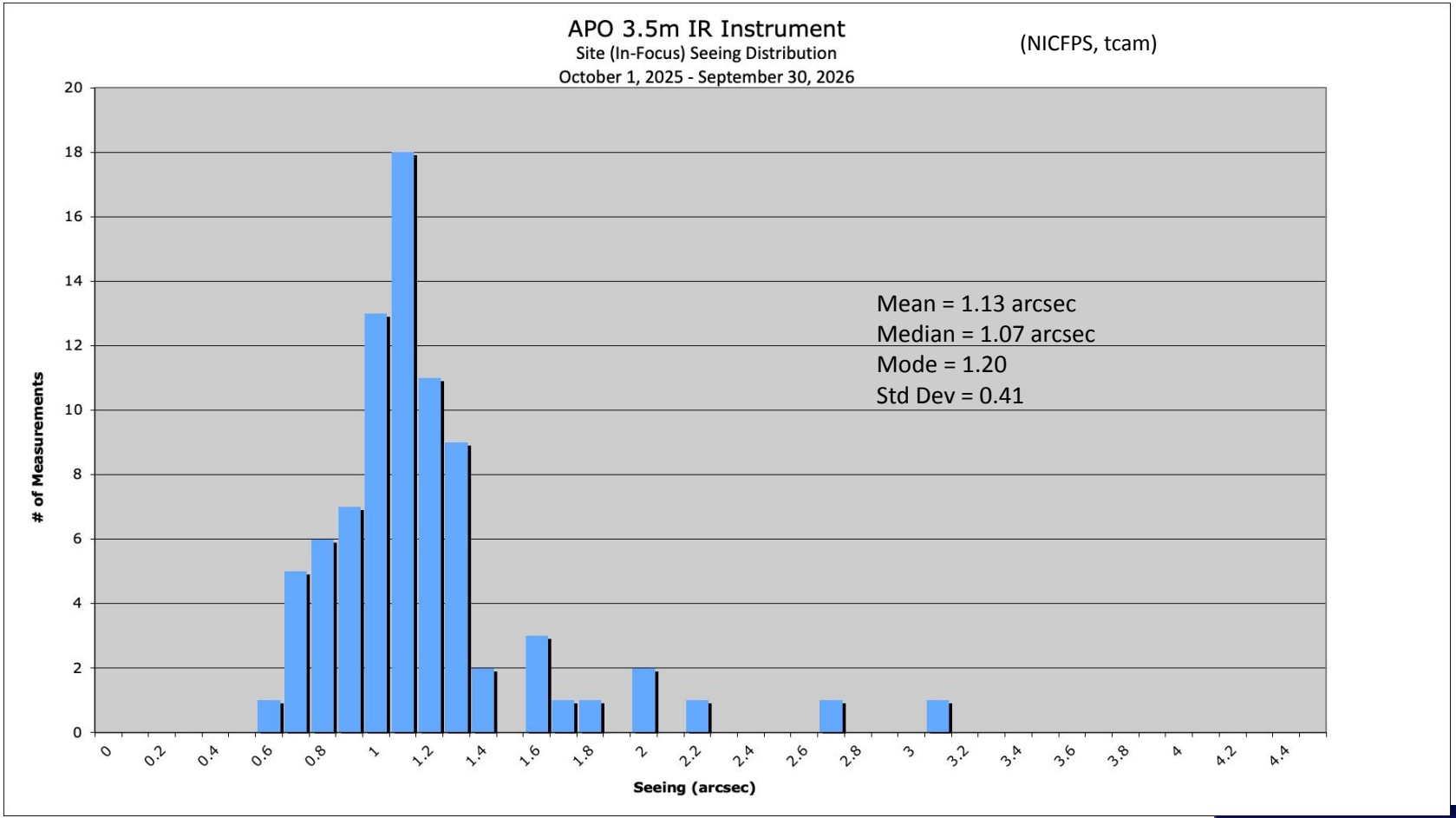


Facility Instrument Usage, 2024-2026




APO 3.5m Visible Light Instrument
Site (In-Focus) Seeing Distribution (ARCTIC, ecam, KOSMOS, NA2gdr)
October 1, 2025 - September 30, 2026
Mean = 1.25 arcsec
Median = 1.12 arcsec
Mode = 1.00
Std Dev = 0.51
# of Measurements
Seeing (arcsec)
0
10
20
30
40
50
60
70
80
90
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
2.2
2.4
2.6
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4




APO 3.5m IR Instrument
Site (In-Focus) Seeing Distribution
October 1, 2025 - September 30, 2026
(NICFPS, tcam)
Mean = 1.13 arcsec
Median = 1.07 arcsec
Mode = 1.20
Std Dev = 0.41
# of Measurements
Seeing (arcsec)
0
2
4
6
8
10
12
14
16
18
20
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
2.2
2.4
2.6
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4



Proposed Path Forward for ARCSAT

There is a CLEAR need and desire among ARC members for a functional ARCSAT option: "Overall, respondents expressed strong interest in remote access to a small-aperture telescope at APO to support research, training, and educational activities.." But: 50% of responses indicated that the current ARCSAT facility would not meet their future scientific and educational needs.

- Accept long-term loan of NIST gently used Planewave telescope
- Replace current 0.5m with NIST Planewave
- Estimated Cost: $75k (new mount, installation, engineering, DFM removal)
- To be paid for by:
  - Reallocate unspent DD funds from 2025-2026 ($14,465 + $13,000 = $27,465)
  - Add ARCSAT line item to budget ($50k in 2027 - to be evaluated annually)
  - Explore additional funding models (crowdsourcing? donations) for ARCSAT needs



Near-Term Action Items (for 2027)

Instrumentation - new	• Ocotillo: red channel PSR, commissioning, progress on other 2 • Proposals for ASPEN, complete CDR, start ADC build • SoonerCam completion, pre-ship review, commissioning
Instrumentation - existing	• Schedule more robust repair of KOSMOS cold strap connection • New ICC upgrades to replace aging computers and unsupported OS for several instruments • Complete DIS and Agile decommissioning
Site	• Continue website upgrades, implement login capability • Upgrade staffing model for technical day staff (w/SDSS, BK)
ARCSAT	• Move forward with proposed plan

