ALMA Cycle 13 Proposal Review: Process and Results

Joint ALMA Observatory
September 30, 2026

Overview

Cycle 13 saw exceptionally strong demand for ALMA observing time, setting new records both for the number of proposals submitted and the amount of time requested on the 12-m Array. A total of 1,839 proposals were submitted, requesting 37,471 hours on the 12-m Array. With 4,300 hours available, this corresponds to an overall oversubscription rate of 8.7. Demand was also strong for the Morita Array, with 15,848 hours requested on the 7-m Array and 10,919 hours on the Total Power Array. Of the 1,839 submitted proposals, 229 were assigned Grade A or B, corresponding to an overall acceptance rate of 12%. Figure 1 shows the growth in submitted proposals over recent cycles and the resulting oversubscription rate by ALMA region.

Cycle 13 also marked the first general proposal call offering Band 2. A total of 210 proposals requested Band 2 observations, making it the fourth most requested band in terms of observing time. Bands 6 and 7 continued to account for the largest fractions of the requested observing time.

The approved high-priority projects, together with their titles, abstracts, and investigator lists, are available on the ALMA Science Portal.

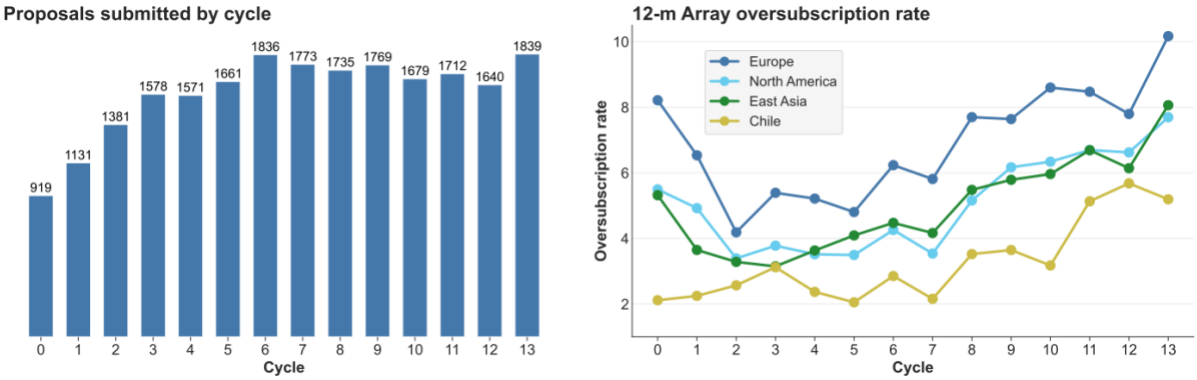

Figure 1 – Left: Number of submitted proposals by cycle. Right: Oversubscription rate per cycle by ALMA region.

Proposal Review

Large Programs were evaluated by the ALMA Proposal Review Committee (APRC), supported by 80 external Science Assessors. The APRC, consisting of 20 members and a chair, evaluated 47 proposals and provided recommendations to the ALMA Director. Four Large Programs were selected for the Cycle 13 observing program.

The remaining proposals were evaluated through ALMA's distributed peer review process. In this system, a member of each proposal team participates as a reviewer and evaluates ten proposals in areas matching their scientific expertise. In Cycle 13, 1,216 reviewers submitted nearly 17,900 reviews, reflecting broad community participation in the review process.

The final scientific ranking was used together with operational considerations to construct the observing queue. In addition to scientific priority, the scheduling process takes into account factors including the distribution of time among ALMA Executives, the array configuration schedule, receiver bands, weather conditions, and right ascension. This allows ALMA to make efficient use of the available observing time and can result in lower-ranked proposals being selected when they help fill otherwise undersubscribed observing conditions.

Cycle 13 Results

A total of 229 proposals were assigned Grade A or B, requesting 4,257 hours on the 12-m Array, 2,089 hours on the 7-m Array, and 1,739 hours on the Total Power Array. The combined Grade A+B allocation on the 12-m Array is slightly below the nominal 4,300 hours because of the expected carryover of unfinished Grade A projects from Cycle 12.

Grade C proposals provide additional flexibility for scheduling. These proposals can be executed when weather, configuration availability, or observing efficiency allow additional projects to be accommodated. Additional low-frequency proposals were also included to make use of poor-weather conditions, while high-frequency proposals were included for execution during periods of exceptional weather.

ALMA time on the 12-m Array was allocated according to the regional shares of the ALMA partners: Chile (10%), East Asia (22.5%), Europe (33.75%), and North America (33.75%), with an additional Open Skies component available to proposals from any country. Regional balance was maintained separately for Grade A and Grade B proposals. The 7-m and Total Power Arrays are not subject to the same regional balancing requirements. The detailed results by region, science category, and receiver band are presented in Tables 1-3.

Table 1 – Submitted and accepted proposals by region

	Chile (CL)	East Asia (EA)	Europe (EU)	North America (NA)	Open Skies	Total
Submitted Proposals						
Number of proposals	119	417	687	543	74	1,839
12-m Array time (hours)	2,233	7,800	14,750	11,165	1,522	37,471
7-m Array time (hours)	1,106	4,553	4,740	4,974	476	15,848
Total Power Array time (hours)	350	3,962	3,123	2,955	530	10,919
Oversubscription rate (based on 4300 h offered in each array)						
12-m Array	5.2	8.1	10.2	7.7	N/A	8.7
7-m Array	2.6	4.7	3.3	3.4	N/A	3.7
Total Power Array	0.8	4.1	2.2	2.0	N/A	2.5
Grade A & B projects						
Number of proposals	23	50	65	89	2	229
12-m Array time (hours)	420	966	1,420	1,418	33	4,257
7-m Array time (hours)	30	528	611	920	0	2,089
Total Power Array time (hours)	28	508	352	851	0	1,739
Grade C projects						
Number of proposals	25	65	86	68	12	256
12-m Array time (hours)	328	818	1,178	1,201	144	3,670
7-m Array time (hours)	454	1,309	1,138	1,057	155	4,114
Total Power Array time (hours)	16	1,120	818	726	172	2,852

*Table 2 – Submitted and accepted proposals by science category**

	Category 1	Category 2	Category 3	Category 4	Category 5	Total
Submitted Proposals						
Number of proposals	402	429	495	415	98	1,839
12-m Array time (hours)	10,849	8,085	8,065	8,856	1,617	37,471
7-m Array time (hours)	1,504	5,068	6,919	1,663	694	15,848
Total Power Array time (hours)	0	4,463	6,231	152	73	10,919
Grade A & B projects						
Number of proposals	46	58	64	47	14	229
12-m Array time (hours)	1,184	1,025	979	826	243	4,257
7-m Array time (hours)	190	403	1,201	282	12	2,089
Total Power Array time (hours)	0	552	1,186	0	0	1,739
Grade C projects						
Number of proposals	55	66	85	45	5	256
12-m Array time (hours)	1,115	855	919	726	55	3,670
7-m Array time (hours)	297	1,702	1,915	181	19	4,114
Total Power Array time (hours)	0	1,314	1,537	1	0	2,852

* The five ALMA science categories are (1) Cosmology and the high redshift universe, (2) Galaxies and galactic nuclei, (3) ISM, star formation and astrochemistry, (4) Circumstellar disks, exoplanets and the solar system, and (5) Stellar evolution and the Sun.

Table 3 – Requested and accepted observing time by receiver band

	12-m Array time (hours)		7-m Array time (hours)		TP Array time (hours)	
	Submitted	**Grade A & B**	**Submitted**	**Grade A & B**	**Submitted**	**Grade A & B**
Band 1	1,865	110	787	118	N/A	N/A
Band 2	3,169	532	N/A	N/A	N/A	N/A
Band 3	4,394	574	3,382	480	3,132	636
Band 4	2,071	162	343	3	133	0.3
Band 5	1,477	70	452	6	239	0
Band 6	10,700	1,368	6,267	758	5,509	966
Band 7	10,187	1,115	2,366	345	1,063	54
Band 8	2,129	208	1,117	164	844	82
Band 9	1,045	92	923	208	N/A	N/A
Band 10	434	26	209	7	N/A	N/A

Table 4: Acceptance rate for various proposal types

Proposal Type	Number Submitted	Number Grade A & B	Acceptance Rate
Overall			
All	1,839	229	12%
Morita Array (ACA)	404	57	14%
Morita Array (ACA standalone)	150	28	19%
By science category			
Category 1	402	46	11%
Category 2	429	58	14%
Category 3	495	64	13%
Category 4	415	47	11%
Category 5	98	14	14%
Selected proposal types			
Large Programs	47	4	9%
Joint Proposals	91	10	11%
Target of Opportunity	31	10	32%
VLBI	17	4	24%
* For Grade A+B+C, ACA standalone proposals had a 65% acceptance rate.			

Four Large Programs were accepted for Cycle 13. The selected programs include a detailed investigation of the circumstellar environments of evolved AGB stars; a deep 1-mm survey designed to provide a complete census of star formation in an extragalactic deep field; observations aimed at connecting the embedded and evolved stages of circumstellar disks; and a broadband study of the environments in which solids evolve toward planetary systems. The selected Large Programs are:

1. *ChANCE: Characterising the AGB Near-Circumstellar Environment* (2026.1.00380.L)
   PI: Wouter Vlemmings (EU); coPIs: Theo Khouri (EU)

2. *A complete census of star formation in the best-studied extra-galactic deep field: a public 1mm survey* (2026.1.00514.L)
   PI: Mark Swinbank (EU); coPIs: James Dunlop (EU), Edo Ibar (CL), Alexandra Pope (NA), Kotaro Kohno (EA)

3. *BRIDGE: Bridging embedded and evolved disks by Resolving Internal Disk and Global Envelope structures* (2026.1.00702.L)
   PI: Masayuki Yamaguchi (EA); coPIs: Jinshi Sai (EA), Ilseung Han (EU), Asako Sato (EU), Naoto Harada (EA), Miyu Kido (EA), Ayumu Shoshi (EA)

4. *PEBBLES: Protosolar-system Environments with BroadBand Look at Evolution of Solids* (2026.1.00994.L)
   PI: Takahiro Ueda (EA); coPIs: Akimasa Kataoka (EA), Lucas Cieza (CL), Michiel Lambrechts (EU), Luca Ricci (NA)

Overall, the acceptance rate (Grade A+B) of proposals requesting the 12-m Array is 12% (i.e., 1 in 8.3 proposals), highlighting the highly competitive process. The acceptance rate is similar across scientific categories and proposal types, with VLBI and Target of Opportunity proposals having the highest acceptance rates (see Table 4). Figure 2 shows the acceptance rate of proposals versus the requested observing time on the 12-m Array: there is no strong dependence on requested time, so that relatively small, medium, and large time requests have similar acceptance rates.

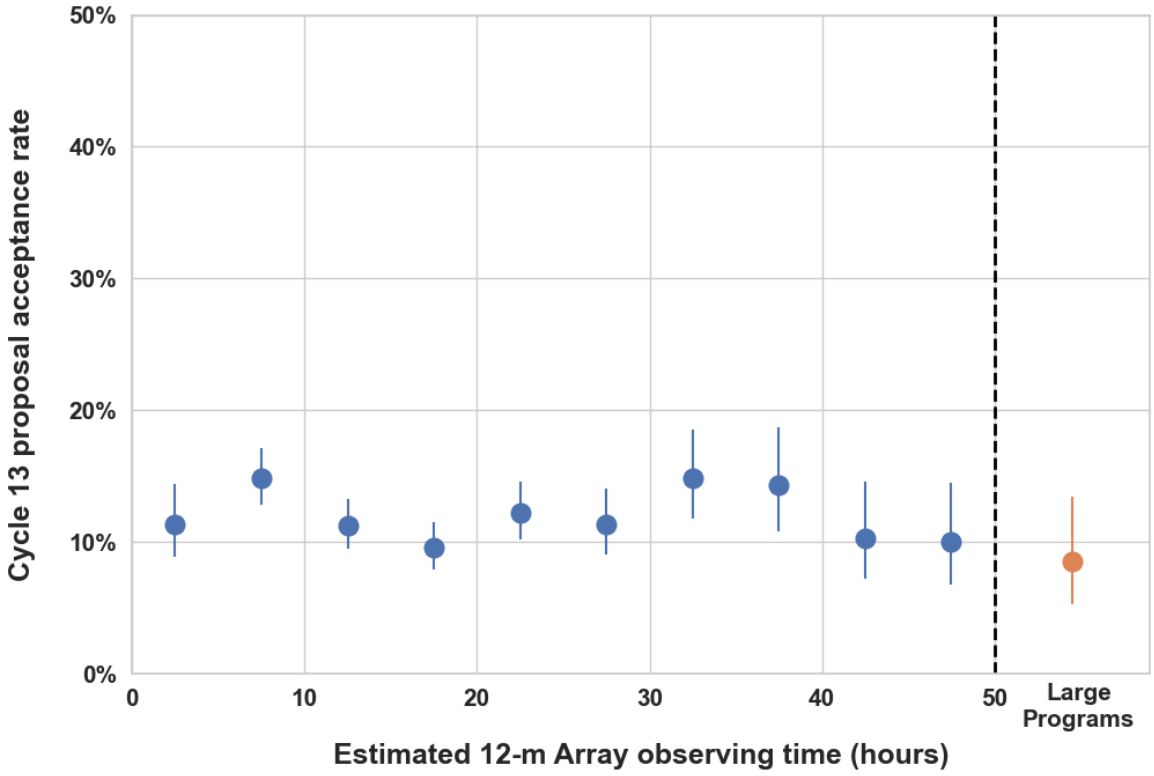

Figure 2 – Percentage of submitted proposals assigned priority Grade A and B as a function of the estimated 12-m Array execution time. The error bars are one sigma uncertainties from Poisson statistics.

Figures 3–5 show the distribution of Grade A and B observing time by ALMA region, science category, and receiver band. The awarded time closely follows the distribution of requested time across the science categories and receiver bands. Note that because each distribution is normalized to its own total, a category or band with an above-average acceptance rate can show a larger accepted share than submitted share even though its absolute accepted hours are smaller (e.g., Bands 2 and 6 in Figure 5 for the 12-m Array).

Bands 6 and 7 continue to account for the largest fractions of the requested and allocated observing time. The newly commissioned Band 2 was the fourth most requested band and also the fourth most accepted band. This demand foreshadows the impressive science enabled by the Band 2 capabilities, both in terms of expanding ALMA's frequency coverage and providing more flexible line combinations.

At the highest frequencies, additional proposals were retained as Grade C to provide flexibility for observations during the best weather conditions. Overall, 43% of Band 9 proposals and 26% of Band 10 proposals were accepted as Grade A, B, or C and will receive priority for execution when conditions permit.

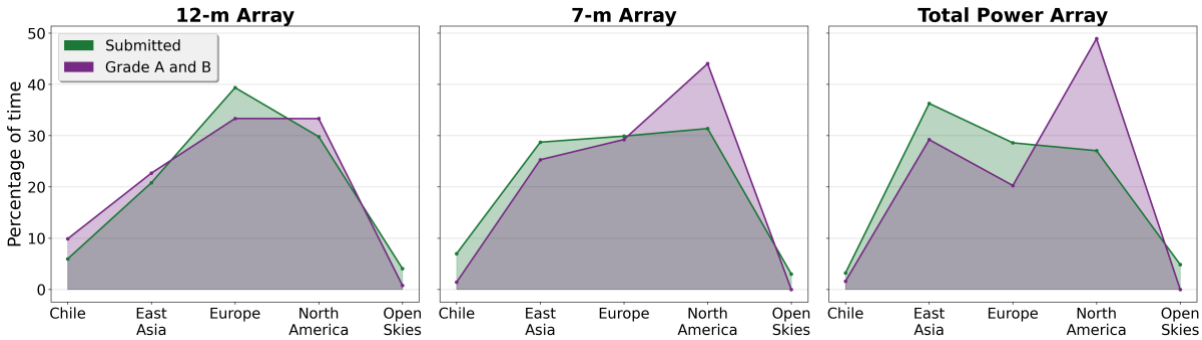

Figure 3 – Distribution of submitted and Grade A and B observing time by region, expressed as a percentage of the respective total observing time.

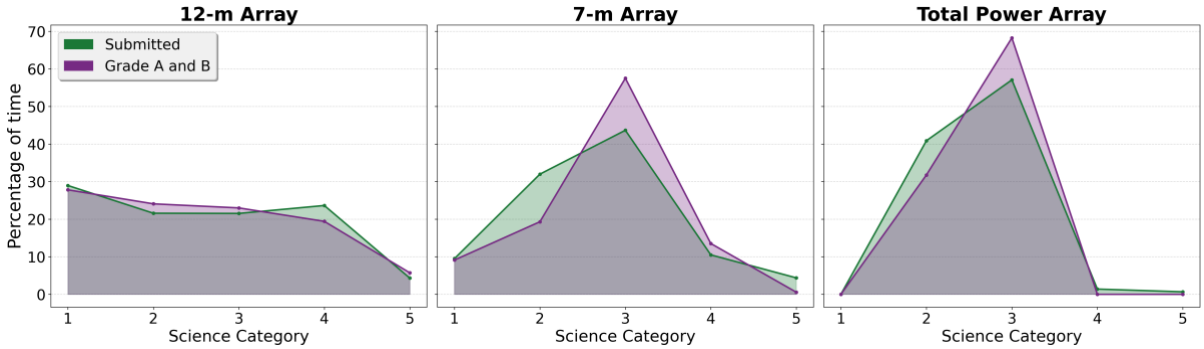

Figure 4 – Distribution of submitted and Grade A and B observing time by scientific category, expressed as a percentage of the respective total observing time.

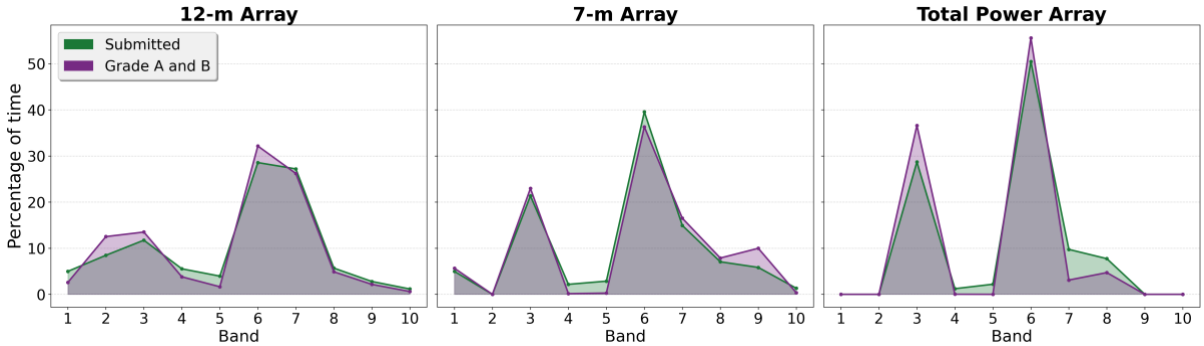

Figure 5 – Distribution of submitted and Grade A and B observing time by receiver band, expressed as a percentage of the respective total observing time. Note that Band 2 was not offered on the 7-m Array, and Bands 1, 2, 9, and 10 were not offered on the Total Power Array.

Results from the Cycle 13 reviewer survey

In Cycle 13, reviewers were asked to rate the quality of 10 randomly selected reviews for proposals they also assessed. The reviewers were asked to rate the quality of reviews as:

- **High quality**: The review provides clear, specific, and constructive feedback that effectively identifies the proposal's strengths and weaknesses.
- **Adequate**: The review offers some useful insights but lacks the detail, clarity, or specificity needed to be fully effective.
- **Low quality**: The review fails to provide meaningful feedback, contains significant errors, or adopts an unprofessional tone.

A total of 371 reviewers participated (30% of all reviewers), providing 5,270 quality assessments. This represents a significant increase relative to Cycle 12, where 228 reviewers (20% of reviewers) provided 3,420 evaluations. Figure 6 shows the results of the survey in comparison to Cycle 12. In Cycle 13, 59% of the reviews were rated as high quality, representing a modest increase from Cycle 12. Correspondingly, the percentages of reviews rated as adequate and low quality decreased from 36% to 31% and from 10% to 9%, respectively.

Figure 7 shows that positive assessments are similar across all career stages of the reviewers who wrote the reviews. These results indicate that most reviewers provide constructive feedback, while also highlighting the need to strengthen our guidance and training to further improve review quality in future cycles.

Acknowledgements

ALMA thanks the members of the ALMA Proposal Review Committee, the external Science Assessors, and the more than 1,000 astronomers who participated in the distributed peer review process. Their time and expertise are essential to the development of ALMA's observing program and to the continued success of the proposal review process.

The Cycle 13 APRC was chaired by Professor Hideko Nomura and included the following panelists:

Eiji Akiyama
Laura Bonavera
Viviana Casasola
Carl Ferkinhoff
José Fonfría
Helen Fraser
Misato Fukagawa
Naoki Isobe
Matt Jarvis
Mihkel Kama
Hiroyuki Kaneko
Karen Masters
Gijs Mulders
Erik Rosolowsky
Carmen Sánchez Contreras
Patricio Sanhueza
Peter Scicluna
Masayuki Tanaka
Kazuki Tokuda
Youngjoo Yun

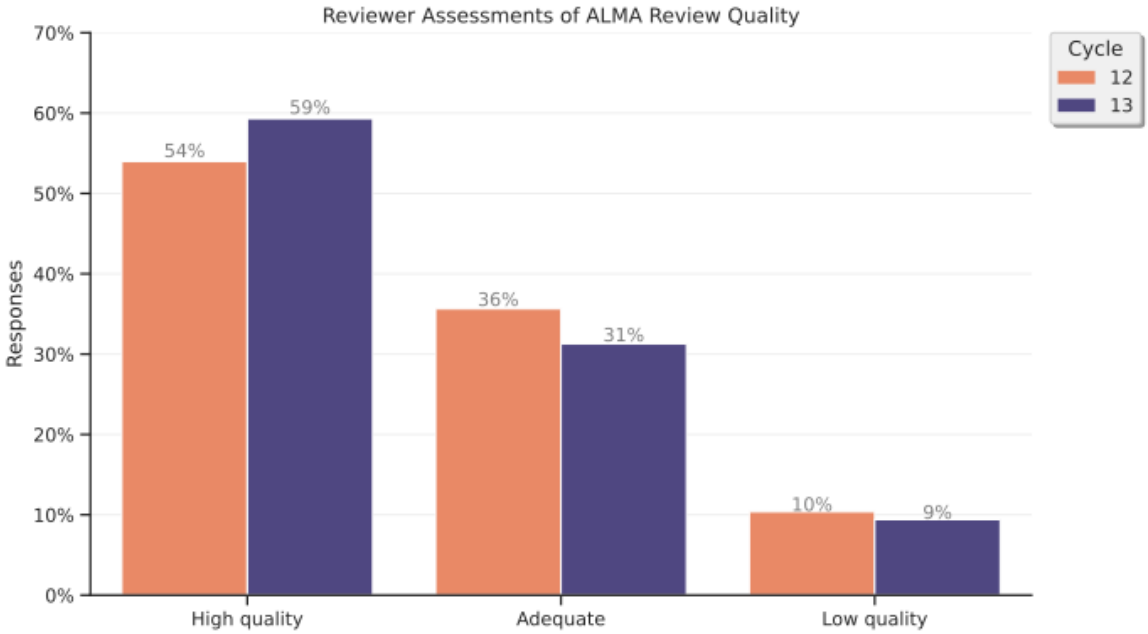

Figure 6 – Histogram of review quality as rated by reviewers in Cycles 12 and 13.

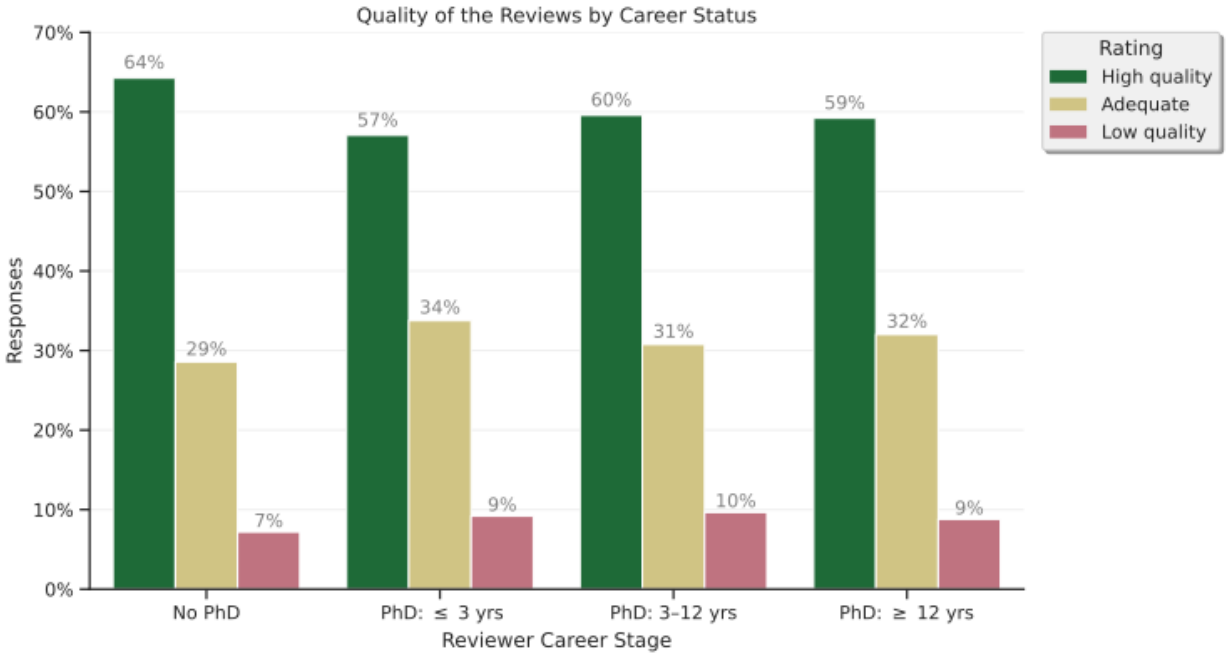

Figure 7 -- Quality of the Cycle 13 reviews by the career status of the person who wrote the review.