

Spain fact sheet prepared by María Rosa Zapatero Osorio. April 2019.

In 2019 ESO Users Committee survey, 32 replies from “Spanish” users have been obtained through the web poll from frequent ESO and ALMA/ESO users, which represents 5.78% of all participants to the poll. All 32 respondents are ESO and/or ALMA users. Only 26 of them completed the full questionnaire by providing complete responses. This year's participation has been moderately higher than in the previous call by a factor of 1.45; no obvious explanation is found, except for an increasing interest from Spanish users in providing useful information to the ESO and ALMA-ESO Users Committee in preparation for the next meeting, and the increasing participation of postdocs to the poll. The summary of the responses appears next.

- The great majority of the respondents (84.4%) are permanent staff (40.6%) or postdoctoral fellows (43.8%) working at Spanish institutions. The participation of the non-permanent staff (excluding postdoctoral fellows) is at the level of 12.5%. No Ph D student has participated to the poll, which contrasts with the relatively high participation in previous calls.
- Nearly all respondents (87.5%) are the Principal Investigators (PIs) or active co-investigators (co-Is) of their proposals over the past four periods (P100-P103).

INSTRUMENTS

- About 40.6% of the participants to the poll are ALMA users. Only 2 participants have used APEX over the past four periods.
- From the replies to the poll, the most demanded VLT instrument is MUSE (34.4%) followed by NACO (18.8%) and X-SHOOTER (18.8%). UVES (15.6%) and SPHERE (12.5%) are occupying the third position in the list of demanded instruments by the Spanish respondents. Less demanded instruments (<10%) are FLAMES, FORS, HAWK-I, SINFONI, VISIR, AMBER, GRAVITY, and CRIRES.
- At La Silla, the most demanded instrument is HARPS (6.3%) followed by EFOSC2 (3.1%).
- A modest number of 8 participants (25%) have applied to VLTI in the past. The great majority (75%) has never applied to VLTI: 58.4% of them declare that VLTI is “not relevant for their research”, 16.6% envisage submitting a VLTI proposal in the future, and the remaining 25.0% openly admit that they do “not know how to reduce/analyze such data”, which is a significant number of participants.

ESO PUBLIC SURVEYS (special topic in 2019)

- A considerable number of respondents (75%) declare they know about the ESO Public Surveys, while 25% of the participants are not aware of these surveys.
- This, however, does not correlate with the participation in an ESO Public Survey as PI or co-I over the last 10 years, where the great majority of the participants (68.8%) have not been part of any ESO Public Survey, and only a small fraction (6.4%, i.e., two participants) has given their support mainly to the spectroscopic Gaia-ESO project, which is now completed. 25% of the participants (out of a total of 32) did not complete this question.
- These two participants declare they have not reduced the data of the Public Survey they collaborate (therefore, no incidents to report regarding this topic), and that they are satisfied with the scheduling and progress of the Public Survey and the communication with ESO during the duration of the Public Survey.

- One of the participants involved in ESO Public Surveys has published between 1 and 3 peer-reviewed papers using the reduced data from the ESO Public Survey, while the second participant also involved in ESO Public Surveys has published more than 5 refereed papers.
- From the limited number of replies to this question, it is inferred that half of the respondents consider it an advantage to have a Public Survey rather than a typical Large Program because the former tends to have larger amount of data.
- Very importantly, the two participants involved in Public Surveys indicate that they “would participate in a Public Survey again”. No particular reasons are specified.
- About 62.5% of the respondents to the poll (20 replies to this particular question) have not used data from ESO Public Surveys in which they were not PI or co-I in the last 10 years. This high fraction contrasts with the low number of participants to the poll who have used these data, particularly from ESO Public Surveys VPHAS, Gaia-ESO, and VST/ATLAS OmegaCam, mainly as supporting and complementing material for preparation of additional observations. A modest number of users have employed these data for the investigation of a research idea.
- The Spanish participants declare that they learn about the availability and scientific potential of ESO Public Survey data via the three following mechanisms: ESO Science Newsletter announcements, ESO Archive, and from talks at conferences (the latter is the most successful mechanism).
- The majority of the respondents use the ESO archive interface for downloading the Public Surveys data. The second most used interface is a VO-compliant tool. No problems to report regarding data download processes.
- Half of the ESO Public Surveys data users have reduced the raw data themselves and have published between 1 and 3 papers based on data in which they were not PI/col. They are, in general, satisfied with the data products (either raw or higher level products). A small degree of dissatisfaction comes from:
 - The lack of sufficiently reliable data quality flags that would allow to assess the signal-to-noise ratio of the data.
 - Description of how the quantities are obtained, e.g., are the magnitudes corrected for extinction/reddening?

ALMA

- Of the ALMA Spanish users (13 participants to the poll), 12 have obtained ALMA time in Cycle 4, 5 or 6.
- The satisfaction with the ALMA proposal review process is strongly biased towards the “Satisfied and OK” answers (67%), but 25% of the respondents to this particular question are “very dissatisfied”. A summary of the most useful and/or repeated comments follows:
 - Reviewers should have contrasted expertise in Radioastronomy.
 - Better control on the quality and scientific/technical content of the consensus reports.
 - The panels should find the right balance between high risk / high gain proposals (panels tend to be conservative, this needs to be corrected).
- ALMA Spanish users declare they have received sufficient support from the assigned contact scientists.
- As for the satisfaction with the delivered data products, 84.6% of the respondents are “satisfied” and “OK”; only 15.4% are “dissatisfied or very dissatisfied”. The reasons for the unhappy answers are the following:
 - Wrong angular resolution of the beam (was ok in one axis, very poor in the second axis, thus rendering the data useless).

- High proper motion is not taken into account when combining data of different epochs.
- Calibrated UV data are necessary and should be included in the final products.
- ALMA Spanish users did not travel to an ALMA ARC node to obtain face-to-face support.

ESO

- Among the ESO users respondents, 33.3% found that the OPC feedback on proposals has no value against the 66.7%, who considered the OPC feedbacks to be useful for improving their proposals. These values represent a significant change with respect to last year's results: the "happiness" of the respondents has increased considerably by reducing the "unhappy" replies.
- A total of 18 participants replied positively to be part of the OPC. The Spanish representative of the ESO Users Committee has contacted the Spanish community in this regard, and new nominees have been added to the poll of OPC nominees by the time of writing this report. However, this number does not reach 18!!!
- Of the total of 26 respondents to this question, 8 participants (57.5%) did obtain time as PI / co-I in service mode in the last four periods, 73% of which have worked on Phase 2 and are "very satisfied" and "satisfied" with the new "p2" tool. Interestingly, there is no "unsatisfied" or "very unsatisfied" reply.
- There is also satisfaction with the way ESO communicates about the progress of service mode observing runs.
- Only 2 participants have been visitor observers over the last four periods, and the two of them are very satisfied with their experience as visitor observers (no suggestions for improvement are provided).
- About 54% of the respondents to this particular question have reduced ESO data, which compares with the 46% (out of a total of 26 replies) that have not. Gasgano, ESORex and fully homemade pipelines are equally used tools for the data reduction. Very similar replies are obtained when the users are asked for their "favourite" tool once they become familiar with the instrument and when they do not know the instrument well.
- The "happiness" with the ESO pipelines is at the level of "satisfied" and "ok". There is no "very unsatisfied" reply. Suggestions for improvement of the pipelines:
 - Support for Gasgano on Mac OS X.
 - Error messages should be more informative on what is going wrong.
 - A verbose option is welcome in order to know what the pipeline is doing in every moment.
 - The installation procedure should indicate the required versions of all the packages to be used.
- When asked if there are any further calibration / reduction steps required to achieve the scientific goals, 43% of the respondents replied positively:
 - Optimal extraction of longslit spectra.
 - Correction of tilt in 2D extraction mode in UVES data.
 - Telluric correction.
 - A tool to extract the polarimetric information (imaging and spectroscopy) from the FORS data.
- A total of 12 participants to the poll contacted ESO help desk and they find ESO's replies "very helpful" and "helpful". No "not helpful" reply is provided, which is very positive.

ARCHIVES and PHASE 3

- Of a total of 26 respondents, 57.7% have used raw data from the ESO/ALMA Archive including Public Survey data. Positively, all of them are "very satisfied" and "satisfied"

with the overall ESO/ALMA Archive data services. There are a few suggestions for improvement:

- MUSE: Flux calibrated cubes and the final combination of individual exposures would be appreciated.
 - Simbad links to sources.
 - Include calibrated UV data (ALMA).
- Contrary to ESO/ALMA archive of raw data, only 38.5% of the respondents (out of a total of 26 participants) have used Phase 3 products, and the remaining 61.5% declares to have never used this service. Phase 3 users are in general satisfied (no “dissatisfied” and “very dissatisfied” replies).

MISCELLANEOUS

- Half of the Spanish users employ MacOS operating system when using ESO tools, the other half employs Linux.
- Only 15% of the participants has issued a press release (PR) in collaboration with ESO PR service in the last four periods. The remaining 85% has not. There is a general satisfaction with this ESO service, but a concern was mentioned on the transparency of the decisions (when the PR is accepted and when it is not).
- No big issues are reported with the ESO User Portal accounts.
- The following table summaries the replies to the question “which of the following do you read?” ESO PRs and ESO Science Newsletter are frequently read by Spanish users.

	Always	Sometimes	Never
ESO Press Release	19 %	73 %	8 %
ESO Science Newsletter	46 %	35 %	19 %
ESO Messenger	19 %	50 %	31 %