



Dr. Joseph Mazzarella, NED Science Lead
Dr. George Helou, NED Principal Investigator
Infrared Processing and Analysis Center
Caltech/JPL, MS 100-22
770 South Wilson Avenue
Pasadena, CA 91125

December 15, 2025

Dear Joe, George, and members of the NED Team,

This is a report of the NED Users Committee (NUC) meeting with the NED team held in person at IPAC in Pasadena and over zoom on November 6, 2025. At this meeting we heard updates from the NED team on a thorough database restructuring, improvements in the data ingestion pipeline including AI-assisted ingestion, plans for incorporating redshift independent distances, new TDAMM capabilities, and other work done since our last meeting in person and via zoom in October 2024. We also heard from Dr Alessandra Aloisi at NASA Headquarters and discussed the status of the federal budget as far as was known in light of the shutdown that extended from October 1 through November 12.

We continue to be impressed with the multifaceted work the NED team does to provide the community with a robust, adaptable database and to facilitate open access to science. NED remains unique among other archives in providing multi-wavelength, cross-matched, and authenticated data that helps to maximize the science return from NASA datasets. NED further continues to play a crucial role in enabling new NASA science as evidenced by the consistently high rate of published papers directly citing NED, the uptick in database hits leading up to NASA telescope deadlines, and the service requests that more than doubled from 2023 to 2024. There have been multiple external pressures this year and the NED team continues to lead the field in the development of new tools and innovative ways to support the astronomical community.

The NUC was impressed with the multi-faceted approach of the NED team to make improvements that are both user-facing and behind-the-scenes. Since our last meeting the number of NED objects with redshifts increased by over 300,000, and the user interface now includes the identification of physical type and EM region for each source. The NUC was impressed with the new APIs and looks forward to assisting with testing them. The NUC was happy to see the impressive statistics now available from the semi-automated vetting incorporated into the Source Integration Pipeline and that it is working to cut down on the team's workload. We see the tremendous efforts the NED team is making to support the time domain community including improvements to the gravitational wave follow-up service and the Local Volume Sample. The NED team has forged several important collaborations including with NASA ACROSS and through attendance at a variety of relevant conferences. The NUC is happy to see the NED team's continued prioritization of open access to science through their effective and well-attended talks and workshops at the annual AAS meetings.



Following what we heard and discussed at this meeting, our recommendations to the NED team are as follows:

Ingestion of New Datasets

1. Continue to pursue the ingestion of the most relevant large datasets. The NUC supports the NED team's focus on surveys with spectroscopic redshifts over those with photo-z's.
2. Continue to leverage connections within IPAC and the NUC to enable timely ingestion of these new datasets. The NUC was glad to see a schedule for ingestion from Euclid and SphereX in the planned milestones. We encourage the NED team to prioritize the timeliness of these plans and suggest using their successful efforts with DESI as a model for these future missions/surveys.
3. Continue to pursue efforts that shift the preparation of literature data for ingestion from the NED team to authors and/or journals as much as possible. For example, investigate the idea of a NED data-ready tool that could become a standard part of the paper writing process. Such a tool could help build a load file behind the scenes as an author writes the paper/table. This tool would include checks for proper source names in an author's paper draft, similar to the AI name recognition tool that is being investigated for use after publication. Authors could potentially be incentivized to use the tool if it does additional tasks like checking articles for malformed coordinates, missing uncertainties, and other deviations from best practices in publishing data.

TDAMM Priorities

4. Continue to investigate the feasibility of developing a probabilistic host association tool for nightly alert transient streams. The NUC sees NED being most impactful in searches for transient and alert host galaxies. NED's strength is providing vetted knowledge of potential hosts, and thus NED is uniquely posed to serve this need for the TDAMM community. As an example, a user would be able to customize the search with prior information about the host starting with coordinates and then, if applicable, redshift and other host parameters like star formation rate. Ideally such a tool would be ready for the first alerts from Roman.
5. Consider the implementation of a flag on the redshifts to indicate whether or not they are ambiguous. Such a flag would be helpful in the TDAMM use cases but also for general galaxy studies.
6. To encourage more widespread adoption, investigate whether integrating the NED tools with some of the brokers giving the alerts is feasible, especially given the new APIs.
7. Continue to work with the NASA ACROSS initiative so that NED is included in those cross-coordination efforts.
8. Continue to give talks at conferences where people are presenting related science. The NUC was impressed by the initiative taken by the NED team to attend gravitational wave conferences to present NED tools, as well as their continued presence at ADASS, IVOA, ADEC, and AAS.
9. Continue to pursue the creation of a new Time Domain tab containing convenient links to past or ongoing transient events. If budget constraints allow, the planned timeline for this tab could be swapped with the timeline for the transient-host alert service.



Expanding NED's Reach

10. Take advantage of the extensive outreach efforts underway for the Nancy Grace Roman Telescope by including a "How to astroquery NED" tutorial in the Roman notebooks being shared with users.
11. Investigate ways to use the NED Ambassadors more effectively. One possibility is to incorporate the "teach-the-teacher" model of the NITARP and ALMA Ambassadors programs. NED Ambassadors could attend a workshop at IPAC where they are given the materials and background to host their own workshops back at their home institutions that familiarize their communities with NED (incl. specific NED use cases, best practices for publishing, how to use NED as a student learning tool, etc.). Other examples could be calling upon NED Ambassadors to create short videos on how to conduct certain use cases in NED or to develop tutorials for how to incorporate NED into undergraduate/graduate classroom activities.
12. Consider a visiting scientist program for professors or researchers on sabbatical to spend time with the NED team and help develop tools as visiting scientists at IPAC.
13. Consider alternative funding sources, particularly for the strategies that involve the use of AI. The NUC was impressed by the efforts of the NED team to lead the field in exploring ways to use AI to ingest sources from the literature. Some potential sources of funding/support could be students or interns to conduct AI projects. The NUC recognizes that these funding opportunities would not be self-sustaining but could be used to develop tools that are.

Community Outreach & Communication

14. Set up an auto-communication with authors when their data is successfully ingested.
15. Consider a program where authors are given an "open access science star" when their data is published using NED best practices. Their research could be featured on the NED pages, a form of visibility that is particularly helpful for early career scientists. The gold star could further serve as recognition that authors can put in their data management plan when submitting future proposals.
16. Extend the communication of the best practices outlined in Chen+22 by sharing them with referees as well as authors.
17. Confirm that the table examples in the templates provided by the AAS and MNRAS journals follow NED best practices.
18. Continue to plan for a user survey in 2026. The NUC was glad to see a user survey to identify what functionalities of NED users rely on most on the schedule for next year. The Astrophysics Archives Programmatic Review proposal clearly defines important use cases that can only be done with NED, including cases for SED fitting and cross-matching. Are all of these use cases accessed equally? The NUC reiterates our offer to help design this user survey.

We are, as usual, incredibly impressed with the clever and resourceful work of the small NED team. This update was very responsive to the suggestions from the last NUC report and we appreciate the careful consideration of our past advice.



Sincerely,
The NED User's Committee
Dr Pauline Barmby, University of Western Ontario
Dr Rachael Beaton, Space Telescope Science Institute
Dr Brad Cenko, NASA Goddard Space Flight Center and University of Maryland
Dr Anthony Kremin, Lawrence Berkeley National Laboratory
Dr Mark Lacy, National Radio Astronomy Observatory
Dr Preethi Nair, University of Alabama
Dr Antonella Palmese, Carnegie Mellon University
Dr Ohad Shemmer, University of North Texas
Dr Sabrina Stierwalt, Occidental College (Chair)