



Minor Planet Center updates

CENTER FOR
ASTROPHYSICS
HARVARD & SMITHSONIAN

Matthew Payne & Federica Spoto
Center for Astrophysics | Harvard & Smithsonian

February 4, 2025
IAWN open session



New MPC Technical Lead

Peter K. G. Williams, the new MPC Technical Lead



The MPC is pleased to welcome Peter K. G. Williams as our new *Technical Lead*.

Peter completed his undergraduate work at [Harvard](#) and earned his PhD at the [UC Berkeley Department of Astronomy](#), where he conducted some of the first scientific studies using the [Allen Telescope Array](#).

In 2012, he joined the Center for Astrophysics as a postdoctoral researcher in [the group of Prof. Edo Berger](#), mainly doing multiwavelength time-domain studies of ultracool dwarfs, gravitational-wave event counterparts, and other variable phenomena.

From 2018 to 2022 Peter held a joint appointment as the Innovation Scientist of the CfA and the [American Astronomy Society](#) (AAS), and as Director of the [WorldWide Telescope](#) project. More recently, in 2023–2024 he led the [DASCH](#) project, overseeing [DASCH Data Release 7](#). Peter started his new role at MPC on December 30th. For more information about Peter, please visit his [website](#).

https://data.minorplanetcenter.net/media/newsletters/MPC_Newsletter_Jan2025.pdf

OBSERVERS

DATA

NEW

STATUS



What's New?

Newsletters

Our goal for these newsletters is to communicate to our users any recent developments, to solicit feedback from the community, and make our processes as transparent as possible.

2025

- [January 2025](#):
In this month's issue: ADES submissions, WAMO tool updates, website performance issues, scheduled migration of the Lead.

2024

- [January 2024](#):
In this month's issue: 'moved to development' tickets, the NAP (NEOCP Automatic Processing) code, negative reports, ne
- [February 2024](#):
In this month's issue: the past impactor 2024 BX1, MPC's new services and APIs (MPC Explorer, Designation Identifier),
- [March 2024](#):
In this month's issue: MPC Explorer (New features, documentation page, Known issues tab), Observations API, Comets a tool).
- [April 2024](#):
In this month's issue: MPC Documentation Upgrades, "New" Documentation, PostgreSQL replicated tables, MPC Users G
- [May 2024](#):
In this month's issue: MPC User Group Meeting, Jira updates, numbering update, request for archival astrometry for unc
- [June 2024](#):
In this month's issue: Subcommittee for singletons and archival observations, summer students, meetings, hiring updat

Monthly Newsletter:

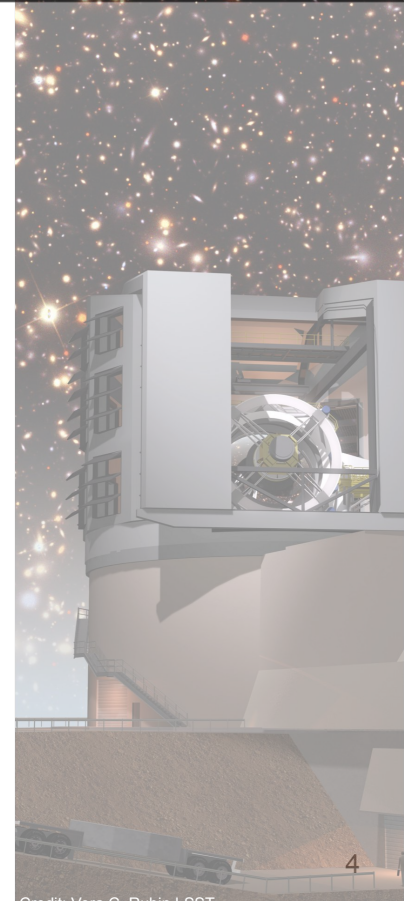
- Always available on the MPC website
- Contains information about recent developments, recommendations for the community, updates on MPC staff, recent resolved issues or recurring problems and future plans

Work in progress



Working towards getting ready to receive and process the new influx of information coming from Vera Rubin/LSST (August 2025) and NEO Surveyor (late 2027/early 2028)

1. Improve and adapt our current systems
2. Create new interfaces that will allow an easier access to the data
3. Improve the documentation
4. Develop new pipelines to better handles the vast amount of data



MPC Explorer

[Designated Objects](#) [NEOCP](#) [Documentation](#) [Known issues](#)

Search for a designation, e.g. Benu, A1234, 1, 401P, Jupiter X, K23A00B, 2024 AA, 2019JD24, C/2019 Y4, CK18Y010, S/2020 S1, SK03J020

Selected Object: [123456](#) ⓘ

[Designation](#) [Observations](#) [Orbit](#)

Id Type	Values
Permanent ID	123456
Name	None
Object Type	Minor Planet
IAU Designation	(123456)
Unpacked Primary Provisional Designation	2000 W0137
Unpacked Secondary Provisional Designations	
Packed Permanent ID	C3456
Packed Primary Provisional Designation	K00WD70
Packed Secondary Provisional Designations	

Download JSON

Database centric functionality that will work as a replacement for our db_search

Available Now- data continuously updated

- Designations and Identifications
- Observations
- NEOCP
- **Orbits - NEW**

Coming Soon

- Discovery information details

Access Methods

- Web-forms
- API

URL & QR-Code

- <https://data.minorplanetcenter.net/explorer/>



From the last newsletter (Jan 25)

WAMO Tool Updates

New format

The WAMO API has been updated to use a new format. While requests in the old format (e.g. `{\"return_type\": \"string\", \"obs\": [\"Lm9FfWAI0000GY2D0100001I\", \"Lm9FfWAI0000GY2D0100001J\"]}`) are still accepted, they will be deprecated on **March 1, 2025**. A deprecation notice is now appended to API responses.

Updating your requests

Python example:

```
import requests
url = "https://data.minorplanetcenter.net/api/wamo"
obs_list = ['Lm9FfWAI0000GY2D0100001I', 'Lm9FfWAI0000GY2D0100001J']

# For obtaining results in machine-readable format (JSON), please use:
result_json = requests.get(url, json=obs_list)
observations_json = result.json()

#For results returned as string (same as before), please use:
result_str = requests.get(url, json=['string'] + obs_list)
observations_str = result.text
```

Curl Example:

```
# For results in JSON format, please use:
curl https://data.minorplanetcenter.net/api/wamo -H "Content-Type:application/json"
--request GET --data ['\"ST0D452 703\"]'

# For results in string format, please use:
curl https://data.minorplanetcenter.net/api/wamo -H "Content-Type application/json"
--request GET --data ['\"ST0D452 703\", \"string\"]'
```

The WAMO webpage at <https://minorplanetcenter.net/wamo/> remains functional with minor updates to

ADES Submissions

While preparing our December 2024 Newsletter, we noticed a slight increase in the number of observations submitted in the MPC 1992 80-column format. While this format remains accepted, we strongly encourage users to submit observations in the ADES format for improved accuracy and efficiency.

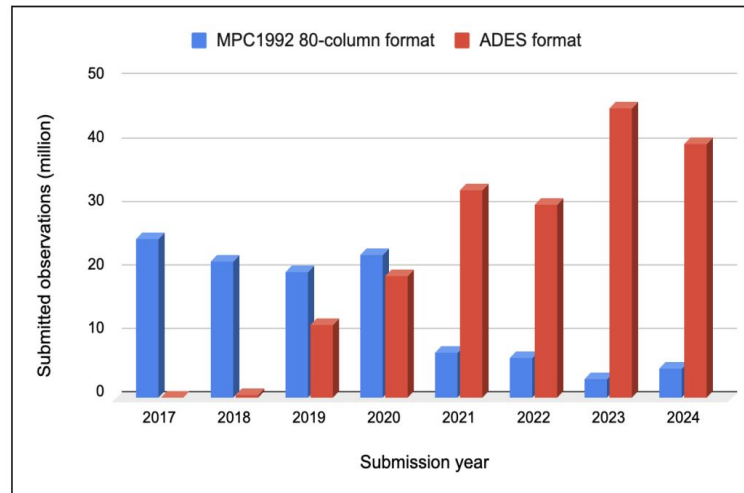


Figure 1. Figure from our [December 2024 Newsletter](#). Total number of observations submitted in ADES (either version 2017 or 2022) and MPC1992 80-column format over the last eight years.

- Virtualization

- Multiple virtual machines running on a single physical server, creating a more flexible, scalable, and reliable computing environment.

- As part of this effort, the astrometry processing system database will be migrated to a virtual machine.

The maintenance is planned for **Wednesday, February 12, 2025**, at 14:00 UTC (09:00 EST), aligning with the February full moon.

- Ongoing tests with the NEO Surveyor and VR/LSST teams

- Testing ingestion, linkages and orbit fitting

- Comet processing

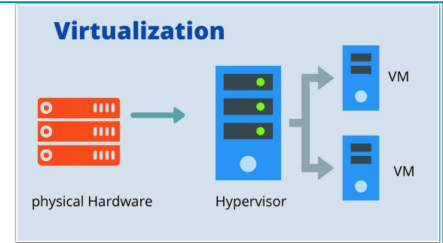
- Automation of important parts of the comet processing
- Output validation

- Publications

- Improve our current system to produce better and more reliable publications

- Remeasurements

- New system that is going to be able to automatically handle the submission of remeasurements



Thank you

More than 44 million observations were submitted to the MPC in 2024

