The ATLAS Archive at the NASA PDS Small Bodies Node

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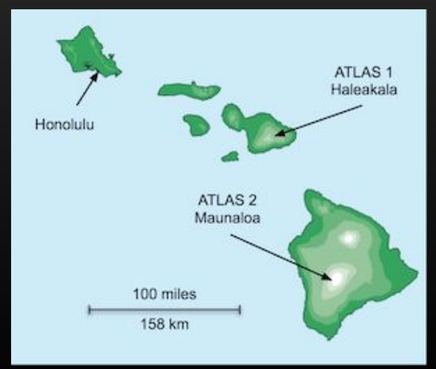
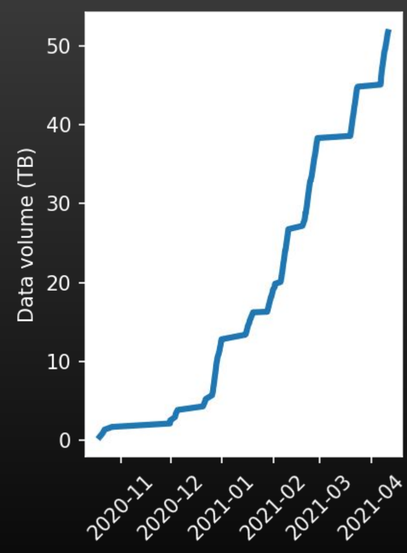
The ATLAS Survey

- An asteroid impact early warning system developed by the University of Hawaii.
- Currently consists of two 0.5-m wide-field telescopes on Haleakala and Mauna Loa, 150 km apart.
- Scans the sky down to *V*=19.5 four times every other night, providing warnings of approaching small asteroids weeks to days before impact.
- Two additional telescopes in Chile and South Africa are being added.



The archive at a glimpse

- ATLAS provides a large volume of data: a total of 1 PB (2 million science exposures) to date and growing. The data rate is ~0.5 TB/night, and expected to double when the Chile and South Africa nodes come online.
- Using a GigaPoP service we are able to move the data efficiently. Downloading one full night's data from UH to UMD typically takes about 1.5 hours.
- As of 2021 April 15, 50 TB of data from 172 nights have been delivered and validated.



Increase of received data volume at PDS SBN

PDS4 dictionary upgrade

- Astronomical datasets such as the ATLAS dataset employs different standards compared to mission datasets archived at PDS.
- We propose new PDS4 classes and subclasses to incorporate information provided by astrophysics datasets, such as the World Coordinate System (WCS).
- WCS information such as plate solutions and distortion correction can now be retrieved from the PDS4 labels.

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Proposed new PDS4 classes

Next step

- We will continue to walk through the data backlog (ATLAS-Haleakala goes back to 2016; ATLAS-Mauna Loa goes back to 2017).
- We will also incorporate the data products and metadata into CATCH, a new, web-/API-based moving object search tool being developed at the PDS SBN. CATCH will provide image search and cutout service for a number of survey data, including ATLAS.

More information

PDS SBN

ATLAS

CATCH