

PDS ATMOSPHERES NODE NEWSLETTER



Volume 2

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Autumn 2021

Welcome to the Autumn 2021 issue of the NASA Planetary Data System (PDS) Planetary Atmospheres Node (ATM) Archiving Newsletter. These newsletters are intended to serve as your definitive source for all archiving news related to planetary atmospheres, and to keep you informed of PDS ATM activities. We want to strike the right balance between providing open and transparent communications to our user community without overdoing it. *If there are topics that you would like to see addressed in future newsletters, please let us know!* As always, for data access, usability, and proposal assistance, please visit our website: <https://pds-atmospheres.nmsu.edu/>.

LATEST NEWS FROM ATM

After undergoing a rigorous Programmatic Review process over the summer, we are pleased to announce that **the Atmospheres Node will continue its operations for the next 5 years!** We are excited to help move the PDS forward as we address the needs of our current users, including initiatives such as cloud computing, contributing to the development of a unified web presence, and improving data discoverability. We will also be standing up an annex for atmospheric modeling results (more on that below)! We look forward to continuing to perform an important service for the planetary atmospheres community, and we welcome your thoughts, feedback, and comments on how we can better serve you.

PDS ATM @ AAS DPS

The PDS will have a presence at the 53rd annual meeting of the AAS Division for Planetary Sciences, which will be held virtually on 3-8 October 2021. The PDS Exhibitor Booth will be available through the meeting interface, and there will be several PDS-focused presentations, including a joint [Atmospheres Node – Geosciences Node poster](#) describing the Venus data archived in the PDS. We'd love to discuss your atmospheres data archiving plans or interests in using data archived at ATM with you! Drop by the exhibit area to set up a time to chat.

ATMOSPHERIC MODELING ANNEX

ATM will soon be kicking off a new initiative to provide a PDS-equivalent archive of atmospheric modeling output through a new Atmospheric Modeling Annex. Because of non-supported file formats typically used in modeling, many data output files are not appropriate for full PDS archiving. However, atmospheric modeling is a vital tool for analysis and processing of mission observational data. ATM is beginning the process of standing up a cloud service as a repository for planetary atmospheric modeling and modeling output. Updates will be coming soon!

POLICY UPDATES/REMINDERS

Note for new data providers/proposers: Requests for letters of support should be submitted to the appropriate nodes no later than a week before the submission deadline as required by PDS policy. (Effective October 2019). See the adopted policy text for more information: [Letter of Support Policy Document](#)

NEW RESOURCES FOR DATA PROVIDERS

The PDS recently launched some new web pages designed to provide a comprehensive set of resources for R & A proposers who are considering archiving their data in the PDS: <https://pds.nasa.gov/home/proposers/>. These pages cover the how and why of archiving in the PDS, from requesting letters of support for proposals to the entire archiving process. Proposers are encouraged to consult these pages as a first stop for seeking information about data archiving; ATM personnel are also available and eager to answer your archiving questions! Contact us at pds-atm@nmsu.edu.

NEW MISSION RELEASES

ATM is involved in archiving data from five active missions. This involves working closely with the instrument teams and mission archiving teams to ensure that the data are delivered, validated, and released to the public on a predetermined schedule available from: [Release Schedule](#). Here, we provide a status report of recent data releases from these missions at ATM:

MARS



InSight 1st through 10th data release is available and certified including atmospheric data from the Temperature and Wind Sensors (TWINS) and Pressure Sensors (PS). [InSight Data](#)

Entry, Descent, and Landing (EDL) data is also now available. [InSight EDL](#)



Mars Atmospheres and Volatile Evolution (MAVEN) 1st through 26th data release is available for Accelerometer (ACC), Neutral Gas and Ion Mass Spectrometer (NGIMS), and Imaging Ultraviolet Spectrograph (IUVS). [MAVEN Data](#)



Mars Reconnaissance Orbiter (MRO) 1st through 58th data release is available including data from the Mars Climate Sounder (MCS). [MRO-MCS Data](#)



Mars Science Laboratory (MSL) Curiosity 1st through 27th data release is now available for the Rover Environmental Monitoring Station (REMS). [MSL-REMS Data](#)



Mars 2020 Rover (M2020) Perseverance 1st data release is available for Mars OXYgen In-situ resource utilization Experiment (MOXIE) & Mars Environmental Dynamics Analyzer (MEDA). [Mars 2020 Data](#)

JUPITER



Juno PDS3/PDS4 data are available for Microwave Radiometer (MWR) including the recalibrated 2.0 cruise data, through perijove 32
Ultraviolet Imager/Spectrograph (UVS), through perijove 32
Jovian Infrared Auroral Mapper (JIRAM), through perijove 32
Gravity Science Experiment (GRAV), through perijove 32 data.
[Juno Data](#)

NEW DERIVED DATA RELEASES (by program)

In addition to archiving mission data, ATM is also involved in hosting and archiving derived data, which are typically provided by individual data providers. These data are a valuable complement to the ATM mission data because they represent the results of investigations involving the analysis of mission data or the acquisition of field, laboratory, or ground-based data that support NASA's planetary missions. Below is a listing of derived data (by program) that have recently completed the archiving process and are now available online at ATM (since last issue – for past issues see: [PAST NEWSLETTERS](#)).

PLANETARY MISSION DATA ANALYSIS PROGRAM (PMDAP)

McMath-Pierce Solar Telescope Observations of Mercury (Cassidy) – [Completed Online](#) – PDS4 Bundle containing solar occultation observations of Mercury's exosphere from the McMath-Pierce Solar Telescope. [Mercury Ground-Based Observations](#)

UNAFFILIATED PROJECTS

PDS3 & PDS4 Saturn's Thermal Emission at 2.2-cm Wavelength as Imaged by the Cassini RADAR Radiometer (Janssen) – [Completed Online](#) – PDS3 Volume/PDS4 Bundle containing Saturn thermal emission observations at 2.2 cm from Cassini RADAR. [Thermal Emission by Cassini RADAR](#)

Density and Temperature Profiles of the Saturn Atmosphere (Koskinen) – [Completed Online](#) – PDS4 Bundle containing extreme ultraviolet (EUV) stellar occultation observations from Cassini Ultraviolet Imaging Spectrograph (UVIS) with limb scans from Cassini Composite Infrared Spectrometer (CIRS) to create atmospheric structure models. Temperature-pressure profiles combined retrieved limb scans from CIRS in the stratosphere with those derived from stellar occultations from UVIS in the thermosphere. [Saturn Density & Temperature Profiles](#)

PDS4 TOOL DEVELOPMENT NEWS



The Atmospheres Node is in the progress of developing a PDS4 tool for helping users plan and design labels for simple bundles of data that they wish to archive in the PDS. The Educational Labeling System at Atmospheres (ELSA) is well on its way to being a functional guide for putting archive bundles together. ELSA aims to allow easy access to tailoring PDS4-compliant label templates for your needs. ELSA will allow persistent editing through a free account and step-by-step tutoring for building your bundles. Stay tuned to this section for future updates.

ELSA was presented as a poster at the 5th Planetary Data Workshop/2nd Planetary Science Informatics & Data Analytics Conference (June 28 – July 2, 2021) as abstract #7082.

Abstract: <https://www.hou.usra.edu/meetings/planetdata2021/pdf/7082.pdf>

E-Poster: <https://www.hou.usra.edu/meetings/planetdata2021/eposter/7082.pdf>

We are closing in on opening ELSA to external beta-testing, hopefully in the Autumn-Winter 2021 timeframe. For more information or to volunteer as a beta-tester for the online tool, contact: elsa@atmos.nmsu.edu.

ATM Advisory Group

The Atmospheres Node has reconstituted its Advisory Group, which is designed to provide input and feedback to us on issues of importance to our user base. We adjusted the AG membership to better reflect our current user community, and we anticipate that the members will serve as a sounding board for new ideas about ways we can better serve the planetary atmospheres community, as well as a conduit for ideas and feedback from our user community. Please join us in thanking the current AG members for their service:

Natasha Batalha (NASA/ARC)
Don Banfield (Cornell)
Ashley Davies (JPL)
Melinda Kahre (NASA/ARC)
Ralph Lorenz (JHU/APL)

Kevin McGouldrick (CU/LASP)
Conor Nixon (NASA/GSFC)
Paul Withers (Boston University)
Mike Wong (UC Berkeley)

Contact Us

We want to hear from you! We value your feedback and are committed to improving the archiving process as well as the usability and discoverability of data at ATM. If you have a derived data set that fits our archiving mission, please contact us to start a dialog. Also please contact us at: pds-atm@nmsu.edu if you have any questions or concerns. There is also a feedback widget on our web site that you can use if you are having trouble finding something on our web site.