

International Access to Lunar Data

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TEAM MEMBERS

- Susan Slavney, PDS Geosciences Node, Washington University in St. Louis
- Edward Guinness, PDS Geosciences Node, Washington University in St. Louis
- Maxim Litvak, Space Research Institute, Russia
- Karl Harshman, University of Arizona
- Ernest Bowman-Cisneros, Arizona State University
- Hirokazu Hoshino, JAXA
- Yoshimitsu Tanaka, JAXA
- Stan Scott, NASA GSFC
- Tom Morgan, NASA HQ
- Jeff Plescia, APL
- David Paige, UCLA
- Ben Bussey, APL

Background Presentations

- Susan Slavney provided one background presentation containing a list of suggested discussion topics, agreements for starting points, and information about the IPDA. The next two slides are from the background presentation.

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FROM BACKGROUND PRESENTATION

- Starting point: Where do we agree?
 - International access to lunar data is a good idea, because all scientists benefit when data is shared.
 - Interchange of data can improve mission success.
 - Working to make data access easier is worth the effort.

The IPDA

FROM BACKGROUND PRESENTATION

- IPDA = International Planetary Data Alliance
- The IPDA began as a group of data engineers from NASA/PDS and ESA/PSA worked on a **data access protocol** that allows a user to query both the PDS and PSA catalogs.
- The group recognized the need for both agencies to agree on a set of minimum standards for archiving, so that the protocol would work.
- The IPDA is evolving into a group with representation from many space agencies, whose goal is to enable global access to planetary data by defining standards for science data archives.
- First meeting was at ESTEC, Nov. 8-10, 2006, with participants from ESA, JAXA, CNSA, RKA/RAS, and NASA.
- More information is at <http://www.planetarydata.org>.

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OPPORTUNITIES

- Levels of data access:
 - Public
 - Agency to agency agreement for program/project planning, e.g., refined gravity field for future mission design
 - Informal investigative team to team exchanges
- Sharing data and information early (before submission to archive) helps:
 - Mission planning
 - Accelerate science

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OBSTACLES

- Obstacles to early release of data:
 - It is hard work for teams to quickly release quality data/results.
 - The PI may have rights for research and publication.
 - It is hard to make informal team-to-team agreements because of the need to get permission from administrators.
 - It is hard to make agency-to-agency agreements because of higher level restrictions on communications.
 - There is a steep learning curve for making an archive.
 - It may be necessary to incorporate new technology, e.g., JPEG-2000, to make use of advanced instrument data.
- Obstacles to using data from another agency:
 - Lack of common data archiving or formatting standards
 - Not knowing how to access data stored in multiple archives
 - Lack of raw data may limit how high-level data are used
 - The PI may be concerned that raw data may be used incorrectly.
 - On the other hand, a user may not be able to make full use of derived data without access to raw data.
 - Inadequate funding can limit archiving of raw data.

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OPTIONS for taking advantage of opportunities and overcoming obstacles

- Options for overcoming obstacles to early release of data:
 - Have a defined method for teams to make team-to-team agreements.
 - Incremental data releases are better than one release after end of mission.
 - Data exchange discussions between agencies should be done at the appropriate level. The appropriate level depends on the countries involved and the degree to which a relationship has already been established.
 - Face-to-face meetings, workshops and conferences, as well as exchange of personnel for longer periods, are important for establishing international relationships and ongoing communications.
 - Streamline the archiving process.

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OPTIONS for taking advantage of opportunities and overcoming obstacles

- Options for overcoming obstacles to using data from another agency:
 - Use web-based access tools with common features for searching and downloading data.
 - Provide some quality control or knowledge of data quality, e.g., peer review of data by the archiving agency or peer review of results by a science journal.
 - Use a minimum common set of meta-data to allow searching for data across missions, such as that in development by the IPDA. Look for examples of similar work done by other organizations, such as CEOS (Center for Earth Observing Satellites).
 - Encourage teams to publish papers about their instruments and data sets in the scientific literature.
 - Establish policy that science data and metadata should not be subject to government export controls such as ITAR. Recommend that the IPDA advocate this position.

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IDEAS FOR COMMUNICATING OUR FINDINGS

- The facilitator of this group will convey the findings to
 - The IPDA
 - PDS management
 - Other agencies or groups interested in access to lunar data, upon request