

Applications Working Group Recommendations and Action Items

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Participants 2016:

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Action Items from previous IPWG (still in the to do list...)

- Provide links to user requirements; Include links to these studies to the IPWG web page:
 - Action (George Huffman): Provide a link to the GEO user survey materials for use on the IPWG web page.
 - Action (Stephan Bojinski): Provide a link to the WMO Observation Requirements pages on precipitation for use on the IPWG web page
 - Action (coordinate with Stephan Bojinski; IPWG members): Investigate the utility of linking to the IPWG web site from OSCAR and other precipitation-related sites.

Recommendations on training

- **To IPWG:** Update the page on the IPWG web page pointing to training materials. Where possible, it should point to the organizational pages containing specific training materials and opportunities, as opposed to trying to maintain a current list of such information.
- **To WMO:** Recognizing that IPWG has considerable expertise in precipitation science and applications, IPWG requests the WMO (likely via VLAB) to establish a yearly training event on precipitation data sets and applications, for which IPWG will provide disciplinary expertise.

Recommendations to CGMS

The IPWG strongly endorses maintaining the on-going maintenance of the constellation of precipitation-relevant satellites. This is necessary to ensure the uninterrupted flow of precipitation estimates, which are key to maintaining the satellite-based precipitation products that are finding increasing use across many application communities. The GEO Water Strategy report and subsequent CEOS Water Strategy Implementation Study Team are key milestones. Specifically:

1. Continued flight of both SSMI-class conically-scanning and ATMS-class cross-track-scanning types of radiometers provides the diverse channels that contribute to a robust constellation of about 10 satellites, similar to the constellation early in the GPM era. A precessing radar/radiometer satellite has been proven critical for routine intercalibration of the entire constellation.
2. As station-keeping becomes the norm for Sun-synchronous low-Earth orbit satellites, there is the opportunity to ensure that the satellites are coordinated among agencies to evenly cover the day.
3. The constellation can be enhanced by letting LEO satellites drift for their useful lives after station-keeping fuel is exhausted. [To be clear, there is no recommendation that reentry requirements be ignored.]

Recommendations to IPWG

- Write a review paper on the different satellite products. Create a template to distribute among developers – **George Huffman**
- Ask data providers to list applications that their products are most suitable for and those that their products may not be suitable for. Create a classification table for different applications (i.e., hydrology, drought monitoring, etc.) – **Giulia**

Recommendations to IPWG

- Assemble a list of links to sites (such as IRI DL) that provide access to data and recipes for processing, data analysis tools to be added to IPWG web page - **Chris Funk volunteered to do this and Paul Kucera.**
 - Survey to the IPWG community
 - Conduct a survey of available software tools to use the satellite precipitation data
 - Conduct a survey of available data recipes for using satellite precipitation data
 - Conduct a survey to develop a list of example applications that uses satellite precipitation data
- Create a catalog of papers on applications and case studies - **Raaj**

Recommendations

- **To WMO:** Given the recent decline in publicly available precipitation data from surface stations, Met Services and other surface data providers should be strongly encouraged to report data from additional, already-existing stations. Such data provide the anchor points that are critical for constraining bias in satellite-based precipitation estimates and supporting validation activities.
- **To IPWG:** Create an IPWG fan page on social medias (i.e., Facebook, twitter, etc.) to advertise activities of the working group. – Lia Amaral