Update on IPWG Activities

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Outline

- IPWG objectives
- Recent accomplishments
- IPWG actions related to GEO and CGMS
IPWG Objectives

IPWG was established under Coordinating Group on Meteorological Satellites (CGMS) to:

- Promote standard operational procedures and common software for deriving precipitation estimates from satellites
- Establish standards for validation and independent verification of precipitation estimates
- Foster the exchange of data on inter-comparisons of operational precipitation estimates from satellites
- Stimulate increased international scientific research and development in this field
- Provide recommendations to national and international agencies regarding the utilization of current and future satellite instruments on both polar and geostationary platforms
- Encourage regular education and training activities.
We want to get better at turning this into this.
Recent Activities

- Maintain and update web page
- Promote IPWG, expand membership and update the membership database;
- IPWG focused publications
- Interactions with GEO and CGMS;
IPWG participation at scientific forums

- IPWG-5 (Hamburg, October 2010)
- 1st Workshop on Space-based Architecture for Climate (Geneva, January 2011)
- 3rd International Workshop on Space-based Snowfall Measurement (Grainau, March 2011)
- EGU 2011 (Vienna, April 2011)
- Climate R3 Conference (Sydney, July 2011)
- Report to Committee on Earth Observation Satellites (CEOS) Precipitation Constellation (Denver, November 2011)
- Second Asia Oceania Met Sat Users’ Conference (Tokyo, December 2011)
- EUMETSAT Meteorological Satellite Users Conf. (Sopot, September 2012)
- 3rd Asia/Oceania meteorological Satellite Users' Conference (Jeju Island, October 2012)
IPWG Website Updates

- The IPWG website continues to expand to provide additional resources to the IPWG community
  - Website maintained by Vincenzo Levizzani, Institute of Atmospheric Sciences and Climate (ISAC)-Italian National Research Council (CNR)

- Some recent additions to the IPWG website:
  - Ground Validation Resources (Robert Kuligowski)
    http://www.isac.cnr.it/~ipwg/validation-links.html
  - Global Precipitation Dataset Resources (George Huffman)
    http://www.isac.cnr.it/~ipwg/data/datasets.html
  - Applications of Satellite-derived Precipitation Datasets (Paul Kucera)
    http://www.isac.cnr.it/~ipwg/applications.html
**Global Precipitation Dataset Resources**

- Combination datasets with gauge data
- Satellite combination datasets
- Single source datasets
- Precipitation gauge analyses

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<tr>
<th>Algorithm</th>
<th>Input data</th>
<th>Space/time scales</th>
<th>Areal coverage/start date</th>
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<td>CAMS/OPI</td>
<td>CMAP-OPI, gauge</td>
<td>2.5°/daily</td>
<td>Global/1979</td>
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<td>6 hours</td>
<td>NOAA/NWS CPC (Xie)[1]</td>
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<tr>
<td>CMAP</td>
<td>OPI, SSIMI, SSMIS, GPI, MSU, gauge, model</td>
<td>2.5°/monthly</td>
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<td>3 months</td>
<td>NOAA/NWS CPC (Xie)[2]</td>
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<td>OPI, SSIMI, GPI, MSU, gauge, model</td>
<td>2.5°/pentad</td>
<td>Global/1979 - Oct. 2010</td>
<td>Seasonal</td>
<td>3 months</td>
<td>NOAA/NWS CPC (Xie)[3]</td>
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<td>OPI, SSIMI, GPI, gauge</td>
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<td>NOAA/NWS CPC (Xie)[4]</td>
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<td>GPCP pentad (Version 1.1)</td>
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<td>TRMM Plus Other Data (3B41 Version 6)</td>
<td>TCI-TMI, TCI-SSMI, TCI-AMSR-E, TCI-AMSU, MW-VAR (IR), gauge</td>
<td>0.25°/monthly</td>
<td>Global - 50°N-S/Jan 1998</td>
<td>Monthly</td>
<td>1 week</td>
<td>NASA/GSFC PPS (Adler &amp; Huffman)[8]</td>
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<tr>
<td>TRMM Plus Other Satellites (3B42 Version 8)</td>
<td>TCI-TMI, TCI-SSMI, TCI-AMSR-E, TCI-AMSU, MW-VAR (IR), gauge</td>
<td>0.25°/3-hourly</td>
<td>Global - 50°N-S/Jan 1998</td>
<td>Monthly</td>
<td>1 week</td>
<td>NASA/GSFC PPS (Adler &amp; Huffman)[8]</td>
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<td>RFE</td>
<td>GPI, NOAA SSIMI, gauge</td>
<td>10 km/daily</td>
<td>Africa/Oct. 2000</td>
<td>Daily</td>
<td>6 hours</td>
<td>NOAA/NWS CPC (Xie)[9]</td>
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<td></td>
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<td>10 km/daily</td>
<td>South Asia/April 2001</td>
<td>Daily</td>
<td>6 hours</td>
<td>NOAA/NWS CPC (Xie)[10]</td>
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Applications of Satellite-derived Precipitation Datasets

- Valuable input from the IPWG community (ongoing process)
- A BAMS article is being published that summarizes the wide-range of applications
- A few examples shown below:

**Floods/Landslides**

http://trmm.gsfc.nasa.gov/publications_dir/potential_flood_hydro.html

**Drought Monitoring**

http://www.emc.ncep.noaa.gov/mmb/nldas/drought/

**Disease Monitoring**

http://appliedsciences.nasa.gov/pdf/Malaria_Early_Warning_508.pdf
IPWG Membership Update

Anyone can participate!

- There are about 280 participants from 39 countries and agencies
- Every year new members are joining IPWG.
Biennial IPWG Workshops

IPWG-1: September 2002, INM, Madrid, Spain
IPWG-3: October 2006, Bureau of Meteorology, Australia
IPWG-4: October 2008, National Satellite Meteorological Center, Beijing, China
IPWG-5: October 2010, Univ. of Hamburg and Max-Planck Inst. for Meteor., Hamburg, Germany

**IPWG-6: 15-19 October 2012**, Sao Jose dos Campos, Brazil, hosted by National Institute for Space Research (INPE)
Recent Publications

- Klepp, C. and G. J. Huffman, 2011: 5th International Precipitation Working Group Proceeding, Hamburg, Germany, 15 October 2010, Hamburg, Germany
Interactions with WGNE and GEO

WGNE Related Activities

- IPWG Validation activities now include NWP generated precipitation estimates. This effort is being coordinated with the Working Group on Numerical Experimentation (WGNE);
- Contributing centers of NWP products to date:
  BoM, ECMWF, GMAO, JMA, Meteo-France, NCEP, NRL;
- Data are released according to each Center’s policy.
Interactions with GEO

The IPWG serves as the leader of the Group for Earth Observations (GEO) precipitation sub-task (WA-08-01d). This activity is part of the Water Theme under the Integrated Products for Water Resource Management work plan task:

The goal is promote and advance the development and validation of multi-sensor satellite-based precipitation estimates including snowfall

The scope of the GEO precipitation activity is to:

- Integrate satellite data and products with surface observations and NWP information to provide long-term, fine-scale records of global precipitation
- Participate in the analyses of the global water and energy cycle (WEC)

Previous IPWG Co-Chair George Huffman continues to serve as a “point of contact” for WA-08-01d
Interactions with CGMS and WMO

- The IPWG regularly reports to CGMS on its activities and achievements;
- The IPWG reports and recommendations are presented at the CGMS Plenary Meetings by IPWG Rapporteur, Dr Volker Gaertner (EUMETSAT);
- A meeting on the links between CGMS and the four International Scientific Working Groups: IPWG, IROWG, ITWG, IWWG was held during EUMETSAT Meteorological Satellite Conference on the 6th of September 2012 in Sopot, Poland *(attended by B.Lapeta and C.Kidd)*
Thank you