The IPWG Newsletter June 2008

Recent activities of the International Precipitation Working Group http://www.isac.cnr.it/~ipwg

1. Introduction

- **Message from the IPWG Co-Chairs**

With our third workshop nearly two years ago now, our fourth workshop preparations are now well advanced. The workshop will be hosted by the China Meteorological Administration in Beijing from 13-17 October 2008: registration (including accommodation) needs to made by 1 July 2008, with submission of abstracts required by 31 July 2008 - don't delay!

The number of people participating (or expressing interest) in IPWG continues to grow: Ralph Ferraro is currently updating the membership list. Remember, being part of IPWG provides international scientists and organizations with the opportunity to be at the cutting edge of satellite precipitation estimation – new algorithm development, utilization of the latest sensor technology, devising new validation strategies, and providing direction for future work. If you or your organization can benefit from the IPWG activities, or you are interested in becoming more involved, please contact the IPWG co-chairpersons. Also, if there are any relevant activities that you would like posted in this newsletter, please let us know. Finally, we encourage you to forward this to your colleagues or others who may be interested in the IPWG.

2. IPWG Validation Activities

The current precipitation inter-comparison analysis can be found at:

Australia: http://www.bom.gov.au/bmrc/SatRainVal/sat_val_aus.html
USA: http://www.cpc.ncep.noaa.gov/products/janowiak/us_web.shtml
Europe: http://kermit.bham.ac.uk/~ipwgeu/
S.America: http://cics.umd.edu/~dvila/web/SatRainVal/dailyval.html
Japan: http://www.radar.aero.osakafu-u.ac.jp/~gsmap/IPWG/sat_val_Japan.html

3. Meeting reports

First Program for the Evaluation of High Resolution Precipitation Products (PEHRPP) Workshop, Geneva, Switzerland. 3-5 December 2007

(Joe Turk and Phil Arkin)

Over 40 participants from 12 countries gathered at the World Meteorological Organization (WMO) headquarters in Geneva, Switzerland, to discuss various aspects of high resolution precipitation product (HRPP) development, validation and applications. The workshop was broken down into 2 days of formal presentations, with the third day dedicated to working groups separated into validation, error metrics, and applications.

The first morning discussions focused upon the types of HRPP covering adjustment-based techniques and motion-based techniques, including the utilization of a Kalman filter approach for combined multi-source precipitation estimates. The first afternoon was dedicated to regional validation, with updates from eight regional validation sites. The north-western European, continental Australia, and continental United States validation sites have been ongoing since 2004: other regional validation sites in Japan, South America, southern Europe, Mozambique, and western Africa, some of which have been operating for over a year (Japan, South America). Several promising radar-based precipitation datasets were demonstrated, including the BALTEX Radar Network, which extends to near 70˚N.

The second day was devoted to applications, including forecast validation, climate-scale analysis, drought analysis, flood and landslide assessment, and land data assimilation systems. A discussion of error metrics followed: one of the main goals of PEHRPP being the characterization of the errors of HRPP over different regions and precipitation systems.

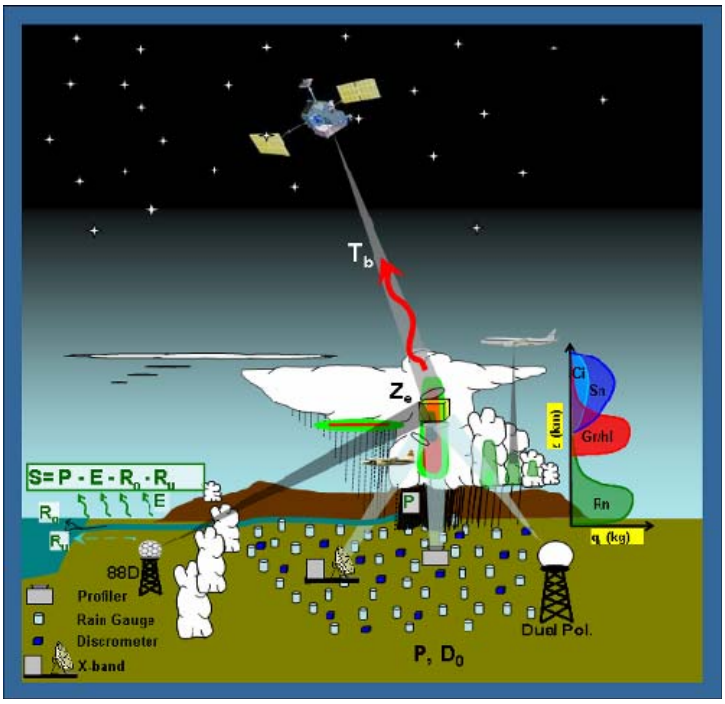
Three working groups, validation, applications and error metrics, met on the afternoon of the second day and presented their reports on the third day. The main recommendations of the validation group included the establishment of a specific inter-comparison project aimed at global 3 hourly/0.25° resolution products, with validation performed over specific regions. In conjunction with this, the creation of an Evaluation Science Team (EST) was recommended that would be responsible for the organization and coordination of precipitation evaluation and validation efforts. The Applications Working Group recommended that HRPP developers be encouraged to formulate and produce error estimates for each product together with relevant meta-data, including the source of data and its latency relative to the nominal output product. Finally the Error Metrics Working Group recommended that the IPWG should develop a standing committee or team focused on the topic of error metrics.

Presentations and recommendations from each of the Working Groups can be found in under the meetings link on the IPWG website.

Participants of the First PEHRPP Workshop

Third International Global Precipitation Measurement (GPM) Ground Validation Workshop, Buzios, Brazil. 4-6 March 2008

(Arthur Hou)



The workshop was hosted by the Brazilian National Institute for Space Research (INPE) on behalf of the National Space Agency (AEB), in coordination with NASA's Precipitation Measurement Missions (PMM) Program, which supports the Tropical Rainfall Measuring Mission (TRMM) and GPM. The GPM Mission is an international satellite partnership to unify and advance global precipitation measurements by a consortium of dedicated and operational microwave sensors for scientific research and societal applications. The GPM Core Satellite, which serves as a precipitation physics observatory and a calibration reference for constellation radiometers, is scheduled for launched in mid-2013. The workshop was convened to establish collaborative ground validation (GV) research projects with international GPM partners to complement ongoing GV activities in the U.S. to support pre-launch algorithm development and post-launch product evaluation within a unified framework centered on three primary categories of activities: (1) Direct statistical validation leveraging off national networks, (2) Process/algorithm physical Validation, and (3) Integrated hydrological model validation. International investigators are encouraged to submit no-cost proposals to the NASA PMM Program and, upon selection, can participate in the full range of GPM GV activities as members

Participants of the Third GPM Ground Validation Workshop

of the PMM Science Team. Following three days of presentations and discussions on validation needs, available ground assets, data standards, and collaboration frameworks, the workshop concluded with 24 proposals of joint GV research projects from 19 nations. Of the 24 proposals, 2 have formally accepted by the NASA PMM Program to date, 4 are in the review process, with 8 more in preparation and the remaining activities in planning stages or identified as potential opportunities. For further information, please contact Dr. Arthur Hou at NASA Goddard Space Flight Center (E-mail: arthur.y.hou@nasa.gov).

Second International Workshop on Space-based Snowfall Measurement Steamboat Springs, CO USA. 1-3 April 2008

(Ralph Ferraro, Ralf Bennartz and Greg Tripoli)

The International Precipitation Working Group (IPWG) sponsored the 2nd International Workshop on Space-based Snowfall Measurement (IWSSM) which was held in Steamboat Springs, CO during April 1-4, 2008. The local host was the Desert Research Institute/Storm Peak Laboratory. Ironically, most of the 50 workshop participants had difficulty getting to the final destination due to heavy snowfall! This workshop followed the previous one which was held in October 2005 in Madison, WI. Eight nations, including Japan, Italy, Germany, Canada, France, Finland and Poland were represented at the workshop. The workshop format was quite unique. There were five primary topical areas: Applications, Global Estimation, Modeling, New Technologies and Validation. Each area had a session chair, who organized plenary talks on the topic. Then, after each plenary, the 50 workshop participants were broken into 5 working groups and each of them addressed a set of questions developed by the session chair. This was repeated for each of the five areas, thus, giving every workshop participant a chance to be part of each topical area. The advantage of this format is that it avoids "normal" grouping of workshop participants, thus, sometimes leading to biased opinions and recommendations. Also included as part of the workshop was a tour of the Storm Peak Laboratory (at an elevation of 10,500 feet) where they are conducting an aerosol experiment to study the types of particles that are in the clouds in that region, which affect the formation of clouds and precipitation. Finally, several key recommendations were developed at the end of the workshop, including the development of a "modeling chain" that closely connects atmospheric, surface, cloud and radiative transfer modeling, primarily at microwave wavelengths which have the best chance to retrieve snowfall from space. Additionally, the continued development of spaceborne radars sensitive to snowfall was encouraged. Lastly, improved data sets are needed for algorithm development, in particular, microphysical cloud information. A workshop report is being finalized and will be posted on the IPWG web site.

Participants of the Second International Workshop on Space-based Snowfall Measurement

4. Satellite updates

The Chinese successfully launched the FY3 (Fengyun-3) polar orbiting satellite at 11:02:33 pm on 27 May 2008 (CMA news: http://www.cma.gov.cn/english/News/t20080527_236944.phtml). Instrumentation on board the satellite includes a VIRR (AVHRR like), IRAS (HIRS like), MERSI (MODIS like), MWTS(MSU-like), MWHS(HMS like), SBUS/TOU (SBUV-2 like), MWRI (TMI like), and other instruments (SIM, and ERM). IPWG extends its congratulation to all CMA/NSMC colleagues for their hard work and dedications to this challenging and new mission!

Current operational geostationary meteorological satellites

Region	Satellite	Position	Operator	Notes
Western Pacific *Japan, Australia*	MTSAT-1R	140°E	Japan	
Eastern Pacific *Hawaii, Western US*	GOES-11	135°W	USA	Operational GOES-W
Western Atlantic *Eastern US & S.America*	GOES-10 GOES-12	60°W 70°W	USA/NOAA USA/NOAA	S.America Coverage Operational GOES-E
Eastern Atlantic *Europe, Africa*	Meteosat-9	0°	EUMETSAT	
Indian Ocean *Middle East, India, SE Asia*	Meteosat-7 FY-2C Kalpana-1 INSAT-3A	57½°E 105°E 74°E 95½°E	EUMETSAT China/CMA India India	Indian Ocean Data Coverage

Current operational polar-orbiting meteorological satellites

Period	Satellite	Equatorial Crossing	Operator	Instrumentation
"Morning"	NOAA-17	10:24 (D)	USA/NOAA	Vis/IR, sounding
	DMSP-F16	20:13 (A)	USA/NOAA	Passive Microwave (SSMIS)
	FY-1D	08:20 (D)	China/CMA	Vis/IR
	METOP-A	21:30 (A)	EUMETSAT	Vis/IR, sounding
"Afternoon"	NOAA-18	13:55 (A)	USA/NOAA	Vis/IR, sounding
"Early Morning"	DMSP-F13	18:33 (A)	USA/NOAA	Passive Microwave (SSMI)
	DMSP-F17	17:31 (A)	USA/NOAA	Passive Microwave (SSMIS)

5. Upcoming Meetings

Please visit the IPWG web site (http://www.isac.cnr.it/~ipwg) for updates and a full list.

The highlight is the fourth IPWG workshop to be held in Beijing in October. This promises to be a stimulating meeting, both scientifically and culturally. Participants are invited to join one of the excursions on the final day to the Forbidden City or the Great Wall.

13-17 October 2008, 4th IPWG Workshop, Beijing, China

Registration (meeting and accommodation) deadline is 1 July 2008

Other meetings of interest:

08-12 September 2008, 2008 EUMETSAT Meteorological Satellite Conference, Darmstadt, Germany, Deadlines for registration and hotels, 15th July 2008.

22-24 September 2008, **10th EGU Plinius Conference on Mediterranean Storms,** Nicosia, Cyprus. (http://meetings.copernicus.org/plinius10/programme/index.html) Abstract submission deadline: 27 June 2008.

20-22 October 2008, International Workshop on Microwave Remote Sensing for Land Hydrology Research and Applications, Oxnard, California, USA. http://microwave-workshop.jpl.nasa.gov/

11 January–15 January 2009 16th Conference on Satellite Meteorology and Oceanography, (part of 89th annual AMS conference) Phoenix, Arizona. http://www.ametsoc.org/meet/annual/call.html

19-24 April 2009, European Geosciences Union General Assembly 2009: Call for session proposals in the Natural Hazards (NH) division programme. http://meetings.copernicus.org/egu2009/ ['call for programme', 'Natural Hazards division'] to submit proposal or make suggestions to existing proposals.

24-28 August 2009: 6th International Scientific Conference on the Global Energy and Water Cycle, Melbourne, Australia: "Water in a Changing Climate: Progress in Land-Atmosphere Interactions and Energy/Water Cycle Research."

13-17 October 2008: Fourth IPWG Workshop, Beijing, China

For further information, contact the current IPWG co-chairpersons:

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