THE 1ST INTERNATIONAL PRECIPITATION WORKING GROUP (IPWG) WORKSHOP

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1. Introduction

The plan to establish the IPWG as a permanent Working Group of the Coordination Group for Meteorological Satellites (CGMS) was developed at a Workshop held on 20-22 June 2001 at the Colorado State University. The IPWG will focus the scientific community on operational and research satellite based quantitative precipitation measurement issues and challenges. In the area of quantitative precipitation estimation, the IPWG intends to build upon the expertise of scientists who are currently involved in precipitation measurements from satellites with emphasis on derivation of products. Drs V. Levizzani, CNR, and A. Gruber, NOAA/NESDIS were chosen as Co-Chairs of the IPWG. The IPWG was established to foster the:

- Development of better measurements, and improvement of their utilization;
- Improvement of scientific understanding;
- Development of international partnerships.

The objectives of the IPWG are:

(a) to promote standard operational procedures and common software for deriving precipitation measurements from satellites;

(b) to establish standards for validation and independent verification of precipitation measurements derived from satellite data; including:
   - reference standards for the validation of precipitation for weather, hydrometeorological and climate applications;
   - standard analysis techniques that quantify the uncertainty of ground-based measurements over relevant time and space scales needed by satellite products;

(c) to devise and implement regular procedures for the exchange of data on inter-comparisons of operational precipitation measurements from satellites;

(d) to stimulate increased international scientific research and development in this field and to establish routine means of exchanging scientific results and verification results;

(e) to make recommendations to national and international agencies regarding the utilization of current and future satellite instruments on both polar and geostationary platforms; and

(f) to encourage regular education and training activities with the goal of improving global utilization of remote sensing data for precipitation measurements.

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2. The First Science Workshop

The first science workshop of the Coordination Group for Meteorological Satellites (CGMS) and World Meteorological Organization International Precipitation Working Group was Co- chaired by V. Levizzani and A. Gruber and held in Madrid, Spain from 23-27 September 2002. The workshop was jointly hosted by the INM and the EUMETSAT Nowcasting Satellite Applications Facility (SAF). The opening address was given by Drs E. Martin, General Director, and R. Riosalido, Deputy Director, INM, Madrid, Spain, where they both stressed the importance of precipitation and the work of the Nowcasting SAF in that area.

The first three days of the workshop consisted of keynote and scientific presentations, with adequate time for discussion, in the following topical areas:

1. The IPWG and Related International Projects
2. Operational Estimation of Rainfall
3. Missions and Instruments
4. Research Activities
5. Validation

The scientific presentations in each of these topical areas are presented in this publication.

In addition to the scientific presentations the Workshop consisted of three working groups: Operational Applications, Research Activities, and Validation Activities. Each working group discussed activity within their topical area and developed plans for future activities with short term, intermediate and long term goals. The working group reports are presented below and include recommendations and actions for individuals. Since this is the first time the IPWG has met the recommendations are broad and present actions on both the short term and long term. In that regard many of the recommendations should be viewed as providing a road map for future IPWG activities and meetings.