

ABSTRACT FOR 2nd INTERNATIONAL GPM GV WORKSHOP

Strawman Philosophical Guide for Developing International Network of GPM GV Sites

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Abstract Text

The creation of an international network of ground validation (GV) sites that will support the Global Precipitation Measurement (GPM) Mission's international science programme will require detailed planning of mechanisms for exchanging technical information, GV data products, and scientific results. An important component of the planning will be the philosophical guide under which the network will grow and emerge as a successful element of the GPM Mission. This philosophical guide should be able to serve the mission in developing scientific pathways for ground validation research which will ensure the highest possible quality measurement record of global precipitation products. The philosophical issues, in this regard, partly stem from the financial architecture under which the GV network will be developed, i.e., each participating country will provide its own financial support through committed institutions -- regardless of whether a national or international space agency is involved.

At the 1st International GPM Ground Validation Workshop held in Abingdon, UK in November-2003, most of the basic tenants behind the development of the international GV network were identified and discussed. Therefore, with this progress in mind, this presentation is intended to put forth a strawman philosophical guide supporting the development of the international network of GPM GV sites, noting that the initial progress has been reported in the Proceedings of the 1st International GPM GV Workshop -- available online.

The central philosophical issues themselves, all flow from the fact that each participating institution can only bring to the table, GV facilities and scientific personnel that are affordable to the sanctioning (funding) national agency (be that a research, research-support, or operational agency). This situation imposes on the network, heterogeneity in the measuring sensors, data collection periods, data collection procedures, data latencies, and data reporting capabilities. Therefore, in order for the network to be effective in supporting the central scientific goals of the GPM mission, there must be a basic agreed upon doctrine under which the network participants function vis-à-vis: (1) an overriding set of general scientific requirements, (2) a minimal set of policies governing the free flow of GV data between the scientific participants, (3) a few basic definitions concerning the prioritization of measurements and their respective value to the mission, (4) a few basic procedures concerning data formats, data reporting procedures, data

access, and data archiving, and (5) a simple means to differentiate GV sites according to their level of effort and ability to perform near real-time data acquisition - data reporting tasks. Most important, in case they choose to operate as a near real-time data collection-data distribution site, they would be expected to operate under a fairly narrowly defined protocol needed to ensure smooth GV support operations.

This presentation will suggest measures responsive to items (1) - (5) from which to proceed. In addition, this presentation will seek to stimulate discussion and debate concerning how much heterogeneity is tolerable within the eventual GV site network, given that the any individual GV site can only be considered scientifically useful if it supports the achievement of the central GPM Mission goals. Only ground validation research that has a direct connection to the space mission should be considered justifiable given the overarching scientific goals of the mission. Therefore each site will have to seek some level of accommodation to what the GPM Mission requires in the way of retrieval error characterization, retrieval error detection and reporting, and generation of GV data products that support assessment and improvement of the mission's standard precipitation retrieval algorithms. These are all important scientific issues that will be best resolved in open scientific debate.