

# A Joint ISPRS-CNES Initiative

## An “HRS Study Team”

### for assessing DEM production with HRS data

#### **Background :**

Following the launch of SPOT 5 on May 4<sup>th</sup> 2002 all instruments on board of the satellite have been tested during the commissioning phase and declared operational. The assessment of the High Resolution Stereoscopic instrument (HRS), made by CNES with Spot Image and IGN Espace, has proven that high accuracy DEM could be derived from HRS data. The DEM derived from HRS could be acquired from Spot Image but HRS raw data are not delivered with the DEM. Nevertheless CNES and Spot Image have agreed to satisfy scientific requests from the photogrammetric and remote sensing community to test the capability of HRS data for DEM production. For this purpose HRS data will be made available for an international HRS assessment project.

An offer by CNES to use the framework of ISPRS for this international assessment project was accepted by ISPRS Council and a first announcement of this project was made during the ISPRS Commission I Symposium at Denver in November 2002.

#### **The HRS Scientific Assessment Program (HRS SAP):**

##### **Objectives:**

The HRS Scientific Assessment Program should allow the user community, within ISPRS, the opportunity to test HRS data, not usually available, for generating DEM and for comparison with other DEM generation methods appropriate for their application domain. It should provide CNES an international scientific performance assessment of the HRS which will be taken into account in future programs.

##### **Organization:**

This program will be jointly organized by ISPRS and CNES within an " HRS Study Team ". This Study Team is open to ISPRS Working Group members (and especially to participants of WG I/2 activities on “Sensor Calibration and Testing”) who are accepting its rules and obligations. (See below.)

The Study Team is managed by a Secretariat, co-chaired by Manfred Schroeder (ISPRS Chair WG I/2) and Alain Baudoin (CNES). Members of the Study Team are either Principal Investigators if they can provide to the Study Team, reference data (Ground Control Points, accurate DEM, ..) on a test area, or Co-Investigators if they work on the same data of a PI.

The Study Team Secretariat will coordinate and support the research activities of the Study Team members.

##### **Main steps and schedule**

The assessment program will be performed in five steps with the following tentative schedule:

- 1) HRS Study Team constitution (with Principal Investigators) - Definition of the HRS data set, to be acquired on known areas (where accurate reference data is available): by March 2003
- 2) Acquisition and delivery of the HRS data (by Spot Image on behalf of CNES) to Principal Investigators and agreements with Co-Investigators: by August 2003

- 3) Provision of ground reference data by Study Team Members: by August 2003
- 4) Exploitation and assessment of HRS data: according to investigators timing (by beginning 2004)
- 5) Reports to the Study Team and results presentation to ISPRS at ISPRS Congress in Istanbul (July 2004). First results could be presented in the SPOT 5 Colloquium (to be organized at the end of 2003)

### **HRS Study Team rules and obligations of its members**

The HRS Study Team is open to ISPRS members who will accept the following rules and obligations:

A membership solicitation should be sent to the HRS Study Team Secretariat before February 15<sup>th</sup> 2003. (See attached application form) either to be a Principal Investigator or a Co-Investigator of the HRS assessment program.

Members will be accepted by the Secretariat if they agree to use HRS data on commonly agreed areas and to share with other members of the HRS Study Team these HRS data and Ground Reference data.

CNES with Spot Image and IGN will make their best effort to acquire HRS data on test areas defined commonly with the Principal Investigators. They will provide, free of charge, HRS data and related auxiliary data to those Principal Investigators.

The Principal Investigators agree to deliver, free of charge, HRS and Ground Reference data to any other member of the HRS Study Team.

The Principal Investigators and the Co-Investigators agree to use the HRS and ground reference data only for scientific purposes.

All members of the HRS Study Team agree to deliver to its Secretariat:

- a DEM derived from HRS
- a report describing methods used for the generation of DEM and any other derived products (slopes, etc. )

and to present results of his/her assessment at a dedicated ISPRS workshop or at the ISPRS Congress 2004 in Istanbul.

They accept the use of their DEM data derived from HRS, (for example for comparison studies) by any other member of the HRS Study Team.

### **Membership request (for Principal Investigators)**

Send your request to: [alain.baudoin@cnes.fr](mailto:alain.baudoin@cnes.fr) and [Manfred.Schroeder@dlr.de](mailto:Manfred.Schroeder@dlr.de)

with the following information:

- Name, organization, address, phone and fax numbers, Email
- Area of interest (geographical coordinates)
- Available Ground Reference data, which could be shared with other HRS Study Team members

and with your acceptance of the HRS Study Team rules and obligations.