**Heads of Space Agencies Decide to Join Efforts**

**In Support of COP 21 Decisions**

**3 April 2016**

**New Delhi, India**

1. Heads of space agencies met in New Delhi, India, on 3 April 2016 on the sidelines of the Asia-Pacific Remote Sensing Symposium organized by the Indian Space Research Organization (ISRO) and Ministry of Earth Sciences, Government of India. They recalled the Declaration of Mexico, recognizing the tremendous contribution of satellites to climate change studies and disaster management support, and expressing their determination to strengthen the role of space in these fields in support of political decisions taken at the UN Conferences Of the Parties (COP).
2. The Declaration of Mexico stated: “Satellite observations are the key element of a global measuring system aimed at verifying the reality of commitments taken in line with the United Nations Framework Convention on Climate Change (UNFCCC).” Following the agreement achieved at COP 21 in Paris at the end of 2015, there is a growing need to implement an independent Measurement, Reporting and Verification system (MRV) that will become a tool for verifying national INDCs (Intended Nationally Determined Contributions). As stated in the CEOS Strategy for Carbon Observations from Space: “an ambitious long-term goal for CEOS is operational LEO and GEO constellations measuring greenhouse gases in the atmosphere. This new suite of observations has the potential to be an essential element for future MRV systems.”

3. At present some current and near term future operational LEO and GEO meteorological and environmental satellites have significant capabilities for measuring greenhouse gases in the mid troposphere, particularly from hyperspectral sounders, but these are insufficient for monitoring emissions closer to the surface.

4. Several space agencies have therefore invested in specific research satellites that will pave the way for future operational satellites dedicated to greenhouse gas monitoring: SCIAMACHY was a precursor by Germany, the Netherlands, Belgium and ESA; GOSAT from JAXA and OCO 2 from NASA are in orbit; TANSAT from China, GOSAT 2 from JAXA, OCO 3 from NASA, MERLIN from DLR and CNES, and MicroCarb from CNES are all in development.

5. The heads of space agencies noted that increased satellite monitoring should be matched with more in-situ measurements, better assimilation and inversion systems, and increased computing resources. Satellites themselves face a number of challenges to become more effective operational tools, including improved spatial resolution and revisit capability. Space agencies from around the world are committed to tackling these challenges, by developing new technologies to be flown in space, by encouraging research and innovation communities to contribute actively to developing suitable assimilation and inversion models, by increasing efforts to make data and products available and by stimulating their uptake by a wide range of users.

6. Operational measuring capabilities based on satellites will also require coordination between space agencies for the in-orbit cross-calibration of their respective instruments and with the surface in-situ monitoring network for the validation of their measurements. A comprehensive, coordinated and inclusive global data set would help further global understanding and is a necessary step in establishing an international approach to estimating emission changes for global use based on internationally accepted data. The heads of space agencies from around the world reaffirmed their commitments to work together on these matters within a coordinated international framework with users, service providers and policymakers.