# Heads of Space Agencies Decide to Join Efforts for the Monitoring of COP 21 Decisions

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1. Heads of space agencies from around the world met at New Delhi on April 03, 2016 on the sideline of the Asia-Pacific Remote Sensing Symposium in New Delhi, India, 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 enhance their efforts 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 will be 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, several space agencies have invested in research satellites that pave the way for future operational satellites dedicated to Green House Gases monitoring: SCIAMACHY was a precursor by ESA; GOSAT of JAXA and OCO 2 of NASA are in orbit; TANSAT of China, GOSAT 2 of JAXA, OCO 3 of NASA, MERLIN of DLR and CNES, S5P and S5 in Copernicus program of EU and ESA, and MicroCarb of CNES are in development.
4. Together with more in-situ measurements, better assimilation and inversion systems, and increased computing resources, satellites face a number of challenges to become operational tools. Spatial resolution and revisit capability are among them. Space agencies from around the world are committed to tackling these challenges, either by developing new technologies to be flown in space or by encouraging their research community to contribute actively in related assimilation and inversion models.
5. Operational measuring capabilities based on satellites will also require coordination between space agencies and with the surface in-situ monitoring network, so that instruments in orbit can be cross-calibrated and their measurements cross-validated. An international independent way of estimating emission changes for all world countries based on internationally accepted data would create a level playing field and an independent basis for further reductions. Space agencies from around the world reaffirm their commitments to work together in the right international framework on these matters.
6. Cooperation between space agencies around the world for the monitoring of COP 21 decisions will be closely followed by the Heads of Agencies themselves.