Press release, Dicember 3rd 2011

Cop 17: mountain and climate, ozone + 30%, black carbon + 300%

DURBAN - From 2006 to 2010, in the Everest region, more than 150 days characterized by pollution peaks were registered. These alarming figures, emerged from five years of research carried out in the context of the SHARE - Stations at High Altitude for Research on the Environment - project sponsored by the Ev-K2-CNR Committee, will be presented tomorrow at Durban in the framework of Cop17.

Climate change seriously affect mountains health. Scientific evidences show how mountain environments are vulnerable to pollution, which may be encountered at high altitude too. Even at 5,050 metres above sea level, down the slops of Mount Everest, in the heart of the Himalayan region, the atmosphere is polluted, especially during the pre-monsoon season when days with pollution peaks reach a percentage of 56%.

The SHARE project, coordinated by Dr. Paolo Bonasoni from the Institute of Atmospheric Sciences and Climate (ISAC) of the National Research Council (CNR), in Bologna, has been observing this trend for more than 5 years, thanks to the continuous monitoring of polluting and climate-altering compounds carried out at the global GAW-WMO station "Nepal Climate Observatory - Pyramid" (NCO-P), located at 5,079 metres above sea level, down the slopes of Mount Everest in Nepal.

New important results will be presented tomorrow December 4, in Durban, during a side event of the 17th Conference of the Parties (COP17) to the United Nations Framework Convention on Climate Change, called "Mountain Day", organized by ICIMOD, UNEP, FAO and World Bank with the collaboration of the Ev-K2-CNR Committee, the only Italian organisation present and member of the Mountain Partnership.

According to the results obtained in the framework of the SHARE project, between March 2006 and December 2010, over 164 days of acute pollution were recorded, equivalent to the 9% of the total of the examined period. During these days, mostly located in the pre-monsoon period, ozone concentrations increase of 29%, while black carbon concentrations of 352%. These data are very significant especially because these compounds play important roles both as pollutants, having direct effects on ecosystems and people, and as climatic forcing. Tropospheric ozone, in fact, is recognized as the third most significant anthropogenic greenhouse gas after carbon dioxide, while black carbon particles may directly interact with solar radiation, modify the micro-physical properties of clouds and influence the melting snow and glaciers rate in mountain and polar areas.

These high levels of pollutants appear mainly related to the transport of polluted air masses from the area interested by the so-called "Atmospheric Brown Cloud": a cloud of pollutants which during winter and pre-monsoon period goes from the Indian Ocean to the Himalayas as an effect of particles and gases emissions from large urban, industrial, agricultural and forestry areas in South Asia.

These new data and other important studies realised by Ev-K2-CNR Committee in the Himalayan and Karakorum regions, will be presented by Dr. Paolo Cristofanelli, scientist at ISAC-CNR, in Bologna, responsible for the research activities regarding tropospheric ozone and reactive gases observations at the NCO-P Observatory and at the CNR research station "O. Vittori ", at Mount Cimone (Italy), both global stations included in the World Meteorological Organization (WMO) - Global Atmosphere Watch (GAW) program.

Moreover, in Durban, a documentary movie clip set in the Mustang region (Nepal), produced by the Ev-K2-CNR Committee and realised by the journalist Stefano Ardito entitled Dhe must not die! A climate change history, will be shown. For several years, the population of Dhe, Sam Dzong and other high-altitude villages in Mustang region have seen their springs dry up and this forced them to abandon some of their fields. The pastures, which before allowed the existence of large herds of yaks, are rapidly becoming more and more arid. In some areas, water sources used for irrigation and drinking were reduced by 70-80%. In some villages, inhabitants have asked the local authorities and the Government in Kathmandu to be considered as "environmental refugees", and to be relocated to new towns built ad hoc. This is a direct evidence of the climate change effects in one of the most beautiful and fragile lands of the world.

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