

## Climate Altering Trace Gases at the ABC-Pyramid Laboratory, Himalayan-Karakorum Range, Nepal

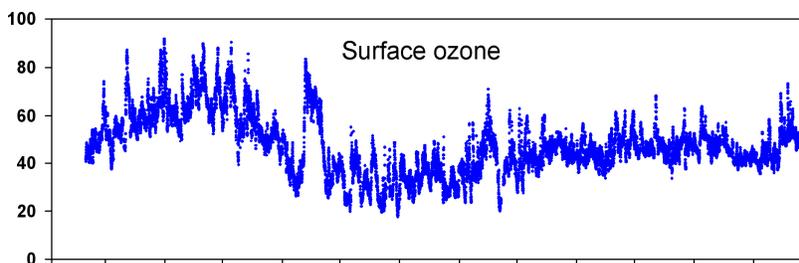
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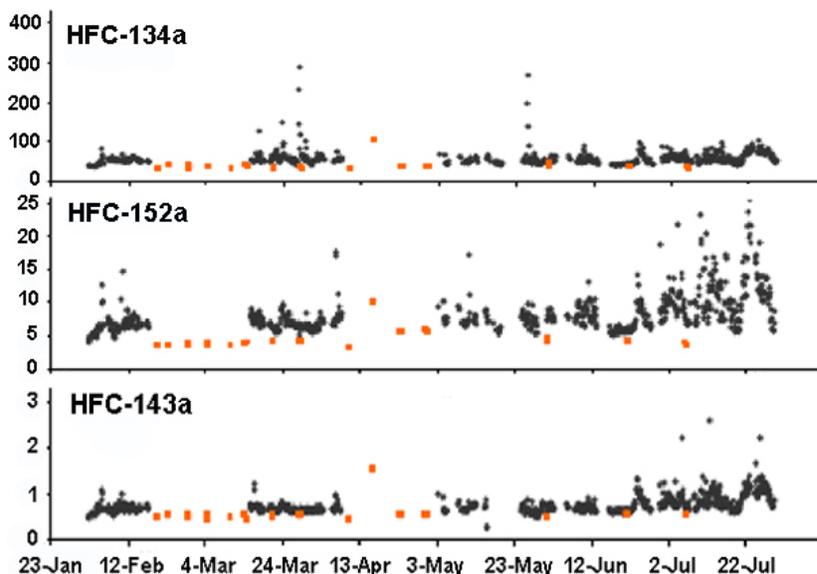
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The Himalayan-Karakorum range, for its elevation and geographic location, represents an ideal place for studying long-range pollutant transport systems on a regional scale and for monitoring changes induced by mechanisms that act on a global scale through monsoon circulation. In fact, the area is located in the middle of two of the most densely populated and rapidly developing countries in the world: India and China. Here, the increasing industrial activities and vehicular traffic led to a significant growth of anthropogenic pollutant emissions. With the purpose of investigating natural and human-induced environmental changes at different scales (global, regional and local) in the Himalayan area, continuous measurement of trace gases and aerosols started on February 2006 in the framework of Ev-K<sup>2</sup>-CNR “SHARE ASIA” and UNEP “ABC” projects. These activities are carried out at the “ABC-Pyramid Observatory”, a remote monitoring station located at 5079 m a.s.l. in the high Khumbu valley (Nepal), at the foot of Mt. Everest. The development of this station allows continuous in-situ measurements of chemical, physical and optical properties of aerosols and surface ozone. Moreover, non-continuous measurements of climate-altering halogenated gases and aerosol chemical properties have been also conducted. Preliminary observations of climate altering gases will be showed and discussed.



**Figure 1.** Mixing ratios (expressed in ppbv) of surface ozone recorded at the Himalayan site.



**Figure 2.** Mixing ratios (expressed in pptv) of selected HFCs (orange dots) recorded at the Himalayan site, compared with those recorded at the European Continental site of Mt. Cimone - Italy (black dots): year 2006.