AS1.21
Infrasound, acoustic-gravity waves, and atmospheric dynamics

Convener: Alexis Le Pichon | Co-conveners: Elisabeth Blanc, Läslo G. Evers
Oleg Godin, Alain Hauchecorne

- The infrasound field has developed into a broad interdisciplinary field encompassing academic disciplines of geophysics and recent technical and scientific developments. The infrasound network of the International Monitoring Network (IMS) for nuclear test ban verification and regional cluster arrays deployed around the globe have demonstrated their capacity for detecting and locating natural and artificial sources. This monitoring system offers a unique opportunity to provide in near-real time continuous relevant information about natural hazards with high societal benefits, like large volcanic eruptions, surface earthquakes or meteorites.
- Recent studies point out new insights on quantitative relationships between observables and atmospheric characteristics, therefore opening a new field for atmospheric remote sensing. New studies using lidar, radar, microwave spectrometer and mesospheric airglow observations complemented by satellite measurements help to better determine the interaction between atmospheric layers from the ground to the mesosphere and the influence of atmospheric waves on the mean flow. Developing multi-instruments platforms improve gravity wave parameterizations and enlarge the science community interested by operational infrasound monitoring.
- We invite contributions on the instrumentation, the characterization of different sources and atmospheric phenomena which affect acoustic propagation, the utilization of acoustic waves to probe the atmosphere, the contribution of gravity and planetary waves to the atmospheric dynamics and the coupling of atmospheric layers. We also consider the role that infrasound and acoustic-gravity waves play in the coupled Earth's crust – ocean – atmosphere system.