



Monitoring infrasound sources over Europe: from study to operational

Julien Vergoz (1), Alexis Le Pichon (2), Lars Ceranna (3), Pascal Herry (4), and Elisabeth Blanc (5)

(1) CEA/DAM/DIF, F-91297 Arpajon Cedex, France (julien.vergoz@cea.fr), (2) CEA/DAM/DIF, F-91297 Arpajon Cedex, France (alexis.le-pichon@cea.fr), (3) BGR, Stilleweg 2, 30655 Hannover, Germany (ceranna@sdac.hannover.bgr.de), (4) CEA/DAM/DIF, F-91297 Arpajon Cedex, France (pascal.herry@cea.fr), (5) CEA/DAM/DIF, F-91297 Arpajon Cedex, France (elisabeth.blanc@cea.fr)

In Europe, several years of continuous infrasound recordings are available for more and more infrasound arrays, where not all of them are part of the IMS. Such a dense network has demonstrated its capability for detecting and locating infrasonic repetitive sources because it allowed to highlight high acoustic areas mainly associated to open pit mining, volcanoes, platform degassing and air force activity. The seasonal variations in the detection capability of this network clearly confirm that the primary factor which controls signal detectability is the stratospheric wind circulation.

Ground truth events such as accidental and calibration explosions are essential to test and calibrate the developed association, location and detectability procedures, which are now implemented as a routine at French NDC. The 26 August 2009 Sayarim calibration infrasound experiment constitutes a unique benchmark for validation. Automatic and reviewed results will be presented through a prototype interactive tool recently developed to monitor infrasound activity over Europe. Source yield assessment obtained from empirical LANL laws and fast relocation calculated from fastest arrivals at each station and ray tracing simulations will also be shown.