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Monitoring gravity waves detected by I33MG

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Since September 2001, I33MG has recorded and stored data in the National Data Centre which belongs to the Laboratory of Seismology and Infrasound at the Institute and Observatory of Geophysics in Antananarivo (IOGA). The recorded data allowed us to monitor different sources of infrasound such as microbaroms, lightning, volcanoes, cyclones, mountain associated waves, explosions, etc which can be distinguished as acoustic waves. Besides, in the framework of the ARISE project, atmospheric waves having frequency below the acoustic cut-off frequency, known as gravity waves, are considered. Buoyancy oscillations are observed that fill the atmosphere and ocean and propagate long distances horizontally and vertically, have length scales from meters to thousands of kilometers, time scales from seconds to weeks, and release energy into turbulence by wave breaking. WinPMCC based on the Progressive Multi-Channel Correlation (PMCC) is used to detect and to get the wave parameters. Azimuth variation versus time is observed but events are mostly found from 200° to 360°, 0° to 100° and a few from 100° to 200°.