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infrasound network - current state and short-term perspective

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Until recently, the infrasound network in Ukraine consisted of two infrasonic arrays with a small aperture. However, the situation changed when we managed to create our own inexpensive digital condenser microbarograph (DCM). It has a frequency range of 0.05 to 15 Hz, a sensitivity of 40 mV/Pa, and an amplitude range of 200 Pa. Now, the array in the Kamenets-Podilsky region consists of 8 microbarographs. The array near Malin consists of 3 elements. The infrasound array near Radomyshl was created from 4 microbarographs in 2020. A site has been prepared for placing a three-element array in the Luhansk region (next Odesa region). The tests of microbarographs on the PS45 seismic station elements have also been successfully carried out and the installation of 7 microbarographs is planned. For research purposes, a 3-element mobile array is available. The infrasonic microbarograph at Vernadsky station (Antarctica) is supplemented with a set of 4 Chaparral Model 64 microbarographs. All data in miniSEED format are collected at the NDC. A cloud service has been created for remote work with infrasonic data. The modernized network is a big step towards ensuring the implementation of the CTBT Treaty by national means. It is also a good tool for regional observations.

Promotional text

Infrasound technologies, which are developing at the national level, are an important part of the provisions of the CTBTO Treaty. By developing the national network, Ukraine contributes to the improvement of monitoring.

Primary authors: LIASHCHUK, Oleksandr (Main Centre of Special Monitoring, State Space Agency of Ukraine, Godorok, Ukraine); Mr KOLESNYKOV, Leonid (CTBTO Preparatory Commission, Vienna, Austria); ANDRUSHCHENKO, Yuriy (Main Centre of Special Monitoring, State Space Agency of Ukraine, Gorodok, Ukraine); KARIAGIN, Evheniy; TOLCHONOV, Ivan (Main Centre of Special Monitoring, State Space Agency of Ukraine, Gorodok, Ukraine); POICHALO, Anatoliy (NCUVKZ)

Presenter: LIASHCHUK, Oleksandr (Main Centre of Special Monitoring, State Space Agency of Ukraine, Godorok, Ukraine)

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