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phase classification throughout the International Data Centre acoustic pipeline

At the International Data Centre (IDC), data received from the network goes through a three-step process (station processing, network processing and interactive review) to determine if a combination of detections can be built into an event. One of the major steps in determining if an event can be built or not, is the phase classification of the detected signals. For acoustic data, phases are determined during each process where, in the first two steps, algorithms will automatically name and rename phases based on a set of criteria and thresholds. In the interactive review, analysts can change or rename phases for a final time to build or not build an event. Here, we analyze the number of phase changes at each IMS Infrasound and hydroacoustic station and compare the number of detections in each process database to examine how a detection contributes to building an event. Furthermore, the expansion of the operational stations of the network is examined to understand how additional stations have altered the ability of the automatic and interactive processes to classify phases and build events. Ultimately, the results of this analysis can be used to improve the automatic IDC pipeline for acoustic phase classification and building events.

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