



## **Characterizing global infrasonic ocean ambient noise**

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The ability of the International Monitoring System (IMS) global infrasound network to detect atmospheric explosions and events of interest strongly depends on station specific ambient noise which includes both incoherent wind noise and real coherent infrasonic waves. To characterize the coherent ambient noise, a broadband array processing was performed on 10 years of continuous recordings at IMS stations. Multi-year comparisons between the observed and modeled directional microbarom amplitude variations at several IMS stations using two-dimensional wave energy spectrum ocean wave products are performed to build of a reference database of infrasound oceanic sources. Microseisms are attributed the same source processes as microbaroms, involving the interaction of standing ocean waves. To further evaluate oceanic wave action models, the infrasound analysis will be supplemented with several other approaches including microseisms collected at seismic instrumentation (single stations and arrays). The expected benefits of such studies concern the use of multi-year complementary data to finely characterize coupling mechanisms at the ocean-atmosphere interface. In return, a better knowledge of the source of the ambient ocean noise opens new perspectives by providing additional integrated constraints on the dynamics of the middle atmosphere and its disturbances where data coverage is sparse.