Geophysical Research Abstracts
Vol. 15, EGU2013-6104, 2013
EGU General Assembly 2013

Theoretical Global Microbarom Source Estimates for 2000-2010

Justin Stopa (1), Kwok Cheung (1), Milton Garces (2), Nickles Badger (2), and Alexis Le Pichon (3)

(1) Department of Ocean and Resources Engineering, University of Hawaii at Manoa, Honolulu, Hawaii, United States (stopa@hawaii.edu, cheung@hawaii.edu), (2) Infrasound Lab, Hawaii Institute of Geophysics and Planetology, University of Hawaii at Manoa, Kailua-Kona, Hawaii, United States (milton@isla.hawaii.edu, nickles@isla.hawaii.edu), (3) CEA/DAM/DIF, F-91297 Arpajon, France (alexis.le-pichon@cea.fr)

Monitoring stations around the globe routinely detect microbarom signals with a dominant frequency of $\sim$0.2 Hz from regions of marine storminess. The International Monitoring System (IMS) infrasound arrays routinely record clear telesonic signals in the wake of extra tropical storms. Based on our previous encouraging case studies, we have produced a theoretical microbarom source field dataset for 2000-2010 as predicted from the WAVEWATCH III spectral wave model. The Climate Forecast System Reanalysis (CFSR) provides a continuous global wind dataset created by state-of-the-art numerical model and assimilation technique to construct a homogenous dataset in time and space at 0.5° resolution. The CFSR incorporates the numerous observed data into their product creating the most accurate and extensive dataset for forcing the wave model. The predicted microbarom field over Earth can be used in conjunction with infrasonic observations to test long-range propagation algorithms and atmospheric specifications. Preliminary statistics describing the global microbarom field will be presented to illustrate the prevailing source regions.