

Ken,

Thanks for your reply and for continuing this healthy exchange. With regard to b-value studies, I certainly agree that this is a potentially useful parameter in identifying volcanic activity. During the last several years, the PMEL/OSU group and I have begun to look at the source level (SL)-frequency distribution of events within the T-wave catalogs. An early assessment of this swarm showed a distribution (power-law slope) somewhere in between the 1999 and 2000 Endeavour swarms (Bohnenstiehl et al., G-cubed 2004). There are, however, caveats with interpreting these results: 1) For the relatively low-bit SOSUS sensors, the SL scale becomes saturated for large events (note, this problem has been addressed in the newest generation of autonomous hydrophones); and, 2) there may be site-dependent effects controlling the relationship between acoustic SL and magnitude. Consequently, we were careful to not over interpret these finding for the Feb./Mar. 2005 swarm.

Although ~30 earthquakes were located by land-based seismic stations, they span a limited magnitude range, with magnitude estimates produced by different agencies using different scales that are not well-calibrated to each other (e.g., Ml, mb, Mw). I agree that examining the size-frequency relationship for events recorded by the OBS array will be important in the post-mortem for this swarm, and should one day be useful for real-time assessment (with the advancement of Neptune).

Best Regards,
Del

Bohnenstiehl, D.R., R.P. Dziak, M. Tolstoy, C.G. Fox, M. Fowler, Temporal and spatial history of 1999-2000 Endeavour segment seismic series, Juan de Fuca Ridge, G-cubed, v:5, 9, DOI: 10.1029/2004GC000735, 2004.