

Preliminary Chemical Data Analysis at 9°North East Pacific Rise, Pre- & Post-Eruption 2004-2007.

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During the spring of 2006 an eruption occurred at 9°N East Pacific Rise (EPR) returning the hydrothermal vent environment to “time zero.” *In-situ* voltammetry using solid state gold-amalgam voltammetric electrodes was used to characterize the chemistry found at this vent system from 2004 to 2007, providing strong data sets for comparison of oxygen, sulfide, and temperature levels before and after the eruption occurred. The biological life present prior to the eruption was found to be different from the life found afterwards, with mussels and *Riftia pachyptila* tubeworms dominating the vent system before the eruption and a succession of microbes and *Tevnia jerichonana* tubeworms following the eruption. Preliminary data analysis shows observed ranges of sulfide, oxygen, and temperature levels tolerated by these species. There is a noticeable difference in the diffuse flow chemistry observed prior to and following the eruption at 9°N EPR as increased temperature and H₂S levels occurred after the eruption in newly formed diffuse flow areas.

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