

{rokbox title=|Collection sites on continental shelf near the Deepwater Horizon (DH) oil spill site.
:: Figure: Authors|

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Stephen C. Landers, Alfred C. Nichols, Nathan K. Barron, Craig A. Schimmer, Rui Tao, Kewei Yu, Paul M. Stewart, and **Emil Ólafsson**, 2014. [Nematode and copepod diversity \(2012\) from Louisiana near the Deepwater Horizon oil spill](#)

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Abstract: Meiofauna were sampled from the NOAA ship *Gordon Gunter* during Fall 2012 off the coast of Louisiana. At five locations near the Deepwater Horizon drilling site (located 54–115 km away) box core samples and Shipek® grab samples were collected for subsurface meiofauna and sediment analysis. The goals of this study were to: 1) perform a taxonomic analysis of the meiofauna groups Nematoda and Copepoda, 2) perform statistical analyses of animal densities and sediment characteristics, and 3) compare sampling results using two different collection devices. Nematodes were the most abundant animals recovered, ranging from 88–791 animals per 10 cm² area. Nematodes were represented by 60 genera in 23 families. The nematode community was dominated by one genus at the deepest location. Cluster analysis showed that there were two major groups for the five sites; nematodes from two shallow sites 81 and 84, and those from two shallow sites 85 and 86 along with deep site 82. Copepods were represented by 35 species from six families, with no animals identified at the deepest location (site 82). Cluster analysis also demonstrated two major groups similar to the two nematode groups but without site 82 present. Spearman correlation analysis revealed positive correlations among nematode, copepod, polychaete, and kinorhynch densities, and no correlations among the meiofauna densities and sediment chemistry values (metals and polycyclic aromatic hydrocarbon [PAH] concentrations). Nickel concentrations varied from 3.1–30.0 mg/kg, vanadium from 5.5–71.6 mg/kg, and PAHs from 94–395 ppb. Statistical comparison (Mann-Whitney U-test) of the box corer and Shipek® sampling equipment, using animal abundance, heavy metal analysis, and PAH data, revealed no difference between the two samplers.

Keywords: biodiversity, Copepoda, heavy metals, meiofauna, Nematoda, Shipek® grab