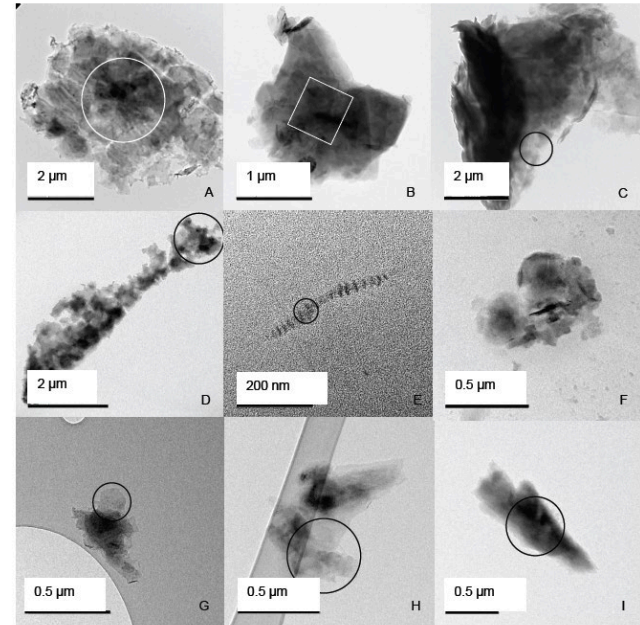


# Abiotic synthesis of graphite in hydrothermal vents

- | The structure and origin of an old component of deep marine organic carbon has been a mystery.
- | Identifying the sources, transport pathways, and fate of this relatively old carbon is key to understanding the dynamics of the marine carbon cycle.
- | This study reveals that the old carbon is graphite that originates from hydrothermal vents, and NanoEarth supported nanoscale characterization.



*TEM images of reduced carbon particles reveal that they are graphite originating from hydrothermal vents.*

Estes, E., Berti, D., Coffey, N.R., Hochella, M.F., Jr., Wozniak, A.S., and Luther, G.W., III (in review) Abiotic synthesis of graphite in hydrothermal vents. *Nature Geosciences*.