Cite abstracts as *Eos Trans. AGU, 83*(47), Fall Meet. Suppl., Abstract xxxxx-xx, 2002

Your query was:
"PP22A-0350"

The selected databases contain **one** document matching your query:

1330h
PP22A-0350

Paleogene and Neogene Paleoclimate Implications of High-Resolution Mineralogy and Mass Accumulation Rates for Equatorial Pacific Sites Drilled During ODP Leg 199

*** Vanden Berg, M D**
mvandenberg@mines.utah.edu
University of Utah Dept. of Geology and Geophysics, 135 S 1460 East, Rm. 719, Salt Lake City, UT 84112 United States

Jarrard, R D
jarrard@mines.utah.edu
University of Utah Dept. of Geology and Geophysics, 135 S 1460 East, Rm. 719, Salt Lake City, UT 84112 United States

ODP Leg 199 drilled a transect of sites in the equatorial Pacific for the purpose of studying Paleogene and Neogene paleoclimate and paleoceanography. To help achieve this goal, high-resolution mineralogy and mass accumulation rates were calculated at each site. Leg 199 was the first ODP cruise in which reflectance spectra were routinely measured from sediment cores at an extended bandwidth (350-2500 nm) using light absorption spectroscopy (LAS). Precruise calibration of spectral features to local ground-truth samples enabled shipboard calculation of concentrations of calcite and opal, the two biogenic sediment components, and smectite and illite, the two main terrigenous sediment components. These mineral calculation transforms were refined postcruise with additional ground-truth samples. Using multiple regression and LAS mineralogy, the multi-sensor track physical properties data were converted into high-resolution mineralogy logs. These logs, as well as age and dry-bulk density, were used to calculate high-resolution carbonate, opal, and terrigenous mass accumulation rates (MAR) for each Leg 199 site. Plots of opal MAR versus paleolatitude show that during the Paleogene, the opal equatorial accumulation bulge extended to about 12$°$N, whereas in the Neogene the bulge extended only to about 7$°$N. Carbonate accumulation rates during the middle to late Eocene were very low except for a few isolated intervals (e.g., around 41 Ma). Carbonate accumulation rates in the Oligocene and early Miocene were much higher than in the Eocene, with the carbonate equatorial bulge extending to 4$°$N. Terrigenous MAR are much more variable between adjacent sites, probably because of ocean bottom currents. A Pliocene increase in terrigenous accumulations in the north (20$°$-25$°$N) may correspond to an increase in the Asian dust flux that occurred ~3.6 Ma.

3022 Marine sediments--processes and transport
3094 Instruments and techniques
4231 Equatorial oceanography
4267 Paleoceanography
4852 Photochemistry
Paleoceanography and Paleoclimatology [PP]
2002 Fall Meeting

New Search