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1 Seasonal and Interannual Dynamics of the Diatom Productivity off Java, Indonesia

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We examine a 36-month continuous record of particle flux collected between November 2000 and July 2003 at the pelagic mooring site JAM off south Java. Flux of diatoms and bulk components were investigated under weak La-Niña conditions (2001) and weak El Niño conditions (2002-early 2003). The temporal dynamics of the diatom flux reflects both the monsoon-driven seasonality as well as the changes in oceanographic and atmospheric conditions derived of the El Niño/La Niña transition. The highest diatom flux coincided with the SE-upwelling season under La-Niña conditions in Sept 2001. Diatom productivity was moderate to low throughout 2002, when a weak El Niño occurred off south Java. By the end of El Niño, diatom contribution increased again and peaked during the NW upwelling season early 2003. A highly diversified diatom community characterizes the fluxes. Pelagic, warm-water diatoms, such as *Nitzschia bicapitata* group, *Thalassionema nitzschioides* var. *parva*, and *N. interruptestriata*, dominated throughout and maintained much of their regular seasonal cycle of maxima and minima, independent of El Niño. Neritic diatoms *Thalassionema nitzschioides* var. *nitzschioides*, resting spores of *Chaetoceros* spp., and *Actinocyclus curvatulus* are accompanying components, suggesting moderate influence of coastal

waters over the trap site. The simultaneous occurrence of diatom species with different ecological affinities mirrors the fact that the JAM site was moored in a region with large hydrographic variability over short-time intervals.$\leq \mu\mu\delta\delta\delta\delta\delta\delta\check{\boldsymbol{C}}\check{\boldsymbol{C}}$