



Figure 19. Distribution of suspended-sediment concentrations at sites in the Mobile River Basin.

Concentrations of suspended sediment were closely related to streamflow (fig. 20). Sediment concentrations had a significant ($p < 0.05$) positive correlation as streamflow increased for all sites and Spearman's rho values ranged from 0.47 to 0.81.

Loads and Yields of Suspended Sediment

Mean annual instream sediment loads and yields were calculated for each site in the Mobile River Basin (table 4). Mean annual sediment loads ranged from 3,320,000 tons/yr at the Tombigbee River to 789 tons/yr at Threemile Branch. Significant regression coefficients can suggest possible insight into sources and influences of sediment loads. A significant positive streamflow coefficient indicates that sediment inputs were from nonpoint sources for all sites except the Black Warrior

River and Chattooga River (table 4). However, the lack of a significant positive streamflow coefficient does not imply that there is a point source of sediment at these two sites. Suspended-sediment loads were significantly influenced by seasonal variations at the Chattooga River, Cahaba River, and Cahaba Valley Creek.

Yields of suspended sediment ranged from 14 (tons/yr)/mi² at the Black Warrior River to 1,450 (tons/yr)/mi² at Bogue Chitto Creek (table 4). Suspended-sediment yields at Pintlalla Creek were significantly lower than Bogue Chitto Creek, which may be a reflection of the differences in agricultural practices in the Pintlalla Creek Basin, which is predominantly pasture and forestland, compared to the Bogue Chitto Creek Basin, which is predominantly row crops. The relatively low suspended-sediment yield for the Black Warrior River reflects the influence of impoundments upstream from the site.