

# Grain-Size Data from Barataria Bay

## Statistics for Classification

### EVS 430: Advanced Quantitative Methods

The file *bayseds.xls* contains data on weight percentage by  $\phi$  size for fifty grain-size analyses for bottom sediments collected in Barataria Bay, Louisiana. The samples come from five different depositional environments:

**I:** Beach and foreshore sands;

**II:** silty channel sands;

**III:** silty channel margin sands;

**IV:** organic bottom silts; and

**V:** organic muds from lees of islands.

Based on these grain-size analyses, can you design a scheme that allows you to classify the depositional origin of future samples based on grain-size analysis. That is, suppose that a vibracore sample is analyzed for grain-size distribution. Could you tell from that distribution what depositional environment it likely came from?

**Note:** Large  $\phi$  size corresponds to smaller grain size.