

# Lesson Plans: Coastal Erosion

## Objective

The objective of this activity is to study the coastal erosion (or deposition) by waves and sea level rise at a particular area.

## Materials

Each student or group of students will need the following:

- Graph paper
- Ruler
- Pencil and pen

## Important Points to Understand

To observe changes in sea level, scientists regularly measure the sea level at certain places. If they want to predict what will happen to sea level in the future, say at a particular beach, they look at the past trends.

Has sea level at this beach been rising or falling over the past years? Has the beach sand been eroded by rising sea level or accumulated because of falling sea level?

## Preparation

Try to explain that the information in the table below shows a study of estimated volume of sand on a part of the beach at Lefaga, Samoa.

<b>Year</b>	1972	1973	1974	1975	1976
<b>Sand Volume (m<sup>3</sup>)</b>	268	331	192	394	201
<b>Year</b>	1977	1978	1979	1980	1981
<b>Sand Volume (m<sup>3</sup>)</b>	185	386	252	323	351
<b>Year</b>	1982	1983	1984	1985	1986
<b>Sand Volume (m<sup>3</sup>)</b>	364	385	343	349	377

## Procedure

1. Plot the data on a graph paper, time in years on the horizontal axis and the volume of sand on the vertical axis.
2. Try to understand the zigzag character of the graph.

## Questions

With the graph, try to answer the following questions:

1. Which years showed erosion and which years showed deposition?
2. Can you predict what will happen to the beach over a long period of time (e.g., 50 years) from these data?