**OCEAN CURRENTS: PLOTTING BUOY DATA**

(Modified from the original by Dr. Karen Grove, Department of Geosciences, San Francisco State University)

**INTRODUCTION:**

**Ocean currents** are like huge rivers in the sea. They carry drifting organisms, vital dissolved chemical nutrients and pollutants with them as they flow. Surface currents affect the biological productivity of the ocean and also help determine our climate by moving hot and cold-water masses around. **Currents** are also important for ships traveling at sea that can move with or against the flow. In this investigation we will consider one important way that scientists gather information about the location and strength of ocean currents.

The data below are from **drifter buoys** in the North Pacific Ocean. Released into the ocean, the buoys float with the currents and take measurements of the water with built-in instruments. They are tracked by satellites in orbits far above Earth and transmit data several times a day.

The floater at the top of the buoy sits at the surface of the water and holds an antenna for sending data to a satellite above. Drogues well below the surface cause the ocean currents to take the buoy along instead of the surface wind (Figure 1 below).

The **buoy** also holds electronic instruments for measuring sea surface temperatures (SST), submergence, irradiance (for sunlight) and barometric pressure. At the top is another device for measuring temperature and conductivity (used to calculate salinity).

**PROCEDURES:**

Longitudes 80-180 degrees on the left (west) side of the diagram are East Longitudes (positive numbers); longitudes 180 to 80 on the right (east) side of the diagram are West Longitudes (negative numbers). North Latitudes are in the upper half of the map and South Latitudes are in the lower half of the map. Label the numbers on the map as N and S latitudes and E and W longitudes.

Use the longitude and latitude data below to plot the position of each buoy location during the year. Next, connect the locations with different color lines for each buoy and draw an arrow to show the direction of motion.

**Data available on page 2.**

**DATA:**

