

Name \_\_\_\_\_



## Ducky Data

**Purpose:** To learn the names of major ocean currents, their location, and in what location they flow.

**Background Information:** During a storm in January of 1992, a cargo ship lost several containers in the middle of the North Pacific Ocean. At least one of the containers broke apart, releasing almost 30,000 plastic bath toys into the ocean. The toys were made of plastic and floated, so scientists could use their movement to study ocean currents by recording when and where the toys washed ashore.

By 2007, the toys began appearing on beaches in New England.

The primary surface currents in the North Pacific Ocean form two **gyres** (circular patterns of currents), the North Pacific Gyre, which flows clockwise over most of the area of the ocean basin, and the smaller Alaska Gyre, which flows counterclockwise in the northeast part of the ocean basin. In one study, the rubber ducks mostly stay in the northern part of the North Pacific Ocean basin, including the Alaska gyre.

The most important currents are the Kuroshio Current (the eastward extension of which is sometimes called the “Westwind Drift” or sometimes the “North Pacific Current”), the Alaska Current, and the Oyashio Current.

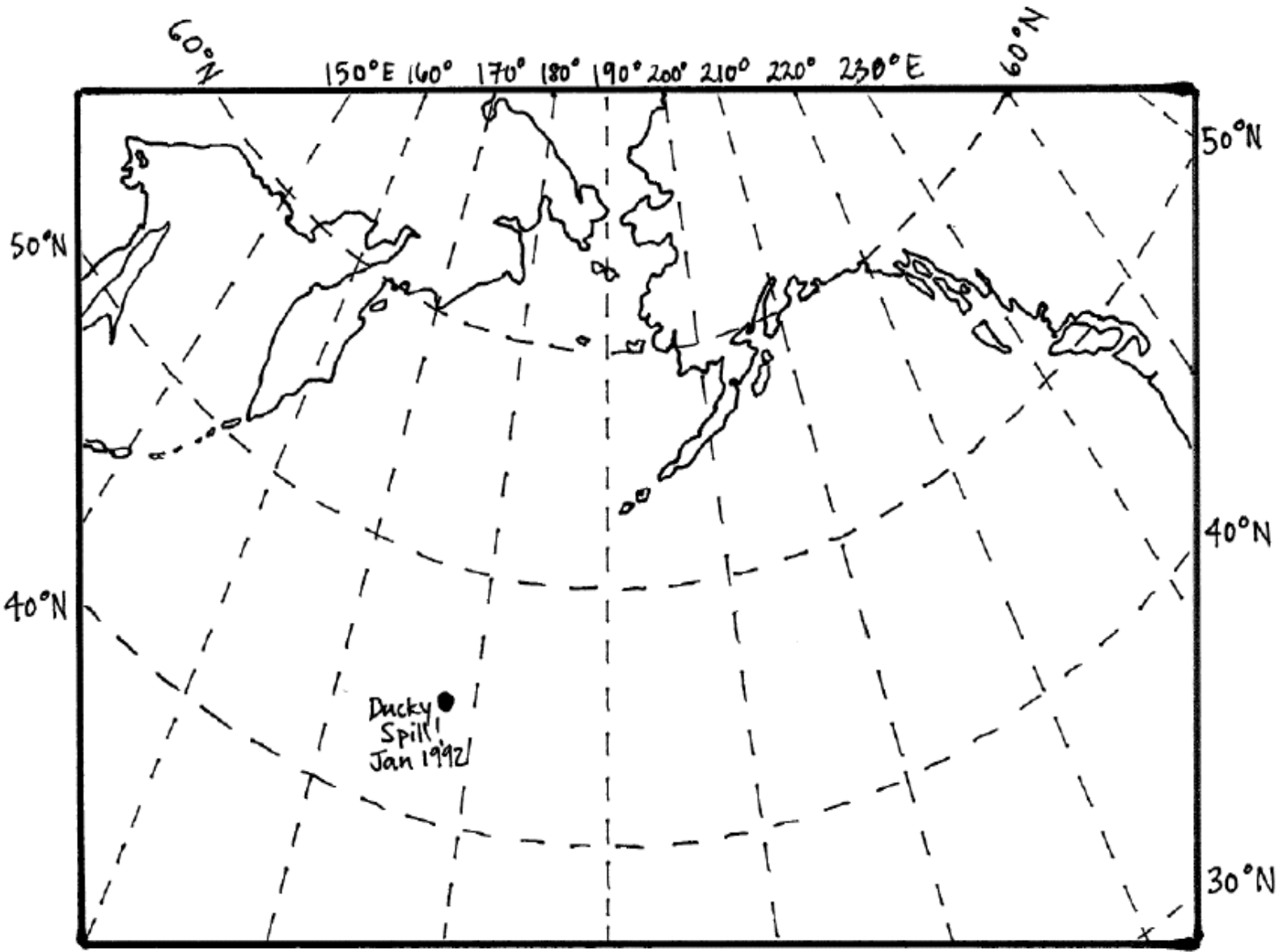
**Materials:** Map of ocean currents

### Procedure:

1. Use the Ducky Data to plot the data of when and where the rubber ducks were at different times. Label each data point with the data.

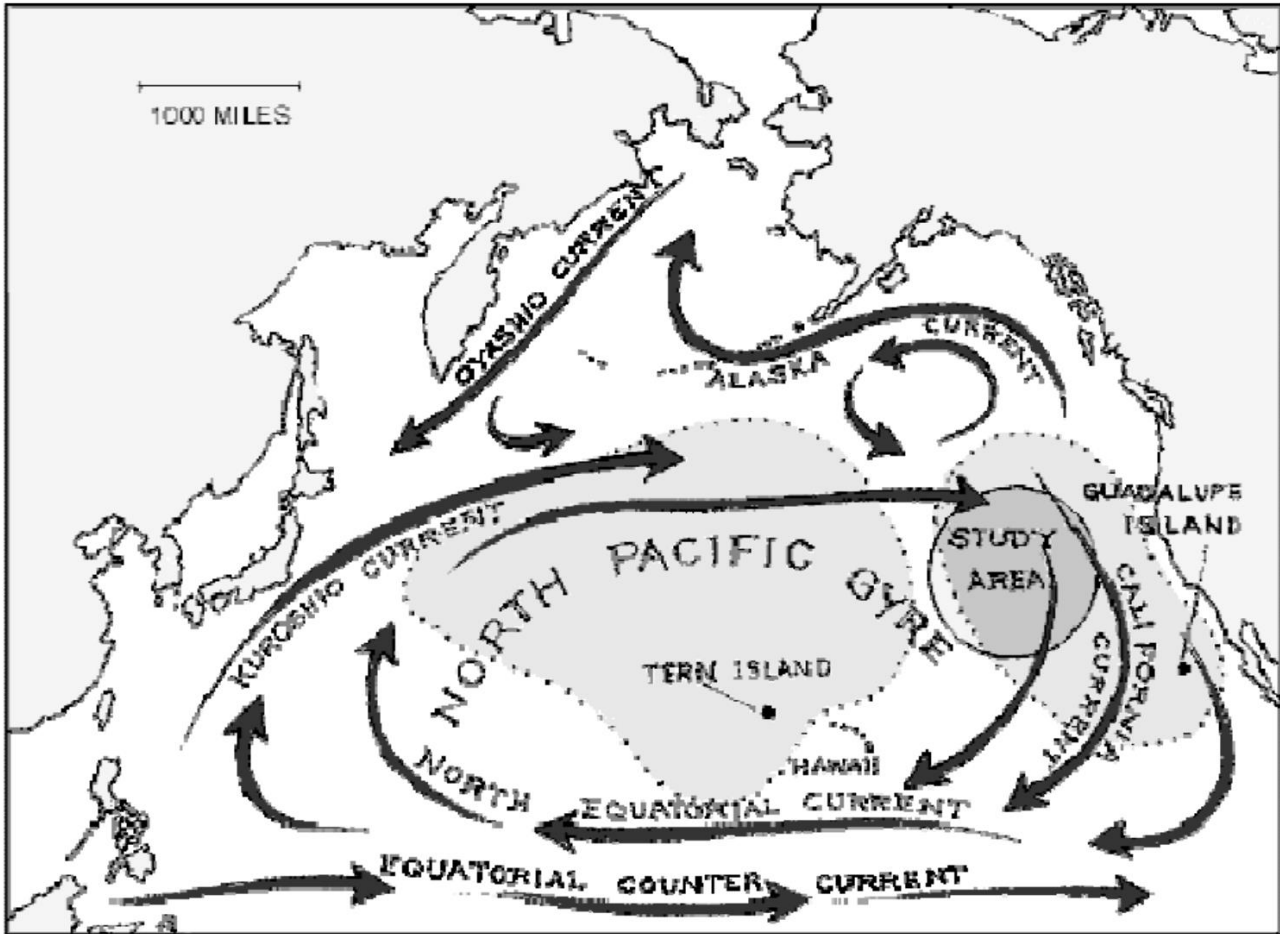
### Data:

Date	Latitude	Longitude
January 1992	45°N	178°E
March 1992	44°N	195°E
July 1992	49°N	205°E
October 1992	52°N	225°E
January 1993	59°N	211°E
March 1993	56°N	203°E
July 1993	57°N	190°E
October 1993	59°N	180°E
January 1994	56°N	166°E
March 1994	45°N	155°E
July 1994	47°N	172°E
October 1994	50°N	195°E
January 1995	47°N	220°E



**Analysis and Questions:**

1. Compare the route the rubber ducks took to the map of ocean currents below.



Source: <http://www.mindfully.org/Plastic/Ocean/Moore-Trashed-PacificNov03.htm>

Which ocean currents carried the toys?

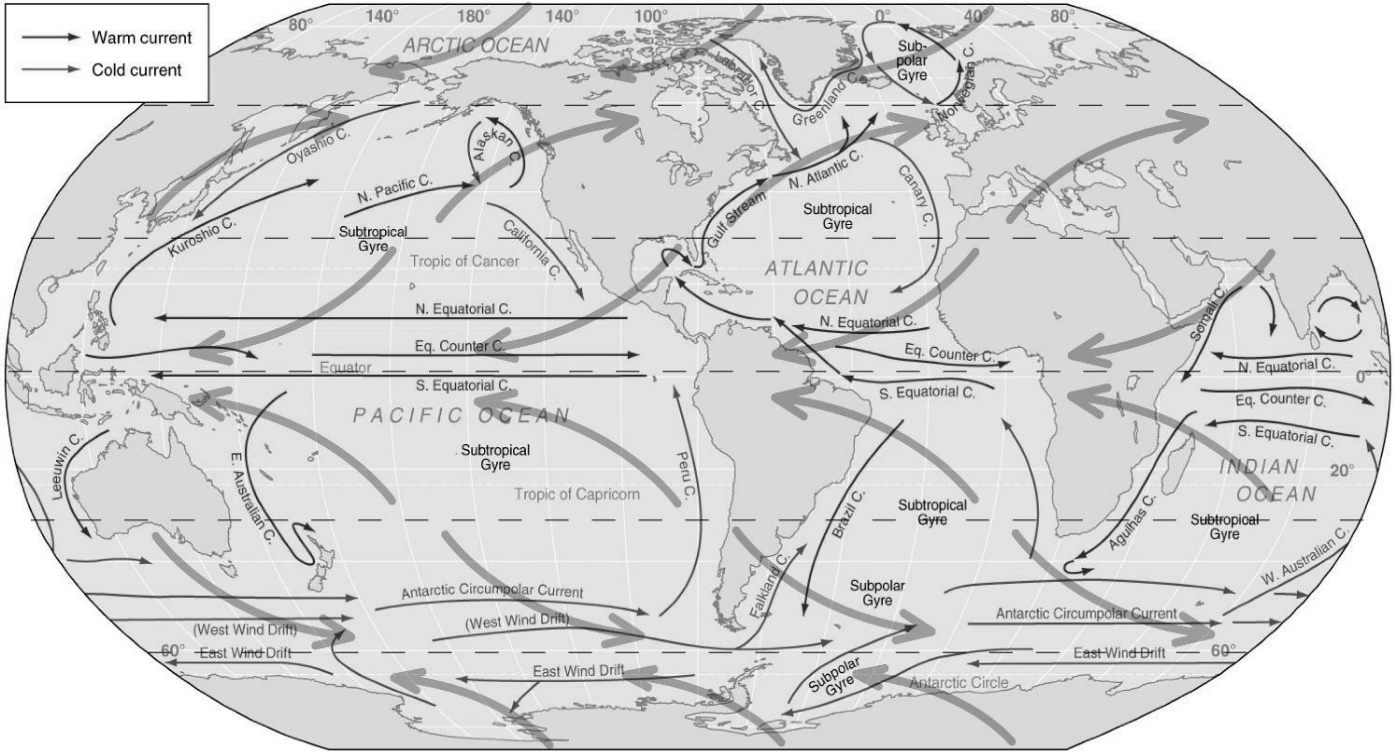
---

How do you know?

---

---

2. What route could have been used by the toys to reach the New England? Draw it on the map.



<http://blsciblogs.baruch.cuny.edu/>

Justify your answer:

---

---

---

---

---

---