



**NOAA Teacher at Sea**  
**Brett Hoyt**  
**Onboard NOAA Ship RONALD H. BROWN**  
**October 8 – October 28, 2006**

**NOAA Teacher at Sea:** Brett Hoyt

**NOAA Ship:** Ronald H. Brown

**Mission:** Recovery of Stratus 6 mooring and deployment of Stratus 7 mooring  
Recovery of SHOA tsunami warning buoy and deploy a fresh replacement buoy

**Days:** Monday & Tuesday, October 23 & 24, 2006

**Day: Monday October 23, 2006**

**Weather Data from Bridge**

Visibility: 12nm (nautical miles)

Wind direction: 150° True

Wind speed: 5 knots

Sea wave height: 0-1ft

Swell wave height: 4-5 ft

Sea level pressure: 1017.4millibars

Sea temperature: 18.4°C or 65 °F

Air temperature: 17.9°C or 64 °F

Cloud type: stratus

**Day: Tuesday October 24, 2006**

**Weather Data from Bridge**

Visibility: 12nm (nautical miles)

Wind direction: 140° True

Wind speed: 4 knots

Sea wave height: 0-1ft

Swell wave height: 6-8 ft

Sea level pressure: 1018.5millibars

Sea temperature: 18.1°C or 64 °F

Air temperature: 18.7°C or 65 °F

Cloud type: stratus

**Note:**

Deployment of the new tsunami buoy began at 6am on October 23. The scientists deployed the buoy first and then plan to deploy the Bottom Pressure Recorder (BPR). The reason for this is that the BPR must be located close enough to the buoy for the acoustic communication from the BPR to reach the surface buoy. As there are only a few instruments from the Woods Hole Oceanographic Institution on the buoy, this deployment process only took a few hours instead of most of the day. They plan on letting the buoy settle for many hours before they deploy the BPR. One of the challenges for the tsunami buoy is that unlike the Stratus 7 buoy which had a “watch circle” (the

distance the buoy could wander) of over 3 miles, the tsunami buoy has a watch circle of no more than 1,500 meters. This difference is that you don't want the buoy wandering out of range of the Bottom Pressure Recorder transmitter. To achieve this, the scientists must make the mooring line exactly the right length. The day before they deployed the buoy the scientists measured the contours of the ocean floor and knew precisely how deep the water was. At the last minute, the scientists from the Chilean Navy cut and spliced a piece of mooring line to exactly the right length. (See photo)

### **The Scientists**

Here a scientist from the Chilean Navy is seen splicing in an eye into the line after it was cut to length. This process ensures that the buoy stays in the right location and does not wander too far.

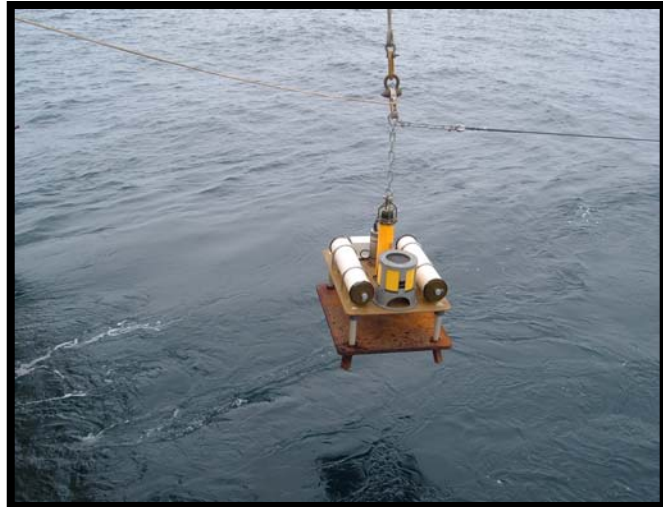


### **The Machine**



The Chilean Government's tsunami buoy on station in the South Pacific. This is only one half of the warning equation.

**The Bottom Pressure Recorder (BPR) with its anchor attached.**



### **The Experiment**

There was no experiment.

### **Classroom Activities**

There is no classroom activity, as creating your own tsunami in the classroom would be way too messy.