



**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

Day: Monday, October 16, 2006

Weather Data from Bridge

Visibility: 12nm (nautical miles)

Wind direction: 060° True

Wind speed: 10 knots

Sea wave height: 3-4ft

Swell wave height: 5-6 ft

Sea level pressure: 1020.8 millibars

Sea temperature: 19.3°C or 66°F

Air temperature: 19.1°C or 66°F

Cloud type: cumulus, stratocumulus

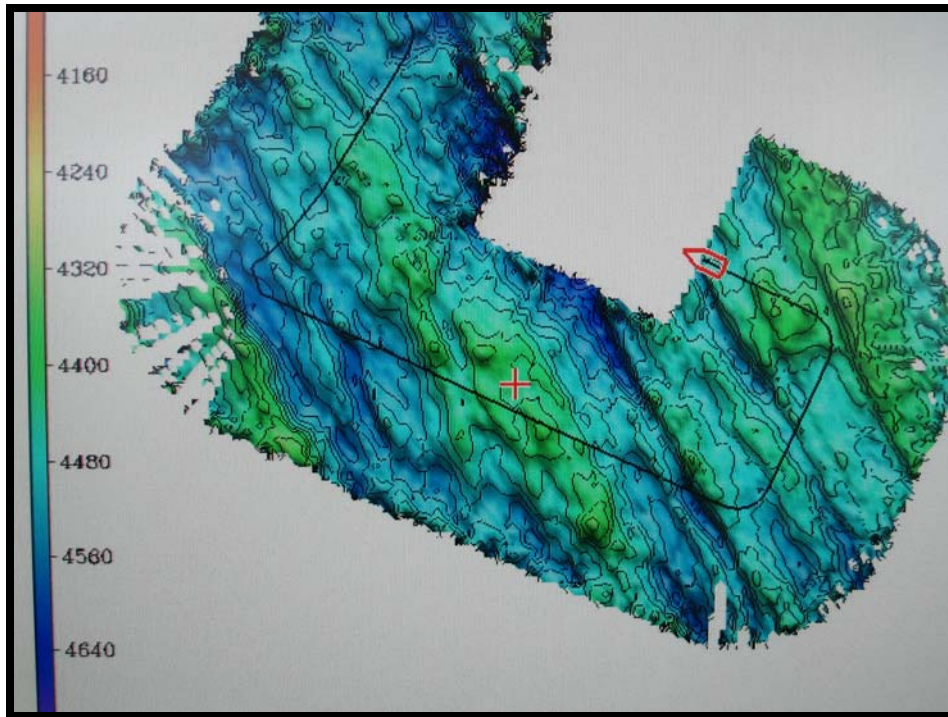
We are going to use a different format for today because it is:

It's Deployment Day!

Today was deployment day for the entire crew and the best way to tell this story is in pictures. So let's begin. If you should have any questions please feel free to contact me at hoytbk@gmail.com.



Before scientists deploy a buoy they must measure how deep the ocean is. This is the actual bathymetric (bottom measure) read out of the target site for Stratus 7.



This is the map of the bottom of the ocean. Please note the scale in meters on the left as well as + marks the spot. Can you see the pattern the boat is making?



With over 4,400 m (13,000 ft) of cable it takes a full crew to stage the cable.



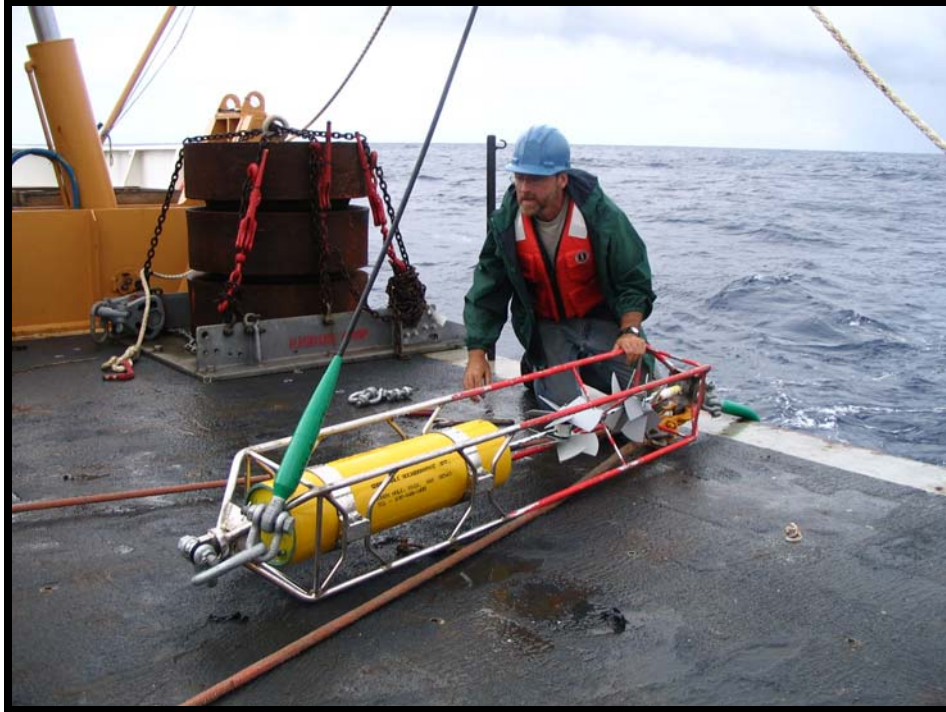
Jeff Lord making final preparations for the dozens of instruments to be deployed beneath the buoy. What an amazing man. "What would we do without you?"



Lifting the Stratus 7 Buoy off the ship. This process takes the cooperation of about a dozen individuals to do.



Stratus 7 off the side ready to have the instruments deployed under it.



Jeff attaching a current meter (Invented and patented by Dr. Weller) to the bottom of the buoy. It weights about 160lb and there are eight of them. Please note the safety equipment Jeff is wearing. SAFETY FIRST!



Dr. Weller operating the winch (it has over 2.5 miles of cable on it!) and supervising the deployment operation.



Attaching glass balls (they are located inside the yellow plastic housings which protect them from chipping), which are at the very end of the 13,000 feet of cable just above the acoustic release, which in turn attaches to the anchor. These hollow glass balls can withstand pressures in excess of 5,300 lb/sqin.



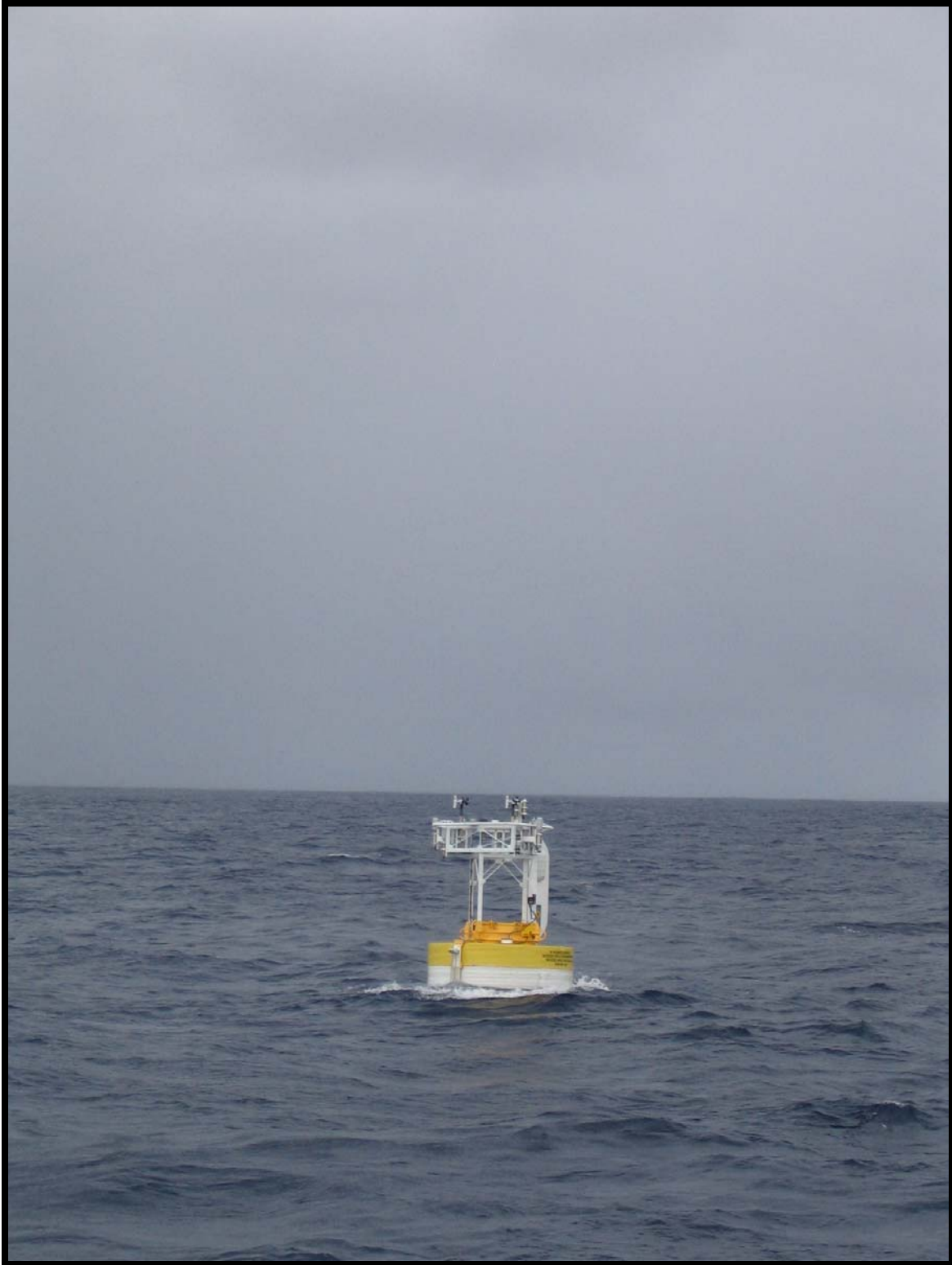
This is the acoustic release (actually two) that attaches the buoy mooring line to the anchor. One year from now an acoustic signal will be sent down 13,000ft to trigger the chain to be released. The reason they use two is that if one fails the release will still take place and the mooring line will begin its ascent to the surface with the help of the glass balls.



Everything is just moments before release. This anchor weighs 9,000lbs and will take over 45 minutes to fall to the bottom of the ocean. All the instruments are attached, glass balls secured, and the acoustic release in place. Drum roll please.....



The anchor is deployed!



Stratus 7 on station in the South Pacific Ocean helping scientist understand this big blue planet we call home.