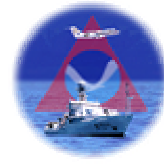




NOAA Teacher At Sea Dr. Laura Brezinsky Daily Logs



Students at Hawaii Community College in Hilo, Hawaii, will learn about marine science in an exciting new way this year, through the eyes and perceptions of their own science professor Dr. Laura Brezinsky. Dr. Brezinsky is being sponsored by a partnership between the NOAA Teacher at Sea Program and NOAA's Educational Partnership Program. Brezinsky, a resident of Hilo, teaches human biology and botany at the college. She is sailing aboard the 215-ft. NOAA fisheries research ship *Miller Freeman* April 8-22 to work with scientists on a Fisheries-Oceanography Coordinated Investigations (FOCI) cruise in the waters of Alaska.

Daily Logs

Foci Cruise, Leaving Kodiak Alaska on 4/08 and arriving in Dutch Harbor on 4/22

Day 1: Saturday, April 10, 2004

Latitude: 58.41.1690N

Longitude: 148 50.929'W

Cloud cover: partially sunny

Science and technology log:

This morning we are off the coast of the Kenai Peninsula near Seward Alaska. We retrieved and deployed a buoy at approximately 8 AM and will retrieve the next buoy in approximately 3 hours from that time. I interviewed my bunk mate Jennifer Key who is here conducting research on global circulation patterns. Her primary interest is the distribution of the dust from the Gobi desert and its effects on marine organisms. This is especially interesting to me because it is well known that dust from the Gobi Desert also provides significant levels of nutrients to the forests of Hawai'i.



Sunset at Kenai

Personal log

Last night I learned how to not fall out of my bunk in 30 foot seas. Lets just say that it's not very restful. This morning I learned what the crew does, they wedge a survival suit under the outside edge of the mattress. The waves have come down quite a bit making it a lot easier to get around.

Question of the day: What air currents distribute dust from the Gobi Desert around the world and where is that dust likely to end up?

Until tomorrow...

Laura



Picture of the crew retrieving a mooring buoy

Day 4: Monday, April 12, 2004

Latitude: 59.31.830N

Longitude: 149 10.28'W

Weather: clear

Visibility: 29.5-49.5 ft (very high)

Wind direction: 355 degrees

Wind speed: 6 (m/s)

Sea wave height: virtually flat

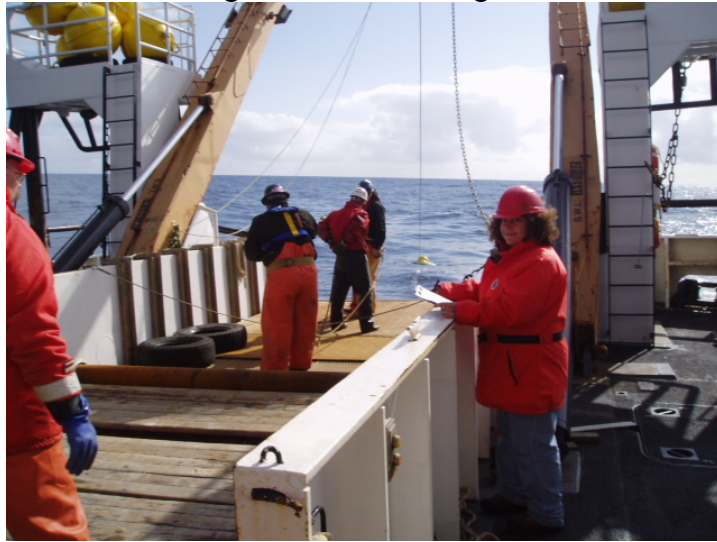
Sea level pressure: 143mb

Cloud cover: Nimbostratus

Science and technology log:

This morning we are off the coast of Seward. We have been having difficulty retrieving a mooring because it is not vertical in the water. At the base of the mooring there is a switch that releases the mooring from the anchor by remote control. The switch also has a sensor that tells the ship what the position of the mooring is. Apparently the mooring is horizontal in the water rather than vertical and that is likely the reason why we cannot

find it. The boat will return with a remote rover that will find and retrieve the mooring. For now, we will continue on and get the next mooring which is closer in to the coast.



Laura waiting for a mooring.

Personal log

The seas are flat, the sun is shining and the coast is stunningly beautiful. We are close enough to land that I can see individual features. There is a very large coastal glacier directly inshore from us. I will try and look up the name of that glacier and report tomorrow on that.

Question of the day: What is the definition of a glacier? How are glaciers being used to track global change over geologic time?

Laura

Day 5: Tuesday, April 13, 2004
Latitude: 59.05.72N
Longitude: 151 00.14
Weather: continuous clouds
Wind direction: 60degrees
Wind speed: 19m/s)
Sea wave height: less than 2 feet
Sea level pressure: 13mb
Cloud cover: Cumulus

Science and technology log:

Yesterday we failed to retrieve the buoy that had lost its floaters but we did successfully deploy a new buoy. During the night the boat sailed south west to our present position off the coast of the southern end of the Kenai Peninsula. This morning we deployed another buoy and took CTD readings. We have one or 2 more buoys to recover and deploy and they we will be picking up several buoys that will not be replaced because their projects have completed.

Personal log

Last night at around midnight, the ship finally got an hour of down time and I got to fish. No one else was much interested so I was out there on the stern of the boat in the middle of the night watching the sea birds and hoping for a bite. I got to thinking about all the different types of birds out here and all their different strategies. Some stay here year round while others migrate to warmer waters and return.

Question of the day: What species of Plover migrates between Hawai`i and Alaska. Illustrate the migration patterns and summarize how those patterns have been elucidated.

Laura

Day 6: Wednesday, April 14, 2004
Latitude: 57.40.47N
Longitude: 155 12.38
Weather: continuous clouds
Visibility: 29.5-49.5 ft (Very High)
Wind direction: 220 degrees
Wind speed: 11 (m/s)
Sea level pressure: 26

Science and technology log:

Last night we sailed south/west and this morning we are off the coast of the Alaska Peninsula in the vicinity of Katmai National Park. According to Carol Dewitt, one of the supervisors on this leg of the project, there have been an inordinate number of lost moorings on the GLOBEC line as compared to other moorings in this area. It has been suggested that this could possibly be due to long-line fishing interference but no

definitive cause has been determined as of yet. Today we will recover and deploy another buoy and continue in a south westerly direction.

Personal log

Last night during my nightly visit to the bridge I discovered that the crew was closely observing 2 lights that were directly in our path. The concern was that they could possibly be marker buoys for a long line and if we were to cross the line it could become entangled in our propeller. Fortunately the lights turned out to be a small boat and a marker for some rocks called "latex rocks". There is only one captain (John Herring) on this boat and he cannot be on watch 24 hours a day. Often the driving of the boat is turned over to the other crew members including the XO (Executive office) as well as other less senior personnel such as the ensigns. After watching them all work I have complete confidence in their abilities, dedication and attention to detail.

Question of the day: What is long-line fishing and how is it impacting our fisheries? What regulations have been put in place to try and reduce negative impacts of long-liners?

Laura

Day 67: Thursday, April 15, 2004

Latitude: 57.40.47N

Longitude: 155 12.38

Weather: continuous clouds

Visibility: 29.5-49.5 ft (Very High)

Wind direction: 220 degrees

Wind speed: 11 (m/s)

Sea level pressure: 26

Science and technology log:

Yesterday afternoon we began to collect data on "line 8" which is a line that goes across the Shelikof Strait from Kodiak Island to the Aleutian Peninsula. This is a line of moorings that has been in place for many years. After servicing the moorings, we began transiting back and forth taking CTD readings. This operation will take approximately 24 hours at which time we will begin moving South/West down the Aleutian Island Chain. As part of "The Ring of Fire" The Aleutian Islands are volcanically active and they continue to erupt on a regular basis. According to one of the ship's crew who has been on this ship for many years and has seen them erupt, these volcanoes are explosive unlike our Hawaiian Volcanoes.

Personal log

Last night the ship had a couple hours of down time and I got a chance to go fishing. No one actually caught anything, but I suppose that's why they call it fishing. Although thousands of tourists and commercial fishers flock to Alaska every year to catch the many different species of Salmon, the fishery remains one of the most healthy and prolific in the country. This is probably due to the relative inaccessibility of much of the state in combination with strict regulations. Recently the practice of farming Atlantic Salmon

has increased, much to the dismay of conservation Biologists.

Question of the day: Describe how Atlantic Salmon are farmed and processed? What are the negative impacts related to the farming of Atlantic Salmon? Discuss potential impacts to wild populations as well as local impacts due to pollution.



Picture of bumper sticker.

Laura

Day 7: Friday, April 16, 2004

Latitude: 55.11.03N

Longitude: 161 41.70

Weather: continuous clear

Visibility: 29.5-49.5 ft (Very High)

Wind direction: 125 degrees

Wind speed: 10 (m/s)

Sea level pressure: 24

Science and technology log:

Last night we spent the entire night steaming south/west and this morning we are at Pavlov Bay where we will deploy a mooring. The weather report predicts 50 knot winds which are too much for this boat to handle. The plan was to continue down the Aleutian island chain and pick up several moorings but if the weather turns out to be as predicted, we will come up with an alternative plan.

Personal log

Last night we were in open water and the waves tossed us around all night. Both myself and my roommate got little sleep. Apparently though, the crew slept right through it. Today we are in very calm protected waters and it's a sunny day with good visibility. We are working right in between Pavlov Volcano and some Aleutian islands and the contrast between the snow covered volcanoes on the starboard side and the relatively barren rock covered Aleutian islands on the port side creates a striking contrast.

Question of the day: Compare the formation process of the Aleutian volcanoes with that of the Hawaiian Volcanoes.



The larger volcano is Pavlov Volcano and the smaller one is Pavlov's sister



This picture is an aleutian island across the straight from pavlov volcano

Laura

Day 9: Saturday, April 17, 2004

Latitude: 54.58.615

Longitude: 162.27.117

Weather: continuous clouds with drizzle

Visibility: 29.5-49.5 ft (Very High)

Wind direction: 181ees

Wind speed: 30m/s)

Sea wave height: up to 20 feet

Sea level pressure: 996

Science and technology log:

Last night we spent the entire night steaming south west down the Aleutian island chain, through the Unimak pass to the western side of the islands and past Dutch Harbor.

Tonight we plan on picking up 4 moorings at Amukta pass and no new buoys will be deployed. The decision to move to the west side of the chain was made due to a small storm with 5 knot winds on the east side of the chain. If the weather improves we will move back over to the east side of the chain in a day or 2.

Personal log

Last night I was awoken at 2:00 AM by some large waves that were tossing the boat (and me) back and forth. I kept thinking..."this boat has no centerboard" and "should I wake

up my roommate?" In the morning I discovered that my roommate was already awake and...this boat can take a lot more than what we saw last night. All of the tests are done with the centerboard up so we are still well within the limits of this boat. This journey has been an invaluable experience but I am very much looking forward to arriving in Dutch Harbor and seeing the wild horses that live there.

Question of the day: What are the factors that effect the formation of waves? How do the weather patterns differ between the Gulf of Alaska and the Bearing Sea

Laura

Day 8: Sunday, April 18, 2004

Latitude: 52.28.03N

Longitude: 171 10.7

Weather: continuous clear

Visibility: 29.5-49.5 ft (Very High)

Wind direction: 285 degrees

Wind speed: 35 (m/s)

Sea wave height :up to 16 feet

Sea water temperature: 4.1 Degrees

Sea level pressure: 1007.5

Science and technology log:

The above data is from 0800 this morning. Last night the weather came up but we continued out to Amukta pass to try and recover 4 buoys. Unfortunately the waves and wind were too big for operations. This morning we are hiding on the lee of a small Aleutian island tucked in between 3 volcanoes (see attached photo) waiting to see if the weather subsides. We are scheduled to arrive in Dutch Harbor on April 21 or 22 so we can wait here for a couple days in the hopes we can grab those buoys because that is our priority at this point. So, no CTD's were done and no buoys recovered



Personal log

Right before bed last night I made my nightly visit up to the bridge. The waves were pretty big and it was fun riding them way up high on the bridge with the knowledge that this boat has been in much worse conditions during its decades of service. After I left the bridge the captain did report seeing “green” water which happens when the waves get so big that they hit the windshield of the bridge so far down from the peak that you see green water.

Laura

Day10: Monday, April 19, 2004

Latitude: 52.10.107N

Longitude: 168 11.925

Weather: continuous clear

Visibility: 29.5-49.5 ft (Very High)

Wind direction: 391 degrees

Wind speed: 16 (m/s)

Sea wave height :approximately 5-6 feet

Sea water temperature: 4.1 Degrees

Science and technology log:

We successfully retrieved the 4 buoys in Amukta pass. Today we will pick up 2 of the 4 buoys in the Alaska stream and do before and after CTD readings. Normally we could do all 4 data points in a day but the ocean is so deep that it will take excessive time to do the CTDs. Tomorrow we will get the other 2 buoys and from there we have buoys in

Samulga pass and then into port in Dutch Harbor. Currently the predicted arrival is the night of the 21st.

Personal log

Last night we all tossed in our bunks looking forward to a bed that doesn't move. So far I have been fortunate not to have sea sickness, but others have not been as fortunate.

Question of the Day: Describe the physiology of motion sickness including a detailed description of the inner ear. What is the structure of the inner ear that connects directly with the central nervous system? What are some possible causes of congenital deafness, what new technologies are being used to treat deafness and what defects can be treated with these technologies?

Laura

Day12: Tuesday, April 20, 2004

Latitude: 52.47.97N

Longitude: 168 55.95

Weather: continuous clear

Visibility: 29.5-49.5 ft (Very High)

Wind direction: 109 degrees

Wind speed: 16 (m/s)

Sea wave height: up to 8 feet

Sea water temperature: 4.1 Degrees

Sea level pressure:97 mb

Science and technology log:

Yesterday we tried to retrieve 2 moorings in the Alaska Stream but we couldn't get a signal on the second one. Today we went back and tried again but still no signal. This could be do to a missing or damaged mooring. We will proceed to the next site and pick up another mooring and continue taking CTD readings on our way back to Dutch harbor. Projected arrival time is April 22 8:00 am.

Personal log

The waves were up again last night and I am seriously looking forward to sleeping in a bed that doesn't move. Tomorrow will be spent doing laundry, packing up equipment and generally getting ready to go into port. This is my last log for the trip.

Question of the Day: What is the Alaska Stream and how does it effect weather patterns?

Laura