



NOAA Teacher at Sea
Kristin Joivell
Onboard NOAA Ship *Fairweather*
June 15 – July 1, 2009

NOAA Teacher at Sea: Kristin Joivell

NOAA Ship *Fairweather*

Mission: Hydrographic survey

Geographical Area of Cruise: Shumagin Islands, Alaska

Date: Wednesday, June 24 to Friday, June 26, 2009

Weather Data from the Bridge

Position: Northwest Harbor

Clouds: Mostly Clear

Visibility: 10+ miles

Wind: variable and light

Waves: less than 1 foot

Temperature: 11.5 dry bulb

Temperature: 10.0 wet bulb

Barometer: 1011.5

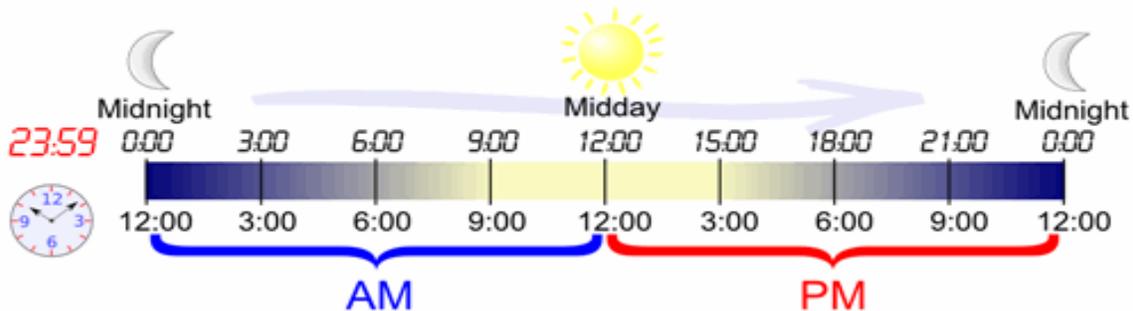


I found lots of seagull nests on Herendeen Island. Every nest that I saw contained three eggs.

Science and Technology Log

Keeping time on the ship isn't the same as keeping time at home. First of all, all of the day to day operations on the ship take place based on the 24 hour time system. The day is divided into 24 hours, numbered from 0 for 12:00am to 23 for 11:00pm. The

diagram below helps to visualize the 24 hour clock; it can be found on the website listed as follows: <http://www.mathsisfun.com/time.html>. This website also has some really great conversion charts and problems to solve using the 24 hour clock.



Fairweather ship operations are based on the 24 hour clock. Diagram courtesy of the Math Is Fun website; <http://www.mathisfun.com/>

The change from am and pm to the 24 hour clock seems difficult enough, but there is another type of time you need to know when traveling on the *Fairweather*. Data collection takes place using UTC, or Coordinated Universal Time. This is also a 24 hour clock, but the problems encountered with traveling through different time zones are cancelled out by using UTC. If you want to figure out what your UTC is at the current moment, you either add or subtract a certain amount of hours from your time based on your location. So, since I live in Pennsylvania, our local time zone is Eastern Standard Time (EST). To get the UTC for my time zone, I just need to



TAS Joivell relaxes on Little Koniuji Island at about 11:00pm. As you can see, it is still daylight out. I called this area "Dinosaur Egg Beach" because of the shapes, textures, and colors of the rocks.

add five hours to my local time. All of the data collection done on the ship takes place in UTC. That way, there is no problem knowing what time the data was taken, especially since the ship travels through different time zones sometimes while in the process of acquiring data.

Of course, all of this time conversion is even crazier at our location in the Shumagain Islands because sunrise is at about 6:00am and sunset is at about 11:30pm. This makes going to sleep at a reasonable time confusing because your body wants to stay awake since it's daylight.

If that's not confusing enough, another type of time that is used on the *Fairweather* is the Julian Calendar. In this calendar, each day of the year is assigned a number; months are not used at all. So, since today is June 25, 2009 that converts to day number 176 on the calendar used for Julian time. This is important again for data acquisition because it prevents misunderstandings based on time zones and is easier to save and input data using three numbers instead of a month, day, and year. With all the data processing taking place on board, anything that can help with the organization of the system is welcome.

All of this time takes some getting used to, but by now I am already thinking in the 24 hour clock. When I got up today, I didn't know what day of the month it was, but I knew that all the data acquisition would be labeled with the number 176. I guess I'm beginning to think like a scientist!

Personal Log

Time to go for a hike is always welcome on the ship. Sometimes the monotony of rocking from side to side gets tiring and it's nice to put your feet on solid ground. Even after a day of hard work, you somehow always still have energy left for a trip ashore.

A group of us hiked to the summit of Herendeen Island. As the island got closer and closer, I could see that it wasn't going to be easy. At first, the terrain looked smooth, but when I began to travel up the slope, it was pretty rough going. First of all, the ground is covered with long grasses and tangled brush. All of this vegetation weaves together to make a mat on the ground. However, there are little holes under the grassy mat that you sink into as you go. It's kind of like walking through deep snowdrifts.

Herendeen Island is approximately 750 feet tall, but it seems much taller. The views from the top really show how alone we are out here. No ships are in the water as far as I could see except the *Fairweather*. You can't see any houses, power lines, roads, billboards, or any other signs of human life either. I thought that Kodiak was remote, but the Shumagins are even more isolated.



TAS Joivell takes a break at the summit of Herendeen Island. Note the matted vegetation on the ground. It looks flat, but it is not so easy to hike through.

Create Your Own NOAA Experiment at Home

You can tell time like the scientists on the NOAA ship. Find some clock and date conversion websites. Can you determine what time it is on the 24 hour clock? How about the UTC for your location? What Julian Day is it? Try to figure out times for your school schedule based on the 24 hour clock. You can even convert your birthday into a Julian Date. Mine is day number 350!