

Day 62: September 16, 2010

Hurricane Karl has been toying with us for over a day now. Or I should say the edge of it is as the hurricane itself is nowhere near us. But the edge of it is sufficiently close to give us 4-6 foot seas and 15-20 mph winds making it a rough time. No one slept last night- too rough. Sandy was quite funny in my bunk as she sleeps by the side of the boat leaving me to face the side open to the room. This arrangement means if a big enough wave comes, I am the one who goes sailing across the room! However, each time a big one came, Sandy would grab my arm. I finally asked her if her intent was to further stabilize herself or if she really thought she could keep me from flying across the room- you know one of those seatbelt moments when you are slamming on the breaks and you put out your arm in front of your child... I didn't get an answer.

By 2:30 am I was still awake as it's almost impossible to sleep in weather like this. You somehow convince yourself it's going to die down soon- but it never does. You're also forced to brace yourself via the wall at your head and foot in order to stop rolling constantly and to keep from flying across the room. Thus, the only way to be still is to have you arm and leg muscles fully flexed and good luck trying to sleep like that.

So at 2:30 I sent a note back to Iain and John Atkinson- "the weather is kicking our butts- please look at whether there is a closer port- maybe Grand Isle". I went to the pilothouse and looked at options with First Mate Ian who was on helm watch- not too good. I studied the weather and amazingly my email went off with a quick message from John saying he would look into. Now at 3:00 am - that's being Johnny on the spot! Thanks John! The weather made it clear- we would be in this situation for the rest of the way in. Ugh!

I managed to doze a little and got up to an email from John saying he had found an alternative dock in Grand Isle. Thanks again John! Problem was it was 40 miles out of the way. He ended with an offer to let him know if there was anything else we needed. I asked if he could deliver a 12 pack of coke and a couple of pepperoni pizzas...

I discussed the options with Bob, Ian and Iain. The consensus of the professional crew was to go for Biloxi as it was further but lay in a more forgiving path with the storm. Iain simply told me to balance the perspective of the career sailors with the needs of the science team and to make the best decision for the team as a whole. I watched the group for a few hours. Everyone is exhausted and needs not only some sleep but some fun. I've been to Grand Isle- there was little there at the height of its tourist season because of the oil and now the tourist time is gone. I also have new crew arriving in Biloxi so I have to get there anyway. Better to trust the advice of the professional sailors and go now. So we are heading for Biloxi riding through the wind and waves created by the edge of this storm and looking forward to a break.

The day was passed with work on USM lab stuff and classes and remarkable fatigue. I think it was Matt who observed to me that he'd napped for 2 hours woke up and 10 minutes later was sleepy again. At one point he came halfway up the galley stairs,

leaned his head against the wall and fell asleep! Generally, that was the tone of the day for all - computer work- nap-computer work-nap etc. The remarkable thing is that tonight will again be rough and tomorrow and tomorrow night. So boy are we looking forward to Saturday! As I write this note- Matt unwittingly gave me the perfect picture to describe the day- it's attached.

I thought you might find what Sandy was working on all day interesting. She is looking at the ability of chromium to alter the human karyotype. I know the karyo-what? It's one of those words made up long ago that made sense to someone. I have always disliked that word and so of course it is at the heart of the work I do!

But, you're all more familiar with the human karyotype than you think. For example, you have probably heard that human males are XY females XX. Well, from a genetic perspective that is detected by a karyotype- though most people tell the difference between males and females other ways and just learn in school somewhere along the way about the X and Y thing.

Well, the X and the Y are chromosomes. The chromosomes are structures in the cell that our lab focuses on. They are an organized package of DNA and protein used by the cell to manage its DNA and to divide into two new cells. When a chromosome is damaged bad things can happen like cancer or birth defects. The chromosomes come in pairs except for the sex chromosomes which are either a similar female pair (XX) or dissimilar male pair (XY) - no jokes now!

Anyway, one can stain the chromosomes so the pairs can be identified by their black and white banding pattern and then damage can be assessed by looking for changes in that banding pattern. It is something we will do with these sperm whale cells to see what their karyotype is and if chemicals can affect it. It is too soon for that work, but on these wavy days Sandy focuses on the human work and I thought you might like to see one so please see the attached photo. It is a male XY. I think you can see some of the black and white bands on some of the chromosomes despite the quality of the picture. The numbers underneath are the pair numbers.

Have a good night- we will be riding the waves!

John



