

Ship Report Transcript

Monday, July 8, 2024

By Joanne Rideout

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It's time for the Ship Report the show about all things maritime. I'm Joanne Rideout. It's Monday, July 8th, 2024.

Today, I'd like to begin sharing an interview I did last week with someone from the National Data Booth Center. If you're not familiar with this agency, they manage a network of data buoys which are all around the coastal waters of the U.S. and elsewhere in the world as well, which continuously transmit data to satellites about weather, temperature, wave heights, tsunami data and other information.

Those observations of the marine environment are accessible to anyone who goes to the NDBC website and looks at a given buoy to see what it's transmitting. We have a very important one here that was off station for a while because of tech problems, but now it's back in service again and its return is a very important thing for mariners who traverse our waters off the mouth of the Columbia River. This boy has the unromantic name of 46029. I thought the occasion of its return would be a good opportunity to talk about this important agency and the role they play in mariner's lives.

The National Database Center and DBC is part of the National Oceanic and Atmospheric Administration. That's NOAA and the National Weather Service. If you Google NDBC, you'll find their website, which has a world map or chart showing the location of all the boys in their system. NDBC designs, develops, and operates and maintains that network of data collecting buoys and coastal stations.

I was fortunate last week to talk with Craig Kohler. He's the operations branch chief for NDBC. I asked him about the history of this agency. And he told me it began with observations from Coast Guard ships in an effort to get reliable data about what was happening in coastal waters. As technology improved, the agency decided to use stationary buoys automatically transmitting from fixed locations in the water. Here's a bit from that interview.

JR: So for for the people who are listening to this, some of them may never have even heard of the National Database Center. So can you explain what it is, what its mission is in the history of it a little bit. To give people an idea.

CK: "So first off, I'll read you the basic mission. It's to collect and disseminate and report in real time, quality controlled observations in the marine environment to ensure the nation's maritime safety and to understand and predict the atmosphere. Ocean waves, ice and climate. That's kind of in one sentence what our mission is.

How did we get there? The whole thing began back with the Coast Guard back before the 1960s, Coast Guard cutters got deployed on what was called ocean stations. And that consisted of going out to a spot in the ocean and doing circles for, I think there were a month long deployments, and they would report back what the meteorological conditions were back then. And so I guess the Coast Guard figured that in the 70s or in the sixties, that technology had come far enough, that this mission could be done automatically with computers and sensors and power systems that were the, you know, state of the art back then. And so they proved that to be successful and some prototype deployment projects. And then

it was for early 70s, and it was decided to transfer this function over to NOAA. And but the Coast Guard kept a big presence around and they populated the entire organization from engineers to the technicians or I'll call them just the worn officers that go out on the deployment cruises to service them and deploy them. We had people in purchasing people and management, the whole the whole spectrum. And then it was determined to be back in the late nineties that it was too much a drain on the Coast Guard and be better served as some of those positions were civilian ized. So that started happening gradually. And actually my last assignment in the Coast Guard was at the National Data Center.

NDBC also has land based equipment that gathers data to and tsunami sensor buoys that can detect tsunami activity so people on land can be warned about such dangers. Together, these stations help create a reliable picture of what's happening in the world's waters that can be very valuable to mariners who want to know things like wave height and direction. And wind speed before they set out to sea. It's also valuable for scientists who are tracking trends and want to know what's happening.

NDBC did strictly weather buoys and they took the same technology and created coastal marine stations, which we call CMAN. And those are the basic same equipment that's on our weather buoys, but it's on a lighthouse, on a platform, on a rock somewhere. And it does the same data that our weather movies did. And that lasted up through about the early 2000s and NBC added two other arrays, and that being the tsunami detection array called dark and our tropical atmosphere, ocean climate array, which is called abbreviated for tap. So we've been doing those for different systems now since the early 2000s.

JR: So for people who are unfamiliar with this, there's an NDBC website and you can go to it and call up a buoy that you want to look at, which I've done with the ones off the off shore here. And you can see the data that they're transmitting. And this is a really valuable resource for mariners who want to know what's going on in that really dynamic area outside the mouth of the river, because that really impacts vessels, the ships that are coming in and out of here, the commercial fishing vessels, the recreational, the charter boats and anybody who's out there on a boat, it's really important data.

So this buoy 46029 is the one that was just put back in service. So let's talk about that buoy a little bit. How long has that been out there historically?

CK: I can see we have a little we have a database that collects metadata from our systems that have been deployed throughout our history. It's not the best database. It's old. It needs to be replaced. But I found records going back to 1991 deployments at that station. what kind of data does that provide that provides meteorological data that includes wind speed and direction, air temperature and pressure, humidity, water temperature and various wave measurement parameters. Such a different wave height, significant wave period, some wave spectra and direction information as well. And then it also provides some additional things. provides some camera images, it gives us some air information. We don't broadcast our we don't transmit this from the movies, but we receive information. And so we we can track if a vessel was on a collision course with the bullet. And then also we get some power system health data back. That's what that all provides.

I've been talking today with Craig Kohler. He is the operations branch chief for the National Data Body Center. We've been talking about the data that are off in the coastal waters around the U.S. and other waters in the world and including one that is right off the mouth of the Columbia River. It's called the Columbia River Bar Buoy 46029. That transmits valuable data about our local waters. So we'll hear more tomorrow from my interview with Craig Kohler.

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