

Ocean Gazing: Episode 17
The Prince's Predictions, Part I
Sound Predictions: Alaska Ocean Observing System

<begin music>

Ari: This is Ocean Gazing, the podcast where we learn about the watery world around us. I'm Ari Daniel Shapiro. Today's episode is the first of a two-part series about a project in Alaska called Sound Predictions. The "Sound" in Sound Predictions refers to Prince William Sound, and the project's about making very, very accurate predictions of the weather up there. If all goes well, these forecasts'll help all types of people, and keep the Sound safe and clean at the same time. So, just stay tuned and you'll find out how they're doing it.

<end music>

Ari: Just to get oriented, Prince William Sound is on the southern coast of Alaska. And it's named after the guy who eventually became King William IV of England. It's the kind of place that once you visit, you don't forget.

Barrett-Lennard: It is a stunning place. I was absolutely blown away. It really is the most beautiful place I've ever been, since as well as before.

Ari: That's Lance Barrett-Lennard. He's a researcher based out of the Vancouver Aquarium and the University of British Columbia. He's a friend of mine, and he's spent a fair bit of time working in Prince William Sound.

Barrett-Lennard: So it has this wonderful combination of forested hillsides, snow-covered mountains, ocean and then mixtures of open water glacial ice and inlets. And the geology of Prince William Sound is fascinating. It's just a tortured and twisted landscape wherever you can see the rocks.

Ari: It's a one of a kind place. Carl Schoch would agree. He's at the University of Alaska Fairbanks, and he's one of the scientists leading the Sound Predictions team.

Schoch: And so Prince William Sound is unique because we have a very great tide range, because there are many glaciers that flow directly into Prince William Sound, which both contribute icebergs but also a tremendous volume of freshwater. And freshwater is one of the drivers of the local circulation pattern. Total population of Prince William Sound is only about 7000 people over an area of about 100 km square. So it's relatively unpopulated and relatively undeveloped.

Ari: Torie Baker is one of those 7000. She's been a resident of Cordova, Alaska just to the east of Prince William Sound for over 20 years. She splits her time between working as a fisherman and as a faculty member at the University of Alaska

Fairbanks. Having worked and literally slept on the waters of the Sound for years, she can attest to another of its important features: the intensity and harshness of the weather out there.

Baker: We have to deal with the water temperature, which can be anywhere from the high 30s, well of course to frozen, all the way up to the summer months where we can and have seen some real anomalies up to 60 and 62 degrees. We are – here in Alaska, just the way that we are oriented to the North Pacific, there's not a whole lot of landmass between us and Asia. And so, unlike in the Atlantic where it's about half the size, the Pacific is one, big, wide, open body of water. And an analogy that's often made is Alaska's kind of the catcher's mitt of all of those storms that come off of the North Pacific up here in the northern latitudes. And right here in Prince William Sound on the North Gulf Coast of Alaska, we are definitely right in the heart of that mitt.

Ari: And those storms: they can be huge. Winds that howl over 115 miles per hour. Waves that tower up to 25 feet. And clouds that dump buckets, even bathtubs, worth of rain out of the sky.

Baker: It's our office place out there and so we take it seriously, and safety is the number one concern. And we are navigators, and we take all the information and data that we can possibly get to help inform those decisions.

<fade up radio weather forecast quickly>

Ari: This right here, it's a weather forecast. It's one type of information Baker and her fellow fishermen use to stay safe. They get it through the radio on their boats. And it lets them know what kind of wind, rain and waves they can expect out on the Sound.

The aim of the Sound Predictions project is to make these weather forecasts a *lot* more accurate. To give Torie Baker and people like her the kind of information that'll improve the time they spend fishing and spare them some of the more dangerous episodes at sea.

Baker: Yes, I'm looking at this kind of work increasing the accuracy of the all-important weather forecasts that up here we live and literally die by.

Ari: But there's something else motivating the Sound Predictions project. It's related to the fact that Prince William Sound is just teeming with life. Humpback whales, seabirds, sea otters, salmon, herring, killer whales, deer, brown bears and black bears. And on the 24th of March, 1989, all this life? It got dealt a major blow.

News montage: The oil tanker – Exxon Valdez – ran aground on Bligh Reef in Prince William Sound. ~ It sits stranded like a giant wounded animal. All through the morning, bleeding its cargo of north slope crude at a rate of 20,000 barrels an hour.

~ 11 million, 300 thousand gallons of oil have spilled into the calm waters of Prince William Sound off of Alaska. ~ It's the largest spill in the history of the pipeline system. The oil system is so thick on the surface that ice from nearby Columbia Glacier turned black. ~ Eventually this oil oozed over 1300 miles of rocky shoreline where some of it remains today.

Ari: I still remember when that oil spill happened, and I was in the fourth grade, in Cleveland. Now, obviously it's way more real for the people who were actually there. Like Torie Baker.

Baker: Well, it was a pivotal moment in my life for sure. I had just moved to Alaska, and I was sitting in a café with my fishing partners. That morning, somebody came in and said there was a tanker on Bligh Reef. And I didn't really quite know what that meant cause I was pretty young at the game. But boy, there was a lot of people around me that were gasping for air. Um, so I wound up spending about 125 days on the spill on a boat working all over the sound, hauling workers to the beaches, towing oil. It was very traumatic: I mean, it was like being a little kid in the middle of a big family disaster.

Ari: I contacted Exxon for an interview but they didn't reply.

Now, oil tankers continue to cross the Sound, and despite a lot of technological and informational developments, there's still the chance of another oil spill. Here again, the forecasting efforts of the Sound Predictions project could be crucial. Joe Banta is with the Prince William Sound Regional Citizens Advisory Council.

Banta: If you have an oil spill in Prince William Sound, you want to see the response, be able to understand where spilled oil is going and you want to have safe navigation for a spill response. And actually you want safe navigation and information to prevent oil spills as well. Depending on the weather and currents, oil could go anywhere. And you want your spill response to be able to track the oil and be ahead of it. You want your responders to have the best possible information in order to have an impact on stopping that spill and its effects.

Ari: Improving the predictions of both the weather and conditions on Prince William Sound takes a lot of work, and many, many people are chipping in to get the job done. In the lab and out in the field. <fade up sounds of people working in the field> In fact, here's part of the field team setting up camp in Shelter Bay a few months ago. That's in the southeastern corner of Prince William Sound. <pause> It's the answer to our last sonic stumper. The team's getting their antenna set up for a high frequency radar system to measure surface currents. <fade up and then down on sounds of people working in field>

The Sound Predictions project could mean a lot to Prince William Sound. <begin fading up transition music> To its people, wildlife, landscape and seascape. On the twentieth anniversary of one of the largest environmental disasters that's ever

happened, a team is making this Sound stand for something different altogether. It's acting instead of reacting. Forecasting instead of foreboding.

<fade up transition music to full and then fade down>

Next time, we'll travel to Prince William Sound to hear how the team's improving those weather predictions. In the meantime, can you guess our new sonic stumper?

<fade up new sonic stumper>

Ari: To submit a guess, ask a question about the Sound Predictions project, and to hear more about the effects of the Exxon Valdez oil spill on killer whales, visit our website: www.coseenow.net, and just ooze on over to the podcast link. Once you're there, you'll also find a link to a blog about Sound Predictions.

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<fade up new sonic stumper until it ends>