

JANUARY 19-23, 2015

Alaska Marine Science Symposium

HOTEL CAPTAIN COOK & EGAN CENTER • ANCHORAGE, ALASKA



Simone Welch



Alexandra Rowley



Andrew Trites



Geoff Sanger

SHOWCASING MARINE RESEARCH IN THE
ARCTIC OCEAN, BERING SEA, AND GULF OF ALASKA



S. A. Ulrich

Schedule

	MONDAY, JANUARY 19	TUESDAY, JANUARY 20
Morning Plenary Session 8:00am – 11:30am	Workshop, 8:00am – 12:00pm Communicating Ocean Sciences <i>Fore Deck, Discovery Ballroom</i> Registration Opens, 10:00am	Continental Breakfast, 7:30am – 8:00am Registration Opens, 8:00am Gulf of Alaska Plenary
Lunch 11:30am – 1:00pm	Lunch on your own	Lunch provided
Afternoon Plenary Session 1:00pm – 5:00pm	Symposium Begins Opening Remarks, 1:00pm – 1:30pm U.S. Senator Lisa Murkowski (DVD) Keynote, 1:30pm – 2:15pm Jeremy Mathis Keynote, 2:15pm – 3:00pm Anthony DeGange Coffee Break 3:00pm – 3:30pm Keynote, 3:30pm – 4:15pm Jennifer Francis Keynote, 4:15pm – 5:00pm Arctic Panel	Gulf of Alaska Plenary
Evening 5:00pm – 9:30pm	Exhibits and Poster Reception, 6:00pm – 8:30pm Gulf of Alaska and Bering Sea/ Aleutians • Wave 1 – 6:00pm – 7:15pm • Wave 2 – 7:15pm – 8:30pm <i>Explorers Hall, Appetizers & No-Host Bar</i>	Exhibits and Poster Reception, 6:00pm – 8:30pm Bering Sea/Aleutians and Arctic Ocean • Wave 1 – 6:00pm – 7:15pm • Wave 2 – 7:15pm – 8:30pm <i>Explorers Hall, Appetizers & No-Host Bar</i> Workshop, 5:30pm – 7:00pm North Slope Borough/Shell Baseline Studies Program <i>Aft Deck</i>

Posters/Exhibits & Receptions

Egan Center
 555 W. 5th Ave.
 Shuttle Service between Egan Center and Hotel Captain Cook
 provided at 15 minute intervals, 5:45pm – 8:45pm

All Other Events

Hotel Captain Cook
 939 W. 5th Ave
 Keynotes, Plenaries, and provided lunches in Discovery Ballroom

WEDNESDAY, JANUARY 21	THURSDAY, JANUARY 22	FRIDAY, JANUARY 23
<p>Continental Breakfast, 7:30am – 8:00am</p> <p>Registration Opens, 8:00am</p> <p>Bering Sea and Aleutian Islands Plenary</p>	<p>Continental Breakfast, 7:30am – 8:00am</p> <p>Arctic Plenary</p>	<p>Workshop, 8:00am – 11:00am Introduction to Metadata <i>Quadrant</i></p> <p>Workshop, 9:00am – 4:00pm Conservation Application of the Vessel Traffic Automatic Identification System <i>Adventure Room</i></p>
<p>Lunch on your own</p> <p>Workshop, 11:30am – 1:00pm Arctic Animal Telemetry Network <i>Whitby Room</i></p>	<p>Lunch provided</p> <p>Film Presentation, 11:45am – 12:15pm <i>Arctic Currents: A Year in the Life of the Bowhead Whale</i> <i>Discovery Ballroom</i></p> <p>Workshop, 11:30am – 1:00pm Arctic Observations—Science Needs <i>Voyager Room</i></p>	<p>Workshop, 9:30am – 1:30pm Chukchi Sea Whale Ecology <i>Aft Deck</i></p>
<p>Bering Sea and Aleutian Islands Plenary</p> <p>Student Poster Presentation Award Announcements, 4:30pm – 4:45pm</p>	<p>Arctic Plenary</p> <p>Student Oral Presentation Award Announcements and Closing Remarks, 4:30pm – 5:00pm</p>	
<p>Workshop, 5:00pm – 8:00pm Early Career Mixer <i>Aft Deck</i></p> <p>Workshop, 6:00pm – 9:00pm Arctic Research Planning Evening <i>Quarter Deck</i></p> <p>Workshop, 6:30pm – 8:00pm AOOS Film Night <i>Endeavor Room</i></p>		

Keynote Speakers

Monday, January 19

1:30pm – 2:15pm

JEREMY MATHIS, PACIFIC MARINE ENVIRONMENTAL LABORATORY – NOAA, OCEAN ENVIRONMENT RESEARCH DIVISION

Looking Back to the Future: 5 Years of Ocean Acidification Research In Alaska



Over the last few years, Ocean Acidification (OA) has emerged as one of the most prominent issues in marine research and has entered the public consciousness as an existential threat. However, not all regions experience OA at the same level, and regional hotspots have emerged where more pronounced expressions of OA can be observed. This is particularly true in the coastal basins around Alaska where the intensity, duration, and extent of OA events have been greater than in many other ocean basins. Given the pace of the observed changes due to OA around Alaska, the area is commonly referred to as a bellwether for the transitions that are occurring and the proverbial “canary in the coal mine” for the rest of the global ocean. We will take a look back at how quickly the scientific understanding of OA has increased, and what we need to do now and in the future to deal with this potential threat to Alaska marine resources.

2:15pm – 3:00pm

ANTHONY DEGANGE, U.S. GEOLOGICAL SURVEY, RETIRED

Colonizers and Biological Legacies: Their Role In The Early Ecosystem Recovery of Kasatochi Volcano

Recently disturbed ecosystems are often so rapidly colonized by propagules that the role of biological legacies (survivors) is obscured. The eruption of Kasatochi Volcano in the Central Aleutian Islands on August 8, 2008 provided an unusual opportunity to examine the influences of geomorphologic and edaphic processes and the role of colonizers and legacies in the early ecosystem recovery of the island. The catastrophic eruption completely covered the island in thick deposits of pyroclastic flows and ash, and it buried the nearshore zone and kelp community. The legacy concept was most applicable to terrestrial invertebrates and plants that survived in pockets of pre-eruption soils that were exposed quickly through post-eruption erosion. The legacy concept can also be applied to seabirds, such as auklets, and sea lions that survived the eruption by leaving the island, but returned rapidly as soon as conditions allowed. The role of biological legacies in the marine environment is less clear, but we speculate that survivors may have been overwhelmed by the rapid invasion of vagile propagules from nearby populations. Future monitoring of Kasatochi will enable us to determine the extent and rate of return to the original biological communities and whether novel communities will replace them.

3:30pm – 4:15pm

JENNIFER FRANCIS, RUTGERS INSTITUTE OF MARINE AND COASTAL SCIENCES

Rapid Arctic Warming and Extreme Weather Events in Mid-latitudes: Are They Connected?



I will discuss the hypothesis proposed by Francis and Vavrus (2012)* that links rapid Arctic warming (so-called Arctic amplification) to changes in the large-scale atmospheric circulation in the northern hemisphere that favors more persistent weather patterns and a higher likelihood of extreme weather events such as droughts, cold spells, flooding, heavy snows, and heat waves. This hypothesis has been a topic of considerable controversy in recent months, particularly regarding its relationship to the unusual weather conditions that persisted in the winter of 2013-2014. I will discuss various aspects of this linkage, what we know and don't know, and present new related research.

4:15pm – 5:00pm

ARCTIC PANEL

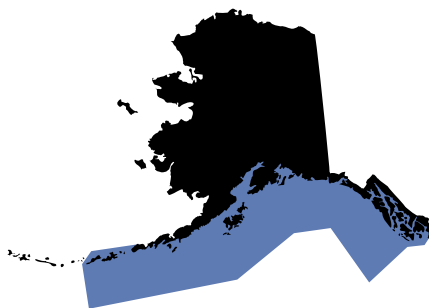
Planning for the Arctic:

This panel will feature speakers highlighting federal, state and regional efforts to prepare Alaska and the U.S. for a changing Arctic.

* Francis, J. A., and S. J. Vavrus (2012), Evidence linking Arctic amplification to extreme weather in mid-latitudes, *Geophys. Res. Lett.*, 39, L06801, doi:10.1029/2012GL051000.



Gulf of Alaska Plenary Session



Tuesday, January 20 7:30am – 4:45pm

7:30 – 8:00 CONTINENTAL BREAKFAST

CLIMATE & OCEANOGRAPHY

- 8:00 – 8:15 **Phyllis Stabeno** Long-term Observations of the Alaska Coastal Current
- 8:15 – 8:30 **Carol Ladd** Influence of Gap Winds on Oceanography of the Gulf of Alaska
- 8:30 – 8:45 **Wiley Evans** From the Glacier to the Gulf: Land Ice Melt Influences on Carbon Uptake and CaCO₃ Corrosivity in a Sensitive Marine Ecosystem

LOWER TROPHIC LEVELS

- 8:45 – 9:00 **Sonia Batten** Interannual Variability in Lower Trophic Levels on the Alaskan Shelf
- 9:00 – 9:15 **Russ Hopcroft** Zooplankton Temporal and Spatial Variability in the Gulf of Alaska: Consequences to Resource Availability
- 9:15 – 9:45 COFFEE BREAK

FISHES & FISH HABITATS

- 9:45 – 10:00 **Christina Conrath** Delayed Discard Mortality Studies for the Giant Pacific Octopus, *Enteroctopus dofleini*, in Alaska Waters
- 10:00 – 10:15 **Alexei Pinchuk** Development of Biochemical Measures of Age in the Alaskan Red King Crab: Validation, Refinement, and Initial Assessment
- 10:15 – 10:30 **Patty Zwollo** Importance of Antibody-producing Cells as a Marker for Successful Spawning in Sockeye Salmon
- 10:30 – 10:45 ***Melissa L. Muradin** A Bayesian Assessment Model of Prince William Sound Herring
- 10:45 – 11:00 ***Sarah Webster** Size-at-age and Diet Composition of Pacific Halibut
- 11:00 – 11:15 **Mark Zimmerman** Alaskan Groundfish Habitat Maps: High Latitudes on a Low Budget in Cook Inlet, Alaska

SEABIRDS

- 11:15 – 11:30 **Gary Drew** Long-term Trends of Seabird Density and Biomass in the North Pacific (1975-2012)
- 11:30 – 1:00 LUNCH PROVIDED
- 1:00 – 1:15 **John Piatt** Kittlitz's Murrelet: A Leading Indicator of Ecological Changes in Three Alaska Marine Ecosystems

MARINE MAMMALS

- 1:15 – 1:30 **Markus Horning** In Cold Blood: Evidence of Sleeper Shark Predation on Steller Sea Lions from Life History Transmitter Implants
- 1:30 – 1:45 ***Elizabeth Goundie** Foraging Decisions by Steller Sea Lions: Unexpected Consequences of Prey Distribution on Foraging Efficiency
- 1:45 – 2:00 **Zac Hoyt** Space Use of Northern Sea Otters Within an Exploited and Growing Population
- 2:00 – 2:15 ***Ellen Chenoweth** Individual Differences in Humpback Whale Foraging Behavior at Salmon Hatchery Release Sites

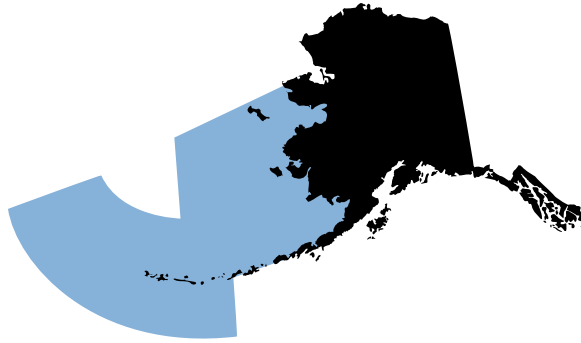
HUMANS

- 2:15 – 2:30 **Maggie NgaChan** Exploring Spatial Changes in Sport Fishing Areas Using Interview and Historical Data in Southeast Alaska
- 2:30 – 3:00 COFFEE BREAK
- 3:00 – 3:15 **Courtney Carothers** "Just Look at the Harbor:" Fisheries Privatization, Social Transitions, and Well-Being in Kodiak, Alaska

ECOSYSTEM PERSPECTIVES

- 3:15 – 3:30 **Vanessa von Biela** Widespread Kelp Carbon Assimilation by Pelagic and Benthic Nearshore Fishes
- 3:30 – 3:45 **Joel Markis** Where Have All the Starfish Gone: An Examination of Sea Star Wasting in Alaska
- 3:45 – 4:15 **Kris Holderied** Gulf Watch Alaska: Monitoring the Pulse of the Gulf of Alaska's Changing Ecosystems
- 4:15 – 4:45 **Olav Ormseth** GOAIERP: Into the Home Stretch

Bering Sea & Aleutian Islands Plenary Session



Wednesday, January 21 7:30am – 4:45pm

7:30 – 8:00 CONTINENTAL BREAKFAST

CLIMATE & OCEANOGRAPHY

8:00 – 8:15 **Jessica Cross** The Bering Sea CO₂ Sink: New Autumn and Winter Observations of a Seasonally Ice-covered Continental Shelf

LOWER TROPHIC LEVELS

8:15 – 8:30 **Georgina Gibson** The Relative Importance of Advective vs. In-situ Processes to Mesozooplankton Biomass on the Eastern Bering Sea Shelf

8:30 – 8:45 **Kirstin Holsman** Do Modeled Zooplankton Abundances Increase the Hindcast and Prediction Strength of Fish Recruitment Models?

FISHES & FISH HABITATS

8:45 – 9:00 **Dale Honeyfield** An Exploratory Assessment of Thiamine Status in Yukon River Chinook Salmon (*Oncorhynchus tshawytscha*)

9:00 – 9:15 **Ellen Yasumiishi** Impact of Climate Variability and Change on Winter Survival of Bristol Bay Sockeye Salmon

9:15 – 9:30 **Susanne McDermott** Small-scale Atka Mackerel Population Abundance and Movement in the Western Aleutian Islands, an Area of Continuing Steller Sea Lion Decline

9:30 – 10:00 COFFEE BREAK

10:00 – 10:15 **Mike Levine** Atka Mackerel Essential Fish Habitat on a Local Scale in the Aleutian Islands, Alaska

10:15 – 10:30 **Jenefer Bell** Movement, Size Composition, Potential Essential Habitat, and Handling of Norton Sound Red King Crab (*Paralithodes camtschaticus*)

10:30 – 10:45 **Carwyn Hammond** Capturing Effects of Alternative Groundgear for the Bering Sea Pollock Fishery

10:45 – 11:00 **Susie Zagorski** The Assessment of Benthic Impacts of Raised Groundgear for the Eastern Bering Sea Pollock Fishery

SEABIRDS

- 11:00 – 11:15 **Douglas Causey** Increasing Variability of Ecological Response by Beringian Endemic Seabirds to Rapid Environmental Change
- 11:15 – 11:30 ***Veronica Padula** Effects of Marine Debris: Phthalate and PCB Contamination in Seabirds from the Western Aleutian Islands
- 11:30 – 1:00 LUNCH ON YOUR OWN
- 1:00 – 1:15 **Elizabeth Labunski** Seabird Die-off Detected During a Major Coccolithophore Bloom in the Bering Sea in 2014

MARINE MAMMALS

- 1:15 – 1:30 **Seth Newsome** Retrospective Study of Walrus Foraging and Movement Patterns During a Major Ecosystem Shift
- 1:30 – 1:45 **Shawn Noren** Pre-weaning Growth and Blubber Deposition in Pacific Walruses
- 1:45 – 2:00 **Mariana Diaz Gomez** The Origin of Feces: Does Diet Diversity Matter More Than Prey Quality for Northern Fur Seals?
- 2:00 – 2:15 **Kathryn Sweeny** Flying Beneath the Clouds at the Edge of the World: Using an Unmanned Aircraft System to Survey the Endangered Steller Sea Lions in the Aleutian Islands
- 2:15 – 2:30 **Laura Thompson** Blow As An Alternative Matrix and Non-invasive Tool for Measuring Cortisol in Wild Belugas During Population Health Assessments in Bristol Bay, Alaska
- 2:30 – 3:00 COFFEE BREAK
- 3:00 – 3:15 **Paul Wade** First Record of Diving Behavior of Resident-type Killer Whales in the Aleutian Islands and Documentation of a >2500km Southward Movement and Return in Three Weeks
- 3:15 – 3:30 **Phillip Clapham** Managing Leviathan: The Current Status of Large Whale Populations in the North Pacific

HUMANS

- 3:30 – 3:45 **Jennifer Cahalan** Variability in Mean Weight Per Fish: How Much Does it Matter?
- 3:45 – 4:00 ***Christine Simpson** Smart Fishing in the Bering Sea: Conservation Engineering Outreach
- 4:00 – 4:15 **Martin Robards** Marine Vessel Traffic and Shoreline Vulnerability in the Aleutian Archipelago

ECOSYSTEM PERSPECTIVES

- 4:15 – 4:30 **Aaron Poe** Addressing Climate Change Vulnerabilities in the Aleutian and Bering Sea Islands
- 4:30 – 4:45 BEST STUDENT POSTER PRESENTATION WINNERS ANNOUNCED

*Student Presentation

Arctic Plenary Session



Thursday, January 22 7:30am – 5:00pm

7:30 – 8:00 CONTINENTAL BREAKFAST

CLIMATE & OCEANOGRAPHY

- 8:00 – 8:15 **Leandra Sousa** Inter-annual Variability in Surface Circulation in the Chukchi and Beaufort Seas: Satellite-tracked Drifter Measurements
- 8:15 – 8:30 **Todd Mudge** Chukchi Sea Ice Observations by Upward Looking Sonars, 2008-2014
- 8:30 – 8:45 ***KoFan Lu** Lateral Mixing Across Meltwater Fronts of the Chukchi Sea Shelf
- 8:45 – 9:00 **Peter Winsor** The Arctic Tracer Release Experiment (ARCTREX) - Applications for Mapping Spilled Oil in Arctic Waters

LOWER TROPHIC LEVELS

- 9:00 – 9:15 ***Caitlin Smoot** Composition, Diversity, and Vertical Structure of the Zooplankton Community in the Beaufort Sea
- 9:15 – 9:30 ***Jennifer Questel** Phylogeography and Connectivity of Four Sibling Species of *Pseudocalanus* (Copepoda; Calanoida) in the North Pacific and Arctic Oceans
- 9:30 – 10:00 COFFEE BREAK
- 10:00 – 10:15 ***Lauren Bell** Lower Trophic Level Food Web Structure on the Eastern Beaufort Sea Shelf and Slope
- 10:15 – 10:30 ***Alexandra Ravelo** Growth and Production of the Dominant Alaska Arctic Brittle Stars: *Ophiura sarsii* and *Ophiocten sericeum*

FISHES & FISH HABITATS

- 10:30 – 10:45 ***Lauren Divine** Snow Crab (*Chionoecetes opilio*) Ecology in the Alaskan Arctic
- 10:45 – 11:00 **Elizabeth Logerwell** SHELFZ Project: Environmental Drivers of Benthic Fish Distribution in and around Barrow Canyon in the Northeastern Chukchi Sea
- 11:00 – 11:15 ***Jennifer Marsh** Ontogenetic, Temporal, and Spatial Variation in the Trophic Roles of Chukchi Sea Fishes

*Student Presentation

11:15 – 11:30 **Louise Copeman** Contrasting Strategies of Lipid Storage in Juvenile Arctic Cod (*Boreogadus saida*) and Saffron Cod (*Eleginus gracilis*) under Variable Thermal Regimes

11:30 – 1:00 LUNCH PROVIDED

SEABIRDS

1:00 – 1:15 **James Lovvorn** Limits to Viability of a Critical Arctic Migration Corridor Due to Localized Prey, Changing Sea Ice, and Impending Industrial Development

MARINE MAMMALS

1:15 – 1:30 **Christopher Clark** A Year in the Acoustic World of Bowhead Whales in the Northern Bering, Chukchi, and Beaufort Seas

1:30 – 1:45 **Lara Horstmann** Fat Chance: Uptake, Modification, and Storage of Fatty Acids in Bowhead Whales

1:45 – 2:00 ***Donna Hauser** Regional Diving Behavior of Pacific Arctic Beluga Whales Relative to Water-column Prey

2:00 – 2:15 **Anna Bryan** What Do Bearded Seals Really Eat? – A Methods Comparison

2:15 – 2:30 **Karyn Rode** The Effect of Changing Sea Ice Conditions on Land Use Patterns of Chukchi Sea Polar Bears

2:30 – 3:00 COFFEE BREAK

HUMANS

3:00 – 3:15 **Karen Brewster** Sea Ice in Barrow Project Jukebox

3:15 – 3:30 **Zachary Winters** Arctic Shield 2014: Arctic Oil Spill Response and Tool Interoperability

ECOSYSTEM PERSPECTIVES

3:30 – 3:45 **Gregory Durell** Establishing Pre-Development Baseline Concentrations of Hydrocarbons and Metals in Sediments and Marine Invertebrates from the Chukchi Sea, Alaska

3:45 – 4:00 **Arny Blanchard** Temporal Variability of Biodiversity in Arctic and Sub-Arctic Marine Benthic Communities

4:00 – 4:15 **Lee Cooper** The Pacific Arctic Marine Arctic Regional Synthesis: Status & Plans

4:15 – 4:30 **Sue Moore** The Synthesis of Arctic Research (SOAR) Program: Status & Plans

4:30 – 4:45 BEST STUDENT ORAL PRESENTATIONS WINNERS ANNOUNCED

4:45 – 5:00 CLOSING REMARKS

*Student Presentation

Workshops

Workshops held at Hotel Captain Cook

Wednesday, January 21

Arctic Animal Telemetry Network:

11:30am – 1:00pm Whitby Room

An Arctic Animal Telemetry network is coming together. Join us for an update on development of national standards and protocols for facilitating data entry from any remote sensing platform and current status of regional efforts.

Student and Early Career Social

5:00pm – 8:00pm Aft Deck

A “meet and mix” reception for students and early career scientists (undergraduates, graduate students, recent graduates, post-docs) providing an opportunity to socialize and learn about funding, fellowship, career, and educational opportunities. Appetizers and a cash bar will be available.

Arctic Research Planning Evening

6:00pm – 9:00pm Quarter Deck

Olgoonik/Fairweather is hosting the annual Arctic Research Planning event. The purpose of the meeting is to provide a forum for collaboration and sharing information of current and future research in the Arctic. Olgoonik/Fairweather will provide beer, wine, and appetizers. Please plan on bringing a brief presentation highlighting: vessel, approximate dates, location, scope of work, and team members. As in previous years, meeting notes will be taken and sent out to the group. RSVP is not required, but if you have questions, please contact Sheyna Wisdom at sheyna.wisdom@fairweather.com, or 907-267-4611.

AOOS Ocean Film Night

6:30pm – 8:00pm Endeavor Room

Wind down your day at the symposium with ocean films from across Alaska. AOOS hosted a short film contest in 2014 in honor of its 10th Anniversary, and over 30 films were submitted. Topics ranged from managing shark populations in the Gulf of Alaska; footage aboard the *Renda* during its historic journey to Nome in 2012; and what it is like to run your own fishing boat in Bristol Bay as a college student. All films are 10 minutes or less, so feel free to drop in. For more information, contact Darcy Dugan at dugan@aoos.com.

Thursday, January 22

Arctic Observations – Science Needs

11:30am – 1:00pm Voyager Room

Come review the latest plans for increasing ocean and coastal observations in the Alaskan Arctic. We will be putting dots on a map and discussing new ideas. Recommendations will help guide AOOS’ 5-year funding proposal as well as other potential funding opportunities. For more information, contact Darcy Dugan at dugan@aoos.org. RSVPs appreciated. Lunch provided.

Film Presentation, Arctic Currents: *A Year in the Life of the Bowhead Whale*

11:45am – 12:15pm Discovery Ballroom

The animated film presents aspects of the life history of bowhead whales as related to their annual migration across the Bering, Chukchi, and Beaufort Seas. The film takes its basic narrative and title from the 2013 calendar edited by Steve Okkonen, *A Year in the Life of Bowhead Whales*. We hope the film will improve public understanding of these iconic animals and their role in the Pacific Arctic marine ecosystem. Specific

topics covered include whale taxonomy, physiology, diet, behaviors, overall movement through Subarctic and Arctic waters, ongoing tagging and aerial observation programs, and the extensive body of traditional knowledge of the indigenous whaling peoples.

Friday, January 23

Conservation Application of the Vessel Traffic Automatic Identification System

9:00am – 4:00pm Adventure Room

Chukchi Sea Whale Ecology Workshop

9:30am – 1:30pm Aft Deck

Beginning in 2010, the National Marine Mammal Laboratory (NMML) and the Resource Assessment and Conservation Engineering Division (RACE) at the Alaska Fisheries Science Center have partnered with the Ocean Environment Research Division of the Pacific Marine Environmental Laboratory (PMEL) on several BOEM-funded interdisciplinary projects in the Chukchi Sea. These include the Chukchi Acoustic, Oceanography, and Zooplankton Study (CHAOZ), the Chukchi Acoustic, Oceanography, and Zooplankton Extension Study (CHAOZ-X), and the Arctic Whale Ecology Study (ArcWest). We will be presenting our research, to date, focusing on two overarching objectives: (1) Documenting the distribution and relative abundance of baleen whales in the Chukchi Sea, (2) Relating changes in that distribution to oceanographic conditions, indices of potential prey density, and anthropogenic activities. We will also cover several project-specific objectives, including climate and noise modeling, assessing the population structure and origin of whales in the region, and examining the relationship between currents and resources delivered to the Hanna Shoal and Barrow Arch areas.

BOEM Meeting Contact: Warren Horowitz | 907-334-5285

BOEM Meeting Chair: Carol Fairfield | 907-334-5284

Co-Chair: Heather Crowley | 907-334-5281

Introduction to Metadata Workshop

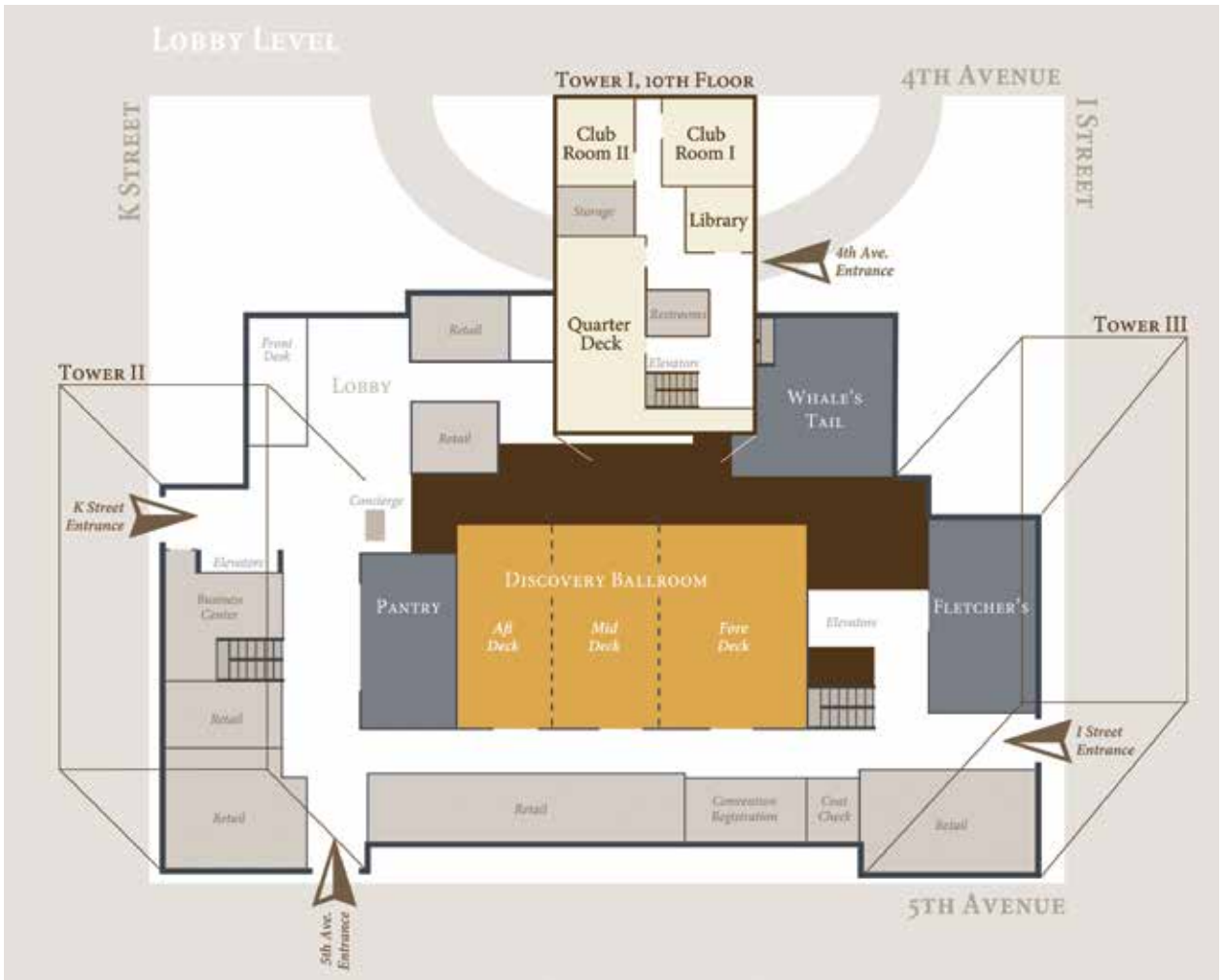
8:00am – 11:00am Quadrant

This workshop will provide an introduction to metadata for documenting scientific data. The presentation will define the value of metadata, why federal agencies are required to create it, describe the role of metadata in data management and distribution, briefly explain the origin of the Federal Geographic Data Committee (FGDC) metadata standard and the Biological Data Profile, give an update on the status of the suite of ISO standards (19115, etc.), illustrate ways in which a metadata program can be implemented, and how to search and submit records using the US Geological Survey's Core Science Metadata Clearinghouse. The workshop will cover various tools available for metadata creation, look at the elements of the FGDC standard and some best practices in creating an FGDC-compliant metadata record. For more information, visit FGDC's website, www.fgdc.gov, or the USGS Core Science Metadata Clearinghouse website, <http://mercury.ornl.gov/clearinghouse>.

Registration required: For more information, contact Danielle Dickson at danielle.dickson@nprb.org. Presenter Viv Hutchison will present the Introduction to Metadata Workshop. Viv is with the US Geological Survey's Core Science Analytics and Synthesis (CSAS) program. She is located in Denver, CO, and can be reached at vhutchison@usgs.gov or 303-202-4227.

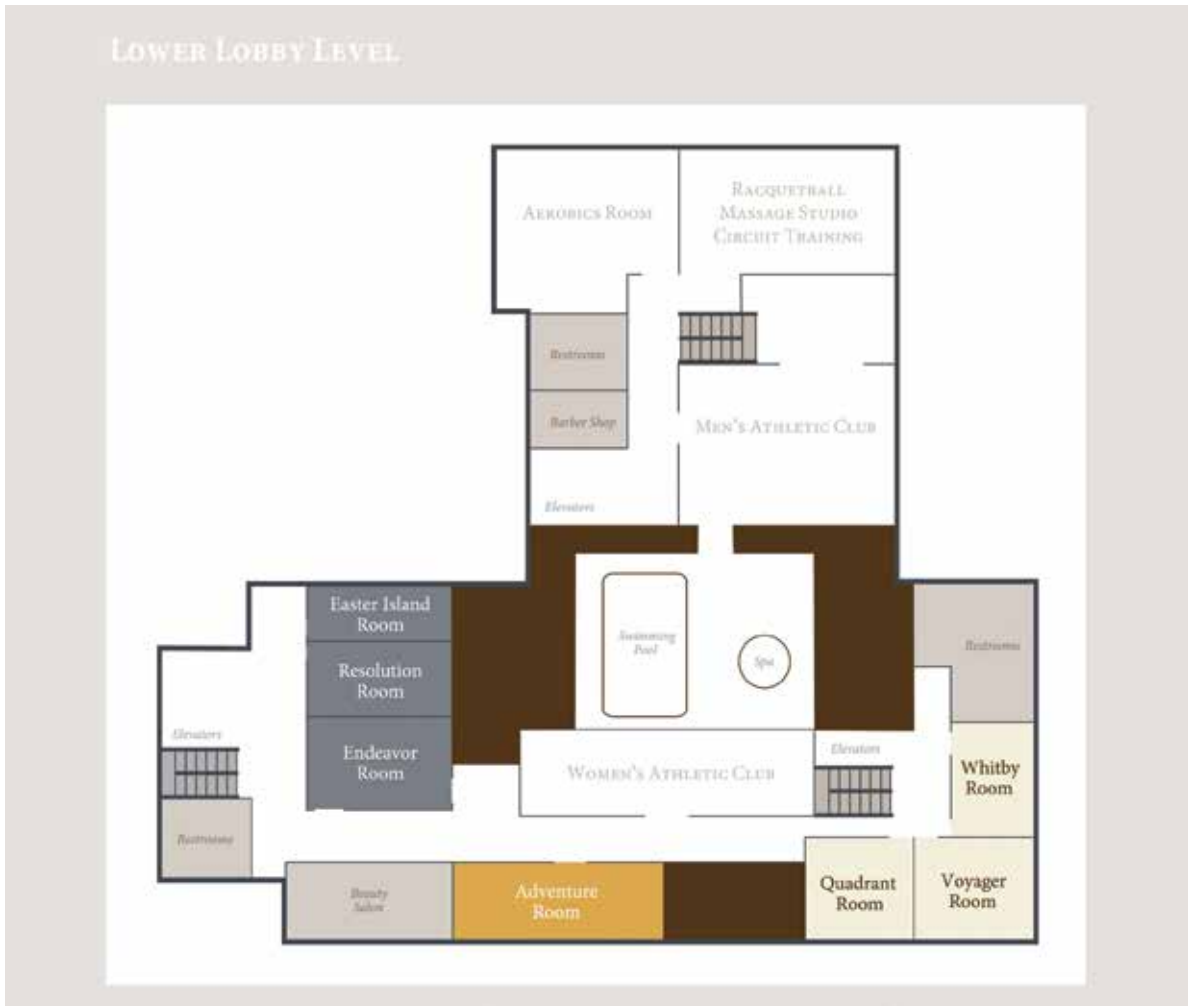
Venue Maps

Hotel Captain Cook, 939 W. 5th Ave Lobby Level and Tower



Shuttle Service is provided between the Hotel Captain Cook (939 W. 5th Ave) and the Egan Center (555 W. 5th Ave.) from 5:45pm – 8:45pm to service those going to and from Poster Sessions.

Hotel Captain Cook, Lower Lobby Level

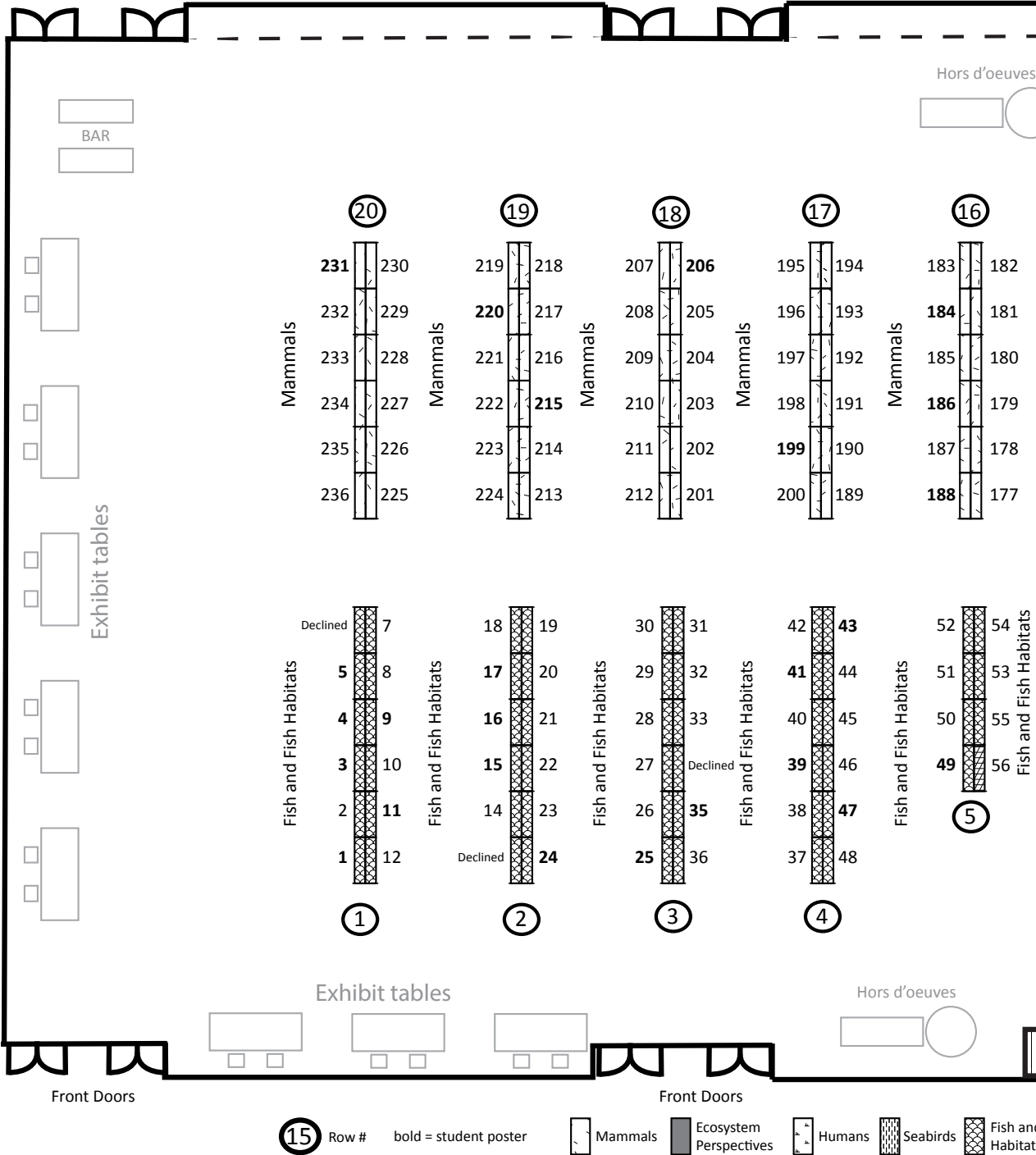


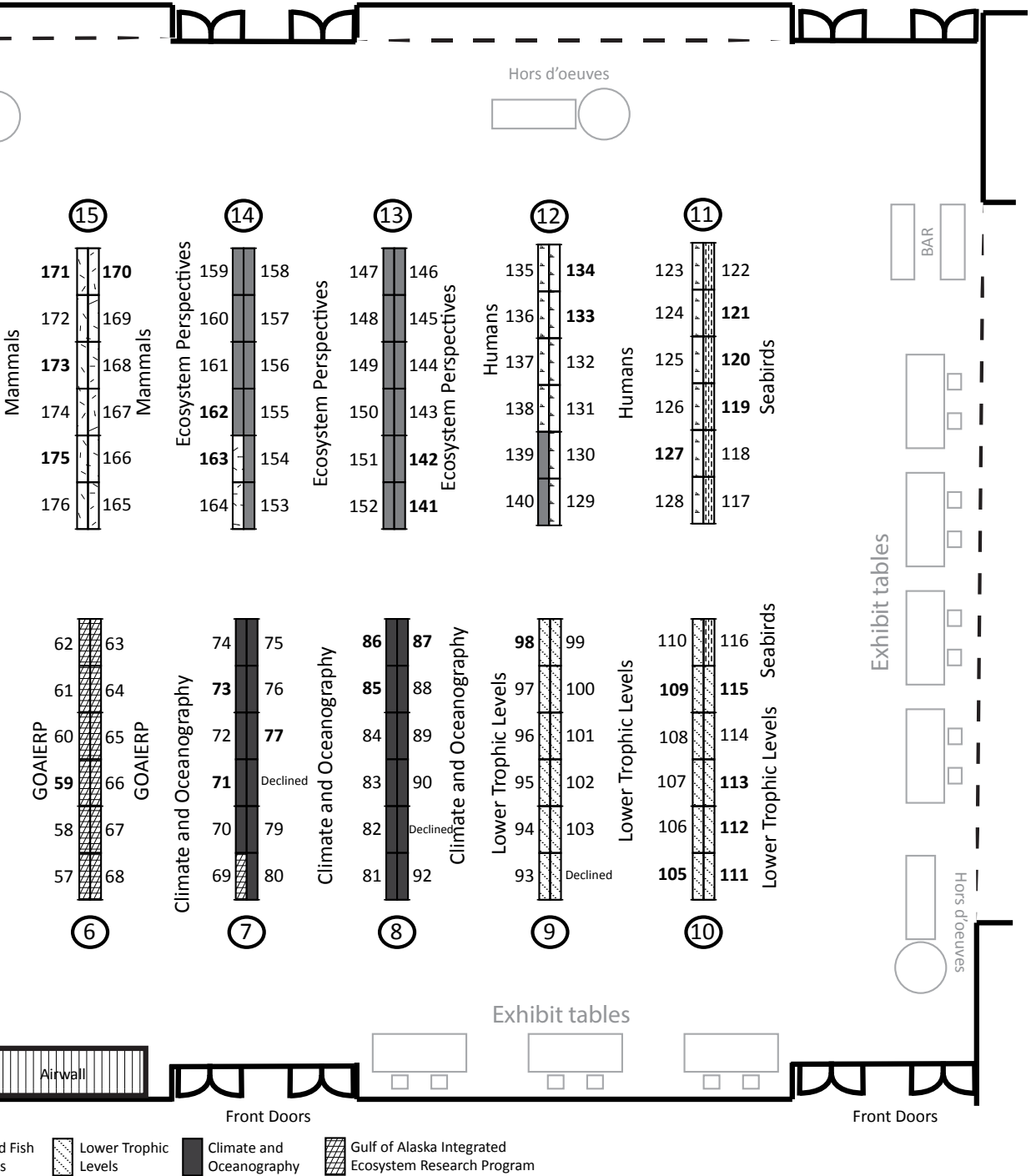
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Venue Maps

Egan Civic & Convention Center, 555 W. 5th Ave Explorers Hall

Shuttle service is provided between the Hotel Captain Cook (939 W. 5th Ave) and the Egan Center (555 W. 5th Ave.) from 5:45pm to 8:45pm to assist those needing transportation to and from the Poster Sessions.





Thank You!

The symposium would not have been possible without the help of many volunteers!

Thank you to the AMSS Organizing Committee, and a special thanks to the following for a substantial contribution by coordinating key aspects of the Symposium:

Organizing Committee Chair:
Crystal Benson-Carlough, NPRB

Poster Session Coordinator
Mary Whalen, USGS

Abstract Review Committee Co-chairs
Carrie Eischens & Danielle Dickson, NPRB

Abstract Book Production
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Non-Plenary Sessions and Workshops Coordinator
Crystal Benson-Carlough, NPRB and Ellen Tyler, AOOS

Student Awards Coordinator
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Thank You Sponsors!



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**Alaska Ocean
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Alaska Sea Grant



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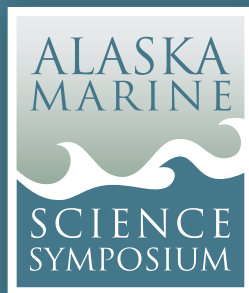
**United States Arctic
Research Commission**



**University of Washington,
School of Aquatic and
Fishery Sciences**



**U.S. Geological Survey
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