

R/V *Sikuliao* & CECSOP



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Brenda Konar & Lauren Frisch

Community and Environmental Compliance Standard Operating Procedure (CECSOP)



1. Provide guidance for researchers
2. Explain the standard operating procedures
3. Avoid conflict



Community/Agency Review Process

- Modelled after the Arctic Waterways Safety Committee SOC document
- Reviewed by
 - National Science Foundation
 - Arctic Icebreaker Coordinating Committee
 - Arctic Waterways Safety Committee
 - Alaska Eskimo Whaling Commission
 - North Pacific Research Board
 - Alaska Sea Grant's Marine Advisory Program
 - UAF *Sikuliaq* Ship Committee
 - Multiple researchers

Document has been through peer-review

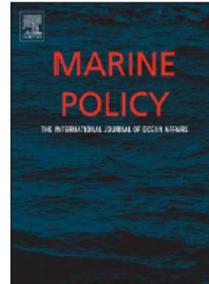
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Development of best practices for scientific research vessel operations in a changing Arctic: A case study for R/V *Sikuliaq*



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<https://www.sikuliatq.alaska.edu/>



R/V Sikuliaq

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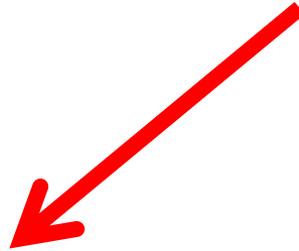
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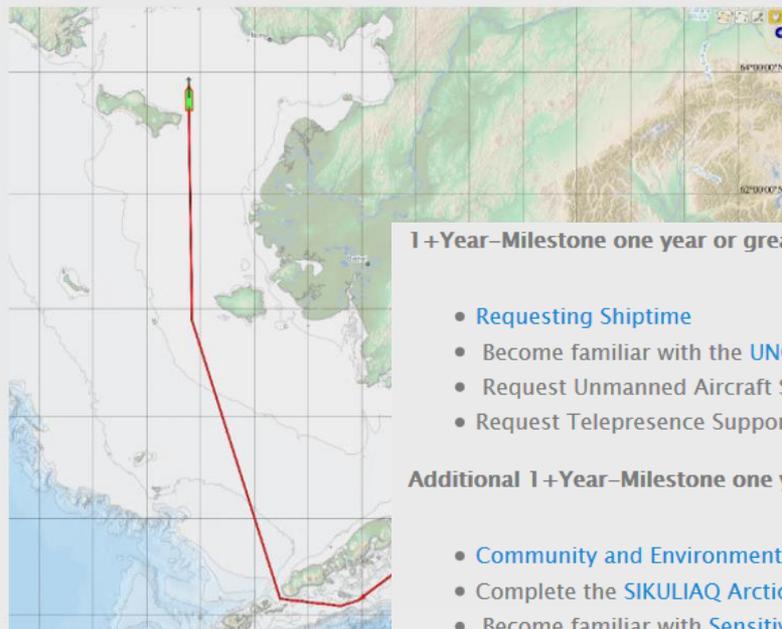
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Cruise Planning

SUBMITTED BY TJPICHOCKI01 ON THU, 05/22/2014 - 19:48

Timeline for SIKULIAQ Cruise Planning – Contact US



1+Year–Milestone one year or greater prior to cruise

- [Requesting Shiptime](#)
- Become familiar with the [UNOLS Research Vessel Safety Standards](#)
- Request Unmanned Aircraft Support [Alaska Center for Unmanned Aircraft Systems Integration](#)
- Request Telepresence Support [SIKULIAQ Marine Superintendent](#)

Additional 1+Year–Milestone one year or greater prior to cruise **(For Arctic Operations)**

- [Community and Environmental Compliance Standard Operating Procedures \(CECSOP\) for R/V Sikuliaq Research Operations](#)
- Complete the [SIKULIAQ Arctic Field Plan Form](#) Form is used to generated a one page on science operations (Example of a one page)
- Become familiar with [Sensitive Operations in the Arctic](#)

6+Months–Milestones six months or greater prior to cruise

- Seek [Clearance to work in Foreign EEZs](#)
- Seek [permitting applications and impact studies](#)
- Request [pooled UNOLS resources \(Vans, Winches,,\)](#)
- Seek [ITAR licensing for Science Supplied Systems](#) and provide list of foreign national science party members. [UAF Office of Research Integrity](#) (Email UAF ORI)
- Perform a [Risk Assessment on Science Operations Using the Green–Amber–Red \(GAR\) Model](#)
- Begin filling out the [SIKULIAQ cruise planning web form](#) with personnel, operational areas, stations, etc (requires user login credentials)

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R/V Sikuliaq



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R/V Sikuliaq Community and Environmental Compliance Standard Operating Procedure

SUBMITTED BY SJHARTZ ON THU, 04/06/2017 - 00:06

[Full text in PDF](#)

Jan 25 2017

Community and Environmental Compliance Standard Operating Procedures (CECSOP) for R/V Sikuliaq Research Operations

For more context on this document, read [Development of best practices for scientific research vessel operations in a changing Arctic: A case study for R/V Sikuliaq.](#)

CECSOP



Section 1: General guidance for research activities on R/V *Sikuliaq*

Section 2: SOP's:

- Pre-cruise

- Cruise

- Post-cruise

Section 3: Roles and Responsibilities

A living document

CECSOP



Section 1: General guidance for research activities on R/V *Sikuliaq*

I. General Guidance for Research Activities:

- A. If possible, research activities should be planned to avoid impacts on, or time/area conflicts with, maritime subsistence harvest areas, activities and marine resources

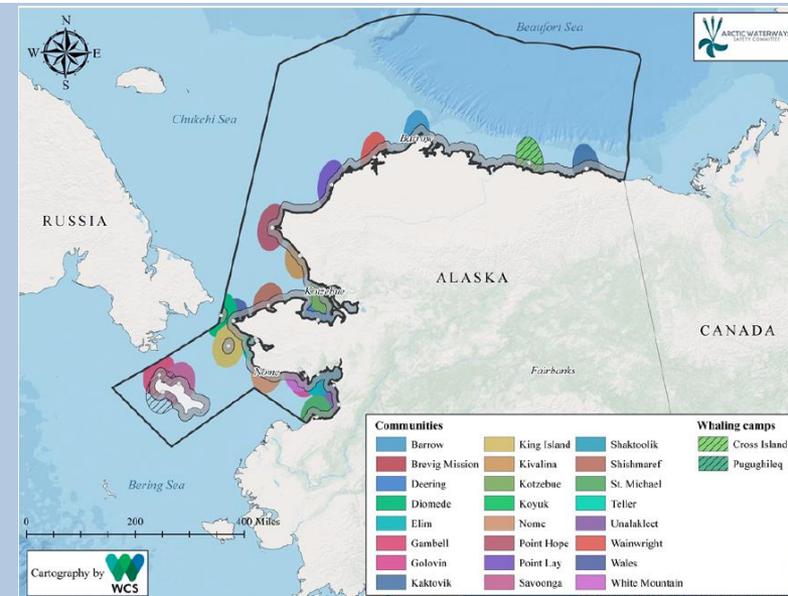


Figure 1. Arctic villages and coastal areas of concern per AWSC SOC for Research Cruise Operations Draft 22 Feb 2017 Version. Although not included in this graphic, Nuiqsut is also recognized as having a 30 nm boundary associated with the Colville River delta and will be added in a future version when the AWSC SOC graphic is updated.

CECSOP



Section 1: General guidance for research activities on R/V *Sikuliaq*

I. **General Guidance for Research Activities:**

- A. If possible, research activities should be planned to avoid impacts on, or time/area conflicts with, maritime subsistence harvest areas, activities and marine resources
- B. To achieve research goals, while minimizing community impacts, discussions may be needed with potentially affected coastal communities if funded research activities cannot avoid impacts on and time/area conflicts with maritime harvest areas, activities, and resources; for example, when:
 - a. Activities are expected to cause conflict
 - b. Research is to be conducted within 50 nm of Barrow or within 30 nm of other coastal villages or established whaling camps (Figure 1)
 - c. Research is to be conducted within a distance of 12 nm (U.S. territorial limit) from the rest of the Arctic coastline

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Section 2: SOP's:

Pre-cruise

- 1-page project summary that presents the research questions, location and timing of the research, and general research activities to be conducted.
- Once the plan is finalized and has been agreed to, the research cruise will follow the plan unless there are extenuating circumstances.

Cruise Planning

SUBMITTED BY TJPICHOCKI01 ON THU, 05/22/2014 - 19:48

Timeline for SIKULIAQ Cruise Planning – Contact US



1+Year–Milestone one year or greater prior to cruise

- [Requesting Shiptime](#)
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Additional 1+Year–Milestone one year or greater prior to cruise (For Arctic Operations)

- [Community and Environmental Compliance Statement and Operating Procedures \(CECSOP\)](#) for R/V Sikuliaq Research Operations
- Complete the [SIKULIAQ Arctic Field Plan Form](#) Form is used to generated a one page on science operations (Example of a one page)
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QUESTIONS RESPONSES 3

Sikuliaq Field Plan

The information you enter on this form will be turned into a one-page document. Please be brief!

We will use this document to communicate your planned scientific objectives to both the Arctic Waterways Safety Committee and the Alaska Eskimo Whaling Commission one month prior to their fall meeting to determine if you will need to attend either of these meetings, or separate meetings with potentially affected communities. If you do not need to attend one of these meetings in person, a representative of R/V Sikuliaq will bring this document to the meeting on your behalf.

Project title

Long answer text

PI(s)

Long answer text

Research questions

Beaufort Shelf Break Ecology—Plankton, Fish, and Belugas (2018)

Carin Ashjian (cashjian@whoi.edu), Woods Hole Oceanographic Institution, and colleagues



Research questions

- Why are beluga whales found along the shelf break in the Beaufort Sea?
- Do winds from the east produce good feeding conditions (lots of Arctic cod) for belugas along the shelf break?

Why we should care

Historically, beluga whales are often seen along the shelf break and deeper, but are not typically found further inshore on the shallow shelf where bowhead whales are usually seen. We think it is because the belugas can find high numbers of their arctic cod prey along the shelf break but not as many elsewhere.

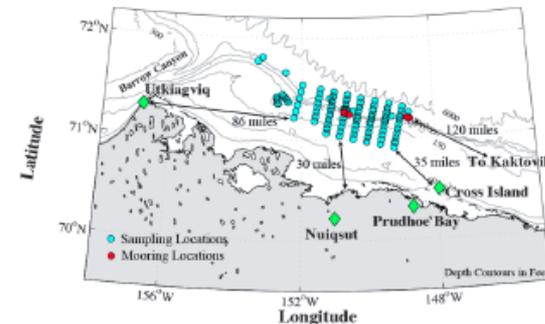
What we will measure

We will measure plankton and fish distribution and abundance, fish diet, plankton nutritional value, temperature, salinity, and currents, and will observe marine mammal and bird occurrence from the bridge.

General 2018 cruise plan

We will pick up 4 oceanographic moorings (anchored to the seafloor) that have recorded marine mammal calls as well as temperature, salinity, currents, and zooplankton and fish distributions for a year. We will put back out two moorings to collect another year of data. We will sample the metrics listed above at locations that run from the shallow shelf (about 30 miles offshore) north across the shelf break into deeper water. We will sample at some locations several times. We need to sample during many types of wind conditions and especially during strong winds from the east.

Cruise track



Timeline

August 3: Leave Nome, Alaska

August 3–5 or 6: Transit to Beaufort Shelf

August 6–24: Work along Beaufort Shelf Break in study area

August 24–27: Transit back to Nome

August 27: Arrive in Nome

Daily science updates and additional information

We will have a community observer on board as part of our science party. Science updates will be sent out by Carin Ashjian; let her know at cashjian@whoi.edu if you want to be on the list. The project will be on Facebook, Instagram and Twitter. R/V *Sikuliaq* will be in regular communication with local communities.

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Section 2: SOP's:

During the Cruise

- Either *Sikuliaq* crew or the PI will email location, speed, direction and purpose of transit to interested people.
 - The need for a Local Expert will be determined during discussions with local communities.
 - A Protected Species Observer may also be required.

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Section 2: SOP's:

Post-cruise

- Summary Report by PI
 - Presented at AWSC/AEWC
 - Posted on *Sikuliaq* website (pending)
- Summary Reports by PSO and LE
 - Posted on *Sikuliaq* website (pending)

CECSOP



Section 3: Roles and Responsibilities

- General descriptions of the roles and responsibilities of individuals associated with research cruises conducted on the R/V *Sikuliaq*



Cruise Planning

SUBMITTED BY TJPICHOCKI01 ON THU, 05/22/2014 - 19:48

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Sensitive Operations in the Arctic

SUBMITTED BY TJPIECHOCKI01 ON TUE, 05/27/2014 - 22:41



photo Courtesy of Gay Sheffield

The Arctic polar regions have been home to humans for thousands of years. While much has changed since first contact between Inuit and Europeans more than one thousand years ago, many culturally and linguistically distinct peoples remain nutritionally, culturally and economically reliant on the available traditional marine based food resources. As scientific interest in the Arctic has increased so has the potential for conflicts between research and subsistence users, typically in biologically significant areas. Coastal Alaskans in western and northern Alaska are adapting to shifting industrial and environmental regimes. Whether you realize it or not, a visiting researcher faces an unusually high level of interest and scrutiny by local residents for two reasons:

1. Unintended impacts of research, such as ship noise, are known to alter the availability of marine-based food resources.
2. Coastal people are part of the ecosystem you are studying. It is important for communities to understand what you are doing, why and the results of your work

Gay Sheffield, Marine Advisory Program Agent – Bering Strait, University of Alaska

<https://www.sikuliahq.alaska.edu/>

Recommended Links

- [Principles for the Conduct of Research in the Arctic](#)
- [Guidelines for Improved Cooperation between Arctic Researchers and Northern Communities](#)
- [\(USCG HEALY\) A Primer for Marine Scientists Planning Shipboard Work in Alaskan Arctic and Sub-Arctic Waters](#)
- [Kawerak](#)
- [Alaskool](#)
- [Bering Strait Marine Life and Subsistence](#)
- [Traditional Knowledge BOEM](#)
- [Alaska Native Knowledge UAF](#)
- [Guidelines for Respecting Cultural Knowledge](#)
- [Arctic Waterways Safety Committee](#)
- [Environmental Compliance CH2MHILL](#)

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Questions or Comments:



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