

Since its inception in 2003, **NOAA Science Camp** has evolved into a highly regarded, collaborative science program. More than 10 NOAA offices, Washington Sea Grant (WSG) and the Joint Institute for Study of the Atmosphere and Ocean (JISAO) partner to introduce middle and high school students to the multidisciplinary nature of research. Scientists and educators interact directly with camp participants to demonstrate how NOAA research addresses environmental issues on both local and international scales.

Washington Sea Grant 2019 NOAA Science Camp



NOAA Science Camp is a self-motivated, cumulative learning experience that is at the core of real-world science learning. Camp activities integrate NOAA science into high-quality educational materials through a curriculum that meets state education standards, as well as all Ocean Literacy Essential Principles. Complex concepts are presented in innovative and interesting ways that engage campers and demonstrate that science can be fun. Science activities are blended with other enriching camp experiences — playing field games, gaining confidence through team-building and fostering new friendships with fellow campers.

Assisting Underserved Youth

NOAA Science Camp partners with the University of Washington's JISAO to provide support for campers from underrepresented and underserved communities to attend camp. We work with programs such as Rainier Scholars, Solid Ground, and Seattle MESA to help with outreach to and recruitment of prospective campers who need support to attend camp. NOAA Science Camp offers full and partial scholarships to applicants who are eligible for free and reduced lunch programs. In 2019, JISAO's support made possible the attendance of 19 middle school students from Showalter Middle School in Tukwila, Washington. NOAA Science Camp also worked with several Alaska groups to sponsor six students to come to camp. In St. Paul Island, the Aleut Community of St. Paul Island Tribal Government and the St. Paul community provided airfare and local travel funds for the students. In Nome, Kawerak Incorporated, Norton Sound Health Corporation, Norton Sound Economic Development Corporation, Pioneers of Alaska, and the Sitnasuak Native Corporation provided funds, and Josie Bourdon coordinated fundraising.

Additional scholarships were awarded with funds provided by WSG and NOAA.

Year	% Scholarships Awarded*
2019	23.0%
2018	16.8%
2017	24.0%
2016	17.0%
2015	19.5%
2014	10.0%

*Numbers account for all scholarships requested and awarded.

2019 Highlights

- NOAA Science Camp offered its 17th year of programming to engage youth in ocean and atmospheric science.
- Campers shared their findings from their investigations of an environmental mystery to scientists, other campers, educators, and parents through oral, written and theatrical presentations.
- A career speed-networking event introduced Junior Leadership Program (JLP) participants to 19 local scientists and organizations. The Junior Leaders also learned about the North Pacific Observer Program and how fisheries observers contribute to sustainable fisheries management.
- To expand NOAA Science Camp's reach and impact, NOAA Science Camp partnered with several Alaska organizations to host six campers from rural Alaska (Pribilof Islands, Nome and Wasilla) in camp programs. Two teachers (one in partnership with NOAA's Teacher at Sea program) also travelled to Seattle and participated as camp educators and provided feedback about incorporating traditional ecological knowledge into camp activities and how to make connections and expand program reach to remote, coastal communities.
- NOAA Science Camp hosted a Doris Duke Conservation Scholar who worked with program leadership to observe and identify ways in which the program can be more inclusive and incorporate more traditional knowledge and ways of knowing into existing curricula.



Supporting NOAA Scientists

Students are not the only individuals to benefit from NOAA Science Camp sessions. When surveyed about their roles in the camp, the majority of NOAA scientists felt they gained

- greater connection with NOAA staff;
- improved ability to develop educational activities;
- deeper knowledge about NOAA;
- enhanced presentation skills; and
- increased motivation to inspire and engage campers in science.

Eco-Detectives in Action

During the summer months, NOAA Science Camp typically offers two five-day camp sessions, each attended by approximately 50 middle school campers. In



addition, the camp provides a two-week JLP for high school students to provide hands-on experiences in leadership, teambuilding, and inquiry-based research, as well as the opportunity to explore a variety of NOAA-related marine science careers. This year, the JLP also learned about the North Pacific Observer Program and the role of fisheries observers in sustainable fishery management as well as testing an educational activity about subsistence hunting and fishing, and how it is affected by climate change.

In 2019, NOAA Science Camp again partnered with Atlantis STEAM for the fourth year to design and build mini-ROVs. During this program, campers also learned about how NOAA is using drones, thermal cameras and multi-spectral imagery to survey marine mammal populations, and connected their ROV explorations with real-world research as they learned about underwater stereocamera design and deployment on-site at a NOAA Fisheries lab. At the end of the session, ROV campers tested their mini-ROVs by competing to complete tasks underwater.



A SNAPSHOT OF THE WEEK

Day 1-3

Campers travel in small groups to a variety of NOAA offices and participate in activities highlighting NOAA scientists, building skills that will serve them later in the week.

The "Mystery Environmental Scenario" is introduced to campers. Small groups meet to create hypotheses about the causes of the scenario.

Day 4

A "Mystery Environmental Scenario" continues. Individuals from each group are sent off to gather specialized NOAA science information that will help campers explain the causes and effects of the scenario events. They return to their original groups and report their findings.

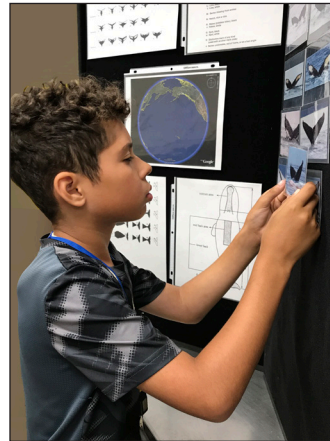
Day 5

Groups use scientific methods to solve the scenario and communicate their findings in an oral and visual presentation to campers, scientists, camp educators and families.

Campers work alongside NOAA Scientists

Campers have opportunities to:

- assess fish populations and create food webs;
- identify marine mammals by calls and markings, and examine bones from fish they consumed;
- analyze water samples and observe how buoys sample the ocean to help predict large-scale climate events;
- develop charting skills by practicing with marine navigation charts;
- learn about hazardous substances and respond to a hypothetical spill; and
- try on dive gear, and learn how a hyperbaric chamber is used.



NOAA Fisheries' Headquarters office provided 2019 funding in addition to the support provided by University of Washington's JISAO and Washington Sea Grant. This enabled NOAA Science Camp to maintain its full program of two middle school camp sessions, two weeks of the JLP and a three-day ROV mini-session.

NOAA SCIENCE CAMP BY THE NUMBERS

Sessions	2018	2019
Campers	143 *	139**
Girls (total)	68	63
Boys (total)	75	76
States Served	6	8
Participating NOAA Scientists	85	85

*Includes 21 Junior Leaders

**Includes 19 Junior Leaders

VALUABLE PARTNERSHIPS

NOAA*
 WA Sea Grant*
 JISAO*
 NANOOS
 Atlantis STEAM
 MESA
 Ocean Inquiry Project
 Rainier Scholars
 Sail Sand Point
 Showalter Middle School
 University of Washington
 Aleut Community of St. Paul
 Island Tribal Government
 St. Paul Island community
 Kawerak Incorporated
 Norton Sound Health Corporation
 Norton Sound Economic Development Corporation
 Pioneers of Alaska
 Sitnasuak Native Corporation

NOAA OFFICES INVOLVED

NOAA Fisheries

- Headquarters**
- Alaska Fisheries Science Center
- Northwest Fisheries Science Center
- Office of Law Enforcement
- Restoration Center
- Seafood Inspection
- West Coast Regional Office

Office of Marine and Aviation Operations

- NOAA Diving Center

Office of Oceanic and Atmospheric Research

- Pacific Marine Environmental Laboratory

National Ocean Service

- Office of Coast Survey, Pacific Hydrographic Branch
- Office of Response and Restoration, Emergency Response Division and Assessment & Restoration Division

National Weather Service

- Seattle Forecast Office

* Funding and activity partners

** Funding partners