

# Scientists in the Schools: *Engaging Alaska students in marine science through an innovative teacher-scientist partnership*

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**SIS brings scientists into rural schools to expose Alaska Natives and rural students to current research findings about the North Pacific and careers in marine-related sciences.**



**A facilitator dovetails the scientists' expertise with the curriculum needs of the teachers. Introductory lessons are delivered prior to the scientists' arrival.**



**Students gain understanding of the importance of the polar regions to global climate, environment, health and transportation.**

**Broader impacts include increased #'s of underrepresented groups in the sciences.**



**Future goals are to promote SIS in other rural communities in Alaska, increasing the number of students interested in pursuing educational and career pathways in the marine sciences.**

Over 1,000 students benefit from SIS each year, nearly 100% of Sitka students in grades 6 to 12.



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## Scientists in the Schools

- SWF partners with Sitka Schools to create a strong science program at SHS
  - meets goals of funders
- Low cost to deliver excellent science instruction
  - 1164 hours of instruction delivered to Sitka students in November 2011
- Encourages students in career STEM pathways  
(Science Technology Engineering and Math)
- Used as model for other grants
  - NSF (SIRF) and USDA (Taking AME)

# How SIS Works?

- Rigorous selection of scientists who are capable of engaging students
- Integrating current research findings into experiential learning
- Using novel and innovative teaching techniques
- Students are prepared in advance of scientists visit with science concepts
- Brings community volunteers into the classroom
- Younger grades integrate art and science and music











# 2012 Salmon Spawning Olympics!

Teaching fish culture basics w/o any fish!



Goal is to learn to spawn  
Salmon eggs to raise in  
hatchery



Broodstock=balloons  
different sexes and spp



Simulates real process  
w/waders.



incubation



Spawning process



# Evaluation

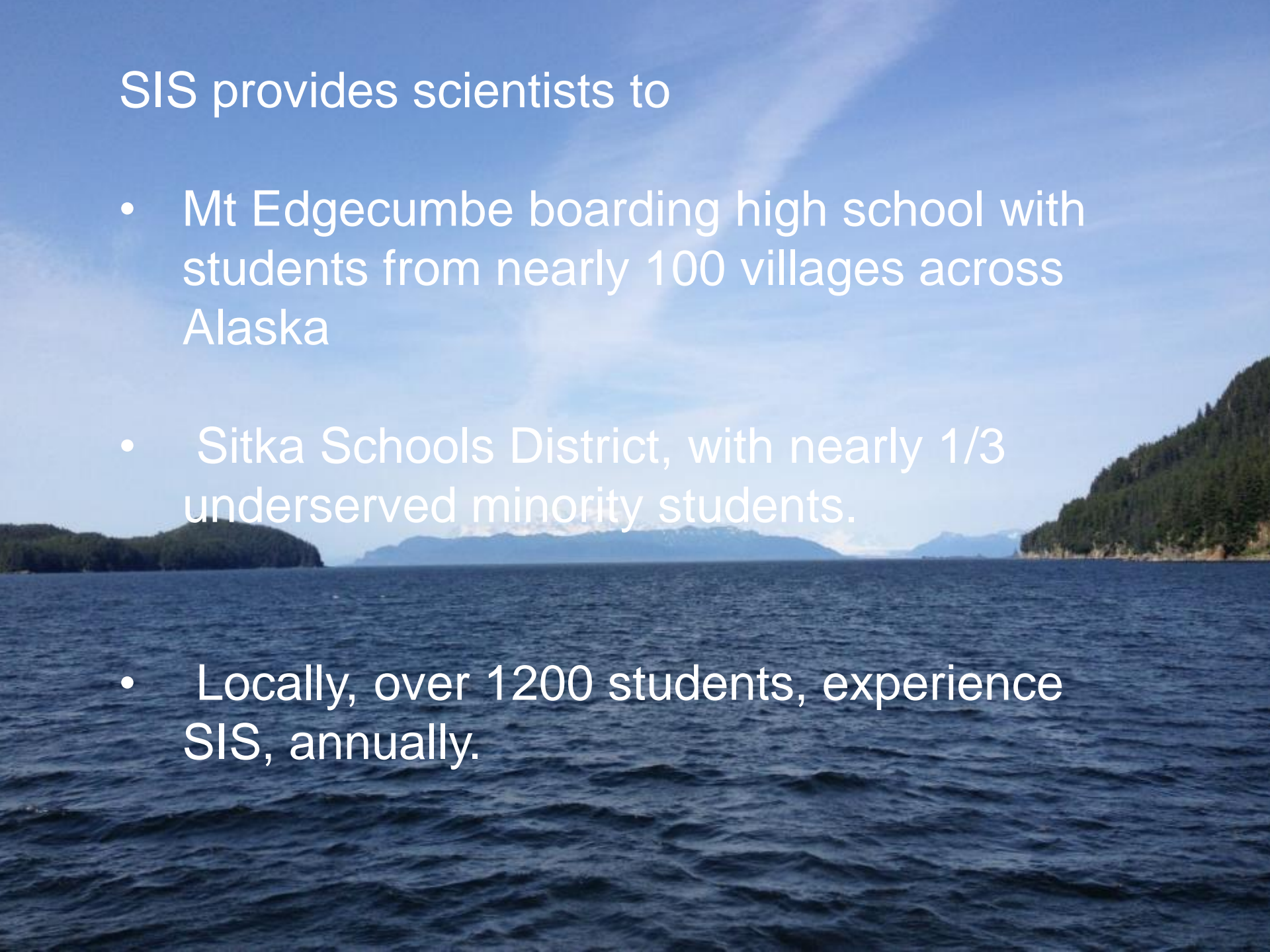
- Integrated and ongoing program evaluation
- Adapt in real time to improve delivery
- Listen to teachers and scientists feedback
- Adjust to teachers needs in classroom









The background of the slide is a scenic photograph of a coastal area. In the foreground, there is a body of dark blue water with small, white-capped waves. In the middle ground, a range of mountains is visible, some with patches of snow or light-colored rock. To the right, a steep, forested hill rises from the water's edge. The sky is a clear, pale blue with a few wispy clouds.

# SIS provides scientists to

- Mt Edgecumbe boarding high school with students from nearly 100 villages across Alaska
- Sitka Schools District, with nearly 1/3 underserved minority students.
- Locally, over 1200 students, experience SIS, annually.



Broader impacts provide students

- an understanding of the importance of changes in the Arctic,
- knowledge necessary for an informed electorate on policy decisions
- and an investment in the future stewardship of Alaska's vast marine food supply.



A scenic coastal landscape featuring a large body of water in the foreground. In the background, there are dark, forested mountains under a cloudy sky. A small town is visible on the shoreline. In the lower right, a small island with a white lighthouse is visible. The text is overlaid on the upper left portion of the image.

Future goals are to promote

- the SIS program throughout Alaska
- to increase the number of students pursuing educational and career pathways in the marine sciences