

Move over eyeglasses and pocket protectors: NOAA Science Camp gives middle schoolers a chance to experience the real world of scientists

By Jessica Smits, Washington Sea Grant Communications intern

Over 60 middle school students from the Seattle area and beyond took a break from swimming, family vacations, and ballgames to spend a week in July learning what it means to be a scientist.

The seventh and eighth graders attended the Fourth Annual NOAA Science Camp at the NOAA Western Regional Center campus in Seattle, Washington. Sponsored by NOAA, Washington Sea Grant and the University of Washington's Joint Institute for the Study of the Atmosphere and Ocean (JISAO), the camp was designed to give students hands-on experience and an inside-look at science in the real world.

For their first activity the students drew pictures of what they thought scientists looked like. When asked to name the characteristics included in their drawings, they excitedly noted things like safety goggles, test tubes, white coats and even "no hair because it got blown off."

Throughout the week, the campers' preconceived notions of real scientists and the work they do were challenged.

They met John Jansen, a wildlife biologist with all of his hair, who explained the use of radio-tagging to follow marine mammals in the wild. He led the students as they tracked "harbor seals" (a.k.a. other campers) around the classroom by listening for a beeping noise to indicate a tagged animal was nearby.

LTJG Eric Johnson of NOAA Corps accompanied the campers inside the NOAA Dive Center's hyperbaric chamber for a simulated recompression dive. Along the way, he explained the chamber's use to remove Nitrogen bubbles from the bloodstream of divers involved in dive accidents.

With NOAA whale biologist Sally Mizroch, the students worked on photo-identification of humpback whales and learned about the use of photographs to discover more about whale survival and population structure over time.

After Mizroch explained that a computer can identify individual whales, based on each whale's pattern of scratches and scars, one boy asked, "So you had some guy program it to do that?"

Sally looked at him with an eyebrow raised and proudly replied, "No, *I* wrote the program!"

Scientific collaboration and the sharing of information were hot topics at the camp, as students worked together to come up with answers to a complex problem. Campers were given details surrounding a hypothetical fish kill on a Seattle beach and asked to develop

hypotheses on what caused the die-off and look for evidence to support or refute their theories throughout the week. They split up to glean information about the fish kill from different NOAA departments specializing in oceanography, charting, fisheries, marine mammals, diving, weather, hazardous materials and watersheds.

After activities such as examining fish, testing water quality, and looking at boating charts, the campers rejoined their groups to share what they learned and piece together the mystery. On the final day of camp, the students expertly shared their group's findings with fellow campers, NOAA scientists, parents, siblings and special guests during a poster session.

Camp Director Shelley Stromholt said she hoped that after attending camp, students would see that science is a constantly changing process where new questions are always arising. "Science is messy, it's not a cookbook activity," she said.

At least one camper got the message. When asked what the camp taught about science, the student noted, "Science is fun and informative. There is more to science than test tubes and beakers."

"We were particularly pleased with the broad representation of young people, from a total of 33 school programs," says Washington Sea Grant's Julie Hahn, responsible for logistics and administration of the camp. "We had students from as far away as Nanaimo, British Columbia, and Moses Lake in eastern Washington," she says. "It's our hope that they will return to their communities and share their new insights and enthusiasm about marine science."