

Mt. RAINIER RESEARCH TEAM PROGRAM INFORMATION

Learn about the flora and fauna of North Cascades and Mount Rainier National Park. This camp will spend time with scientists from the National Park Service (NPS) studying insect populations on federal lands. The participants will work directly with ecologists, wildlife biologists and botanists who are documenting the effect of climate change on sensitive alpine species in these national parks. There will also be plenty of time for exploring and hiking in these amazing natural areas.

Little is known about how current trends in climate change might be influencing the population trends of alpine butterfly populations in the higher elevations of Washington's Cascade Mountains. The students will be participating in groundbreaking work that could have implications for future national policy trends.

Activities will focus on utilizing carefully designed research protocol allowing the campers to be true "citizen scientists". The participants will use cutting edge Information Technology with a particular accent on Geographical Information Systems (GIS). Additionally the participants will also learn field botanical and wildlife biology sampling techniques gaining real world experience in these fields. The students will help NPS scientists perform baseline surveys to assess populations and dispersal patterns of various species.

COURSE SYLLABUS

This course includes a minimum of 60 hours of lecture/seminar discussions, and a minimum of 60 hours of field investigation/laboratory time. Students successfully completing the course will receive a certificate of credit that may be given to their school or service organization for possible credit.

Objectives:

- Learn science by doing science
- To gain a better understanding of the population densities and dispersal patterns of alpine insects in high Cascades
- To allow the participants to gain an understanding and practice application of scientific research techniques and methods
- To gain an understanding of what wildlife biologists do in their daily work routines
- Get a better understanding of how climate change is affecting the world around us
- To increase the student's ability to observe and understand the natural world

Activities: Hands on learning in the field

- Utilize cutting edge field data technology
- Gain real world in the field biological and botanical sampling techniques
- Help make direct contribution to the body of scientific knowledge relating to climate change
- Work with researchers to collect, count and monitor indicator species
- Visit and learn about North Cascades and Mount Rainier National Park
- Camp out and explore various sites in the Cascade Mountains

Concepts: Principles to be introduced

- Factors that contribute to ecosystem indicator species
- Climactic weather patterns and how they are influencing flora and fauna
- The scientific method and how it is can be applied to different research scenarios
- Understanding geographic, geologic and topographical influence on local organisms
- Differences in habitats from valley bottom to mountaintop

SAMPLE DAILY SCHEDULE*

7:00 a.m.	General camp wake-up
8:00 a.m.	Breakfast
9:00 a.m.	Activity Block 1
11:30 a.m.	Lunch
12:30 p.m.	Rest & relaxation
1:30 p.m.	Activity Block 2
3:30 p.m.	Activity Block 3
5:00 p.m.	Recreation and free time
6:00 p.m.	Dinner
7:15 p.m.	Evening activities
8:30 p.m.	Return to tents, prepare for bed

* Programs that are partly or entirely field-based will follow a unique schedule each day, depending on the activities planned. Drive times between field sites and campgrounds will include stops for short hikes and games, meals, and bathroom breaks.

TECHNOLOGY AND COMMUNICATION

Cell phones are not allowed on any OMSI Science Camp program. Cell phones are too easily lost or damaged. Students have an excellent support system at camp including their fellow students, the counselors, the instructional staff, and the lead staff. We will ensure that any necessary communication between parents/guardians and students can take place through the main phone at each site. Instructional staff carries cell phones during transportation and on off-site programs for emergency purposes only. An important part of the camp experience is for each student to gain independence, develop greater resilience, and enjoy the unique opportunities offered by OMSI Science Camps without technological distractions. We are grateful for the trust parents and guardians put in our staff to care for each student, and we appreciate the time taken in discussing this important issue with your student before his or her program begins.

Digital cameras are allowed, but remember that, at camp, things can easily be lost or damaged. We recommend single use cameras or film cameras. Please keep in mind cell phones with cameras will not be allowed.

For the safety of your child and OMSI Science Camps staff, we strongly discourage our staff from having contact with your child after camp since we cannot supervise it. Making new friends is one of many positive outcomes of OMSI Science Camps programs, and students who want to stay in touch with each other may exchange phone numbers, addresses, or e-mails. Please understand that any communication between your child and another student or a staff member after the camp session is over is the responsibility of the student's parent or guardian to oversee.

If your child would like to contact a staff member, then email a letter to: pmsc@omsi.edu.

Mt. RAINIER RESEARCH TEAM EQUIPMENT LIST

Sleeping Gear:

- _____ sleeping bag
- _____ insulated sleeping pad
- _____ small **tent** to be shared (2-4 person) (if already owned)
- _____ pajamas
- _____ pillow with pillowcase (optional)

Field Equipment:

- _____ 2 water bottles (1 quart/liter each)
- _____ eating utensils (plate, bowl, cup, silverware)
- _____ flashlight or headlamp
- _____ daypack
- _____ **sack lunch for the first day**

Clothing:

- _____ sturdy, well-fitting and broken in shoes. (hiking boots preferred)
- _____ shoes that can get wet. (e.g. sandals, or old shoes)
- _____ 3 pairs long pants (we will probably encounter snow)
- _____ warm hat & gloves
- _____ 1 or 2 pairs of shorts
- _____ 5 T-shirts
- _____ 3 long-sleeved shirts for layering
- _____ sweater or sweatshirt (it will get cold at night)
- _____ adequate underwear & socks
- _____ swimsuit & towel
- _____ **rain gear (jacket w/hood & pants, or poncho)**

Personal Gear:

- _____ toiletries: soap and container, toothbrush/toothpaste, comb/brush
- _____ wash cloth and a bathing towel
- _____ sunscreen
- _____ lip balm with sun screen
- _____ personal hygiene items

Optional:

- _____ camera
- _____ binoculars
- _____ compass
- _____ lightweight books (field guide, natural history, legends, etc.)

ALL CLOTHES AND EQUIPMENT SHOULD BE MARKED WITH THE PARTICIPANT'S FULL NAME. OMSI IS NOT RESPONSIBLE FOR LOST ITEMS.

PLEASE DO NOT BRING SNACKS OR CANDY
(rodents enjoy searching tents for food).

NO ELECTRICAL EQUIPMENT SHOULD BE BROUGHT (CELL PHONES, MP3 PLAYERS, RADIOS, BLOW DRYERS, COMPUTER GAMES, ETC.)