

Washington State Department of Ecology

Coastal Monitoring & Analysis Program

WCC Individual Placement Position

The Washington Department of Ecology, Coastal Monitoring & Analysis Program has a one-year job opportunity for a motivated and qualified individual to assist in surveying beach topography and nearshore bathymetry to monitor coastal morphology change along the Washington coast, throughout Puget Sound, and along the lower Columbia River.

This position is being offered through the Washington Conservation Corps (WCC) Individual Placement (IP) internship program. The WCC is an AmeriCorps program dedicated to environmental and disaster services (<http://www.ecy.wa.gov/wcc/>). Qualified individuals must be between the age of 18 and 25* (may turn 26 while in the program). **This position is intended to be filled by October 3, 2016 and will continue until September 15, 2017.**

The purpose of this position is to help Ecology and other science organizations understand physical changes along Washington's beaches and nearshore zones. The collected data and resulting information contribute to the technical assistance role of Ecology in assisting local communities and others with implementation of coastal zone management activities, shoreline master programs, marine spatial planning, coastal resource management, and nearshore ecosystem protection and restoration.

Job Description:

Objective: As part of a team, the IP will provide technical support to the Coastal Monitoring & Analysis Program (CMAP) with collecting field data, maintaining field equipment and vehicles, managing databases, analyzing sediments in CMAP's dry sediment laboratory, and assisting with a variety of office and project tasks as needed.

Activities:

1. Collect data in the study of coastal erosion and accretion. Data collection will include beach topographic mapping and nearshore bathymetric morphology mapping using Real-Time Kinematic Differential Global Position Systems (RTK-GPS), as well as boat-based laser scanning and multibeam sonar systems.
2. Assist in processing, analysis, and database management of beach and nearshore data using a variety of software packages such as: Trimble Business Center, MS Excel, ArcGIS, MATLAB, QINSy, Fledermaus, VG4D Smart LiDAR, Autopano Giga, etc.
3. Sediment grain size analysis. Collect sediment samples, process samples in laboratory, perform analysis of sediment size distributions, and archive processed samples. Perform 'cobble cam' digital photo-based grain size analysis.

**Age restrictions are based on legislative mandate, limited exceptions may be made for veterans, leadership (non-member) positions, and participants with a sensory or mental disability.*

4. Field equipment and vehicle maintenance (e.g., cleaning, greasing, outfitting, scheduling services). Includes: 4-wheel drive truck, off-road all-terrain vehicle, 28' twin-hull beach-landing craft, trailers, GPS and radio equipment, tools, and sediment lab equipment (scales, etc.).
5. General office and project support such as report writing, photo documentation, contacting landowners about upcoming surveys, making hotel and moorage reservations, archiving relevant newspaper articles and current peer-reviewed literature, shipping/receiving packages, helping develop operational checklists and standard operating procedures, and maintaining inventory of equipment and supplies.
6. Assist local organizations with volunteer events such as beach clean-ups, undertake outreach and education projects, and further WCC goal of volunteer recruitment.

Necessary Skills and Experience:

- Completion of a minimum of two years of college.
- Ability to perform physically demanding field work.
- Solid mechanical and problem solving skills.
- Be able to work long and odd hours at short notice (nights and weekends).
- Like to be at the beach in all weather conditions.
- Ability to work both as a team and independently.
- Strong organizational skills with high attention to detail.
- Self-motivated with the ability to assess situational needs and take initiative without excessive oversight.

Desired Skills and Experience:

- Bachelor of Science degree in a related field (e.g., physical oceanography, coastal geology, geomorphology, hydrography).
- Experience with Global Positioning System (GPS) equipment.
- Solid computer skills (e.g., MS Excel, GIS, MATLAB programming, etc.).
- Experience with electronics, boating, auto mechanics, power tools, and troubleshooting.

Physical Requirements

- Must be able to walk up to 10 miles/day, carrying 30-lb backpack.
- Must be able to swim in the surf zone.
- Must be able to deploy, operate, and demobilize all equipment and vehicles as required to perform duties.
- Perform careful movement within a laboratory with delicate scientific instruments.
- Travel to and from monitoring and project site locations by land and by boat.
- Safely lift and carry objects weighing up to 50 lbs.

Performance Requirements

- Must be of sound mind, able to make good decisions and exercise good judgment, and possess a basic understanding of the techniques of field sampling, testing, data gathering and analysis, basic research and field investigations.
- Must be in good physical and mental condition and able to work long days and odd hours for extended periods.
- Assess, interpret, draw logical conclusions and problem solve effectively and accurately.
- Understand and interpret plans, maps, and equipment specifications.
- Read documents, forms, technical procedures and manuals for accurate comprehension and action.
- Prepare clear and concise field notes and written reports.
- Communicate fluently and professionally, both orally and in writing.
- Organize and prioritize daily tasks along with broader objectives, sometimes with little oversight.
- Maintain professional demeanor, calm, composed, and respectful in stressful situations.

The IP will work most closely with a field crew leader who will provide mentoring and day-to-day oversight of the position. IP will interact with unit supervisor on operations and maintenance issues, team-shared tasks, and project development, reporting, and product generation. All the needed field and office tools and equipment will be provided for this position, including a computer, a cubicle, access to Ecology vehicles, field equipment, etc.

Timeline: The Coastal Monitoring program works on a regular, seasonal sampling schedule along the southwest Washington coast, and conducts additional surveys at other locations throughout western Washington. In addition, field staff will conduct beach and bluff monitoring following major storm events. There are also continuing and developing projects in Puget Sound aimed at providing data to enhance and restore the nearshore environment. All time between field surveys will be dedicated to equipment maintenance, data processing, preparation for upcoming field work, sediment analysis in the lab, database management, and other project support duties.

Fieldwork during October through February is usually 1-2 weeks per month, while March through September is variable with up to 2-3 weeks per month. The remainder of the time is spent doing project support work (e.g., equipment maintenance, lab analysis, database work, and project documentation) at Ecology Headquarters in Lacey, WA.

Training: The IP will receive on-the-job training and professional development opportunities, including instructor-based training on survey software and hardware, networking with other State and Federal resource agencies, and opportunities for on-the-job-experience using GPS-based technologies in the field and the office. In addition, the IP will have access to Ecology's Core Training program which includes courses that provide basic skills, knowledge, and abilities in essential areas such as communication, safety, management, teamwork, computers, etc. The IP will be required to take a boat safety training course, an online ATV safety course, defensive driving, and basic first aid/CPR.

The position involves training and operation of survey-grade GPS equipment, terrestrial (mobile) laser scanner, vessel and inertial navigation systems, multibeam echosounder, sound velocity profiler, twin-hull survey vessel, all-terrain survey vehicle, pickup truck, trailers, computer, and sediment lab equipment and a variety of software packages such as: Trimble Business Center, MS Excel, ArcGIS, MATLAB, QINSy, Fledermaus, VG4D Smart LiDAR, Autopano Giga. Some projects involve collaboration with WA Sea Grant, U.S. Geological Survey, and Oregon State University.

The IP will be encouraged to advance their skills to help them with future jobs in the environmental field, or in their future educational endeavors. This position provides the IP with ample growth opportunity in the realms of technical competence, individual development, community service, and job skills suitable to enter the environmental field.

Connection to Other Efforts: This project is most closely connected with shoreline planning and coastal project decision-making (e.g. erosion protection, beach nourishment, and dune restoration). A monitoring program provides baseline and trends data that supports on-the-ground decision-making in the short term, and land-use and environmental planning over the long term. The project also works with the U.S. Geological Survey on documenting the effects of the Elwha dam removal on the nearshore as well as the importance of eelgrass habitat in Puget Sound. This work is linked to Northwest Association of Networked Ocean Observing Systems (NANOOS) and the Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), in which many partners are involved.

Volunteer Efforts: The IP will be fully encouraged and supported to take on meaningful volunteer projects working with other WCC members, local organizations, or other groups.

For more information regarding the beach monitoring program, please visit the following websites:

<http://www.ecy.wa.gov/programs/sea/swces/index.htm>

<http://www.ecy.wa.gov/programs/sea/swces/research/change/monitoring.htm>

<http://nvs.nanoos.org/BeachMapping>

As an individual placement in the Washington Conservation Corps (WCC), a few of the benefits include:

- Washington State Minimum Wage (**\$9.47/hour**).
- **\$5,775 AmeriCorps Education Award** (upon successful completion of 12-month term **-AND-** completing 1,700 hours).
- Basic medical insurance.
- Educational loan forbearance is available on qualified loans.
- 2 weeks of formal training in a topic of your choice, such as grant writing, ethnobotany, wilderness survival, advanced first aid, wildland firefighting, forestry & rigging applications, swiftwater rescue, etc.
- Enrollees can qualify for food stamps from the State of Washington

For more information on this opportunity contact:

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For more information on the Washington Conservation Corps IP program see:

<http://www.ecy.wa.gov/wcc/memberpositions.html#IP>

To Apply:

Complete the online WCC application at <https://fortress.wa.gov/ecy/wccapp/> and submit a resume, cover letter, and a list of 3 references to the contacts listed above.