Position summary

The Washington State Department of Ecology, Coastal Monitoring & Analysis Program (CMAP) seeks 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 other Washington shores.

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, coastal resource management, nearshore ecosystem protection and restoration, and coastal projects such as beach nourishment and dune reconstruction.

The position supports monitoring efforts that provide baseline and trend data for planning and decision-making. The data collection and analyses informs sediment management at the Mouth of the Columbia River, evaluates erosion mitigation projects in southwest Washington, documents the effects of the Elwha dam removal on the nearshore, determines bluff erosion and sediment supply to Puget Sound beaches, and quantifies shoreline armoring, morphology, and habitat features along Puget Sound. The monitoring is supported by Northwest Association of Networked Ocean Observing Systems (NANOOS) and a variety of other project sponsors.

As part of a scientific team, the IP provides technical support to 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. A description of data collection methods, example projects, and data products and reports can be found at: https://ecology.wa.gov/Research-Data/Monitoring-assessment/Coastal-monitoring-assessment.

The position involves operation of survey-grade GPS equipment, 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, Qimera, Fledermaus, and Autopano Giga. Some projects involve collaboration with WA Sea Grant, U.S. Geological Survey, and Oregon State University.

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.

**Position responsibilities**

- Collect beach morphology data in the study of coastal erosion and accretion, and map features such as erosion scars, sand bars and troughs, cross-shore beach profiles and detailed three-dimensional surfaces. Take photos to document beach conditions. Data collection includes beach topographic mapping and nearshore bathymetric mapping using Real-Time Kinematic Differential Global Position Systems (RTK-GPS), as well as boat-based laser scanning and multibeam sonar systems.

- 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, Qimera, Fledermaus, Autopano Giga, etc.

- 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 using MATLAB code.

- Maintain field equipment and vehicles (e.g., cleaning, greasing, outfitting, scheduling services), including a 4-wheel drive truck, all-terrain vehicle, 28’ twin-hull beach-landing craft, trailers, GPS and radio equipment, tools, and sediment lab equipment.

- Provide general office and project support such as report writing, photo documentation, developing outreach products, coordinating with local contacts to facilitate field operations, making hotel and moorage reservations, archiving relevant newspaper articles and scientific literature, shipping/receiving packages, helping develop operational checklists and standard operating procedures, and maintaining inventory of equipment and supplies.

CMAP performs routine monitoring on a pre-defined schedule and well as a variety of individual projects that are performed with similar protocols and specifications. Seasonal surveys are performed along the southwest Washington coast. Annual summer surveys are performed at the Elwha River delta and coastline. Monitoring may also be conducted following major storm events. There are continuing and developing projects in Puget Sound and elsewhere that vary in frequency and duration. Fieldwork is generally more frequent between March and September. Fieldwork involves significant variation in daily schedules based on tidal cycles that can require serving for extended days, including early mornings, late nights, and weekends, and during inclement weather with potential hazards created by waves, currents, winds, tides, sand bars, etc.

**Qualifications**

- Applicants must be between the age of 18-25 on their first day of service (age restrictions are based on legislative mandate, and do not apply to Gulf War Era II Veterans, dependents, or active duty reservists, or those with a mental or sensory disability).
• Per legislative mandate, priority will be given to Washington state residents.

• Applicants must be eligible for AmeriCorps, and able to submit documentation of one of the following citizenship statuses: U.S. Citizen, National, or Lawful Permanent Resident Alien. Learn more about AmeriCorps eligibility on the [WCC website](https://www.americorps.gov).

**Necessary Skills and Experience:**

- Completion of a four-year science or engineering degree.
- Ability to perform physically demanding field projects.
- Solid mechanical and problem solving skills.
- Be able to serve long and odd hours at short notice (nights and weekends).
- Ability to serve at a beach setting in all weather conditions.
- Ability to serve both on 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.
- Capacity to contribute scientifically, e.g., quantitative data analysis and interpretation, technical writing and presentations, ability to think critically and develop original ideas, review and evaluate scientific literature.

**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**

- Ability to exercise sound judgment and decision making abilities, 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 serve 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.

Schedule

This is an 11-month AmeriCorps position starting October 7, 2019, and ending September 11, 2020. Members are expected to serve 40 hours over four or five days each week.

WCC AmeriCorps member benefits

Members will receive a biweekly living stipend equivalent to Washington state minimum wage, in addition to the AmeriCorps Education Award ($6,095) upon successful completion of term. Basic health insurance and qualified loan forbearance is available. In addition, all 300 WCC members gather three times a year for professionally-taught, career-transferable trainings. Read more about training opportunities and a full list of benefits on the WCC website.

Application process

Please complete both required steps:

1. Submit WCC online application accessible from the WCC website (select this IP position on application).

2. Email résumé, cover letter, and a list of references to:

   George Kaminsky, Supervisor  
   Washington Department of Ecology  
   Coastal Monitoring & Analysis Program  
   P.O. Box 47600  
   Olympia, WA 98504-7600  
   Phone: (360) 407-6797  
   Fax: (360) 407-6902  
   Email: gkam461@ecy.wa.gov

   Heather Weiner, Field Crew Leader  
   Washington Department of Ecology  
   Coastal Monitoring & Analysis Program  
   P.O. Box 47600  
   Olympia, WA 98504-7600  
   Phone: (360) 407-6796  
   Fax: (360) 407-6902  
   Email: hbar461@ecy.wa.gov
About WCC and AmeriCorps

Washington Conservation Corps (WCC) is an AmeriCorps program that creates future leaders through community involvement and mentorship. The program supports more than 350 members and experienced staff statewide who restore critical habitat, build trails, lead volunteers, educate youth, and respond to local and national disasters.

AmeriCorps is a network of local, state, and national service programs that connects over 70,000 Americans each year in intensive service to meet community needs in education, the environment, public safety, health, and homeland security. Learn more on the WCC website.