Geologists are curious about the Earth. How was it formed? How is it changing? Rocks, minerals, fossils, mountains, earthquakes, volcanoes, glaciers, water and landforms are keys to the Earth's past, present and future. Hydrologists study the quantity, distribution, circulation, and physical properties of underground and surface waters. They examine the form and intensity of precipitation, its rate of infiltration into the soil, its movement through the earth, and its return to the ocean and atmosphere.
Kilohonua & Kālaiwai - Geology & Hydrology

Geologist

Plan and direct hydrological-geological investigations in the study of the research, planning and development of ground water and mineral resources; serve as departmental and inter-agency specialist in hydrology and geology. Organize and conduct geologic studies and investigations of mineral resources; prepare and/or oversee the preparation of geologic reports, and recommend further study or action on various aspects of the mineral resources program.

Education

A bachelor’s degree with a major in geology, hydrology or a related field of geoscience from an accredited four year college or university.

Skills and Experiences

Three to five years of progressively responsible professional geology and/or hydrology work experience.

Yearly Salary

Level I: $49,000.00
Level II: $60,000.00 +

Projects in Hawaii

• Surveys of land
• Investigations into soil chemical properties
• Understand the rate of land movement
• Geologic maps

Employers

Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook

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Kilohonua & Kālaiwai - Geology & Hydrology

Chemical Lab Analyst

Prepare and analyze samples (water, mineral solids, plants, nitrogen, hydrogen and/or oxygen isotope analysis). Review results for quality assurance and quality control. Organize data in database and provide results in summary tables. Perform maintenance as needed for laboratory instruments including mass spectrometers. Assist in instructing and teaching other laboratory users.

Education

Bachelors Degree in Chemistry, Geology, Marine or Environmental Science.

Skills and Experiences

Database inputting, Excel, word processing, and organization/management working knowledge of the mass spectrometer.

Yearly Salary
Starting at $27,851.00

Projects in Hawaii

- Surveys of land
- Investigations into soil chemical properties
- Understand the rate of land movement
- Geologic maps

Employers

Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook

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Research Geologist

Duties will include performing field and allied laboratory research to develop and test new concepts and theories on eruptive and magmatic processes that aid in the prediction of volcanic eruptions, in the mitigation of risk posed by eruptions, in the fundamental understanding of the processes leading to and accompanying eruptions, and in the understanding of the emplacement of eruption products, such as lava flows.

Education

A geology degree, plus 20 additional semester hours

Skills and Experiences

One year of appropriate professional experience, Skill in performing laboratory and field work to date minerals

Yearly Salary

$67,572.00 - 123,438.00

Projects in Hawaii

• Laboratory and field work
• Understand magma processes
• Risk of eruptions
• Lava flows

Employers

Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook
Non-Profits: The Nature Conservancy

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Soil/District Conservationist

Provides leadership for and is responsible for carrying out planning, implementation and follow up of conservation activities in the field office area. Coordinates all facets of activities and their effect on agriculture as well as their interrelationship with other resource activities. Ensures progress is reported and evaluates progress achieved. Makes recommendations for improvement and follows through to achieve strategic, state and program goals.

Education

Degree in soil conservation or related agricultural or natural resource discipline

Skills and Experiences

Skill in planning and implementing resource management systems

Yearly Salary

$52,912.00 - 68,787.00

Projects in Hawaii

- Rural and urban land owners soil evaluation
- Advise land owners interested in conservation planning and implementing conservation practices

Employers

Government: Fish and Wildlife, National Park, Biological Resources Division, Land and Natural Resources
Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook
Non-Profits: The Nature Conservancy
Soil Conservationists

Develops and implements policies and procedures for soil erosion control, moisture conservation, and sound land use. Conducts and participates in environmental studies. Applies a wide range concepts, practices, and procedures from two or more specialized fields of science, such as agronomy, soil science, forestry, or agriculture. May direct the work of a small group of employees. Relies on experience and judgment to plan and accomplish goals. Typically reports to a senior manager and may be considered the lead for a specific area or unit.

Education

May require a bachelor’s degree in agricultural sciences or a related field with at least 5 years of work experience.

Yearly Salary

$50,772.00 - 78,719.00

Projects in Hawaii

- Soil Erosion, Run-off
- Environmental Impact Surveys
- Agriculture Use
- Community Education

Employers

Government: Fish and Wildlife, National Park, Biological Resources Division, Land and Natural Resources
Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook
Non-Profits: The Nature Conservancy

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Hydrologist

Carries out studies based on measurements of the occurrence, distribution, quantity and quality of water within the hydrologic cycle in a geographical and time frame of reference; analyzes the data collected. Some computer modeling is performed. Carries out hydrology-related study procedures for assigned projects. Prepares written and oral reports, and makes suggestions and recommendations for inclusion in reports on hydrological study findings. Selects appropriate guidelines and determines which legal, regulatory and other requirements apply to the particular situation. Determines appropriate sampling or test procedures.

Education

Bachelor’s degree that included a major field of study in a physical or natural science

Skills and Experiences

Completed a master’s or equivalent graduate degree

Yearly Salary

$43,731.00 - 68,787.00

Projects in Hawaii

- Water cycle
- Understand diversions and natural flow patterns
- Measure the rate of water flow
- Advise on water use

Employers

Government: Fish and Wildlife, National Park, Biological Resources Division, Land and Natural Resources
Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook
Non-Profits: The Nature Conservancy
Hydrologist (Ground Water)

Provides ground-water assistance on water-resource issues and studies. Analyzes complex water resource issues and quantifies the effects of water resources development activities on surface and ground-water resources with an emphasis on aquifer characteristics, ground-water flow, and surface and ground-water interactions on water rights and water resources. Quantifies the effects of land use practices (e.g. mining, urbanization, oil and gas development, and recreation development) on water quality and ground water resources (including contamination by toxic chemicals and contaminant transport in ground water systems).

Education

BS Degree: physical or natural science, or engineering that included at least 30 semester hours

Yearly Salary

$52,912.00 - 82,446.00

Projects in Hawaii

- Water cycle
- Understand diversions and natural flow patterns
- Measure the rate of water flow
- Advise on water use

Employers

Government: Fish and Wildlife, National Park, Biological Resources Division, Land and Natural Resources
Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook
Non-Profits: The Nature Conservancy

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Soil Scientist

Study, investigate, and map soils from the standpoint of their morphology, genesis, landscape position, and distribution; their physical, chemical, and biological properties and processes; their relationships to climate, physiographic and vegetative influences; and their adaptation to use and management in agriculture for community planning and resource development, for recreational needs, and for improving the quality of the environment.

Education

Bachelor’s or higher degree

Skills and Experiences

One year of directly related graduate level education or superior academic achievement.

Yearly Salary

$28,349.00 - 35,116.00

Projects in Hawaii

- Support research projects in the earth system science fields.
- River experiments and restoration efforts

Employers

Government: Fish and Wildlife, National Park, Biological Resources Division, Land and Natural Resources

Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook

Non-Profits: The Nature Conservancy

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Physical Science Technician

Supervise, lead, or perform various technical duties in such fields as astronomy, chemistry, geology, geophysics, health physics, hydrology, metallurgy, oceanography, physics, and other physical sciences. Performs specialized scientific data quality evaluations and interprets these results with respect to scientific principals and processes.

Education

Diploma from High School - Combination of education and experience.

Skills and Experience

To be successful, you must understand the principles and techniques of physical science.

Yearly Salary

$17,500.00 - $35,000.00

Projects in Hawaii

- Support Research projects in the earth system science fields: field surveys and lab analyses.
- Soil surveys
- Lab Analysis

Employers

Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook

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Storm Water Engineer/Scientist

Assists clients in complying with all aspects of National Pollutant Discharge Elimination System (NPDES) requirements: Develops and performs storm water public education/outreach/training programs.

Education

BA/BS degree in physical science or engineering

Skills and Experience

Minimum 3 to 5 years experience in storm water management

Yearly Salary

$17,568.00 - 120,033.00

Projects in Hawaii

- Environmental Assessments and Impact Statements
- Groundwater mapping and predictions.

Employers

Private: Land Owners such as Kamehameha Schools, OHA, Castle and Cook, EnviroServices
Environmental Scientist / Engineer

Conduct Phase I and Phase II Environmental Site Assessments: Collect multi-media samples (soil, soil vapor, groundwater, surface water, etc.) in support of projects. Prepare planning documents associated with NPDES permit applications. Review and interpret data. Prepare technical reports to document environmental investigation/site characterization activities.

Education

BA/BS degree in physical science or engineering

Skills and Experience

Minimum 3 to 5 years experience in environmental investigations

Yearly Salary

$71,568.00 - 120,033.00

Projects in Hawaii

- Environmental Assessments and Impact Statements
- Groundwater mapping and predictions

Employers

Private: EnviroServices & Consulting Firms, Training Center
Non-Profits: The Nature Conservancy

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