

Global Environmental Change

Students are barraged on a daily basis with news stories of El Nino, global warming, CO2 increasing, greenhouse effects, ozone hole, etc. This cluster will introduce some of the scientific concepts and issues of natural global cycles and how the systems have changed in the past. We will discuss the physical, chemical and biological changes of the earth's environment in the past, present and future. The past will concentrate on the physical, chemical and biological changes that are recorded in the rock, ice and sediment record. The present will concentrate on recent changes on the oceans and atmosphere, and discuss the human dimension. The future will discuss the merits and limits of global models.

[List of Courses Offered](#)

[Learning Outcomes](#)

Sophomore Inquiry:

The Sophomore Inquiry course for this Cluster is **UNST 232**.

Study Abroad Opportunities:

Visit [Study Abroad's UNST Resource page](#) to get the most up-to-date information regarding earning UNST credits abroad.

Additional Resources:

[Library research guide](#)

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**Scroll down for information
on minors and certificates**

Climate Adaption Management (Certificate)

22 credits in 300- and 400-level courses, 14 required credits are offered in ESM

The courses listed below satisfy the elective credits of the minor requirements.

Visit the [Climate Adaptation Management \(certificate\)](#) which fully details the requirements and consult with an advisor.

Courses:

- GEOG 310U: Climate and Water Resources (Crosslisted with SCI 333U)
- GEOG 311U: Climatology
- GEOG 312U: Climate Variability (Crosslisted with SCI 334U)
- SCI 333U: Climate and Water Resources (Crosslisted with GEOG 310U)
- SCI 334U: Climate Variability (Crosslisted with GEOG 312U)

Global Studies (Certificate)

20 credits: 16 upper-division elective credits. Students completing an International Studies major or minor will not be eligible to receive a global studies certificate.

Any of the courses listed below can satisfy a portion of both the upper-division and elective credits of the minor requirements.

Visit the [Global Studies Undergraduate \(certificate\)](#) which fully details the requirements and consult with an advisor.

Courses:

- CR 305U: Ecology of War and Peace
- G 352U: Minerals and World Affairs
- GEOG 340U: Global Water Issues and Sustainability
- GEOG 346U: World Population and Food Supply

Geography Minor

28 credits: 16 credits must be upper-division; at least 12 credits must be taken in residence at PSU.

Any of the courses listed below may apply toward the 16 credits of advisor-approved electives.

Visit the [Geography Department website](#) which fully details the requirements and consult with an advisor.

Courses:

- GEOG 310U: Climate and Water Resources (Crosslisted with SCI 333U)
- GEOG 311U: Climatology
- GEOG 312U: Climate Variability (Crosslisted with SCI 334U)
- GEOG 313U: Biogeography
- GEOG 314U: Severe Weather
- GEOG 322U: Alpine Environments
- GEOG 333U: Weather (Crosslisted with PH 333U)
- GEOG 340U: Global Water Issues and Sustainability
- GEOG 346U: World Population and Food Supply
- GEOG 347U: Environmental Issues and Action

Geology Minor

29 credits: 9 required credits; 20 credits must be upper-division; at least 14 credits must be taken in residence at PSU.

Any of the courses listed below may apply toward the 20 credits of advisor-approved electives.

Visit the [Geology Minor](#) which fully details the requirements and consult with an advisor.

Courses:

- G 340U: Life of the Past
- G 341U: Geology of Oregon Country
- G 342U: Volcanoes and Earthquakes
- G 343U: Planets in our Solar System and Beyond
- G 344U: Geology of National Parks
- G 345U: Life in the Universe
- G 351U: Oceanography
- G 352U: Minerals and World Affairs

Sustainability Minor

30 credits: 21 credits must be upper-division; at least 15 credits must be taken in residence at PSU.

9 required credits including UNST 224U. Any of the courses listed below can satisfy a portion of the minor requirements.

Visit the [Sustainability website](#) which fully details the requirements and consult with an advisor.

Courses:

- GEOG 346U: World Population and Food Supply
- GEOG 347U: Environmental Issues and Action
- HST 339U: Environment and History
- PHL 310U: Environmental Ethics