

Unit 07: Water Resources

Content Area: **Science**
Course(s): **Generic Course, Environmental Science**
Time Period: **Marking Period 4**
Length: **4 weeks**
Status: **Published**

Standards

ESS2.D: Weather and Climate (pp. 186-189)

- Current models predict that, although future regional climate changes will be complex and varied, average global temperatures will continue to rise. The outcomes predicted by global climate models strongly depend on the amounts of human-generated greenhouse gases added to the atmosphere each year and by the ways in which these gases are absorbed by the ocean and biosphere. (secondary to HS-ESS3-6)

ESS3.A: Natural Resources (pp. 191-192)

- Resource availability has guided the development of human society. (HS-ESS3-1)

ESS3.C: Human Impacts on Earth Systems (pp. 194-196)

- The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. (HS-ESS3-3)
- Scientists and engineers can make major contributions by developing technologies that produce less pollution and waste and that preclude ecosystem degradation. (HS-ESS3-4)

ESS3.D: Global Climate Change (pp. 196-198)

- Through computer simulations and other studies, important discoveries are still being made about how the ocean, the atmosphere, and the biosphere interact and are modified in response to human activities. (HS-ESS3-6)

ETS1.B: Developing Possible Solutions (pp. 206-208)

- When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts. (secondary to HS-ESS3-2),(secondary HS-ESS3-4)

SCI.9-12.HS-ESS2-5	Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.
SCI.9-12.HS-ESS3-4	Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
SCI.9-12.HS-LS2-7	Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

Essential Questions

Explain how humans impact the hydrological cycle.

Content / Skills

- Calculate your water consumption.
- Explain the significance of ground water, aquifers and runoff.
- Explain how heat can be a form of pollution.
- List the problems associated with water impoundment.
- Define biochemical oxygen demand.
- Differentiate between primary, secondary and tertiary sewage treatments.
- Explain the rationale behind federal and local government initiatives to protect and control water resources.
- Explain the problem of salinization associated with large-scale irrigation in arid lands.