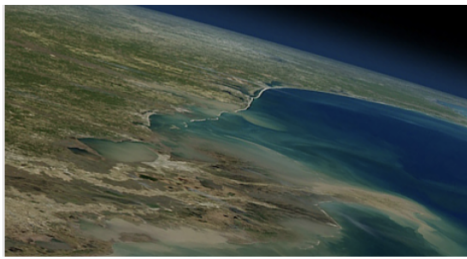


Earth Science Learning Progressions

Standards Alignments Grouped by Disciplines

Earth and Space Science

Grade	Standard	NGSS PE (link)
2	Use information from several sources to provide evidence that Earth events can occur quickly or slowly.	2-ESS1-1
3	Obtain and combine information to describe climates in different regions of the world.	3-ESS2-2
	Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.	3-ESS3-1
4	Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.	4-ESS2-1
	Analyze and interpret data from maps to describe patterns of Earth's features.	4-ESS2-2
	Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.	4-ESS3-2
5	Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	5-ESS2-1
	Describe and graph the amounts of saltwater and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.	5-ESS2-2
	Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	5-ESS3-1

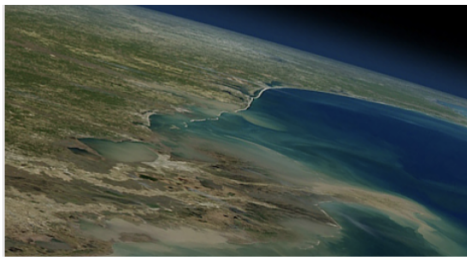


Earth Science Learning Progressions

Standards Alignments Grouped by Disciplines

Earth and Space Science

Grade	Standard	NGSS PE (link)
Middle School 6-8	Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.	MS-ESS2-2
	Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.	MS-ESS2-4
	Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.	MS-ESS2-6
	Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.	MS-ESS3-1
	Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.	MS-ESS3-2
	Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	MS-ESS3-3
	Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.	MS-ESS3-4
	Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.	MS-ESS3-5

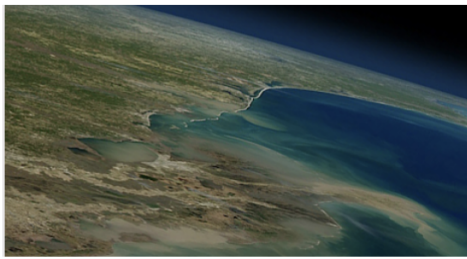


Earth Science Learning Progressions

Standards Alignments Grouped by Disciplines

Earth and Space Science

Grade	Standard	NGSS PE (link)
High School 9-12	Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.	HS-ESS1-6
	Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.	HS-ESS2-2
	Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.	HS-ESS2-4
	Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.	HS-ESS2-6
	Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.	HS-ESS3-1
	Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth's systems.	HS-ESS3-5
	Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.	HS-ESS3-6



Earth Science Learning Progressions

Standards Alignments Grouped by Disciplines

Life Science

Grade	Standard	NGSS PE (link)
K	Use observations to describe patterns of what plants and animals (including humans) need to survive.	K-LS1-1
3	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.	3-LS4-4
Middle School 6-8	Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.	MS-LS1-5
	Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.	MS-LS1-6
	Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.	MS-LS2-1
	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	MS-LS2-4
	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.	MS-LS2-5
High School 9-12	Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.	HS-LS2-2
	Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.	HS-LS2-5
	Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.	HS-LS2-7
	Construct an explanation based on evidence for how natural selection leads to adaptation of populations.	HS-LS4-4