



Idaho's Science Content Standards

A before and after comparison after the 2017 Legislative Session

Quick Facts: From April 5 through April 26, over 1,000 public comments were received during the open comment period. Six face-to-face public hearings were held April 11-20, 2017. After review by the Idaho State Board of Education in August, an additional 21-day opportunity will be available for public comment.

Before

5 standards reviewed by the House and Senate Education Committees during 2017 session



ESS3-MS-5

- Further Explanation: Examples of factors include human activities (such as fossil fuel combustion, cement production, and agricultural activity) and natural processes (such as changes in incoming solar radiation or volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and the rates of human activities. Emphasis is on the major role that human activities play in causing the rise in global temperatures.

ESS3.C

- Human activities have altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth's environments can have different impacts (negative and positive) for different living things.(ESS3-MS-3)
- Typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise. (ESS3-MS-3, ESS3-MS-4)
- Human activities (such as the release of greenhouse gases from the burning of fossil fuel combustion) are major factors in the current rise in Earth's mean surface temperature. Other natural activities (such as volcanic activity) are also contributors to changing global temperatures. Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely in decisions and activities. (ESS3-MS-5)

After

Revised 5 standards to be considered by the Idaho State Board of Education in August 2017



ESS3-MS-5

- Further Explanation: Examples of factors include human activities (such as fossil fuel combustion and changes in land use) and natural processes (such as changes in incoming solar radiation and volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and natural resource use.

ESS3.C

- Human activities can have consequences (positive and negative) on the biosphere, sometimes altering natural habitats and causing the extinction of other species. (ESS3-MS-3)
- Technology and engineering can potentially mitigate impacts on Earth's systems as both human populations and per-capita consumption of natural resources increase. (ESS3-MS-3, ESS3-MS-4)
- Mitigating current changes in climate depends on understanding climate science. Current scientific models indicate that human activities, such as the release of greenhouse gases from fossil fuel combustion, are the primary factors in the present-day measured rise in Earth's mean surface temperature. Natural activities, such as changes in incoming solar radiation, also contribute to changing global temperatures. (ESS3-MS-5)

Before



LS4.D

- Biodiversity is increased by the formation of new species (speciation) and decreased by the loss of species (extinction). (LS2-HS-7)
- Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value. (LS2-HS-7, LS4-HS-6.)

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ESS2.D

- 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. (ESS3-HS-6)

After



LS4.D

- Biodiversity is increased by the formation of new species (speciation) and decreased by the loss of species (extinction). (LS2-HS-7)
- Sustaining ecosystem health and biodiversity is essential to support and enhance life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational, cultural, or inspirational value. Humans depend on the living world for the resources and other benefits provided by biodiversity. Impacts on biodiversity can be mitigated through actions such as habitat conservation, reclamation practices, wildlife management, and invasive species control. Understanding the effects of population growth, wildfire, pollution, and climate variability on changes in biodiversity could help maintain the integrity of biological systems. (LS2-HS-7, LS4-HS-6.)

LS4.D

- Sustaining ecosystem health and biodiversity is essential to support and enhance life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational, cultural, or inspirational value. Humans depend on the living world for the resources and other benefits provided by biodiversity. Impacts on biodiversity can be mitigated through actions such as habitat conservation, reclamation practices, wildlife management, and invasive species control. Understanding the effects of population growth, wildfire, pollution, and climate variability on changes in biodiversity could help maintain the integrity of biological systems. (LS2-HS-7, LS4-HS-6.)

ESS2.D

- Current models project that, without human intervention, average global temperatures will continue to rise. The outcomes projected by global climate models depend on the amounts of greenhouse gases added to the atmosphere each year and by the ways in which these gases are stored by Earth's systems. (ESS3-HS-6)



Explanations & Process Overview

Providing an understanding of the public review process

Science Review Committee Explanations of Revisions

ESS3-MS-5: Climate has a much bigger scope than the last hundred years so the standard was modified to reflect that timeframe. The factors which are outlined in the Further Explanation piece were broadened to be more encompassing of the range of human activities that might affect climate.

ESS3.C: All of the statements were updated to start with a focus on the solutions rather than just outlining the problems with human impacts on Earth's systems. A reference was added to include current scientific models as the basis for informing instruction at the classroom level.

LS4.D: Broader examples were used in reference to Idaho-centric issues. The text was reworded to place a balanced focus on solutions and problems.

ESS2.D: Bulky and unnecessary verbiage was removed to simplify the content of this text. The more accurate term of "project" was used. A reference was added to include current scientific models as the basis for informing instruction at the classroom level. Implication was made that human intervention can mitigate potential issues with climate.

Process Overview

Step 1: The Idaho Legislature requested that five paragraphs of the Science Content Standards be further reviewed allowing for additional public comment.

Step 2: The Idaho State Department of Education conducted six public hearings in April 2017 while also gathering public comments online. [More than 1,000 comments were received.](#)

Step 3: The Idaho State Board of Education will review the Science Content Standards in August 2017.

Step 4: An additional 21-day public comment period will occur after review by the Idaho State Board of Education.

Step 5: Additional public comments will be considered, and the Idaho State Board of Education will vote.

Step 6: The Idaho Legislature will review the revised Idaho Science Content Standards during the 2018 Legislative Session.