

Achievement Standard

Subject Reference Physics, Earth and Space Science 1.1

Title Demonstrate understanding of human-induced change within the Earth system

Level 1 **Credits** 5 **Assessment** Internal

Subfield Science

Domain Science - Core

Status Approved **Status date** March 2023

Planned review date December 2028 **Date version published** March 2023

Purpose Statement

Students are able to demonstrate understanding of human-induced change within the Earth system.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none">Demonstrate understanding of human-induced change within the Earth system	<ul style="list-style-type: none">Explain human-induced change within the Earth system	<ul style="list-style-type: none">Analyse human-induced change within the Earth system

Explanatory Notes

- 1 *Demonstrate understanding of human-induced change within the Earth system* involves:
- identifying change within the Earth system as a result of a human activity
 - using science ideas to describe how a human-induced change affects the Earth system.

Explain human-induced change within the Earth system involves:

- using science ideas to explain how a human-induced change affects the Earth system.

Analyse human-induced change within the Earth system involves:

- discussing the scientific implications of a human-induced change within the Earth system.

- 2 *Human-induced change* within the Earth system can be explored from any worldview or cultural position. This could mean viewing the changes through an ao Māori lens, a Pacific lens, or from the perspective of another Indigenous knowledge system.
 - 3 The *Earth system* consists of the interconnected spheres of the atmosphere, biosphere, geosphere, and hydrosphere.
 - 4 Examples of *human activity* include:
 - mining
 - deforestation
 - geothermal energy
 - industrialisation
 - agricultural runoff
 - intensification
 - urbanisation.
 - 5 Refer to the NCEA [glossary](#) for Māori, Pacific, and further subject-specific terms and concepts.
 - 6 This achievement standard is derived from the Science Learning Area at Level 6 of *The New Zealand Curriculum*: Learning Media, Ministry of Education, 2007.
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Replacement Information

This achievement standard and AS92045-AS92047 replaced AS90935-AS90939.

Quality Assurance

- 1 Schools and institutions must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Schools and institutions with consent to assess must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference 0233
