NCEA Review and Maintenance Programme – 2026 updates

Review and maintenance work has been undertaken for all three levels of NZC NCEA for 2026. This pdf document contains the updated Achievement Standards for **Earth and Space Science Level 3**. In January 2026 the NCEA website will be updated with these changes for Level 1, and the pdf version will be removed as it will no longer be necessary. For Levels 2 and 3, NZQA will update their website with the registered standards in December. For external assessment specifications, refer to the NZQA website.

Subject: Earth and Space Science
Level 3

Standard	What's changed?
AS 3.4 91413	Explanatory Note 3: • replaced 'tides' and 'waves' with 'nutrients' and removed 'Southern Oscillation – El Nino and La Nina' to clarify the scope of the Achievement Standard.
AS 3.5 91414 Standard	Explanatory Note 3: • wording in several bullets amended to clarify the Achievement Standard. 'ENSO and the Southern Annular Mode' added to bullet on climate.

Number [UNCLASSIFIED]	AS91413	**Version**	3

Achievement Standard

Subject Reference	Earth and Space Science 3.4				
Title	Demonstrate understanding of processes in the ocean system				
Level	3	**Credits**	4	**Assessment**	External
Subfield	Science				
Domain	Earth and Space Science				
Status	Registered	**Status date**	September 2025		
Planned review date	December 2028	**Date version published**	December 2025		

This achievement standard involves demonstrating understanding of processes in the ocean system.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate understanding of processes in the ocean system.	• Demonstrate in-depth understanding of processes in the ocean system.	• Demonstrate comprehensive understanding of processes in the ocean system.

Explanatory Notes

This standard was re-published in November 2013 following a minor editorial change.

1 This achievement standard is derived from *The New Zealand Curriculum,* Learning Media, Ministry of Education, 2007, Level 8, and is related to the material in the *Teaching and Learning Guide for Earth and Space Science*, Ministry of Education, 2010 at http://seniorsecondary.tki.org.nz. The standard is aligned to the Earth systems and Interacting systems achievement objective of the Planet Earth and Beyond strand.

This standard is also derived from *Te Marautanga o Aotearoa*. For details of *Te Marautanga o Aotearoa* achievement objectives to which this standard relates, see the Papa Whakaako for the relevant learning area.

2 *Demonstrate understanding* involves:
- explaining processes and links within the processes in the ocean system.

Demonstrate in-depth understanding involves:
- explaining links between the processes in the ocean system.

Demonstrate comprehensive understanding involves:
- discussing the complexity of the ocean system.

3 *Processes in the ocean system* are selected from:
- ocean composition – gradients, temperature, density, salinity, pressure
- ocean circulation – surface and thermohaline circulations, Coriolis effect
- carbon cycle – carbonate chemistry, physical pumps, biological pumps
- transport of matter and energy – heat and nutrients.

4 Assessment Specifications for this achievement standard can be found at http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/.

Quality Assurance

1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.

2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference 0233

Number [UNCLASSIFIED]	AS91414	**Version**	3

Achievement Standard

Subject Reference	Earth and Space Science 3.5				
Title	Demonstrate understanding of processes in the atmosphere system				
Level	3	**Credits**	4	**Assessment**	External
Subfield	Science				
Domain	Earth and Space Science				
Status	Registered	**Status date**	September 2028		
Planned review date	December 2028	**Date version published**	December 2025		

This achievement standard involves demonstrating understanding of processes in the atmosphere system.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate understanding of processes in the atmosphere system.	• Demonstrate in-depth understanding of processes in the atmosphere system.	• Demonstrate comprehensive understanding of processes in the atmosphere system.

Explanatory Notes

5 This achievement standard is derived from *The New Zealand Curriculum,* Learning Media, Ministry of Education, 2007, Level 8, and is related to the material in the *Teaching and Learning Guide for Earth and Space Science*, Ministry of Education, 2010 at http://seniorsecondary.tki.org.nz. The standard is aligned to the Earth systems and Interacting systems achievement objective of the Planet Earth and Beyond strand.

This standard is also derived from *Te Marautanga o Aotearoa*. For details of *Te Marautanga o Aotearoa* achievement objectives to which this standard relates, see the Papa Whakaako for the relevant learning area.

2 *Demonstrate understanding* involves:
- explaining processes and links within the processes in the atmosphere system.

Demonstrate in-depth understanding involves:
- explaining links between the processes in the atmosphere system.

Demonstrate comprehensive understanding involves:

- discussing the complexity of the atmosphere system.

3 *Processes in the atmosphere system* will be selected from:

- atmosphere composition – gases, aerosols including cloud formation, gradients (temperature, pressure, density), atmospheric circulation
  - convection cells (Hadley, Ferrel, Polar)
  - wind belts (Trade, Westerlies, Polar Easterlies, Doldrums)
  - Coriolis effect
- transport of matter and energy – heat, gases, aerosols
- cycles – water, carbon
- climate – global and regional trends (temperature, precipitation, El Niño-Southern Oscillation [ENSO] and the Southern Annular Mode [SAM]).

4 Assessment Specifications for this achievement standard can be found at http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/.

Quality Assurance

3 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.

4 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference 0233