

**PCAS 19 (2016/2017)**

**Supervised Project Report  
(ANTA604)**

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***Climate Change Data for NZ Schools***

Anna Cox

Student ID: 11788939

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This project is in the form of a website accessible at:

<https://sites.google.com/site/climatechangedatafornzschools/home>

The aim of the resource is to provide teachers with the means to use climate change as a context for delivery of the New Zealand Curriculum (NZC). The NZC provides the framework for all learning in New Zealand schools, specifying the pedagogy yet allowing teachers to choose the context for delivery. Global climate change is of such importance that it would be irresponsible of schools to consider an education complete without its inclusion. The website *Climate Change Data for NZ Schools*, has been designed as a tool that enables teachers (including those who may be lacking in adequate time or knowledge of this context) to access data and ideas for teaching, that would assist them to incorporate climate change in their delivery of mathematics and/or science in the NZC.

For this tool, four key indicators of climate change have been chosen; carbon dioxide levels in the atmosphere, global sea level rise, the ozone hole and temperature trends. In in main, this site deals with time series data. Data for each of the indicators has been compiled according to the depth of sophistication of mathematics and statistics knowledge that is appropriate to the given level of the NZC. Broadly speaking, NZC levels 1-2 (aimed at students from years 1-4) have discussions around their immediate environment and work mainly with whole numbers and simple shapes. NZC levels 3-4 (aimed at students from years 5-8) are able to manage simple proportions, measurement scales and to describe obvious patterns in data. By NZC levels 5-6 students are beginning to be able to describe an overall trend in data that is showing a seasonal pattern and/or other variation. At NZC levels 7-8, students are learning to smooth data, find the overall trend and use this to make predictions.

The format of each sub-section, or page, of *Climate Change Data for NZ Schools* has a summary of background information, suggestions for student investigation, discussion and/or data to be analysed. Where necessary, supplementary files such as animations, documents and data files are attached at the bottom of each page. There is also a mapping of the achievement objectives from mathematics and science in the NZC which are relevant to the suggested student activities.

The pages have also been designed so that within a theme, such as carbon dioxide in the atmosphere, the preceding levels can be incorporated with the target level to comprise a unit of learning. Similarly, in recognition of differentiation within the 'modern learning environment', a middle school class learning about the ozone hole, may have some students working on the suggestions from the L3-4 page, some being extended with the suggestions from the L5-6 page and some requiring more learning support, working through the suggestions from the L1-2 page. As with many successful web resources, all text has been kept as brief as is possible to convey the intended message efficiently. This project aimed to provide a tool for teachers who may not have sufficient time in which to source ideas and data are appropriate to the curriculum needs and ability levels of the students for which they are planning.

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