

# Terms of Reference: Open Access to Weather Data

## Purpose

The objective of this project is to determine if there is a level of government held weather data<sup>1</sup> which should be opened up for public access to better stimulate innovation and economic growth.

## Context

The Government considers that digital capability is a critical factor in supporting the New Zealand innovation system and has made investment in digital infrastructure a priority through programmes such as the Ultra-fast Broadband Initiative, the Rural Broadband Initiative and the national Spatial Data Infrastructure (SDI).

Hand-in-hand with digital capability is access to data that can stimulate innovation, the diffusion of new technologies and knowledge at the productivity frontier. The reallocation of resources to the most productive firms is (increasingly) important for productivity growth in general. The Open Government Information and Data Programme was initiated in 2008 and aims to:

- make non-personal government held data and information more widely available and discoverable, easily usable and compliant with open government data principles within the New Zealand legal context; and
- facilitate agencies' release of non-personal government-held data and information that people, communities, and businesses want to use and re-use.<sup>2</sup>

The questions are:

- are New Zealand's businesses being disadvantaged (compared to businesses in other countries) by the lack of weather data being made freely available;
- how much innovation is occurring internationally that is not possible in New Zealand due to this;
- is there a level of core data which could be opened up to balance this; and
- what are the implications on New Zealand's present institutional settings and costs to taxpayers of any changes to current practices?

## Objectives

### Scope

This project intends to deal first (Stage One) with data availability, use and potential. Any specific impact on the two agencies is to be considered separately after the completion of Stage One and will potentially make up Stage Two.

**Stage One:** To be contracted out to market.

This first phase of the project seeks to consider how well the availability of weather data in New Zealand adheres to the Open Government Information and Data Programme principles referred to

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<sup>1</sup> in addition to weather data already accessible to the public

<sup>2</sup> <https://www.ict.govt.nz/guidance-and-resources/open-government/new-zealand-data-and-information-management-principles/>

above. To what extent does weather data, already collected and released by NIWA and MetService meet those principles, and how does New Zealand compare to other countries with respect to weather data availability? Taking this into account, this project aims to determine whether any additional weather data should be made publicly available (above the current level required by international agreements and data already released without charge to the public by NIWA and Met Service) and whether or not a core weather data infrastructure should be created which is more suitable to enable and stimulate innovation in both ICT and non-ICT sectors, e.g. the primary sector.

<p><b>Approach</b></p> <p><i>Drafting of an independent report of the findings of Stage One that would be suitable for public release.</i></p> <p><b>Implementation</b></p> <p>We propose going to market to contract an individual or group with relevant meteorological and economic expertise to undertake Stage One of this project.</p> <p><b>Expected output</b></p> <p>The consultant will provide an independent report, to MBIE and Treasury, setting out findings on the questions listed above.</p> <p><b>Timeframe:</b>      <b>Stage One: 4-6 weeks</b></p> <p><b>Resources and Costs: [Shared between MBIE and Treasury]</b></p>	<p><b>Definitions:</b></p> <p>For the purpose of this project, and within the rest of this document:</p> <p>“Weather data” is defined to mean observations of the state of the atmosphere from either <i>in-situ</i> or remote sensing systems (e.g. ground-based weather stations, weather balloons, weather surveillance radar, satellites etc.). Within the environmental services sector, observations make up the most basic data from which value-add services, such as weather forecasts or climatological products, are derived.</p> <p>The terms “open data” and “open access data” are taken to mean data that fully complies with the New Zealand Data and Information Management Principles.</p>
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Stage One in scope	Out of scope
<p>Stocktake of weather data collected by NIWA and MetService.</p> <p>What form is it in?</p> <p>Who owns the data?</p>	<p>Any data other than observations of the state of the atmosphere collected by MetService or NIWA, either from their own or third-party data acquisition systems. Measures of the composition of the atmosphere.</p>
<p>NIWA and MetService already make some data available as open access data. Of that:</p> <ol style="list-style-type: none"> <li>1. How accessible is it?</li> <li>2. Is it used and for what purposes?</li> <li>3. What are the limits to its use?</li> </ol> <p>Does this comply with Data and Information Management Principles’?</p>	
<p>Identify a relevant (but limited) set of other jurisdictions for comparison, on the basis of similarities to New Zealand (e.g., political, geographic, socioeconomic) and preferably covering a range of service models for meteorological services ranging from traditional government departments to more commercial-oriented agencies.</p>	<p>Exhaustive review of all research on use of international weather data.</p>
<p>What level of weather data provision (i.e., data types, formats, observation frequency etc.) would need to be made open access to constitute real-time “core” infrastructure that would create a useful product and, to what extent would this be technically possible from the weather data collected by NIWA and MetService?</p>	
<p>What form of data is used in the selected cross section of other jurisdictions and how does it compare to data used by NIWA and MetService and their customers (this should include identifying industries representing heaviest data use) How does New Zealand fare with regard to development of weather apps/usage of data, or other weather data related innovations?</p>	
<p>Of the weather data that is made available in comparator jurisdictions, is it:</p> <ol style="list-style-type: none"> <li>a) free; or</li> <li>b) on a cost recovery basis; or</li> <li>c) provided at profit?</li> </ol>	
<p>Identify international obligations regarding, e.g. World Meteorological Organisation, marine and aviation data collection, use and distribution.</p> <p>To what extent does New Zealand comply with these?</p>	
<p>What strategies do NIWA or MetService apply to support public access to weather data while at the same time protecting their commercial interests?</p>	

Stage One in scope	Out of scope
Identify the regulatory or licencing restrictions that restrict or prohibit NIWA and/or MetService making data available to third parties.	Cost
Are there other considerations encompassed within the open data principles that may affect how NIWA and MetService approach data accessibility e.g., the principle of “Trusted and Authoritative” has particular relevance for weather and climate data?	