

Weather information from Meteoblue.com

From Dr John Holmes (jd.adholmes@xtra.co.nz)

Following the questions this morning about the source of my data, I sent the following email message to Meteoblue.com

I recently found your webpage and appreciated the free access to data for Dunedin and Dunedin Airport.

I was particularly interested in obtaining the wind data for these two locations for a presentation I was giving to a planning hearing organised by the Dunedin City Council. I am a public health physician but I was making my submission as a concerned community member but using public health analytic skills to question evidence.

The hearing was about a proposed 16-storey hotel and a report had been tabled from an engineer who had applied wind data from Dunedin Airport to a site 25km to the north in the centre of town. I showed the wind roses for Dunedin and Dunedin Airport (derived from your website) and pointed out the differences between the two sites and suggested that some allowance should have been made for possible different patterns of wind in the town centre. The main issue I thought was that there appeared to be a greater proportion of wind from the NNW to NNE in town than at the airport. I was asked by one of the Hearing panel for the source of your base data. I had acknowledged that I used your publicly accessible data but I wondered about the source of your historic data?

Is it data from NIWA in New Zealand?

Kind regards

Dr John Holmes

Earlier this evening I received the following reply

Dear Mr. Holmes,

thank you for your request.

meteoblue weather data is simulation data with high accuracy. Generally, simulation data is more accurate than measured data collected in more than 5 to 20 km from the chosen location. They contain all weather variables (far more than temperature, precipitation, wind, etc.), they are 100% complete (this is unusual for measurement data), much more detailed (hour intervals), available precisely for the selected location (while measurement data are often only a few kilometers away) and available since 1985. For more information please visit: <https://content.meteoblue.com/en/products/time-dimensions/history/weather-simulation-data>

The wind rose you looked at is a climate diagram these are based on 30 years of hourly weather model simulations and available for every place on Earth. They give good indications of typical climate patterns and expected conditions (temperature, precipitation, sunshine and wind). The simulated weather data have a spatial resolution of approximately 30 km and may not reproduce all local weather effects, such as thunderstorms, local winds, or tornadoes.

The spatial resolution of our weather models for Dunedin is 8km since 2013, historical data before that

has a spatial resolution of 30km. For more information you can visit:

<https://content.meteoblue.com/en/research-development/data-sources/nmm-modelling/model-domain>

Does this answer your question?

Best regards
Sina Rupp

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Weather close to you - www.meteoblue.com

I think this identifies that the data is all modelled rather than based on historic records. However the modelled data confirms a difference between the two sites similar to that identified in the ORC data I showed. I used the clearer diagrams from Meteoblue.com because the pictures from the ORC were very poor since they were extracted from a PDF file.

As I mentioned at the Hearing, there is monthly data published on the ORC Archives site from 2009 until mid 2013. (<http://www.orc.govt.nz/Publications-and-Reports/Climate-monitoring/archives/>) The monthly graphs show consistent differences between the Dunedin Airport and Musselburgh. This is based on actual observations. It should be possible to get data from NIWA and possibly also DCC and Port Otago and then get the data analysed by a meteorologist or climate scientist.

As an interested citizen, I feel that questions need to be asked about the possible variation in wind patterns between Dunedin Airport and The Octagon, Dunedin.

What will be the predicted wind effects on the building at 193 Moray Place?

I hope this clarifies the points I raised.

Regards

John Holmes