

Meteorological observations for the purpose of educational use in Nagata ward, Kobe

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Weather and climate are the units in science or geography classes in elementary and junior high school. Recently, many data have archived on the Internet by the individuals or scientific groups other than JMA with the spread of the meteorological instruments. However, if a teacher who is working at a public school hopes to do constructive class with some practical works using the meteorological data, he has to spend for hours and hours preparing. For example, he has to choose a case day to learn the unit in effective way, and he has to prepare the data that it can be used in his students easily. Therefore we considered that if a provider prepares some support measures for using the data, the teacher might be easy to introduce the meteorological dataset into his class as a course material. In this study, we report an approach to the educational use of a meteorological dataset observed at the Nagata center of the Center for Area Research and Development, Kobe Gakuin University from 2011.

The Nagata center of the Center for Area Research and Development was established in 2010. It is located in the former buildings of the Futaba elementary school in Nagata ward, Kobe-shi. The instruments for the observation of the meteorology and seismology were installed on summer of 2011. The elements of meteorological observation are air temperature, wind speed and direction, relative humidity, rainfall, net solar radiation, ultraviolet A and B, and pressure. The elements for the seismology are seismic intensity, seismic wave, groundwater level, and underground water temperature. The observation data is automatically saved as daily reports, monthly reports, and annual reports. The daily reports are available on our website to the registered users. The data can be used only for the educational and research purposes.

Observation site is located in the urban area between Shin-Nagata station (JR line) and the port of Nagata. It is at a distance of about 7km southwest of Kobe Local Meteorological Observatory. JMA Akashi AMeDAS station is in Futami coastal area of Harima-Nada. Nagata is the side of Osaka Bay and is located in the south of Rokko-Awaji fault zone. If the observation data used in conjunction with the data of Kobe Local Meteorological Observatory, it can be carried out a research of urban heat island and sea and land breezes at the regional scale. A practical training of the meteorological observation or the tour of equipment at the Nagata center is also possible.

The data that observed in near at hand can be used to understand local scale weather and climate as a course material in the school. Furthermore, it is possible to feed the geographic and the temporal sense of the weather phenomenon by comparing the data of several weather stations including Nagata.

Keywords: Meteorological and Seismological Data, Earth Science Education, Nagata ward, Kobe