

Research On The Relation Between Hirodo Wind And Geographical Features

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What Is Hirodo Wind?

Hirodo Wind blows through the wide area in Nagi and Syouboku districts.

The atmosphere above Tottori Plains gets together and comes up and down Mt.Nagi and other neighboring mountains. This is called Hirodo Wind. Because there is no clear definition of Hirodo Wind, we decided to call a wind Hirodo Wind when it is blowing from north to south of Mt.Nagi at the speed of over 10m/s and when the speed is twice or more faster than that of the winds blowing in Tsuyama City.

Purpose

To solve the mystery of Hirodo Wind and find some clues to forecast it.

Method

We collected the data released from the Meteorological Agency (MA) about what we would call Hirodo Wind.

We made some three-dimensional geographic maps, one of which was the same as the actual features of the area (original topography) and the rest of which were slightly different from each other.

We generated artificial winds and observed the movement of the air.

We used evaporated alcohol instead of natural air so that the movement of air would be visible.

We used acrylic plates in order to produce the similar condition to the actual atmospheric layers.

We compared the air current we observed in our experiments with the data released by MA.

Result

- The current of the wind was affected by the height of air layers(acrylic plates).
- In the first experiments, Hirodo Wind was not observed in any of the geographic maps.
- When we added the condition of valleys to the original topography, the speed of the wind increased and it seemed like Hirodo Wind.
- In each experiment, an unusual air current was seen at the south foot of Mt.Nagi.

Consideration, Conclusion

The valleys located in both sides of Mt.Nagi seem to be the prime factor for the rising wind.

According to the data from MA, Hirodo Wind is generated while a typhoon is going through the Kii Peninsula.

When we consider our experiment results, Hirodo Wind seems to be part of a greater swirl than people have thought.

Keywords: HirodoWind, Meteorology, Typhoon, Airlayer, Vally

