Japan Geoscience Union Meeting 2013
(May 19-24 2013 at Makuhari, Chiba, Japan)

G04-07 Room:202 Time:May 20 10:30-10:45

Investigation on mechanism of ”sea of clouds generation” and introduction of the results to tourists

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Hoshino Resort Tomamu (located in Shimukappu, Hokkaido) is known as the spot to look sea of clouds (*Unkai* in Japanese). The Unkai terrace staring in 2005, and nowadays about 100,000 tourists come from all over the country to visit the terrace in summer. With gondola, the tourists go up there (1,088m above

sea level) and can enjoy sea of clouds easily. However, the tool for introduction of sea of clouds as scientific knowledge has not been put until now. Using the results from scientific research on the mechanism of sea of clouds, we created the place for tourists to learn. This report introduces the following two points. (1) Preparations for investigations for sea of clouds outbreak mechanism, (2) Creating the place for tourists to learn.

(1) Preparations for investigations for sea of clouds outbreak mechanism

Recently, Hokkaido University installed Meteorological observatory equipment in neighborhood of the top around 1,088m and foot of Mt. Tomamu around 580m, including weather observation every ten minutes. Furthermore, we have been photographed the cloud images with observation cameras every one minutes. However, in Tomamu district, the temperature distribution in the whole foot of a mountain at the time of the sea of clouds outbreak with the radiation fog is still uncertain. After weather observation in the Miyoshi basin of Hiroshima, it is pointed out that the temperature decreases rapidly until the foggy sea creation, and the temperature drop becomes small once the foggy sea occurs (Tanaka et al. 2000) . Therefore, to understand the outbreak extinction mechanism of sea of clouds, it is important to make temperature observation in the whole foot of a mountain of the Tomamu district. We installed temperature meters in 13 spots of the Tomamu district according to altitude. In the future, further analyzing weather observation data and the camera images data in Mt. Tomamu are needed. With these data, we are going to investigate sea of clouds outbreak mechanism.

(2) Creating the place for tourists to learn

We made ”Unkai card” that is educational tool for tourists to learn constitution of the scenery, not only beautiful scenery. For tourists to know about knowledge of sea of clouds, ”Cards deeply related to sea of clouds”, ”Cards related to weather”, ”Cards to enjoy” were made and installed on tables in Unkai terrace. Figure shows a state of the tourists to see Unkai card. In addition to these cards, we also made the cards of nature around Tomamu. It takes 13 minutes to climb up with gondola in one way, that is the reason the card was settled inside the gondola. Furthermore, to confirm the effects of the card and also for its modification, the interview at tourists in Unkai terrace was practiced in the summer on 2012. According to the interview, we received opinions such as ”there should be Unkai cards” and ”interesting”. It also has difference according to generation and the construction of the groups. For example, ”I can know about sea of clouds, and enjoyed to see the card”, ”the card which could learn kanji of the rain crown is interesting”.

Through these activities in 2012, it supports the effective aspects of Unkai card. Therefore, we are going to continue the interview of Unkai card and repeat its modification.

We are grateful to Hoshino Resort Tomamu, Ministry of Education, Culture, Sports, Science and Technology climate change adaptation study promotion program (RECCA) Hokkaido team, the Hokkaido University IFES-GCOE person for support.

Keywords: cloud sea, sightseeing, environmental education

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