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Sound water cycle with a focus on agricultural water -In the case of Hakusan Tedorigawa Geopark-

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Originates in Mt.Hakusan, flowing north to join the River dozens of Tedori River leads to Tsurugi in Hakusan City, Ishikawa Prefecture. Turn to the west, where it flows down the plains Kanazawa City, Tedori River is the largest river poured into the Sea of Japan in Mikawa Hakusan City,Ishikawa Prefecture is a first-class river basin area of 809 km2, the flow path line 27km . In addition, the mountainous area accounts for about 90 percent of the basin, the average slope of the river to the mouth is one of the most rapid in Japan about 1/27 from the source. Tedori River typical alluvial fan is formed in the downstream river channel is committed to the Sea of Japan and the southern part of this fan. Hakusan Tedorigawa Geopark, this basin has been certified to Japan Geopark. In addition, the fan is paddy field has developed through the ages, is responsible for the leading role of the food supply of Ishikawa prefecture. Backbone canal extends 240 km, the water is over Tedori River go to every corner of the alluvial fan. In addition, because it is composed of a relatively steep gravel quality, fan is also active in the basement of use groundwater aquifers develop well.

In addition, the precipitation in the region has a peculiar distribution of the Japan Sea side and the Pacific Ocean side is different. Compared to the area of the Pacific Ocean, precipitation from April to October does not change significantly, the amount of precipitation from November to March the overwhelming majority. Most of this is snow in the mountainous area, snow melt water has been used as irrigation water.

Ishikawa Prefectural University is located in the central fan, such as a watershed area of Hakusan Tedorigawa Geopark is an important research university. To conduct research to address regional issues for the university community, rooted in the development of the region, is also important in terms of contributing to the region and to originate the results is one of the important role of the university community. In addition, because it is one of the purposes of science popularization, as well as a place of research results originating in the Geopark .University can work with Geopark.

At the university, in cooperation Ishikawa prefecture, Hakusan city, and local stakeholders, and other carried out over six years, ”A Study on Sound water cycle with a focus on agricultural water” as the theme of the water cycle is a keyword of the Hakusan Tedorigawa Geopark .

Focus on environmental changes and natural (such as urbanization, aging and depopulation) (such as climate change caused by global warming) social environment, research project, the current situation in the region for the blessing of the water cycle a variety of this area It is intended to make predictions for the future from that, get closer recognize the impact of global warming on local residents, were studied from various angles.

We have done research on the subject of roughly 10. 1)Changes in precipitation and snowfall from the progress of global warming prediction ,investigation of changes in sea level rise predictions 2)studies on changes in social conditions, such as urbanization and aging 3) the amount of sediment runoff from the mountains Investigation of forecast changes in river flow 4)the elucidation of the mechanism of hydrological cycle of paddy 5)the elucidation of the structure underground fan 6)the elucidation of the mechanism of groundwater flow 7)survey of forecast impact of rice due to global warming 8)damage prediction due to the increase in wildlife due to the decrease of snow cover 9) increase research impact on biodiversity 10) feasibility study of water use as a natural energy .We investigated the changes of the environment and the current situation surrounding water.

Keywords: Mt.Hakusan, Tedori River, Geopark, Water cycle, Agrecultural water