

## The comparative study of the water quality in Izu Islands

Akira Hama<sup>1\*</sup>, Koji Kodera<sup>2</sup>

<sup>1</sup>Undergrad. Hosei Univ., <sup>2</sup>Department of Geography, Hosei Univ.

### 1.Introduction

Understanding of the water environment in the islands is important for the use of water to people living in the island, the value of research in terms of understanding of the sub-regional water environment (islands).The target area, Izu islands are volcanic islands, which were created by volcanic activities. Their water environment can be considered as extra ordinary. There are various characteristics of the islands, but especially volcanic islands have high permeability of water, less permanent rivers and difficulties to contain fresh water (Shindo 1992etc.). In this study, I set Izu islands, which were built by volcanic activities and an isolated island, through the comparison of the findings, he explores the challenge to clarify the current status of the water environment in each island.

### 2.Target area

The islands were created by volcanic Submarine caldera volcano and both Izu Islands are composed of Izu Oshima people have lived since the Edo period large, Hachijo, Miyakejima, Nijima, Kozu-shima, Mikura, in the Toshima area in particular that Ru is Nanashima Izu, 287km, about most Honshu near Izu-Oshima is at a distance of about 25km from Hachijo Island's southernmost Izu Peninsula from Tokyo. Compared to the mainland, precipitation of the Izu islands, is much more, but it can not be said that the islands are blessed the freshwater environment except for the Mikura-Hachijo spring water rivers and constancy is a rich variety in order to obtain fresh water Efforts have been made (Shindo 1992).

### 3.Results and Discussion

As you can see in the water composition part, all through the islands, from the effects of sea-based rainwater environment of isolated island was great.

If you look at the key diagram, there's a variation in the vertical direction, from the fact that the point was strongly influenced by water type Na-Cl significant impact from the sea and the rain is coming in the upper right plots in other areas which can be mixed with groundwater that are relatively long residence time are plotted on the per-left and lower left. The Islands with Strong influence of rainfall are plotted to the right of the key diagram. In any islands, percentage of NaCl has a lot to do in the water composition, looking at the distribution of the diagram.

There's some densely populated areas, distributed in the water environment of Izu Islands, the remarkable human pollution can't be seen in the Islands, except for such areas. Natural effects such as annual precipitation, drought are considered as heavily involved.

### 4.Conclusion

This study, in the island that is seemingly similar conditions, shows a variety of water, we have found that there is a large difference. From now on, I continue pursuit field surveys and analysis, then clarify the current status and issues of the water environment of the islands.

Keywords: Volcano, Izu Islands, Precipitation, Dissection

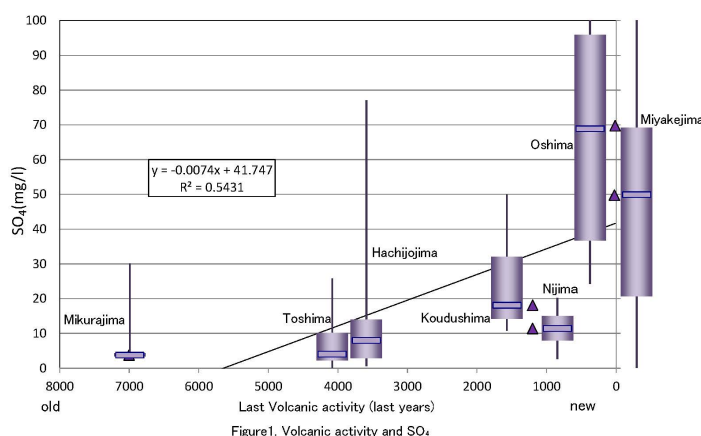


Figure1. Volcanic activity and SO<sub>4</sub>

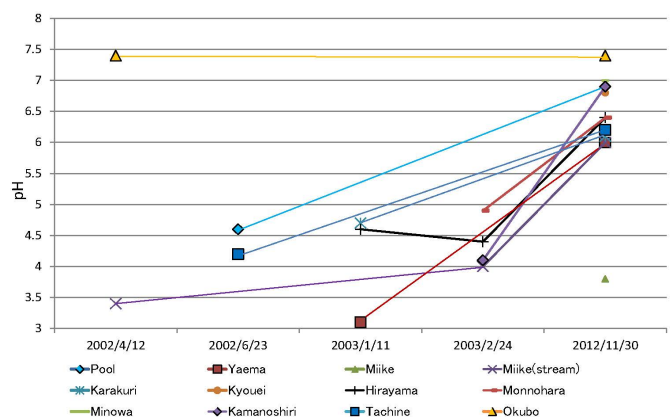


Figure2. Comparing water quality of surface water(Miyakejima)