

Influence of Hakone volcanic eruption (150629) on the surrounding water environment

*Masaki Horiuchi¹, Koji Kodera², Kazuki Asami³

1. Undergrad.Student, Hosei Univ., 2. Dep. of Geography, Hosei Univ., 3. Grad.Student,Hosei Univ.

1. Introduction

Water resources are abundant in volcanic areas, and grasp of water environmental problems is important for conservation and use. When an eruption occurs, it is conceivable that the surrounding river, groundwater, etc. will be contaminated by components melted from the ejecta. Based on this, in order to grasp the influence of the eruption occurred in Owakudani of Hakone on June 29, 2015, the impact on the surrounding water environment is done once a month.

2. Results and Discussion

2.1. EC ·pH of river

In Hayakawa River, EC, pH varied from 200 to 400 $\mu\text{S} / \text{cm}$, 7 to 8, and no noticeable change in value was observed in the investigation after the eruption. In Owakusawa, high EC ·low pH of 6,780 $\mu\text{S} / \text{cm}$, pH 2.4 was observed in the investigation immediately after the eruption. Owakusawa's EC tends to decline over time, and after 1608 it is stable at around 3,000 $\mu\text{S} / \text{cm}$. As for pH, it is higher than immediately after the eruption.

2.2. Major dissolved component

In Owakusawa, Cl^- tends to decrease as time passes since the eruption. On the other hand, there was no conspicuous decline in SO_4^{2-} . The ratio of $\text{Cl}^- / \text{SO}_4^{2-}$ was 1.1 in 1507, but it decreased to 0.2 in 1707. As for the cation ratio, there is little change compared to the anion.

2.3. Rainwater

Although rainwater is sampled at nine points, high EC (maximum 230 $\mu\text{S} / \text{cm}$) and low pH (minimum 3) are observed at the point near Owakudani. In 1604 to 1608, there is a point where the amount of components contained in the collected rainwater has increased, and it can be related to the concentration of the volcanic gas around it.

Keywords: Mt.Hakone, Eruption, Volcanic product, Owaku marsh, Water quality

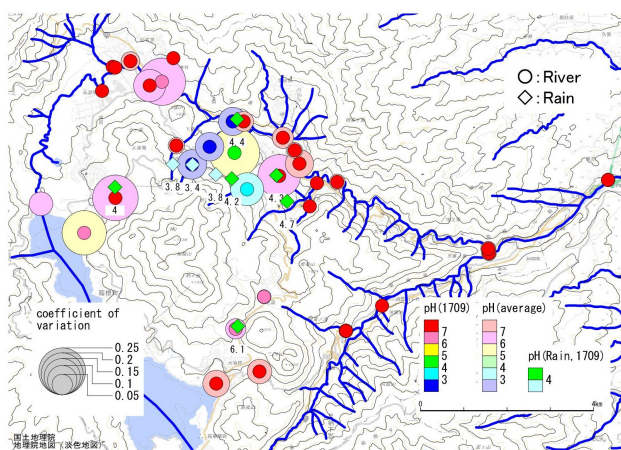


fig.1 Distribution of pH

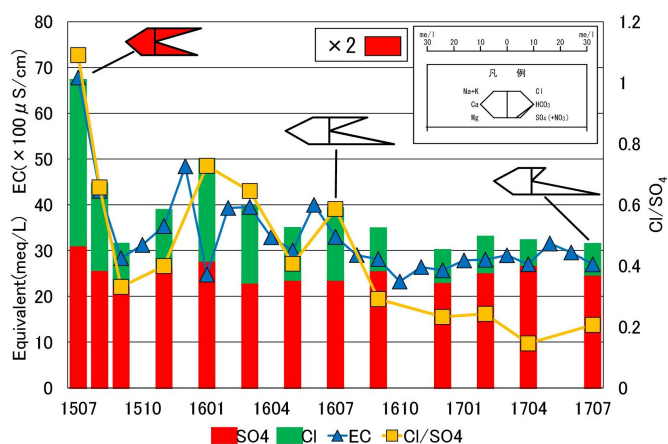


fig.2 Water quality change in Owakusawa