

Trend analysis for Japanese newspaper coverage associated with volcanic disaster

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Mass-media is one of primary tools in the transmission of scientific and technological information from experts to (Japanese) public. Generally, there are two types of scientific and technological news; One is strongly tied to political and economic issues, and the other is a research outcome, leading to the broader public interest in the cultural/scientific topics. In the Earth and Planetary Sciences, the former largely includes the risk or mitigation information of natural disasters, such as global warming, earthquake and volcanic eruption. Various kinds of risk information are currently delivered via mass-media to the public, so that they can help shape the public perspective to potential natural hazards and prompt the social involvement in disaster reduction activities. The exposure to the risk information may change the public attitudes and opinions. While at a same time, in most cases, the communication between non-experts (the public) and experts is also mediated by journalists. Therefore it is important in the process of the science communication to reveal how issues of natural disaster are intensively covered by mass media (journalists). Our goal is to build the fundamental knowledge required for considering the smoother communication between journalists and experts.

In Japan, there are many kinds of active volcanoes and it is essential to implementing the volcanic disaster mitigation at all time. Volcano research has been indeed powerfully promoted at universities and government agencies and some disaster prevention schemes have been made on the base of a lot of volcanological studies. Because these have an influence on the civic living through the disaster prevention education and public work projects to a certain extent, to which projects is the higher priority assigned is basically dependent on public deliberation. Without the national consensus, effective and coherent policymaking could not be realized. Then it requires the public to have primary volcanological knowledge when advancing countermeasures to reduce the negative impact of volcano eruption. As the prime means of communication between government agencies, volcanological experts, and non-experts, mass-media plays a significant role. From this view point, it is crucial to comprehend how volcanic disaster is portrayed in mass-media coverages.

This study focuses on the Asahi Shimbun, Mainichi Shimbun, and Yomiuri Shimbun. They are the typical national newspapers in Japan, which are often called three major newspapers, and they have a circulation of several million. Almost all news articles published by these newspaper companies have been recorded, classified and indexed separately from the 1990s onward. This enables to obtain the reproducible results. The newspaper articles with the word "eruption" published from January 1990 to August 2015 were collected through these databases. The research methodology is the quantitative analysis with the use of the LDA (Latent Dirichlet Allocation) which is a way of automatically extracting topics that texts contain. All samples about volcanic disaster are categorized in line with discovered topics to allow an examination of the amount and type of subject matter covered. In this presentation, the author is going to show how news issues of volcanic disaster are framed by the newspaper media.

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