

Cooper, K.M., Anderson, K.R., Cashman, K.V., Coombs, M.L., Dietterich, H.R., Fischer, T.P., Houghton, B.F., Johanson, I.A., Lynn, K.J., Manga, M. and Wauthier, C., 2023, December. Coordinating Science During an Eruption With Scientific Advisory Committees: How Can We Improve?. In *AGU Fall Meeting Abstracts* (Vol. 2023, pp. V32A-08).

## **ABSTRACT**

Well-observed volcanic eruptions provide opportunities to collect data and samples that are not otherwise available, which can lead to significant increases in our understanding of volcanic processes. However, the necessary prioritization of public safety and hazard mitigation during eruptions can lead to missed scientific opportunities. Thus, maximizing the scientific advances during eruptions requires thoughtful planning and coordinating of science activities among observatory staff and other scientists before, during, and after volcanic eruptions. One tool to facilitate this coordination is a Scientific Advisory Committee (SAC). In the U.S., CONVERSE (Converging on Eruption Science with Equity) has been developing and testing this concept during workshops and scenario-based activities [1].

The December 2020 eruption of Kīlauea volcano, Hawai‘i, provided an opportunity to test and refine this model in real time and in a real-world setting [1]. Successes of the Kīlauea SAC included developing and codifying procedures that can inform operations of future SACs and involvement of scientists who previously did not have had the opportunity to engage. Some challenges included a relatively slow process of facilitation of research proposals that limited non-observatory scientist participation in the early parts of the eruption, and a decision process that fell on a small number of individuals at the Hawaiian Volcano Observatory. Possible ways to address these challenges include supporting community-building activities between eruptions to make connections among scientists and to identify key science questions and pre-plan science activities, all of which would facilitate more rapid implementation across a broader scientific group. We will present the working model of a SAC refined during subsequent eruptions of Kīlauea and Mauna Loa. We will also present suggestions for how this model may be modified to fit the needs of other observatories where the typical behavior of volcanoes and the logistical constraints may differ from the case in Hawai‘i. The SAC model holds promise to become an integral part of future response efforts, leading to more effective hazard response and more inclusive scientific advances.

[1] K.M. Cooper et al. 2023, Bull Volc 85:29, <https://doi.org/10.1007/s00445-023-01644-1>

Link: <https://ui.adsabs.harvard.edu/abs/2023AGUFM.V32A..08C/abstract>