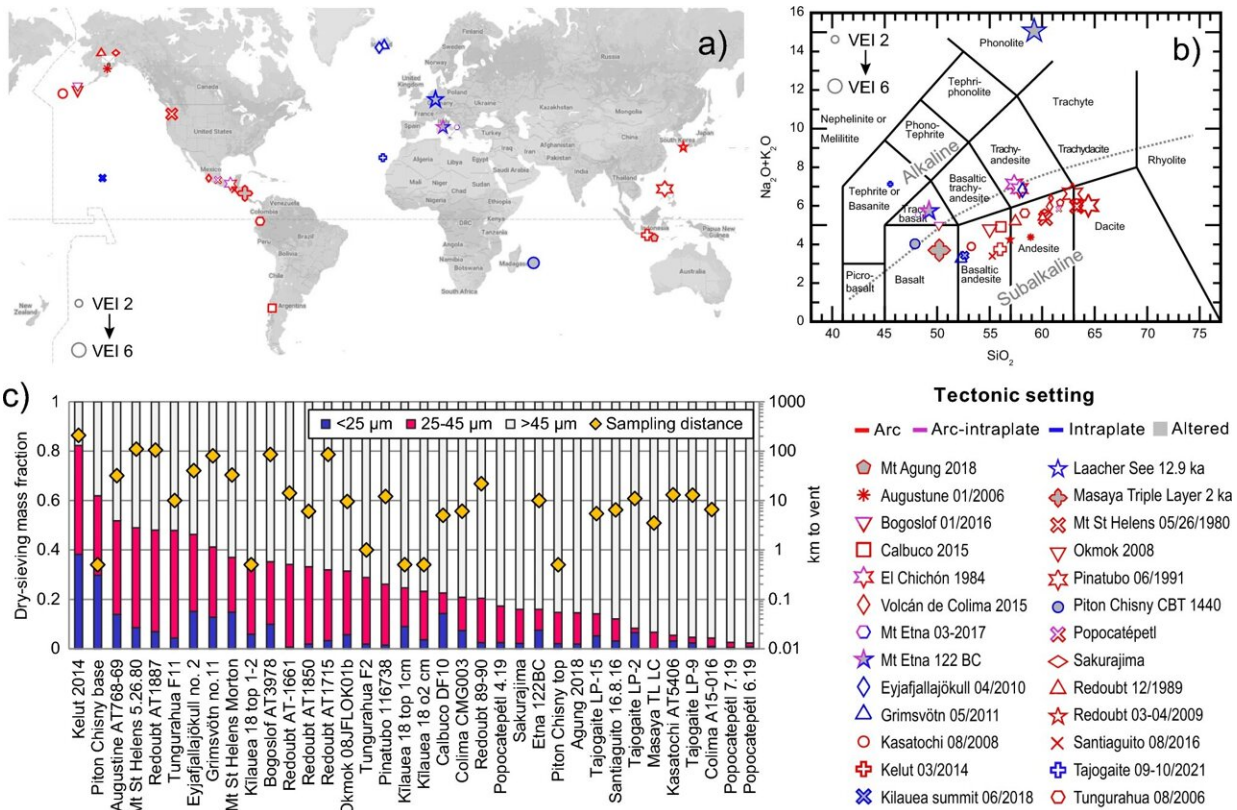


Filling the data gap for volcanic ash effects on Earth systems

October 4 2023, by Blaine Friedlander



Global eruption locations and bulk chemistry. **(a)** Location of the volcanoes that produced volcanic ash used in this study (further details in Supplementary Table 1) The symbol size is scaled to the eruption volcanic explosivity index (VEI). **(b)** Total alkalis to silica (TAS) diagram³⁴ showing bulk chemistry in wt% oxides retrieved from the literature for the studied samples. Compiled data and references are provided in Supplementary Tables 2 and 7. Multiple data points bracket the range of chemistry for an eruption where the erupted materials were heterogenous. All symbols and colors in panels a-b follow the legend. Bicolored

symbols indicate more complex arc-intraplate tectonic settings, with the bottom-right color indicating the dominant tectonic setting to which they were assigned for calculations and linear regressions. (c) Dry-sieving fractions for the grain size ranges used in the study are shown as stacked bars in order of total

Citation: Filling the data gap for volcanic ash effects on Earth systems (2023, October 4)
retrieved 28 April 2024 from <https://phys.org/news/2023-10-gap-volcanic-ash-effects-earth.html>

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