

Data as a Scientific Legacy: Rescuing Data from more than 35 Years of Hawaiian Volcanic Lava Studies

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A scientific investigator's data management practices can determine whether their data will last to benefit and impact future science. Funding agencies and publishers alike have established new policies to ensure that data are openly shared and Findable, Accessible, Interoperable, and Reusable (= FAIR). Data management plans have become an essential part of proposals and journal publishers are increasingly insisting on data deposition in trusted, certified repositories, preferably in those with domain-specific expertise. Still, data management best practices are not often recognized as being fundamental to preserving an investigator's scientific legacy. Over the course of a scientific career, a researcher may amass large amounts of data. These data tend to lose their value over time as critical metadata and knowledge about the process of data acquisition and data quality get lost or digital media become obsolete. IEDA (Interdisciplinary Earth Data Alliance) Data Rescue Mini-Awards have assisted investigators in preserving valuable datasets at-risk of becoming inaccessible by providing them with guidance for data and sample documentation and publication. IEDA worked with J. M. Rhodes, who for more than 35 years has studied the geochemistry and petrology of Hawaiian volcanoes, to compile major and trace element whole rock analyses previously accessible only in disparate places and formats, including data tables or figures of journal publications, theses, and in unpublished formats including floppy disks. This large dataset, which is invaluable to future studies of Hawaiian volcanism, ocean-island (OIB) volcanism, as well as the origin and nature of mantle plumes, is now preserved and openly accessible in the EarthChem Library (<http://www.earthchem.org/library>). This presentation will discuss Dr. Rhodes' data rescue project and touch on ways that IEDA continues to aid investigators in preserving their data legacy, including new and ongoing NASA-funded data restoration activities focusing on lunar and meteorite samples.