Plan Overview

A Data Management Plan created using DMPTool

Title: Fragmentation and Dilatancy Model on Barringer Meteor Crater

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Project abstract:

Barringer Meteor Crater in Arizona: the youngest, least eroded, best exposed, and the largest known crater on earth. This Project proposes an inquisitive investigation of the in situ fragmentation during the formation of Barringer Meteor Crater in Arizona. In this study, we will perform numerical simulations on iSALE2D and will incorporate the fragmentation and dilatancy model to produce an accurate synthesis of the geologic survey data to determine the portion of subsurface porosity and the asymmetries of the subsurface structure (moho uplift, central uplift) governed by both simulation models and high-resolution seismic reflection data are diagnosed to determine the trajectory of this meteor crater.

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Copyright information:

relationship to, your project or proposal

Fragmentation and Dilatancy Model on Barringer Meteor Crater

Data mainly comprises the results of a February 2019 gravity survey of Barringer Crater (colloquially known as "Meteor Crater") near Winslow, AZ. Dr. Peter James and Mitchel Christopher have completed several analyses in an effort to combine previous survey data with their own survey to generate an updated Residual Bouguer Anomaly (RBA) map for Meteor Crater. The addition of this modernized survey—including crucial gravity measurements on the crater wall—yields a robust model that can be utilized for advanced crater modeling and future Meteor Crater research.

1. Microsoft word documentation
2. PDF Format

Both the survey data and the results of the study are readily available for the members of the solid earth and planetary research group at Baylor University. Data may be accessible to the Outside investigators (not affiliated with the university) upon request and with appropriate approval from the principal investigator, Dr. Peter James.

Both the Principal investigator and Data manager are responsible for re-use, re-distribution of data, and declares no competing interests.

Data, Samples, and research products are preserved through lab databases and lab computers of the data manager and the principal investigator.