Correlating Long-Term Observations, Seismicity and Thermal Outputs at Fuego Volcano, Guatemala:
Repeating Patterns in Eruptive Behavior at an Open Vent Volcano
John H. Lyons (jlyons@montana.edu), Gregory P. Wilke, William J. Rawe
Michigan Technological University, MI, USA
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Summary
- A long-term high resolution infrasound dataset has been used to characterize the eruptive behavior of Fuego Volcano, Guatemala.
- The dataset includes continuous seismological and geodetic observations.
- Infrasound analysis revealed the occurrence of repeated eruptive events.
- Thermal monitoring confirmed the presence of lava flows and plumes.

Seismicity
- Seismicity analysis indicated the presence of shallow seismic events.
- The events were associated with the observed eruptive activity.
- Infrasound analysis supported the seismological findings.

Study area
- Fuego Volcano is a shield volcano located in Guatemala.
- The area is characterized by active seismicity and eruptive activity.

Lava flow length, Thermal output, Periods of eruptive behavior
- Lava flow length and thermal output were monitored using satellite and thermal imagery.
- Eruptive periods were characterized by the presence of lava flows and plumes.

Lava flow length, Thermal output, Tremor amplitude
- The relationship between lava flow length and thermal output was studied.
- Tremor amplitude was analyzed for correlation with the eruptive activity.

Cumulative Lava flow length, Thermal output, Tremor amplitude
- Cumulative data were generated for lava flow length, thermal output, and tremor amplitude.
- The data showed repeating patterns in eruptive behavior.

Estimated effusion rate, Eruped volume
- Effusion rates were estimated using thermal and seismic data.
- Eruped volumes were calculated using geodetic and geophysical data.

Conclusions
- The study revealed repeating patterns in eruptive behavior at Fuego Volcano.
- The seismic and thermal data were consistent with the observed eruptive activity.
- The findings suggest that Fuego Volcano exhibits predictable eruptive behavior.

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References