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Lava Flows

Vent Density

Mars Clusters

Arsia Mons  
Volcanic Field

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# Modeling the Construction and Evolution of Distributed Volcanic Fields on Earth and Mars

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# Team

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- Distributed Volcanism Definition
- Vertical Subregions can be detailed in volcanic systems

# Outline of Talk

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- Overview of Dissertation
- Arsia Mons
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# Sills in the San Rafael Swell

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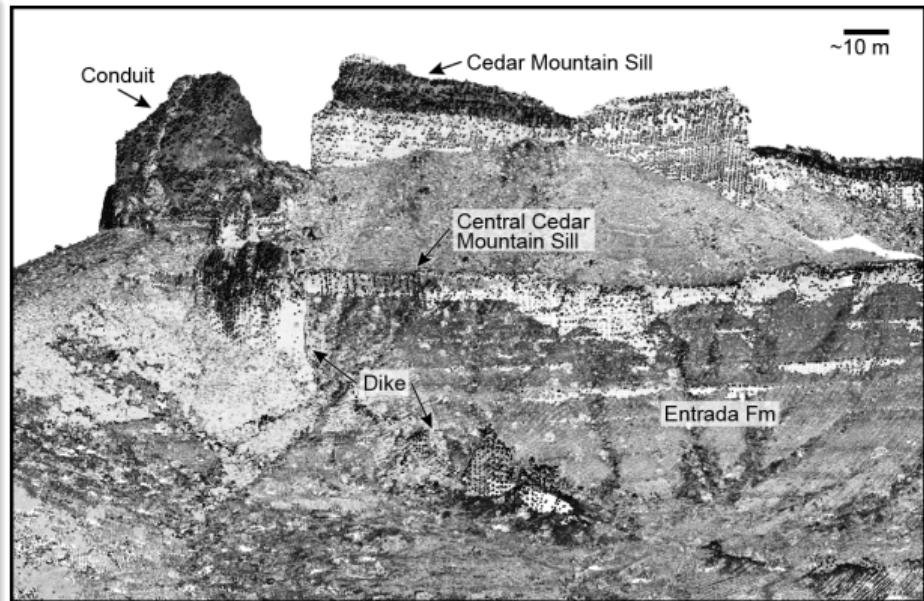
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- Lidar
- Sills
- Total volume, geometry
- Modulation of eruption style



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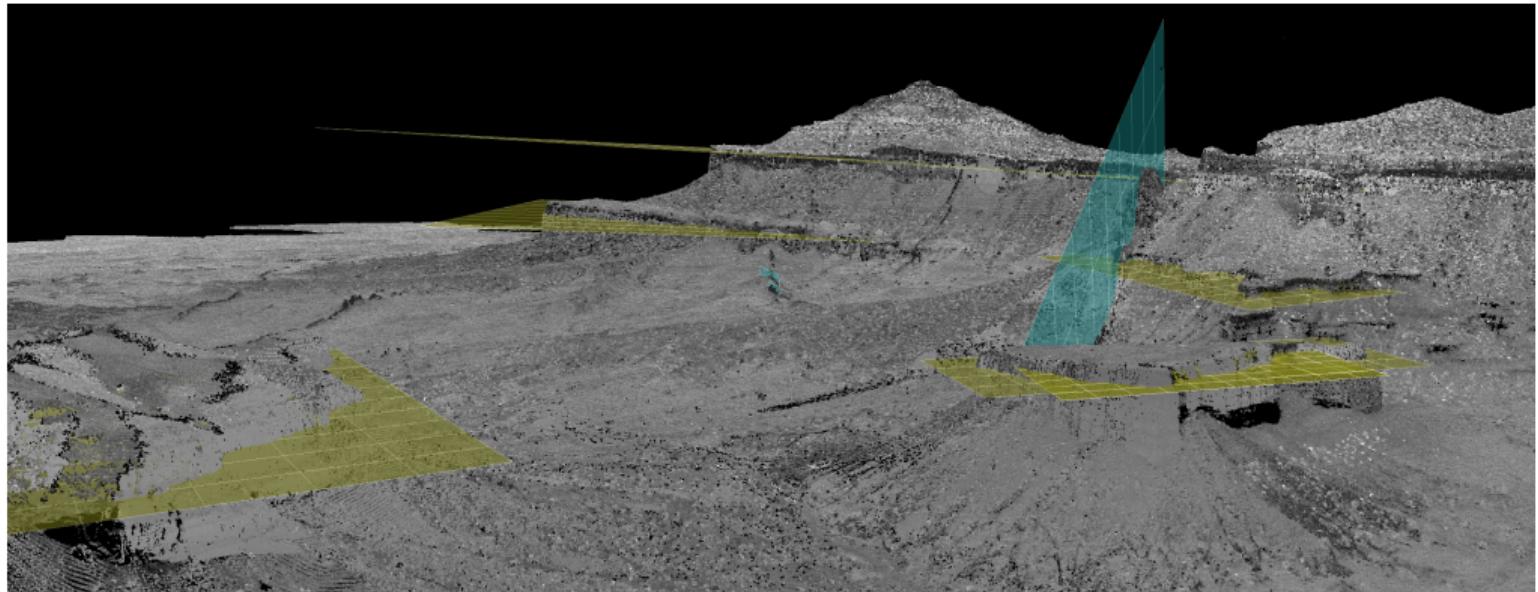
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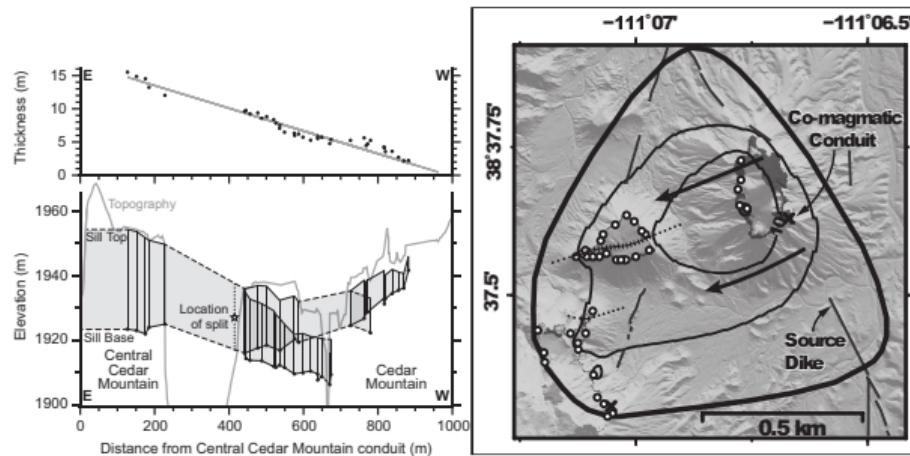
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- Lidar
- Sills
- Total volume, geometry
- Modulation of eruption style

# Lava Flows/Simulators

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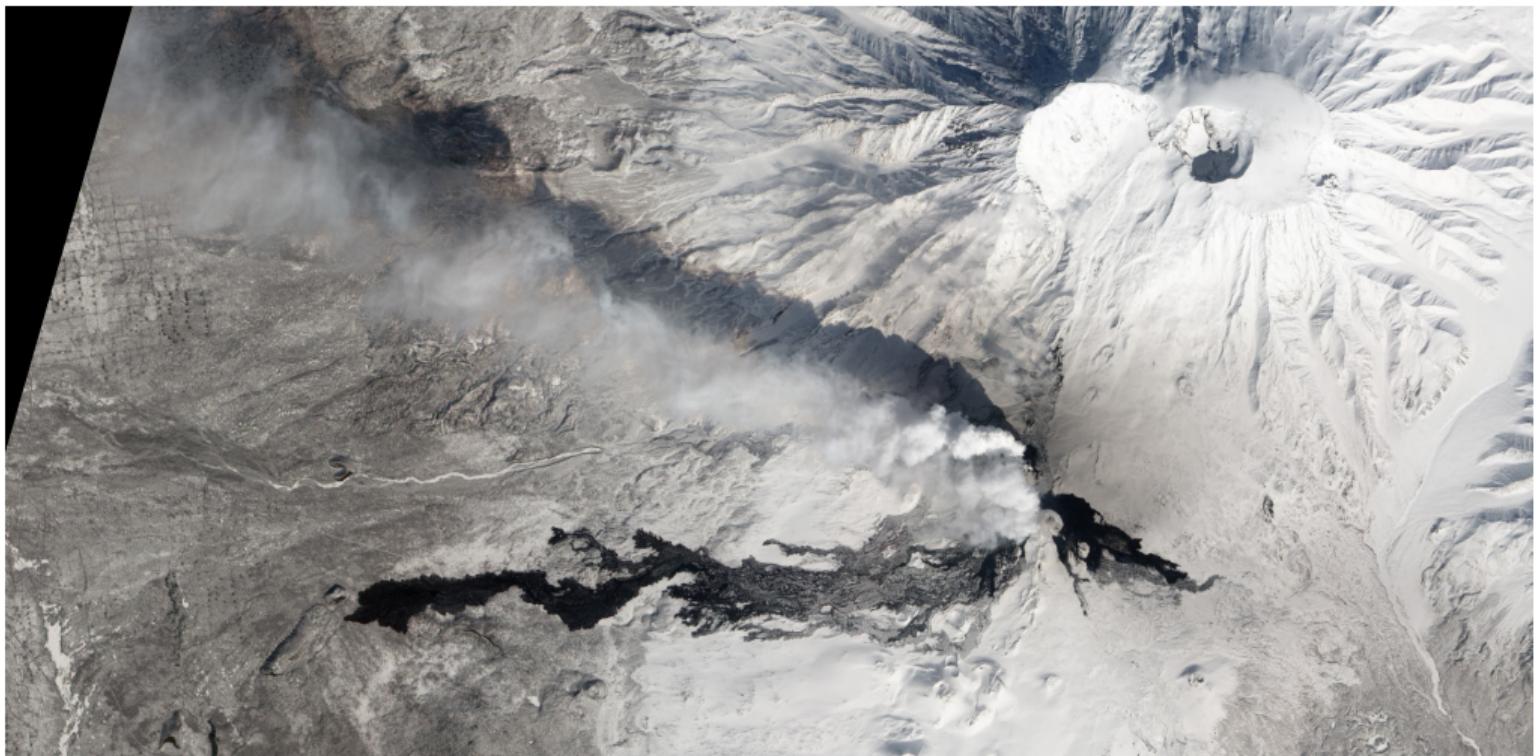
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# Lava Flows/Simulators

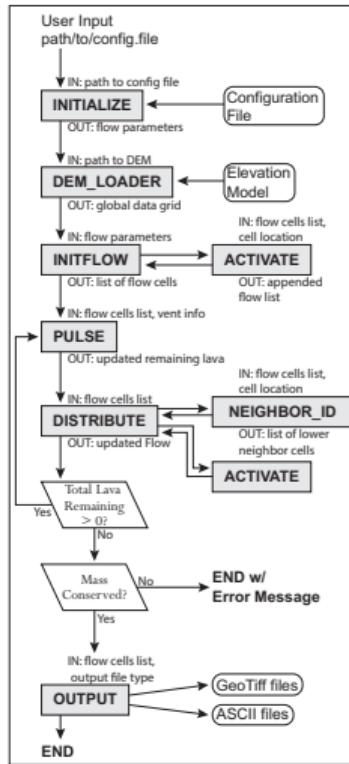
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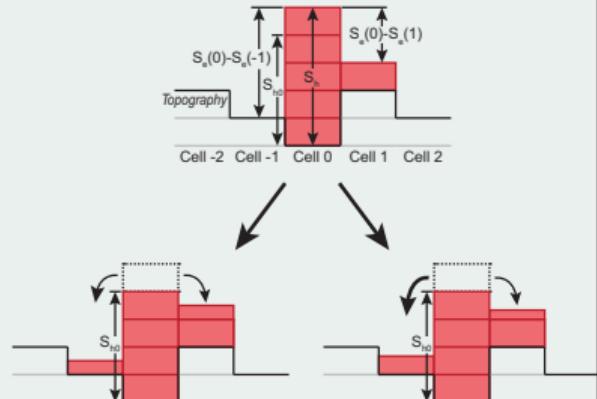
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## MOLASSES — Modular Lava Simulation Software



# Lava Flows/Simulators

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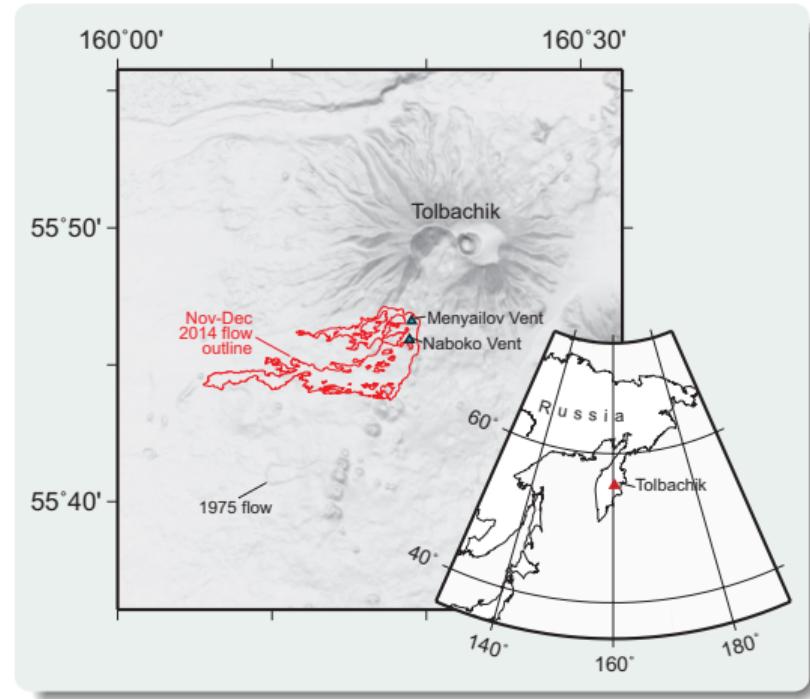
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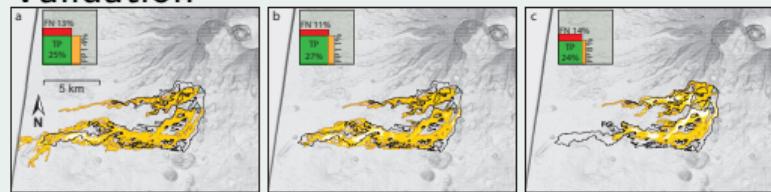
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## Validation



# Spatial Density of Clusters

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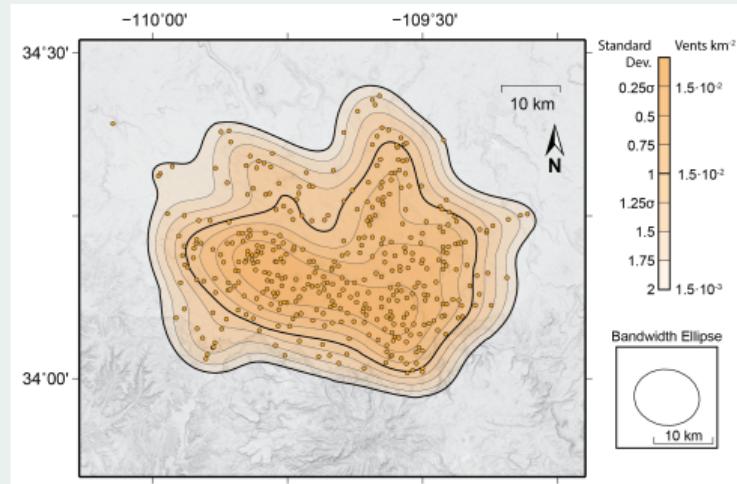
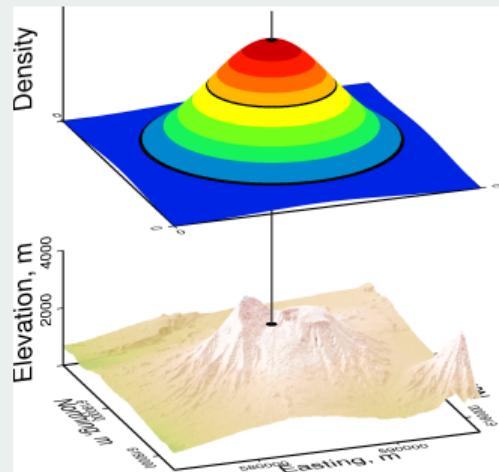
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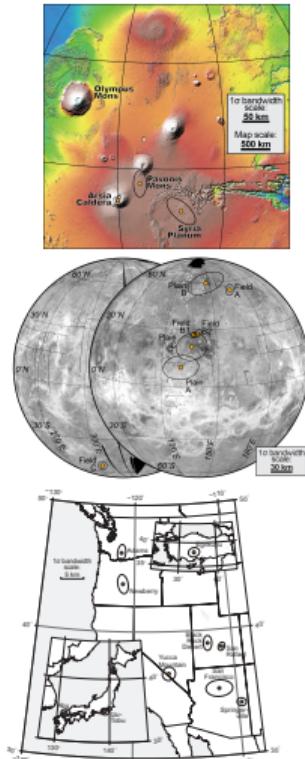
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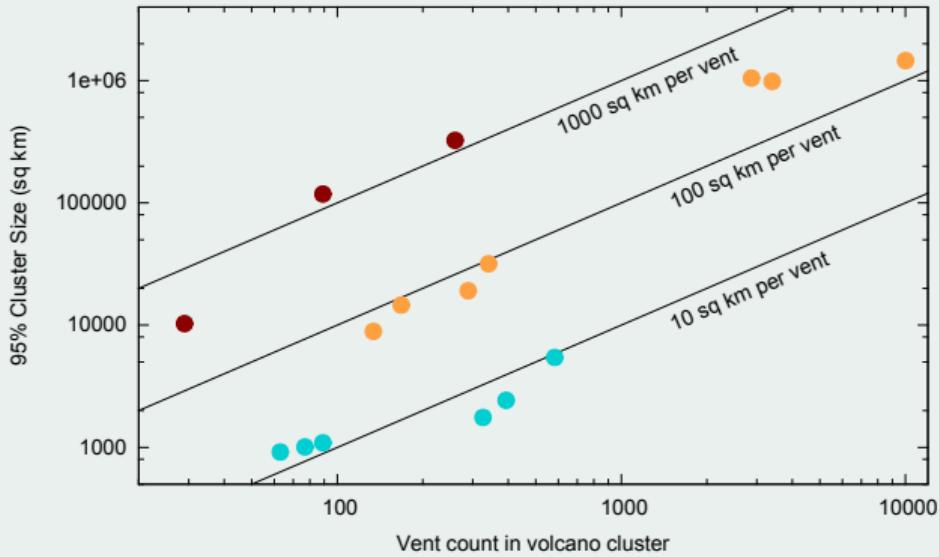
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## Average Vent Intensity



# Syria Planum

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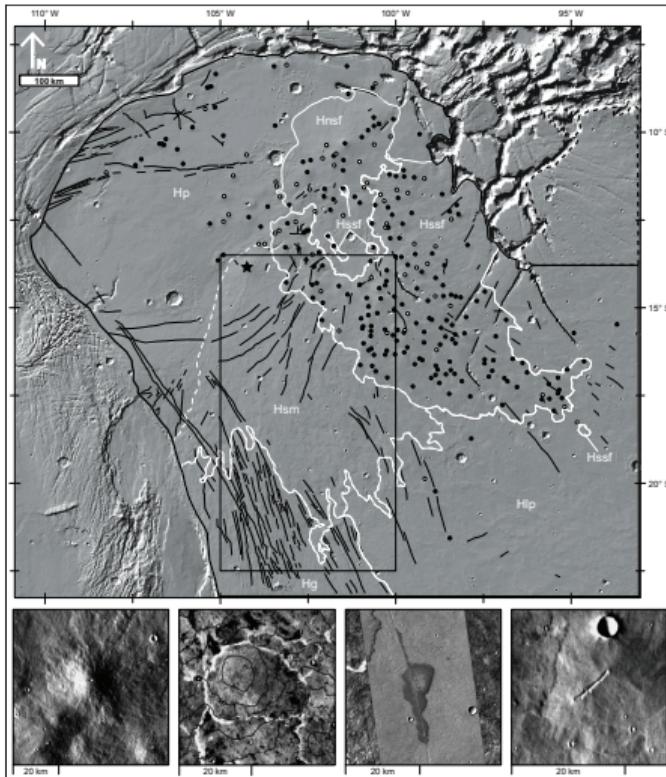
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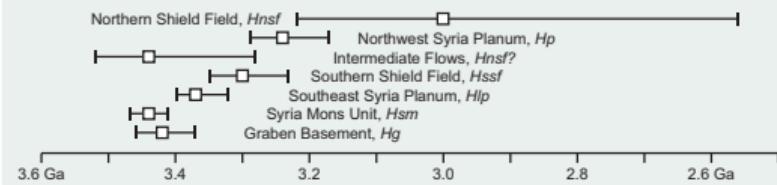
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## Evolution of a volcano cluster

- Here's the rub...
- Another idea...



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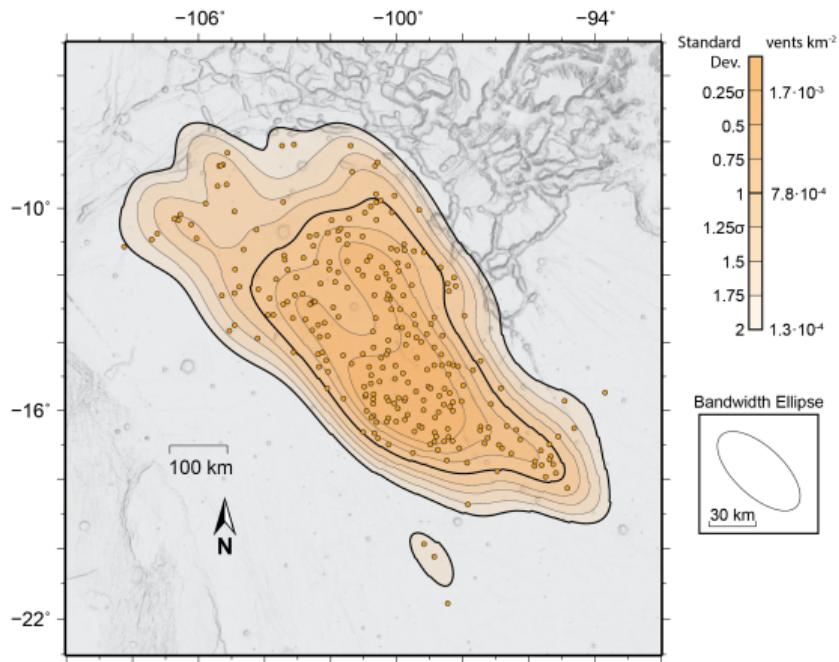
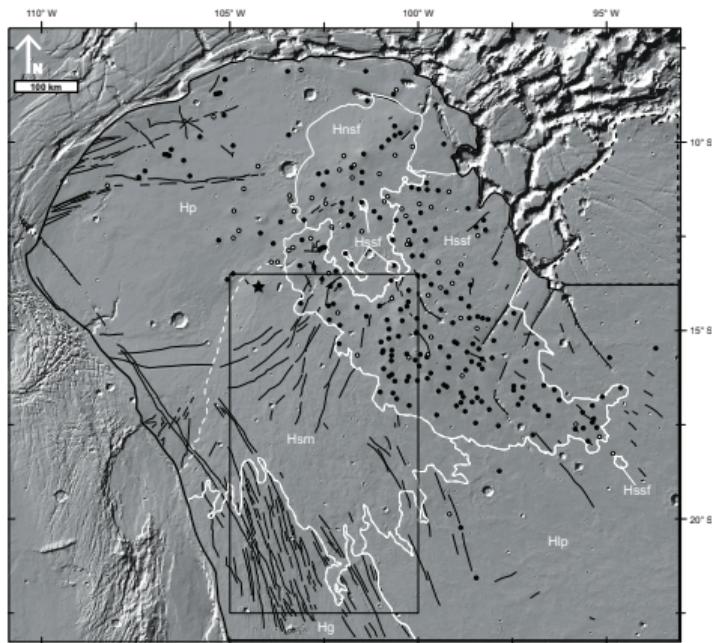
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# Arsia Mons: An introduction

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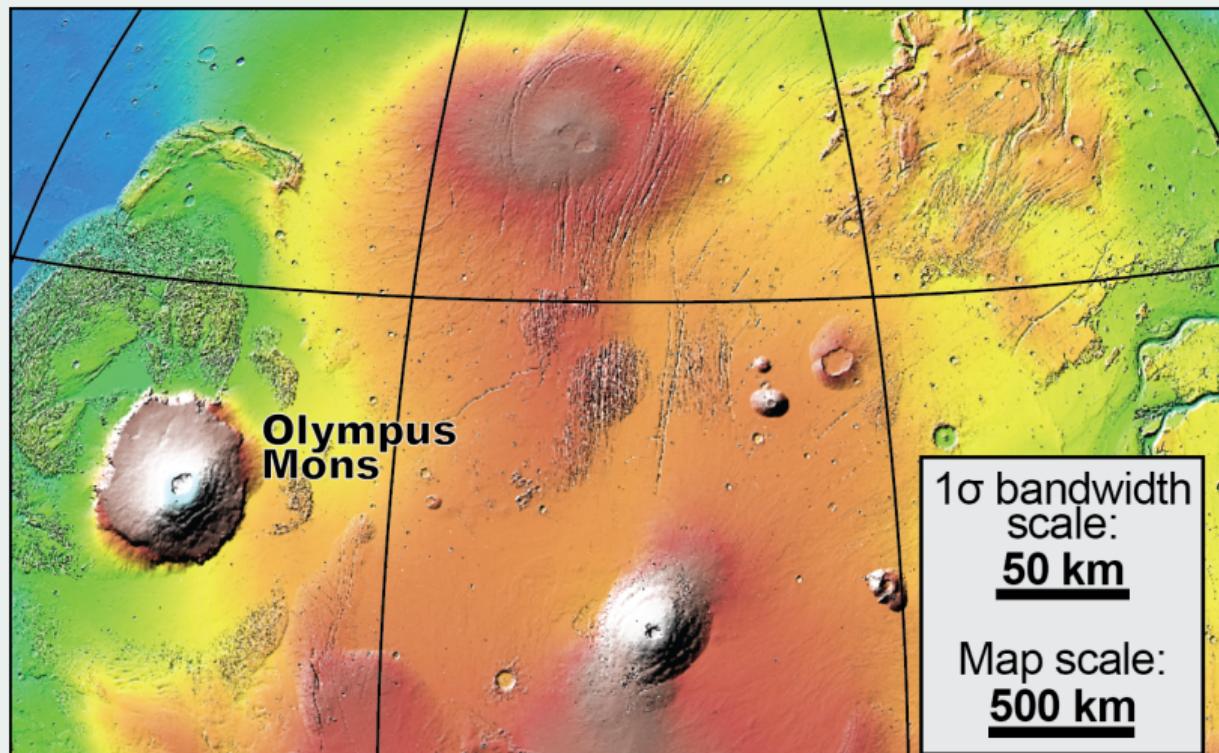
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# Mapping

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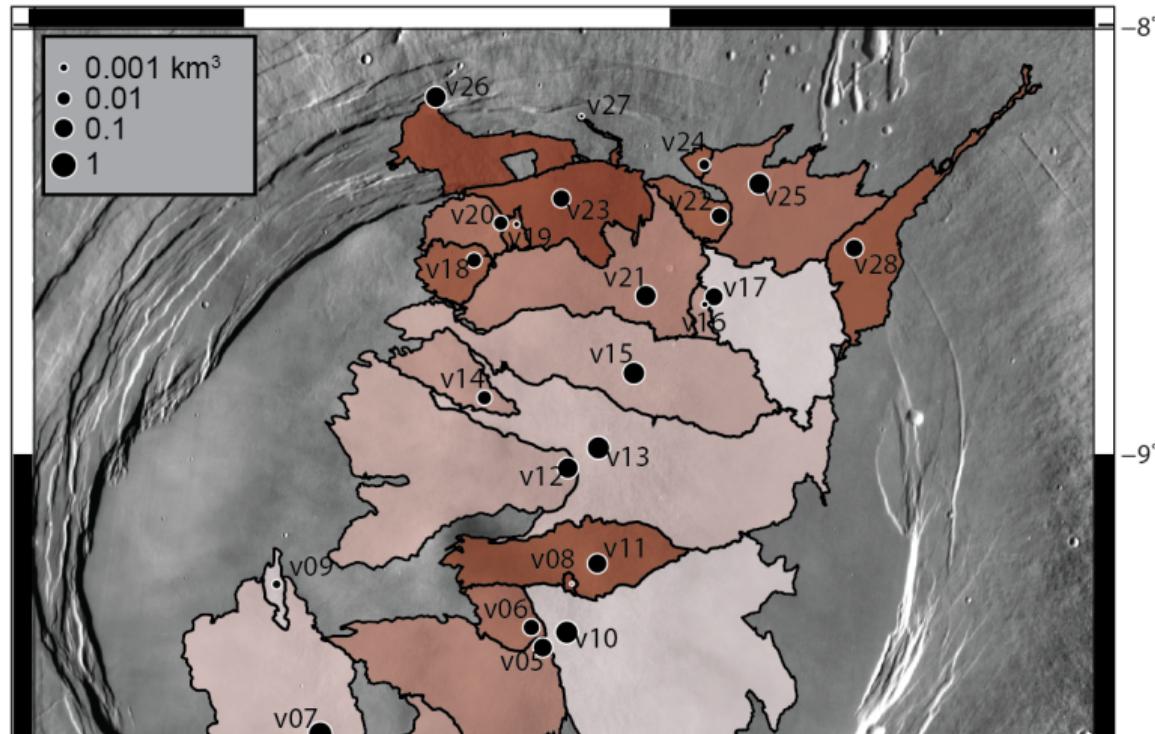
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# Volume

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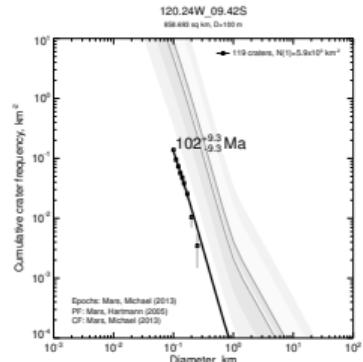
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# Ages: Stratigraphy

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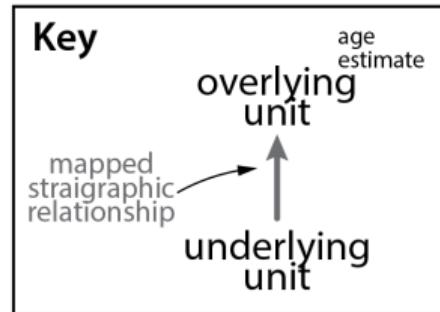
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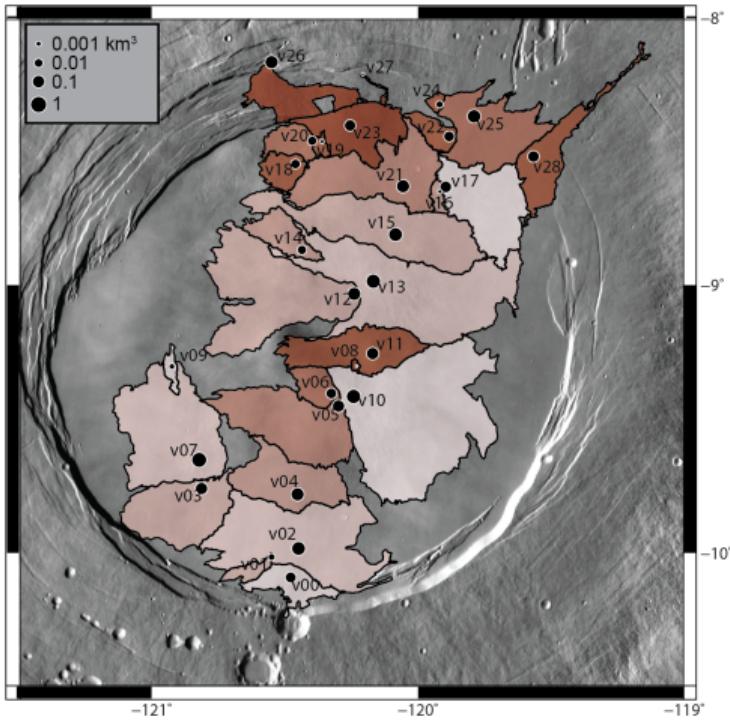
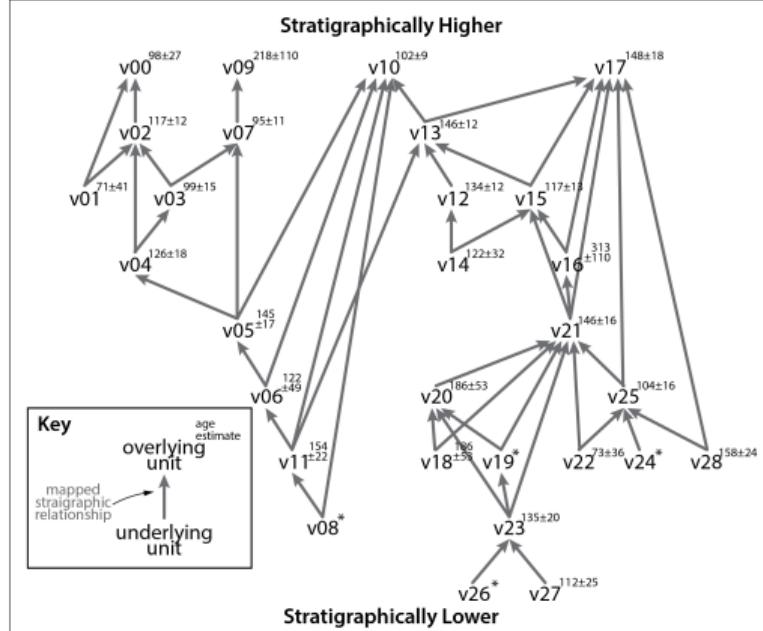
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# Ages: Information Conflicts

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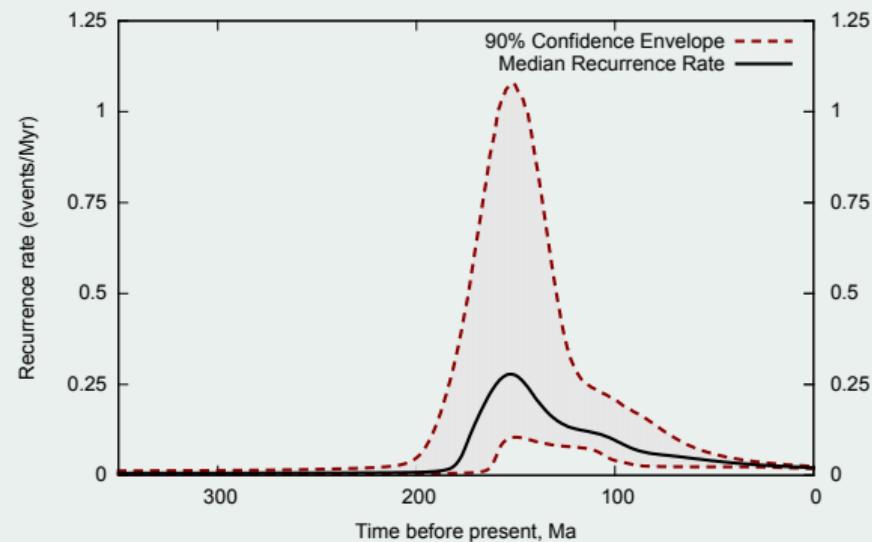
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## Recurrence Rate



# Volume Flux

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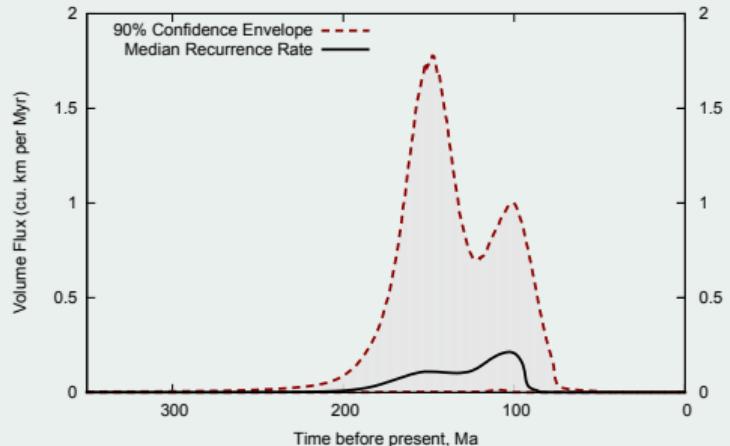
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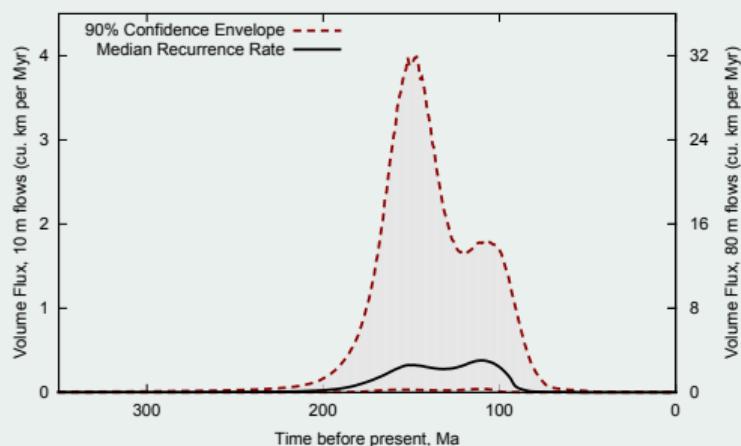
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## Sub-surface mesh model



## Thickness model



# Tie in with Ashes and glaciers?

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# Model of waning volcanism of Arsia

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# Arsia Specific Conclusions

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# Additional Thanks

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# Questions?

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