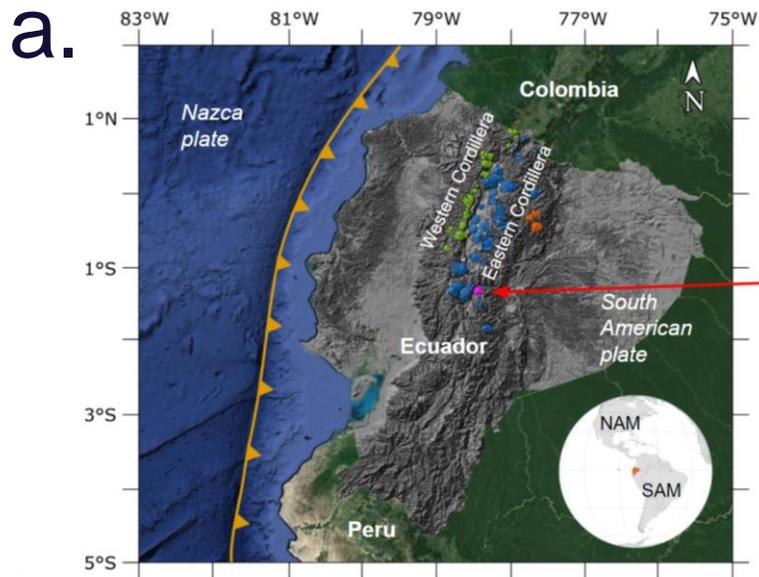


# Variation of the paleomagnetic and rock magnetic properties across a ~20 m thick andesitic lava flow (Tungurahua Volcano, Ecuador): implications for paleointensity.

**Malán Guido**  
**Piispa Elisa, Mandon Celine**

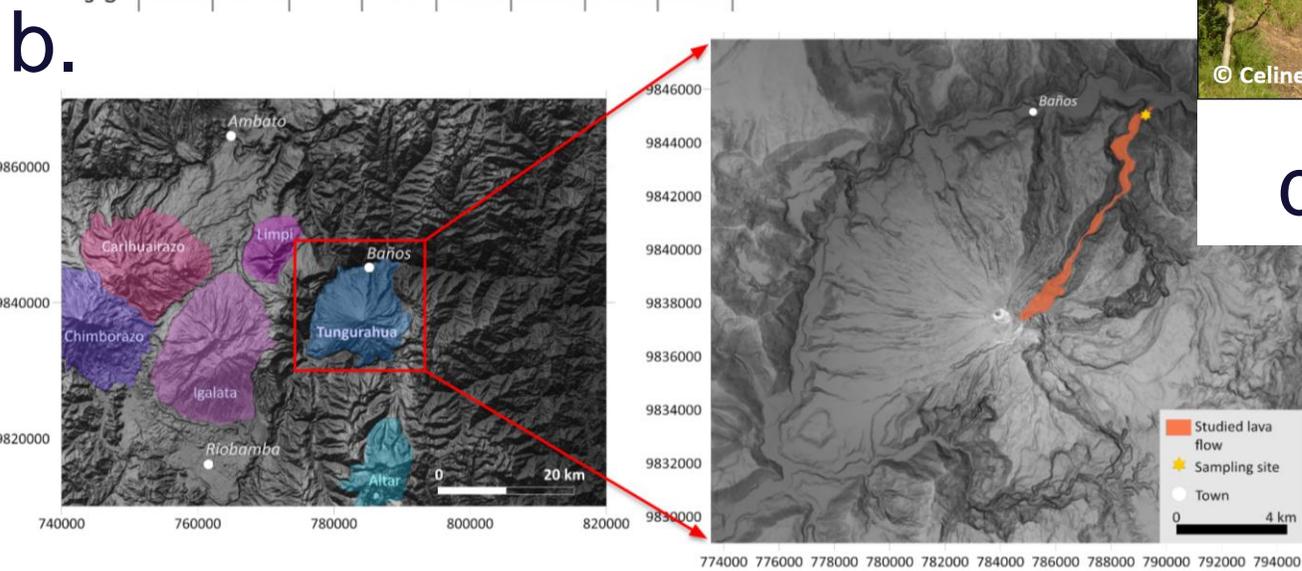
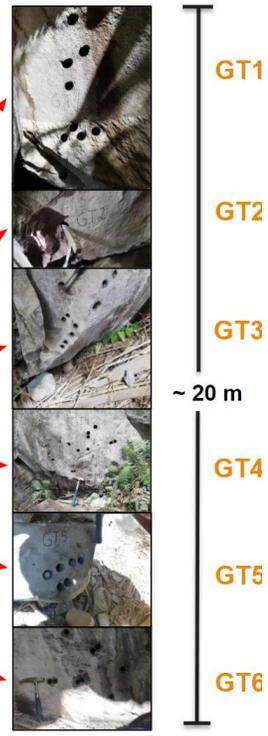
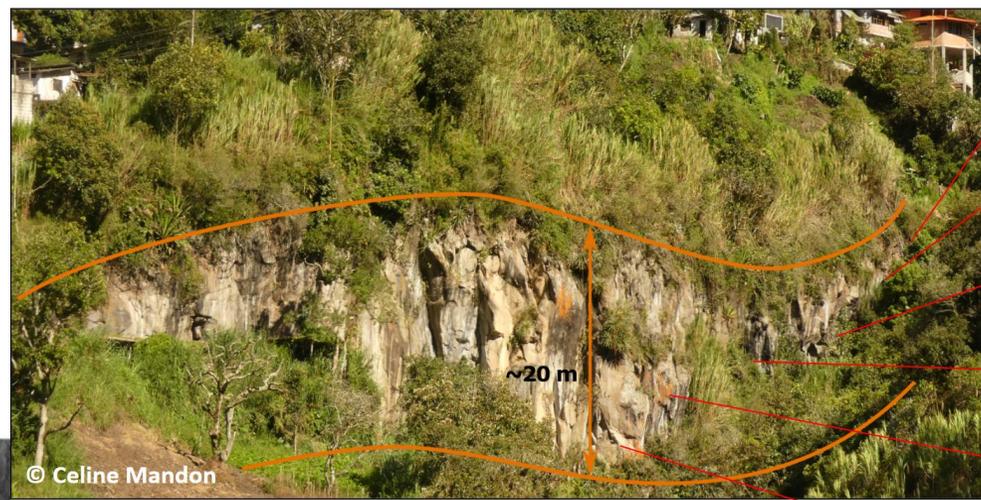
✉ [guido.malan@yachaytech.edu.ec](mailto:guido.malan@yachaytech.edu.ec)



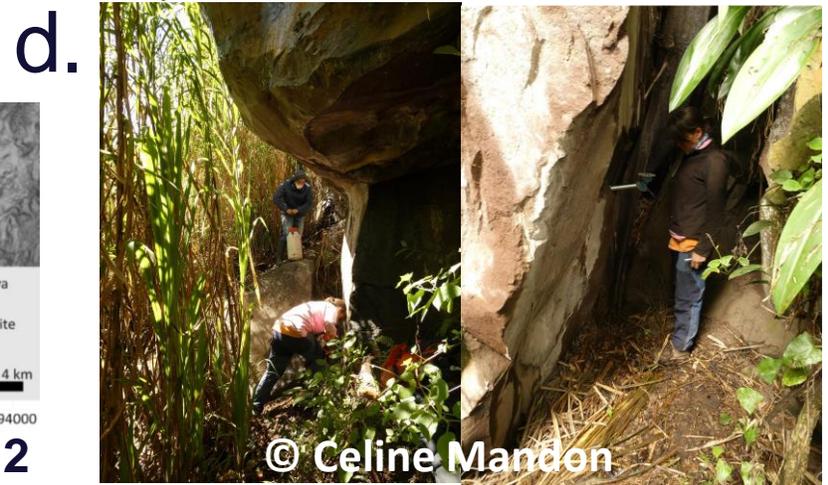
Ecuadorian Quaternary volcanoes:

- Volcanic front
- Main arc
- Back arc

## C. Sampling as a function of depth



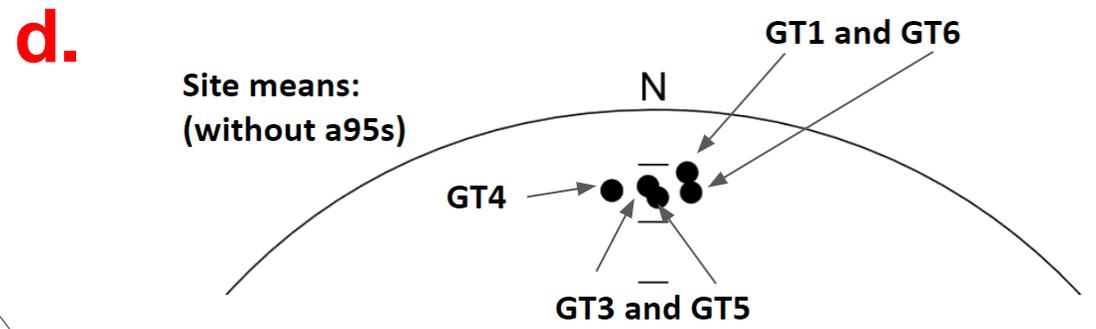
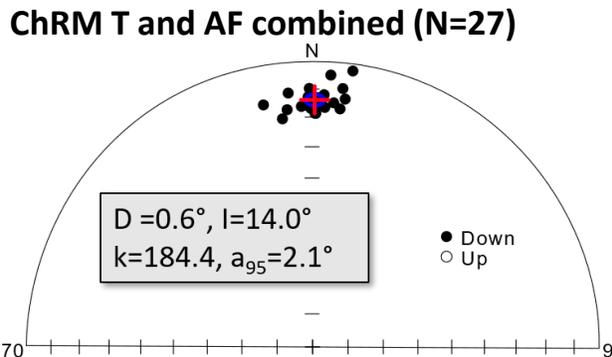
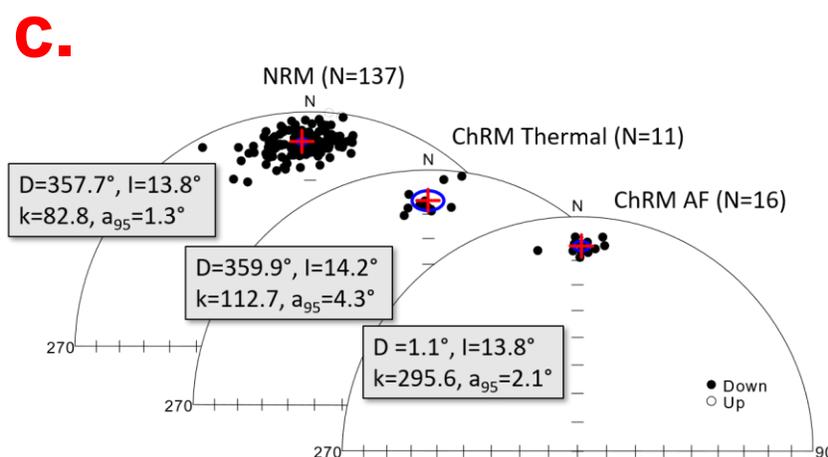
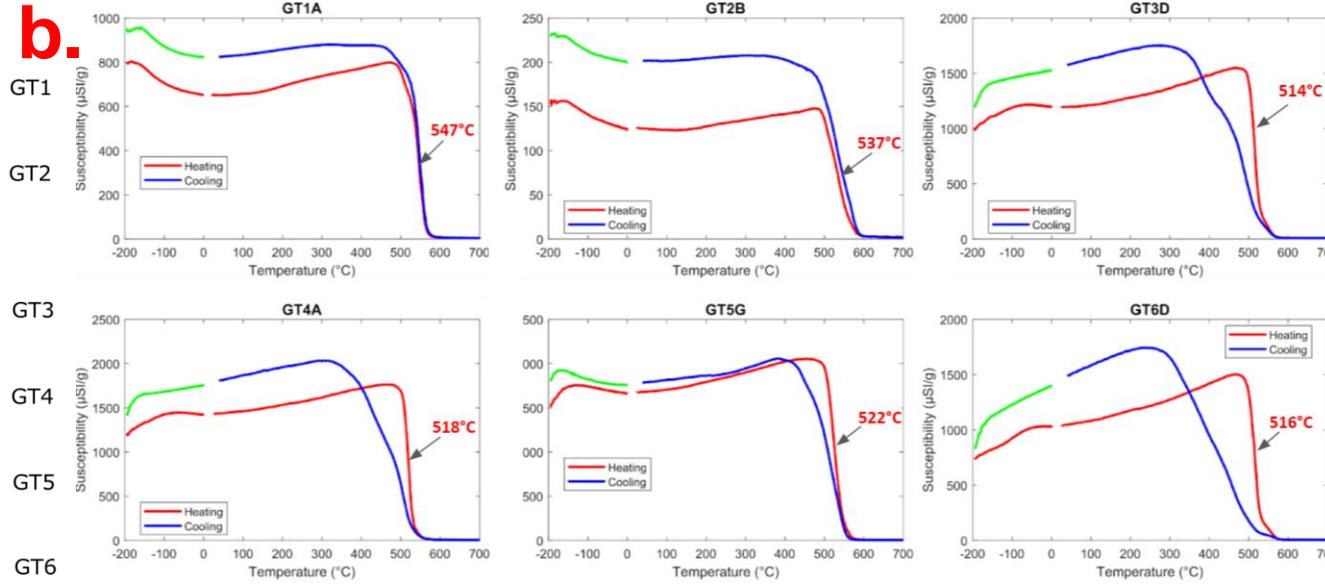
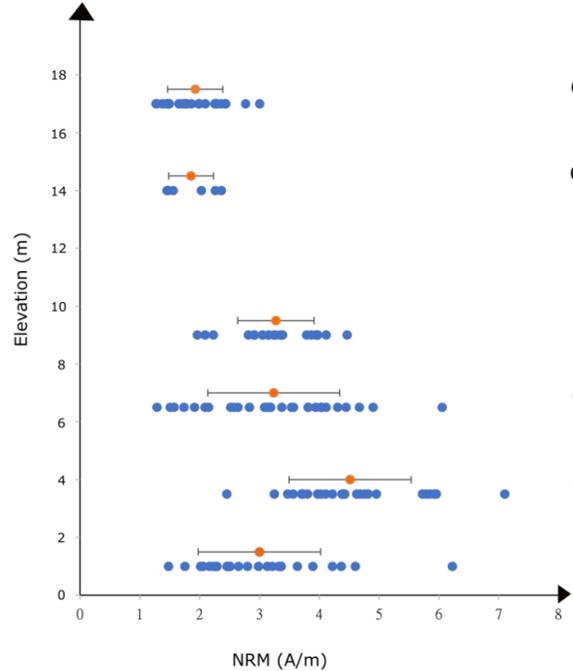
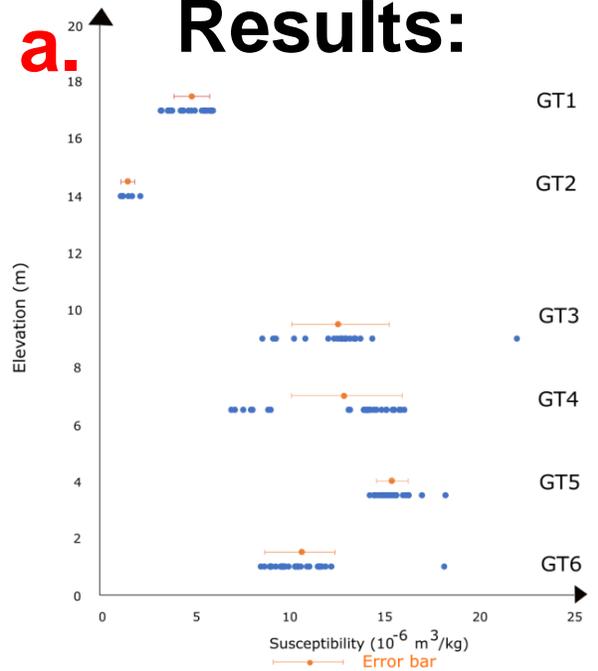
Study Area Location: 17M 789296.20 m E 984504.93 m



Age estimate of lava flow  $0 \pm 9$  ka (Bablon, 2018) **2**



## Results:



NRM = Natural Remanent Magnetization  
ChRM = Characteristic Remanent Magnetization  
AF = Alternating field demagnetization

T = Thermal demagnetization  
N = Number of samples  
D = Declination, I = Inclination, k = precision parameter

$a_{95}$  = Alpha95, the 95 % confidence cone around the mean direction  
Present Earth Field:  
D=-4°, I=18°



## Conclusions and future work

- The rock magnetic and paleomagnetic properties show considerable variation throughout the 20 m thick andesitic lava flow.
- Top- and bottom most sites show the easternmost declinations and the center of the lava flow westernmost. This behavior is not removed with thermal or AF cleaning. Most likely an unremoved viscous overprint, either due to a lightning strike or present earth field affecting the MD dominated center more.
- Comparison with global reference curve will be done in order to try to pinpoint the age of the lava flow.
- There is a lot of future work still left, including FORCs and paleointensity.

# THANK YOU

**Tungurahua Volcano (2021)**



If you are interested in this topic, come to Oral Presentation GP42A-03

*Thursday, 16 December 2021, 9:45-11:00 am  
(Central)*



[guido.malan@yachaytech.edu.ec](mailto:guido.malan@yachaytech.edu.ec)

