GSA Data Repository Item 2018238

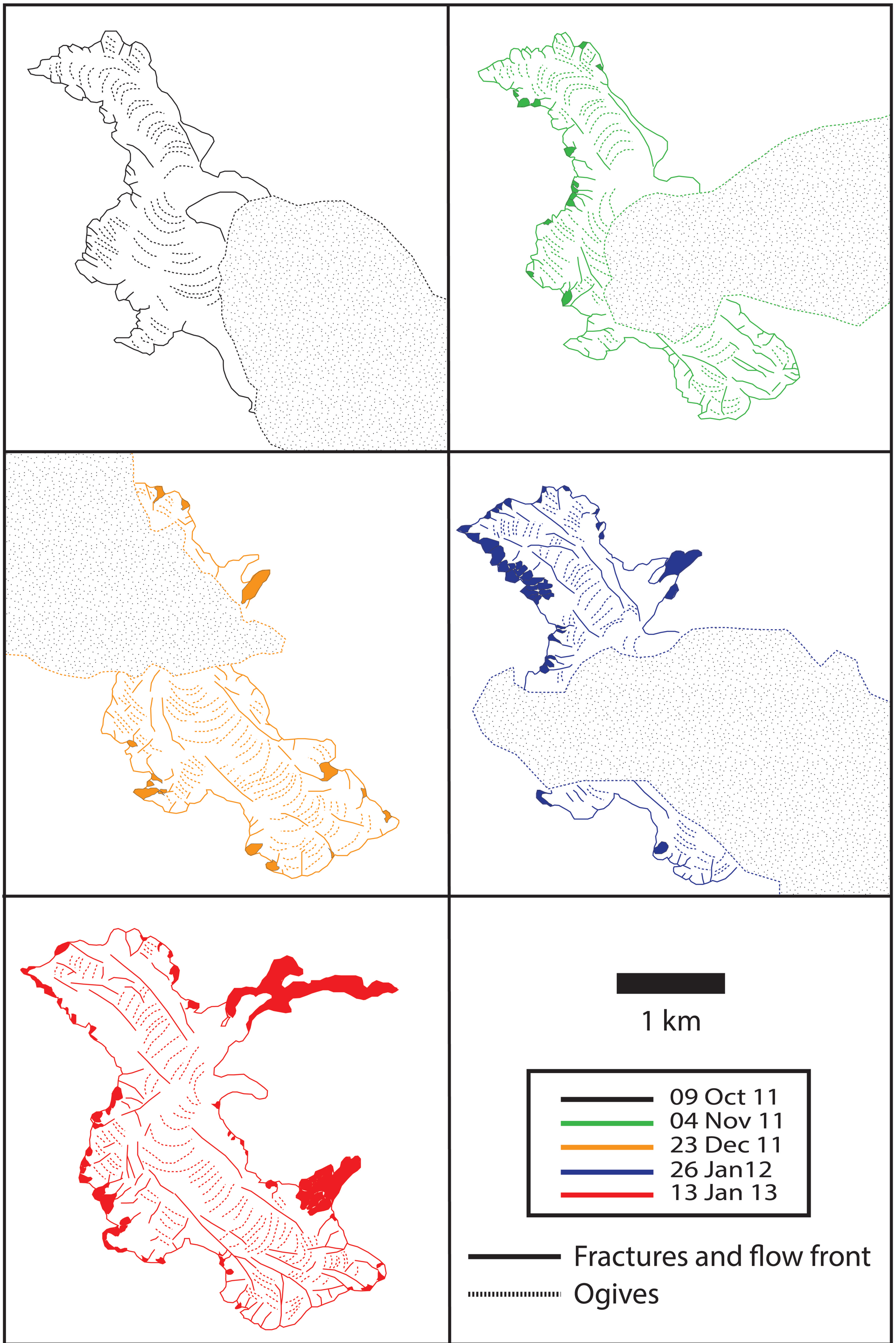
Magnall, N., James, M.R., Tuffen, H., Vye-Brown, C., Schipper, C.I., Castro, J.M., Davies, A.G., 2018, The origin and evolution of breakouts in a cooling-limited rhyolite lava flow: GSA Bulletin, https://doi.org/10.1130/B31931.1.

Data Repository

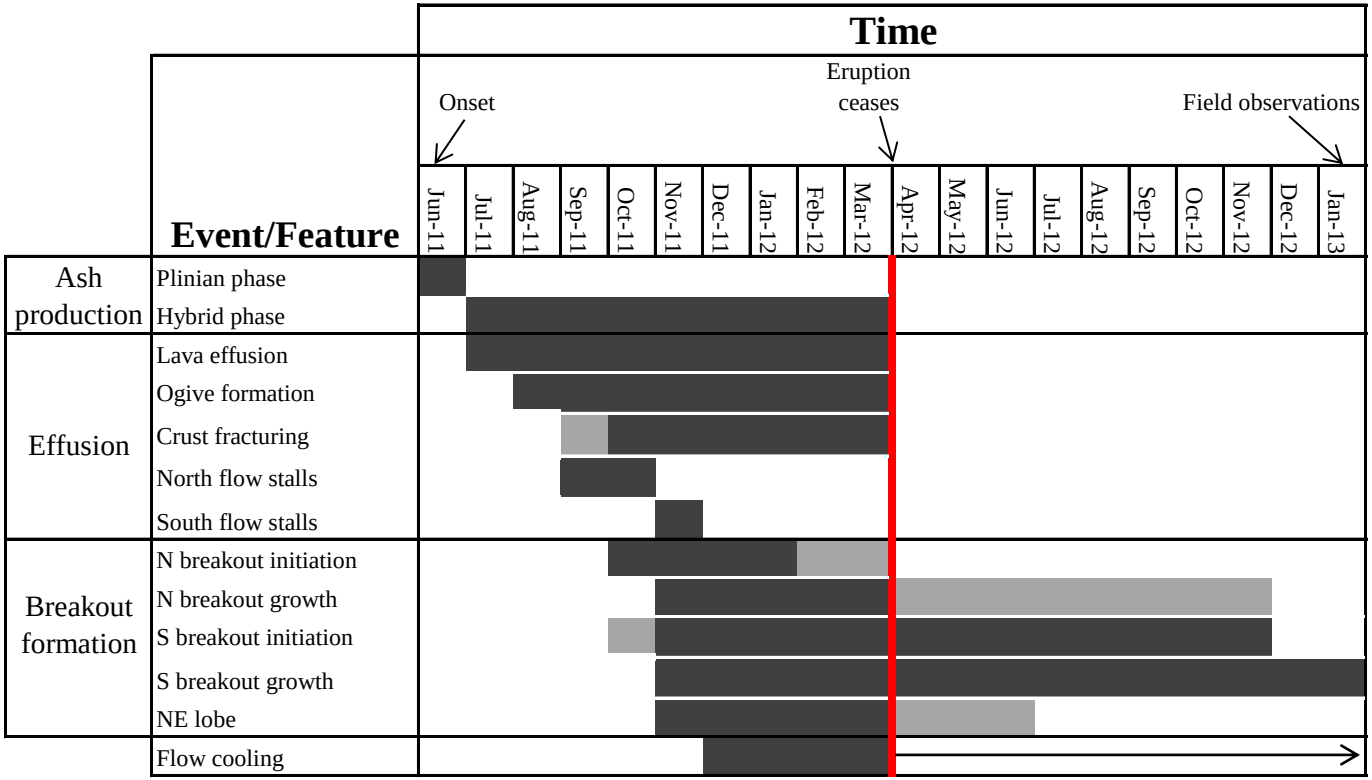
(1) Separated flow outlines showing ogive and fracture networks on the surface of the Cordón Caulle lava flow.

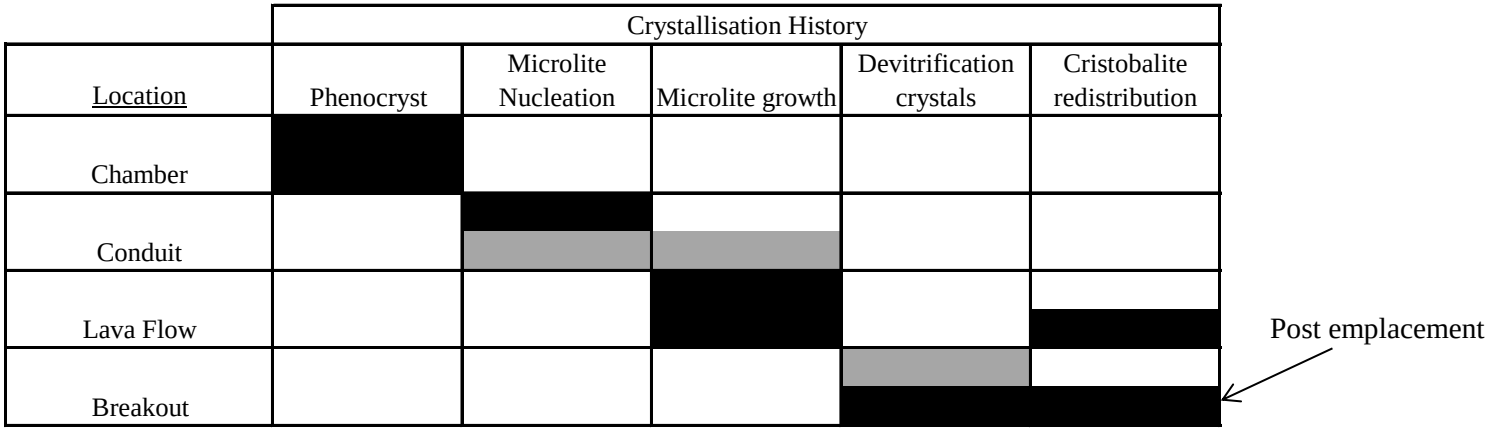
(2) 3-D PDF of the 3-D model in Figure 7 (note this only works in AdobeAcrobat).

(3) Timeline of feature development, and crystallization history, of the Cordón Caulle rhyolite lava flow.


1 km
09 Oct 11
04 Nov 11
23 Dec 11
26 Jan12
13 Jan 13
Fractures and flow front
Ogives

Generated with Agisoft PhotoScan


Time
Onset
Eruption ceases
Field observations
Jun-11
Jul-11
Aug-11
Sep-11
Oct-11
Nov-11
Dec-11
Jan-12
Feb-12
Mar-12
Apr-12
May-12
Jun-12
Jul-12
Aug-12
Sep-12
Oct-12
Nov-12
Dec-12
Jan-13
Event/Feature
Ash production
Plinian phase
Hybrid phase
Effusion
Lava effusion
Ogive formation
Crust fracturing
North flow stalls
South flow stalls
Breakout formation
N breakout initiation
N breakout growth
S breakout initiation
S breakout growth
NE lobe
Flow cooling


Crystallisation History
Location
Phenocryst
Microlite Nucleation
Microlite growth
Devitrification crystals
Cristobalite redistribution
Chamber
Conduit
Lava Flow
Breakout
Post emplacement