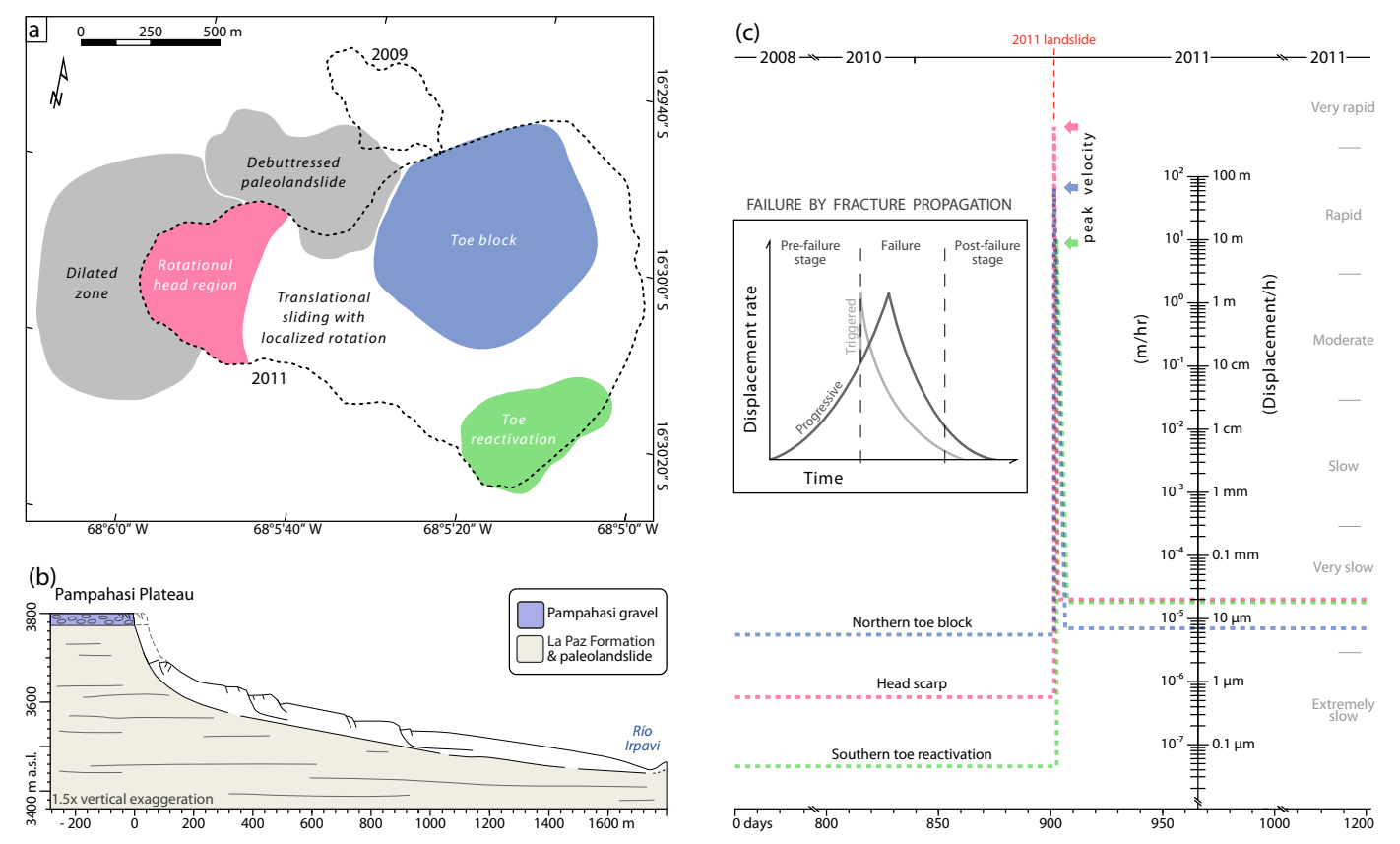
a
0
250
500 m
2009
Debuttressed paleolandslide
Toe block
Dilated zone
Rotational head region
Translational sliding with localized rotation
2011
Toe reactivation
16°29'40" S
16°30'0" S
16°30'20" S
68°6'0" W
68°5'40" W
68°5'20" W
68°5'0" W
(b)
Pampahasi Plateau
Pampahasi gravel
La Paz Formation & paleolandslide
Río Irpavi
3800
3600
3400 m a.s.l.
1.5x vertical exaggeration
- 200
0
200
400
600
800
1000
1200
1400
1600 m
(c)
2008
2010
2011 landslide
2011
2011
Very rapid
Rapid
Moderate
Slow
Very slow
Extremely slow
peak velocity
FAILURE BY FRACTURE PROPAGATION
Pre-failure stage
Failure
Post-failure stage
Displacement rate
Triggered
Progressive
Time
(m/hr)
(Displacement/h)
100 m
10 m
1 m
10 cm
1 cm
1 mm
0.1 mm
10 µm
1 µm
0.1 µm
Northern toe block
Head scarp
Southern toe reactivation
0 days
800
850
900
950
1000
1200