Week 1 Overview: Uplift, Tectonics and Geodynamics Overview


Week 2 Motivations: Coupling of Climate, Topography and Tectonics


Weeks 3-7: Uplift History

Paleobotanical Evidence (week 3)


Isotopic Records (week 4)


Title: Stable isotope evidence for multiple pulses of rapid surface uplift in the Central Andes, Bolivia


Geomorphic Evidence (weeks 5-6)


Geologic Evidence


2009 Review of Evidence (week 7)


Weeks 8-9: Influence of Climate Change on Uplift Proxies


Weeks 10-14: Role of Climate in Andean Evolution

Climate-Topography-Erosion (weeks 10-11)


**Climate-Topography-Tectonics Coupling (weeks 12-14)**


Thompson et al., 2010, Glaciation as a destructive and constructive control on mountain building, Nature, v. 467, doi: 10.1038/nature09365.


Horton, B. K., 1999, Erosional control on the geometry and kinematics of thrust belt development in the Central Andes: Tectonics, v. 18, no. 6, p. 1292-1304.


Weeks 15: Geodynamics – Mechanics of Uplift


Subducted Slabs and Drainage reversal:
G. E. Shephard1 *, R. D. Müller1, L. Liu2† and M. Gurnis2
NATURE GEOSCIENCE | VOL 3 | DECEMBER 2010, DOI: 10.1038/NGEO1017

J. Figueiredo1,2*, C. Hoorn3, P. van der Ven2, and E. Soares2
Geology, July 2009; v. 37; no. 7; p. 619–622; doi: 10.1130/G25567A.1

Title: What drives orogeny in the Andes?
Author(s): Sobolev, SV (Sobolev, SV); Babeyko, AY (Babeyko, AY)
Source: GEOLOGY Volume: 33 Issue: 8 Pages: 617-620 DOI: 10.1130/G21557 Published: AUG 2005

Week 16?: Controls on Exhumation, Erosion and Sediment Flux


Deformation, Tectonics, Volcanism


Title: A geomorphological approach to determining the Neogene to Recent tectonic deformation in the Coastal Cordillera of northern Chile (Atacama)

Author(s): Riquelme, R (Riquelme, R); Martinod, J (Martinod, J); Herail, G (Herail, G); Darrozes, J (Darrozes, J); Charrier, R (Charrier, R)

Source: TECTONOPHYSICS Volume: 361 Issue: 3-4 Pages: 255-275 DOI: 10.1016/S0040-1951(02)00649-2 Published: JAN 23 2003