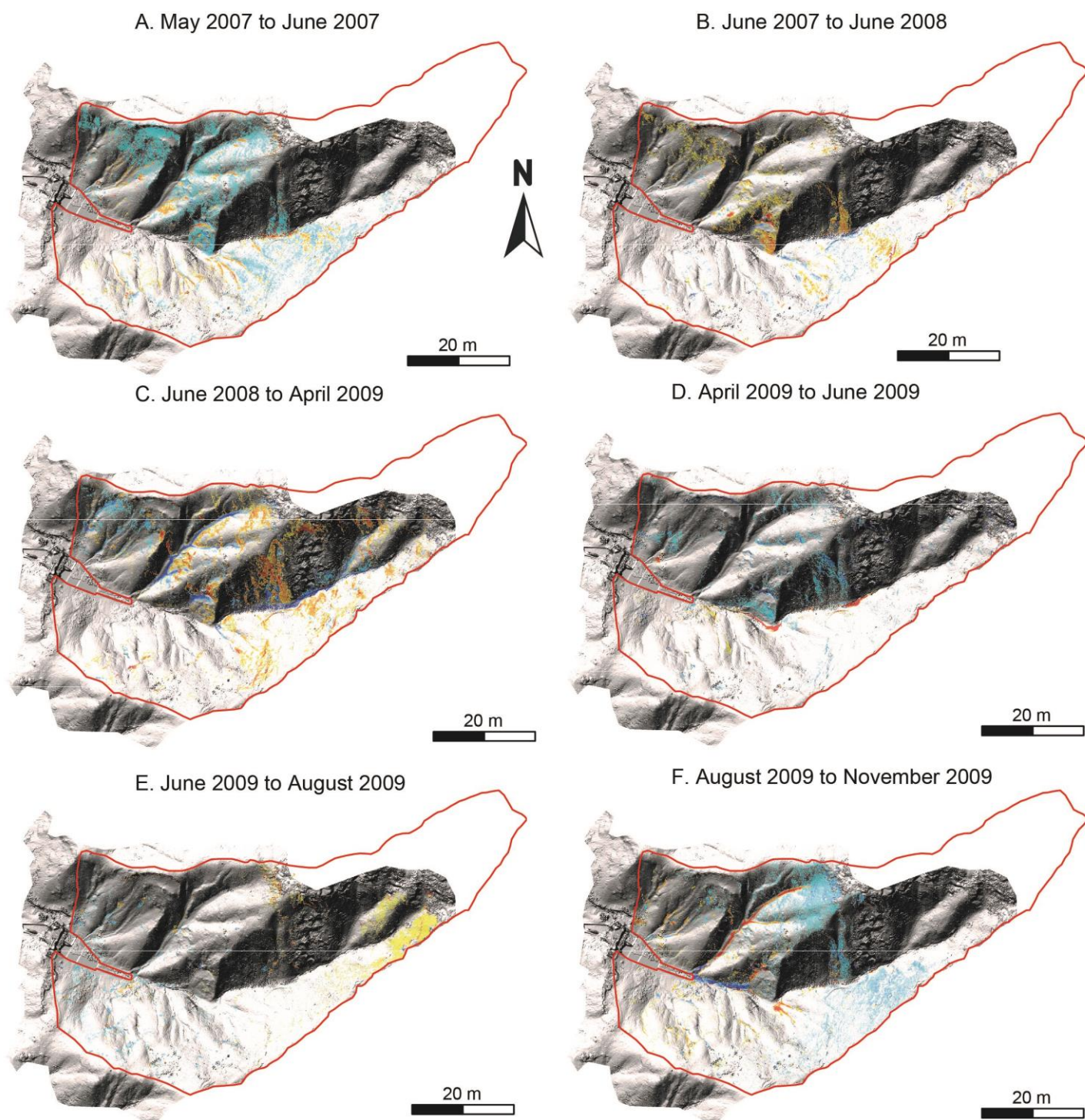


Figure supplementary 2: Observed height differences for the period 2007-2010 highlighting the soil surface changes of La Roubine catchment. The red outline indicates the boundary of the catchment.



(cont. next page)

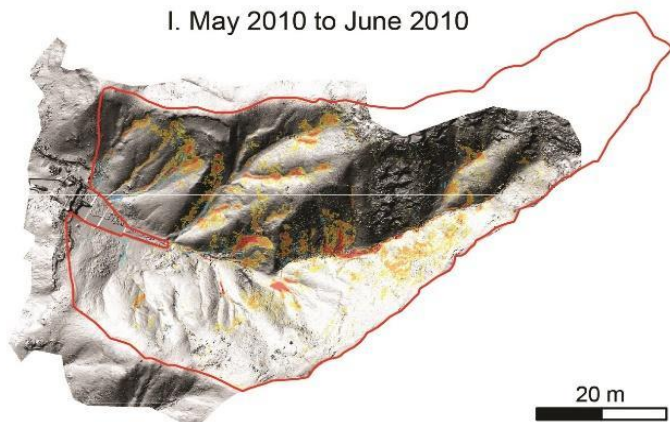
G. November 2009 to March 2010



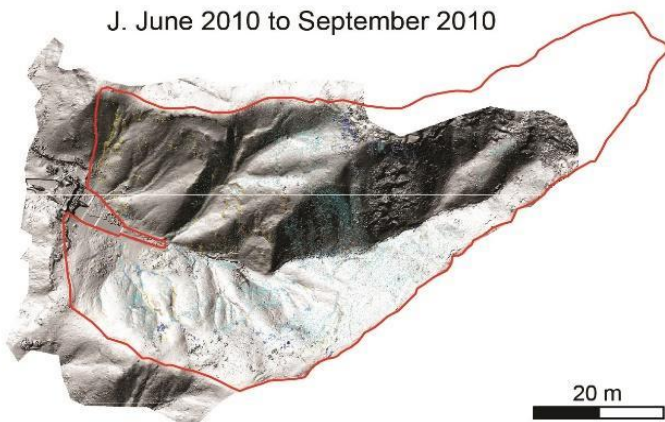
H. March 2010 to May 2010



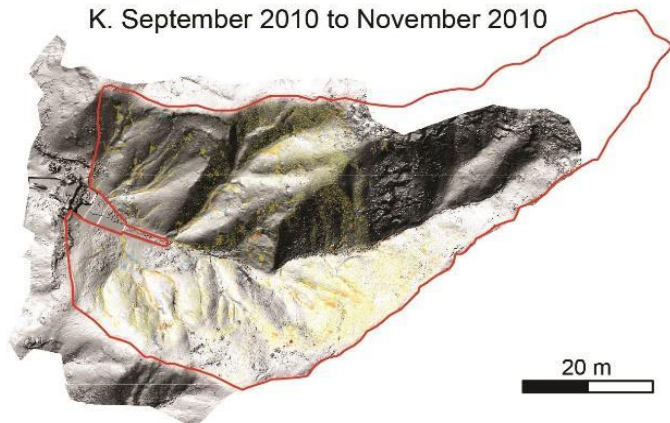
I. May 2010 to June 2010



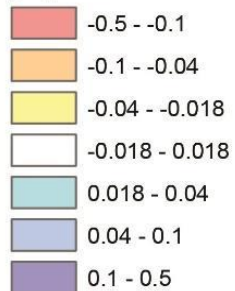
J. June 2010 to September 2010



K. September 2010 to November 2010



**topographic changes  
[m]**



— Outline of the catchment



20 m



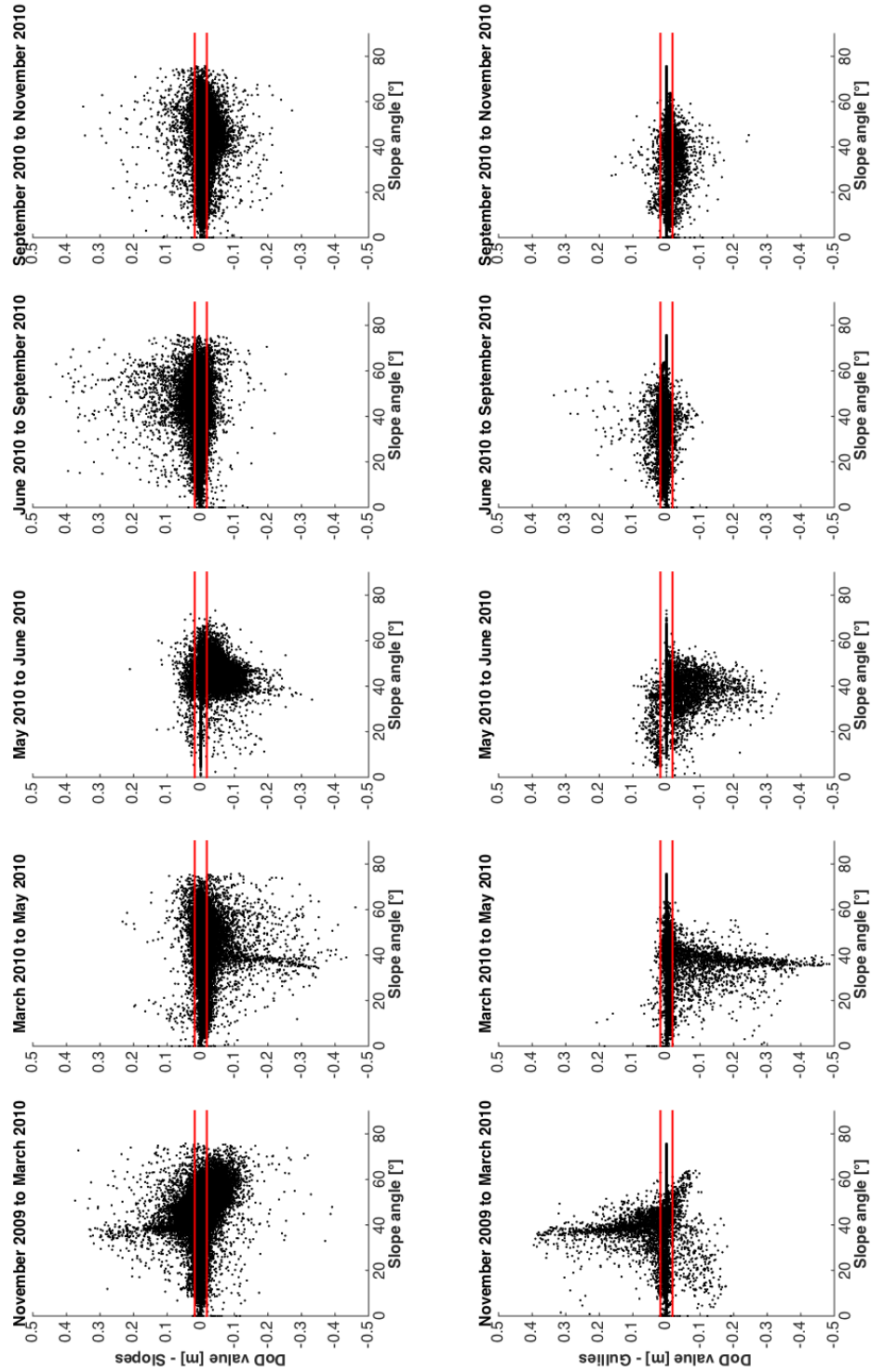


Figure supplementary 4: Vertical change vs slope angle. DoDs are averaged on a 10cm grid. Slope angle in degrees, calculated in ArcGIS on a 10cm DEM of June 2010. The graphs of the left column show rates for slopes and the right column for gullies and adjacent (20 cm or closer) pixels. Red lines indicate detection threshold of  $\pm 0.018$  meter.

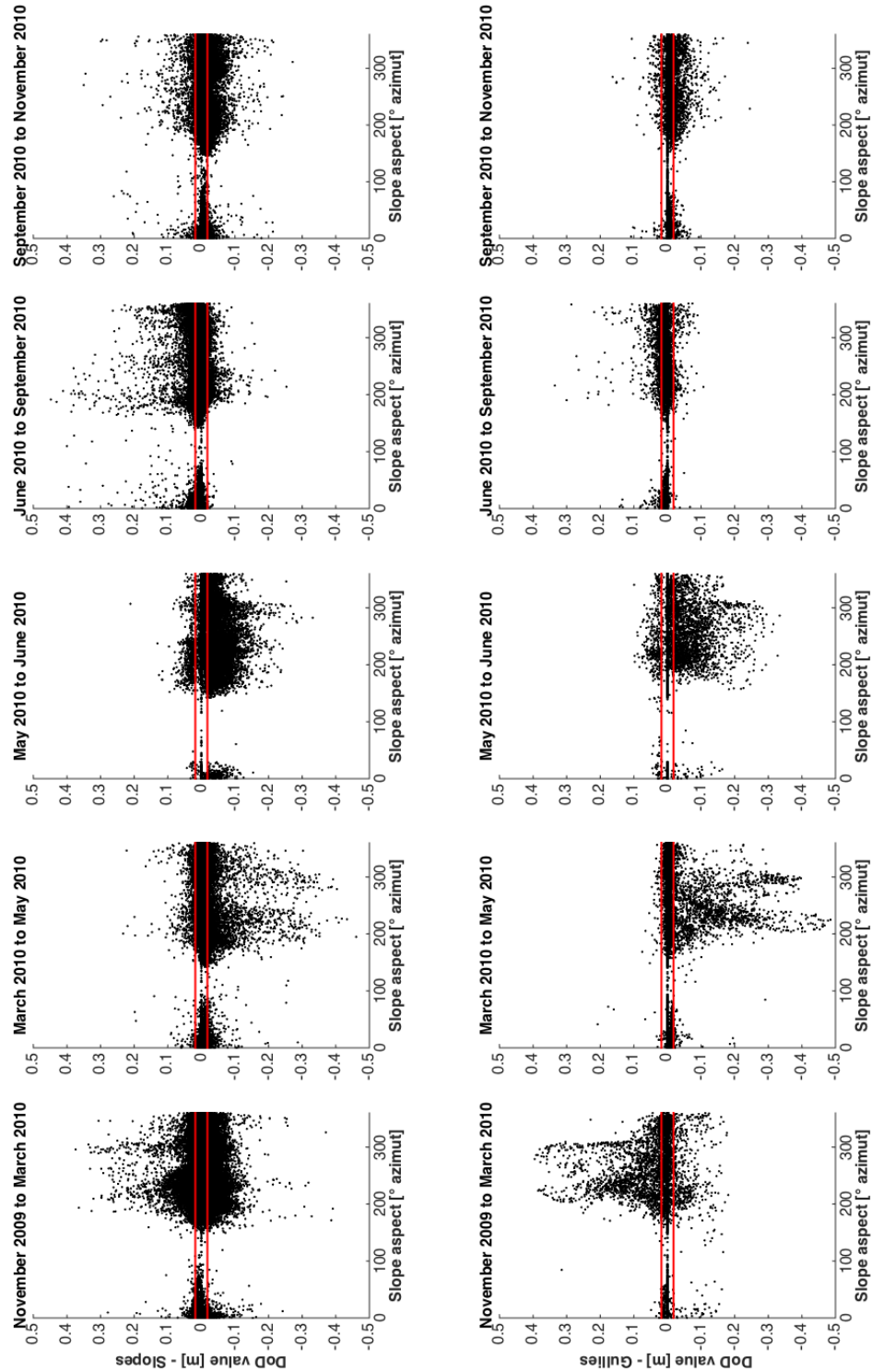


Figure supplementary 5: Vertical change vs slope aspect. DoDs are averaged on a 10cm grid. Slope aspect in degrees, calculated in ArcGIS on a 10cm DEM of June 2010. The graphs of the left column show rates for slopes and the right column for gullies and adjacent (20 cm or closer) pixels. Red lines indicate detection threshold of  $\pm 0.018$  meter.

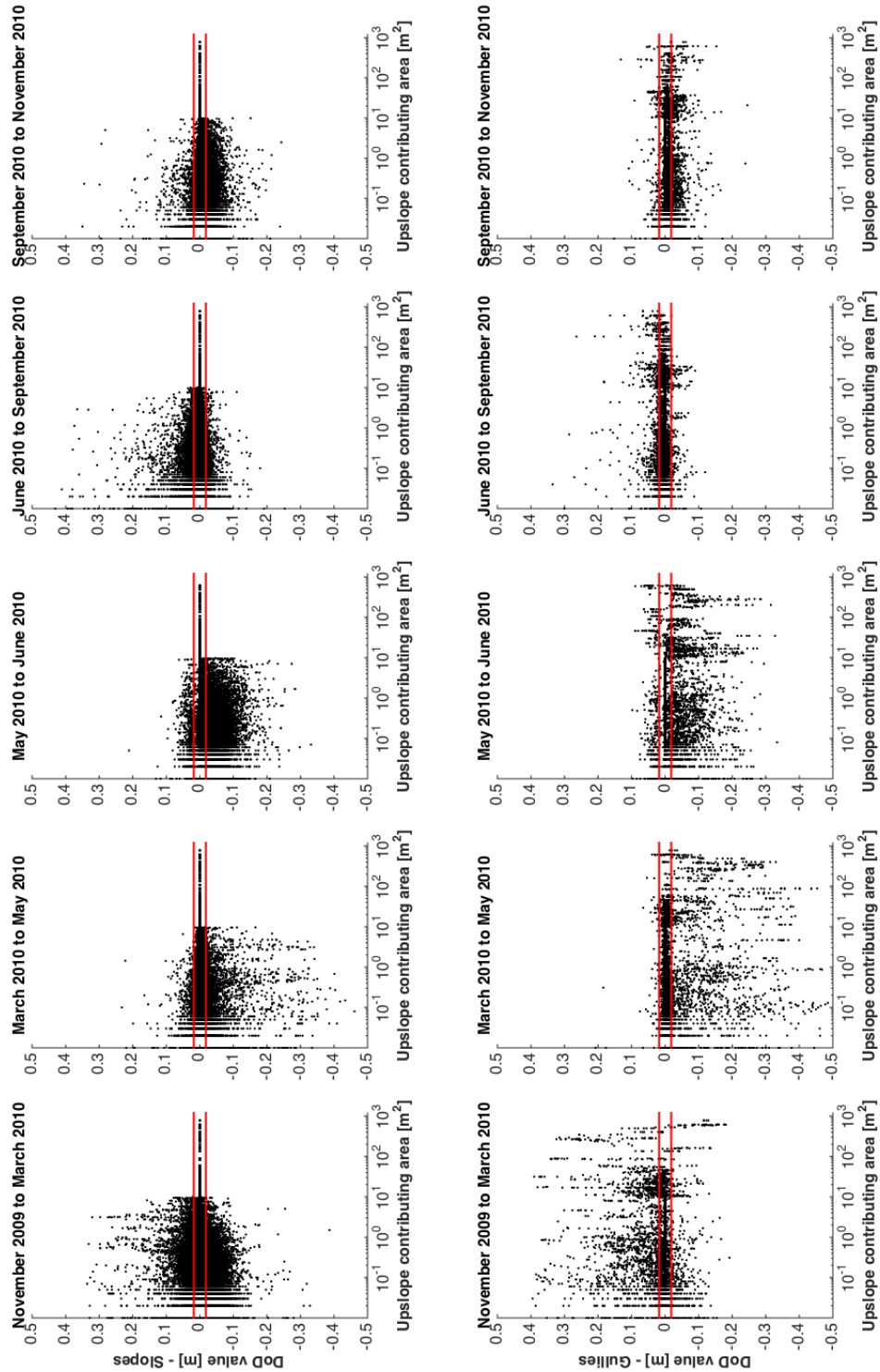


Figure supplementary 6: Vertical change vs upslope contributing area. DoDs are averaged on a 10cm grid. Upslope contributing area in square meters, calculated in ArcGIS on a 10cm DEM of June 2010. The graphs of the left column show rates for slopes and the right column for gullies and adjacent (20 cm or closer) pixels. Red lines indicate detection threshold of  $\pm 0.018$  meter.