

Progress of Cracks and effects by gases from Turrialba Volcano. (Field report, 20, 26 and 31st of august: Irazú and Turrialba Volcano)

During the last week of august 2009, three fieldtrips to Irazú and Turrialba volcanoes shed new information on cracks on the NW low flanks of Turrialba volcano and differential effects of gases on its surroundings.

Along the south side of the Irazú summit mild burns were observed on patches of Birch, Eucalyptus and Pine. Lesser impact was reported last year in that same sector, located some 10 km SW of Turrialba's summit. Such impact could be explained by a laminar distribution of winds above 3000masl increasing acid gases from its neighboring Turrialba volcano. Such observation coincides with reports, from Park rangers and staff living at the summit of Irazú, that describe smelly intermittent visits of Turrialba's plume as to provoke eye and nose irritation.

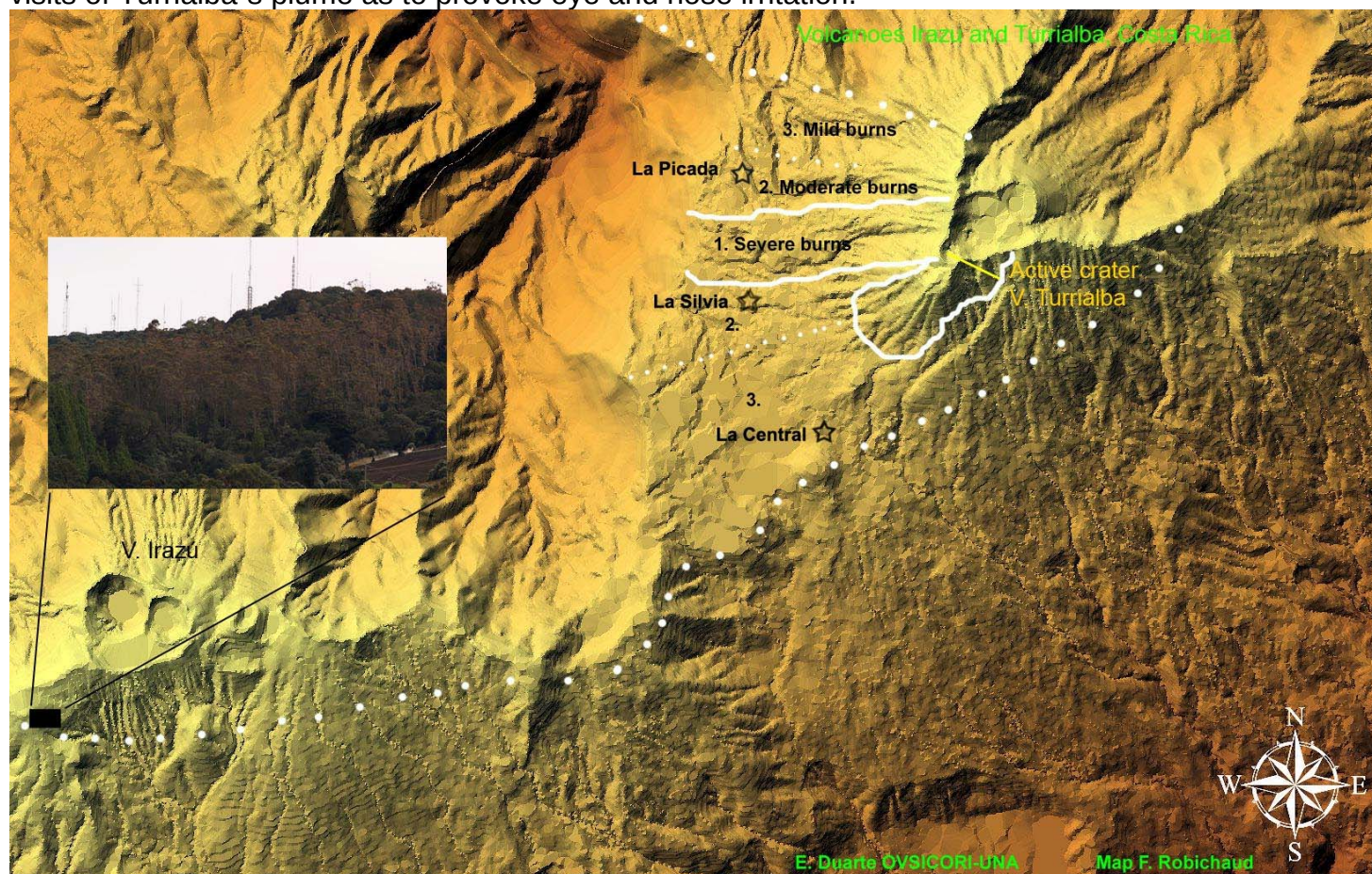


Fig. 1. Regional view showing effects of gases on vegetation. Inserted photo: south side of Irazú volcano showing eucalyptus burned recently.

Towards the W and NW lower flanks of Turrialba volcano, sectors previously reported with moderate effects now show acute burns. Commercial grassland is now pale yellow within 3 to 4km radius. Other closer to the upper areas (1 to 3km from the summit) show an intense yellow contrasting with darker skeletons of tall trees burned since two years ago. Wide areas of forest show only tree trunks or just a few nude branches due to the fall of most parts and leaves (Fig. 3)

Near the Toro Amarillo river E rim (some 4km E of the emitting crater) stain circles at the foot of healthier trees are observed. Such whitening effect had been previously reported (at the end of 2007) for areas closer to the active crater; some 1.5km W (Fig. 4).



Fig. 2. NW flank showing different areas Burned by volcanic gases.



Fig. 3. Mid SW flank. Viewed from La Central.

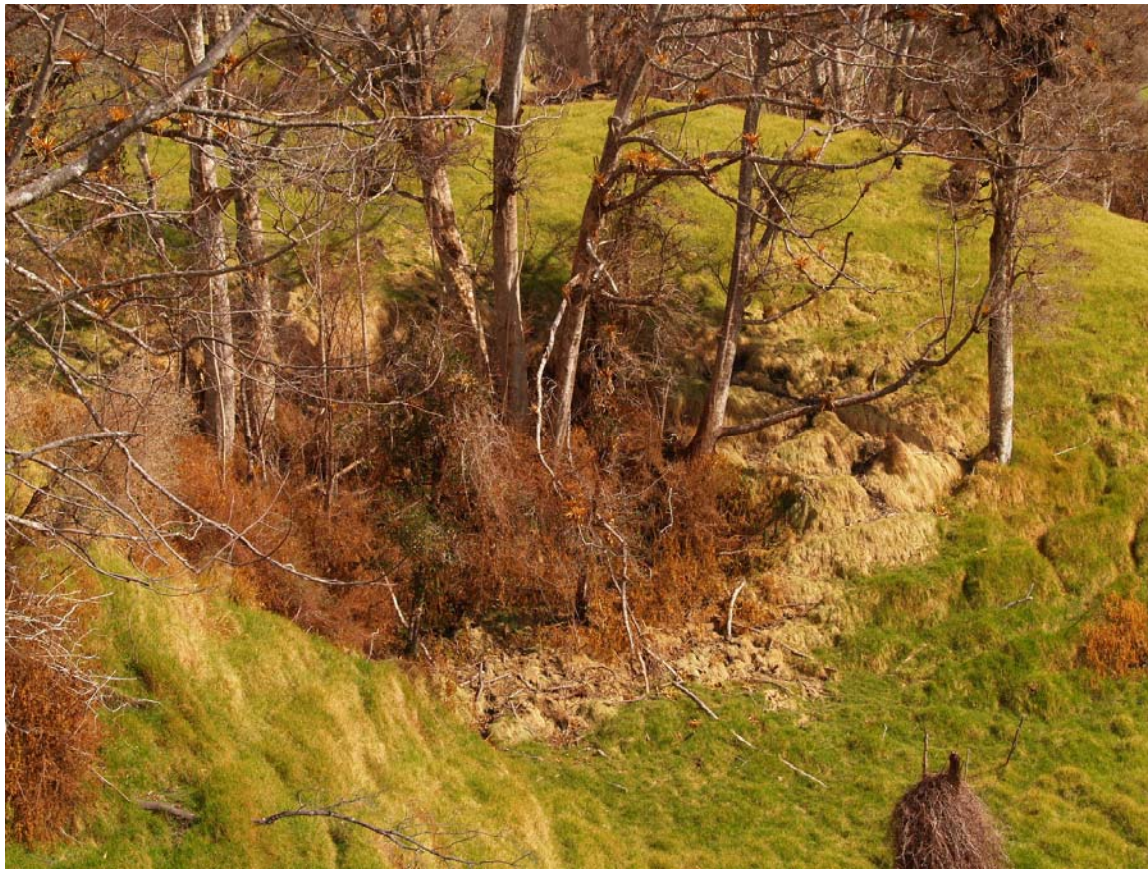


Fig. 4. Intense burns on grass at the foot of trees, near Rio Toro Amarillo rim.

Intense yellow color not only may be the effect of more vigorous degassing from the W crater but probable due to the lack of heavy rains in the last couple of weeks.

Structurally; several elongated cracks were documented in the immediate rim south of the W crater as well as 1km down slope NW of the crater. One main crack, spotted several months ago due to sulphur depositions on the surface, opened up as much as 12cm, emitting gas and vapor at 90°C. Such crack trends E-W, coinciding with the trail used by researchers that need to reach the SW and W side the summit (Fig. 5).

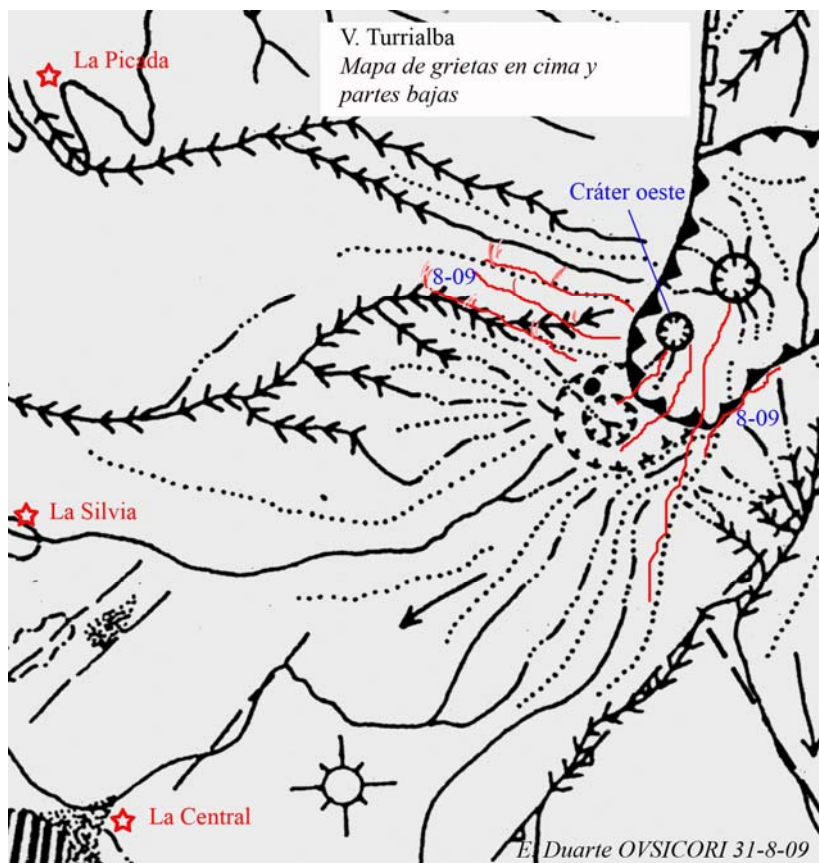


Fig. 5. Map showing elongated cracks observed over the recent 2 months. (8-09).

Near this crack, in the south flank (visible from the viewpoint) burns on vegetation have deepened to expose bare soil. Many other patches show white and yellow depositions due to generalized heating and releasing of gases and vapor with temperatures around 90°C.

Towards the NW, in the lower flanks, at least 3 main radial cracks emitting tall plumes of gas and vapor can be seen from faraway areas. Near the summit some openings measure from 5 to 10cm. Such alignments producing gases above the tallest tree trunks, coincide with some of the main water courses in that flank. (Fig. 5).

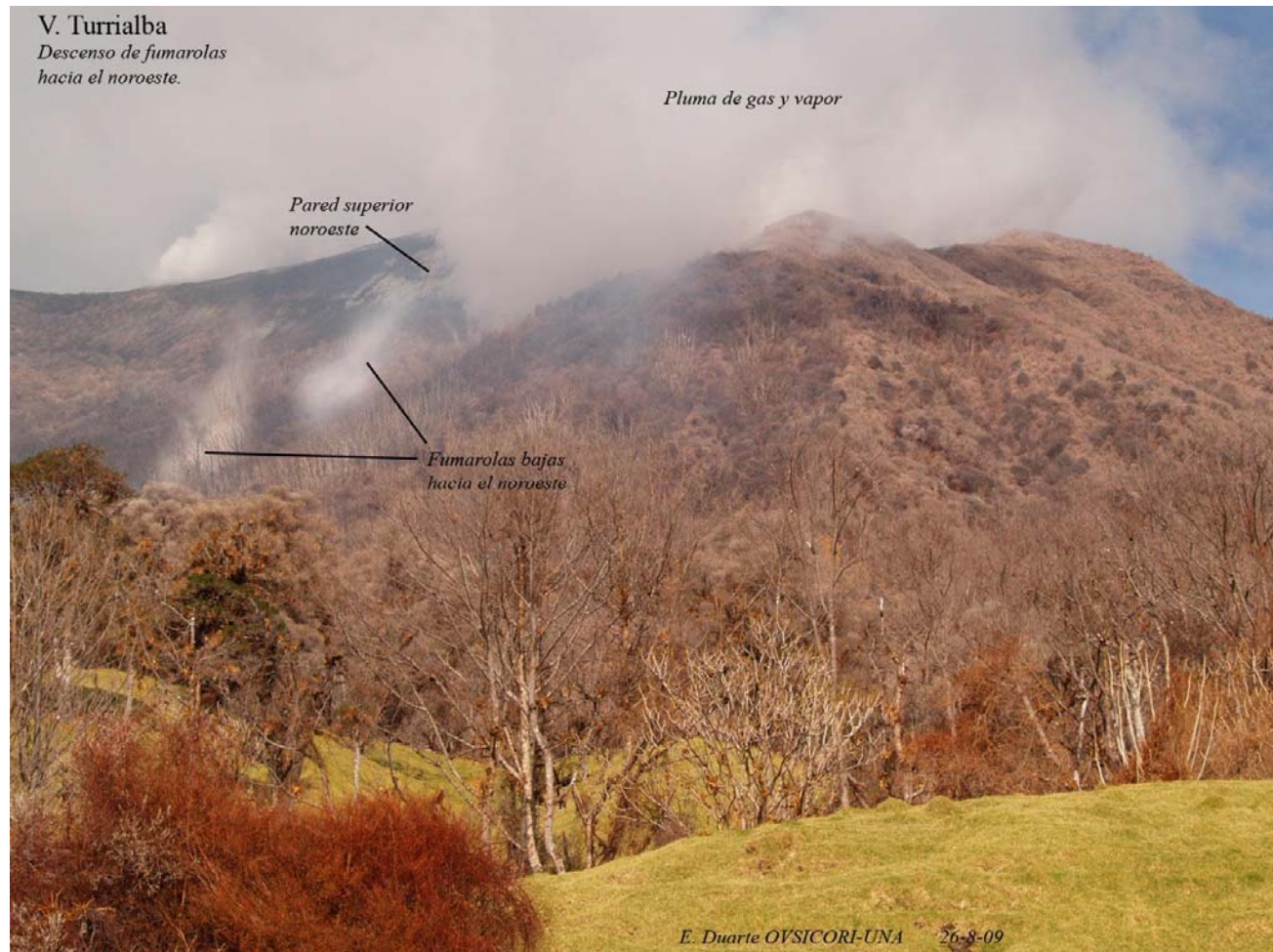


Fig. 6. View from seismic station PICA (NW side) showing lowest fumaroles on this flank.

Due to intensification of gases and their impact on the entire surface, the last settlers that endured for at least two years, left pressed by the adverse conditions. Most of them evacuated their livestock due to difficulties feeding the animals on intoxicated pastures. Some of these neighbors commented additional fear to the lower new fumaroles. Although a difficult road and volcanic conditions are real, most of the degassing activity can be observed from a prudent distance by settlers, tourists, students and teachers.

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More info: http://www.ovsicori.una.ac.cr/informacion_general/prensa.htm
Or http://www.ovsicori.una.ac.cr/vulcanologia/Volcan_Turrialba.htm