Geophysical Research Abstracts
Vol. 19, EGU2017-498, 2017
EGU General Assembly 2017

Spatial patterns of goat grazing and their relations to herder socio-economic traits

Ella Segal (2), Yohay Carmel (1), and Yan Landau (3)

(1) The Technion, Haifa, Israel (yohay@technion.ac.il), (2) The Technion, Haifa, Israel (pistaciella@gmail.com), (3) Volcani Agricultural Research Organisation, Israel (vclandau@volcani.agri.gov.il)

The recent abandonment of traditional practices such as herding, in the Mediterranean Basin, has led to rapid vegetation recovery, which in turn created dense scrub and resulted in low structural heterogeneity, biodiversity loss, and increased wildfire hazard. Livestock grazing is an efficient and cost-effective tool to mitigate these processes. The main challenge of using goat flocks for targeted grazing is the paucity of traditional goat herds and their unknown spatial distribution. This research aims to identify the main types and characteristics of goat flocks in Mt. Carmel, considering their current gazing patterns, stocking rates, biomass removal, and socio-economic characteristics. We monitored landscape scale distribution and grazing density of Mediterranean goat flocks using GPS collars attached to goats in fourteen goat flocks in Mount Carmel between the years 2013-2014, and interviewed herd owners. We then evaluated the spatial and socioeconomic characteristics of goat herding in Mount Carmel, and tested for possible relations between socio-economic characteristics and herd physical grazing parameters. The principal aim was to assess the potential of grazing services that goat flocks may provide in Mt. Carmel, and the factors currently limiting these services. Based on hierarchical clustering of pasture use, two clusters of grazing types were identified; minimalists and maximalists. These two groups represent different management strategies according to the intensity level of pasture use and represent different management strategies. One-way analysis of variance was conducted to evaluate differences between distinct grazing types and socio-economic parameters. Tradition was the only socio-economic parameter that corresponded significantly to grazing types. Mt. Carmel is very lightly grazed as a result of small flocks on large pasture area. We found that a supporting statutory and regulatory frame is required in order to realize the potential of grazing services provided by local goat flocks. The main traits of such a frame are described.