



Ben-Gurion University of the Negev
Jacob Blaustein Institutes for Desert Research
The Swiss Institute for Dryland Environmental and Energy Research
Mitrani Department of Desert Ecology

Seminar

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Institute for Agriculture
and Biotechnology,
Ben-Gurion University

Tuesday, May 7, 2019, 12:00

Seminar Room, Old Administration Building



**Effect of Land-Use Change on
Ecosystemal Carbon, Nitrogen, and
Water Balances in Mesic Climate**

Land-use change (LUC) is the most common attribute of today's landscapes. The LUC is mainly driven by the need of humans to produce food, feed, fuel and by retiring of exploited and not productive agricultural lands to restoration. I will use a large-scale experiment, involving LUC of six different terrestrial ecosystems to explore the impact of LUC on carbon (C), nitrogen (N) and water biogeochemical cycles. During the experiment, we had three ecosystems with the land-use history of grassland and three ecosystems with land-use history of agriculture; history which affected soil carbon (C), nitrogen (N) concentrations, and soil bulk density. Otherwise, all ecosystems had the same soil type and experienced the same climatic conditions. In my talk I will show how LUC, land-use history, and management are affecting soil emissions of N₂O, ecosystem level Water Use Efficiencies (WUE), and ecosystemal C balances.