

## GC31B-0457 Understanding the Linkages Between Climate, Land Use, and Land Degradation in Central Asia

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Wednesday, December 17, 2014 08:00 AM - 12:20 PM  
*Moscone West  
Poster Hall*

Central Asia has experienced dramatic climatic, environmental, and socioeconomic changes in the past century. They include warming climate, frequent droughts, significant changes in land cover and land use (LCLU), desiccation of the Aral Sea and increase in dust storms, massive water management projects, formation and then disintegration of the Soviet Union, and the subsequent formation of the five independent countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan). These changes have regional and global implications via the climate and socioeconomic systems. The presentation will present results of an integrated analysis aimed at synthesis of changes that have occurred in drylands of Central Asia in the context of socioeconomic transformations and climate variability and change since the 1950s. The analysis uses historical LCLU records, multiple US Earth-observing satellite products, climatological and socioeconomic data, crop production data, and results of climate and wind erosion modeling. The aim is to characterize and understand how drylands have been changed by human activities and by climate, with an emphasis on managed ecosystems related to agricultural activities and food production. The extent and dynamics of land degradation "hot spots" are identified and examined to ascertain the contribution from natural and anthropogenic stressors.

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