EXPLORATION OF LONG-TERM CHANGES IN MOUNTAIN VEGETATION, KYRGYZSTAN Munavar Zhumanova PhD student, University of Rostock, Germany <u>munavar.zhumanova@ucentralasia.org</u>

IPROMO Managing mountain resources and diversities: the role of protected areas

OMO Managing mountainkesources

Ormea 8-18 July 2016





since 2014 – PhD student, University of Rostock, Germany

- 2011 MA, Hiroshima University, Japan
- 2008 BC, Zoo engineering, Kyrgyz National Agrarian Academy
- 1998 BC, Biology, Namangan State University, Uzbekistan

Employment



Research Fellow on Natural Sciences at MSRI; Research Theme: Environmental Changes and Natural Resource

Governance



Other interests



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2014/7

Sustainable agriculture:

Glauconite application to fodder production and horticulture



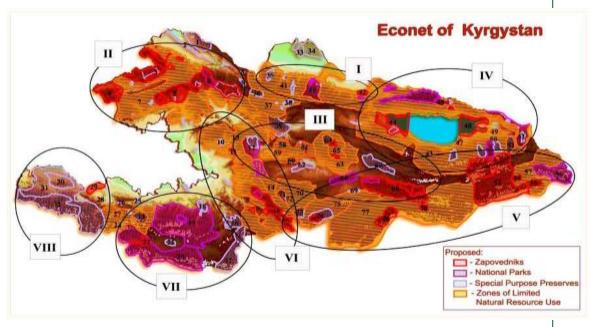
Current project activities

Research title:

The Ecology and Management of Pastures in Western Tien-Shan, Kyrgyzstan

What has happened? and, What will happen?

- Responses to:
 - Transition
 - Global change
- Resource degradation



Location of Kyrgyzstan, Central Asia



72°E

74°E

76°E

70°E

40°N

68°E



km

100

78°E

200

80°E

STA

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Jammu PAKISTAN and

Kashmir

500 Kilometres





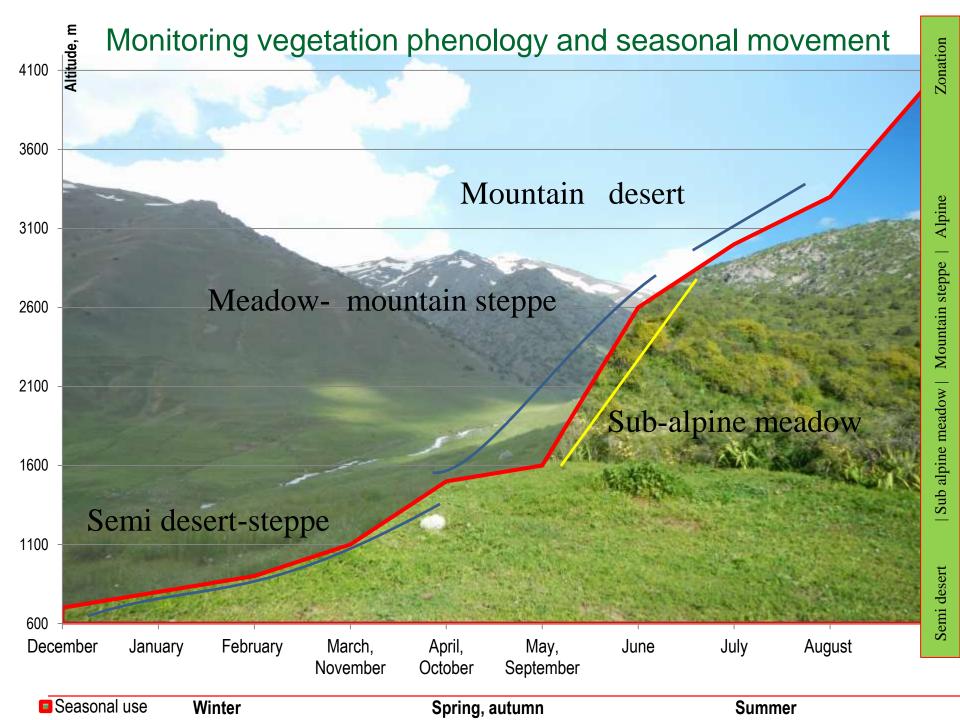
Current project activities

Activities and methods

 Analysis of climatic/management/biogeochemical changes over last 50 years (data from archives)

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- Spatial/temporal analysis (GIS tools, historical land-use/cover maps)
- Current situation analysis
 - Measuring vegetation diversity, soil analyses, grazing impacts
 - Socio-economic analysis (agro-pastorals surveys)





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Data Collection Current situation analysis

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Long-term and time-series





Preliminary results

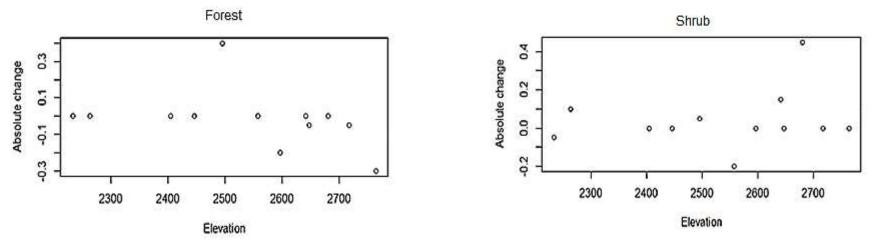
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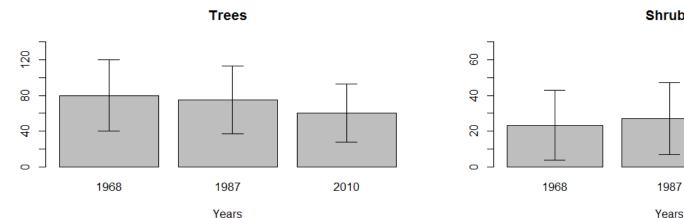


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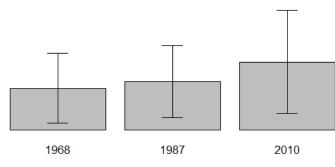
Absolute changes in forest and shrub coverage by elevation from 1968 to 2010s







Shrubs



Subalpine-steppe degraded pasture by Iris Spp. and Rosacea Spp.

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Thank you for your attention!

Ideas for further collaboration

Sub-topics

- Monitoring forest loss and gains and shrub encroachment
- Monitoring vegetation phenology changes
- Transformative changes in land-use and land cover under transition