

Climate Change and human-wildlife interaction in Tajikistan + Kirgizstan

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The project Vanishing Treasures

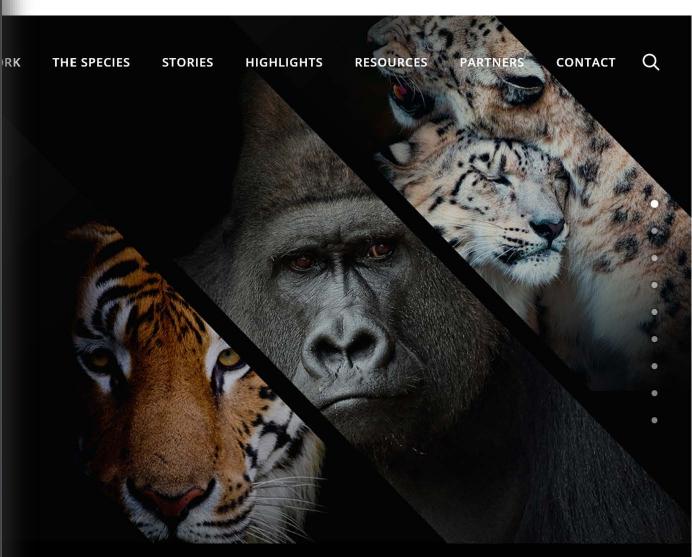
A SPECIES AND CLIMATE CHANGE BRIEF FOR THE VANISHING TREASURES PROGRAMME

GETTING CLIMATE-SMART WITH THE SNOW LEOPARD

IN CENTRAL ASIA



VANISHING TREASURES PROTECTING ENDANGERED MOUNTAIN SPECIES



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eurac

research

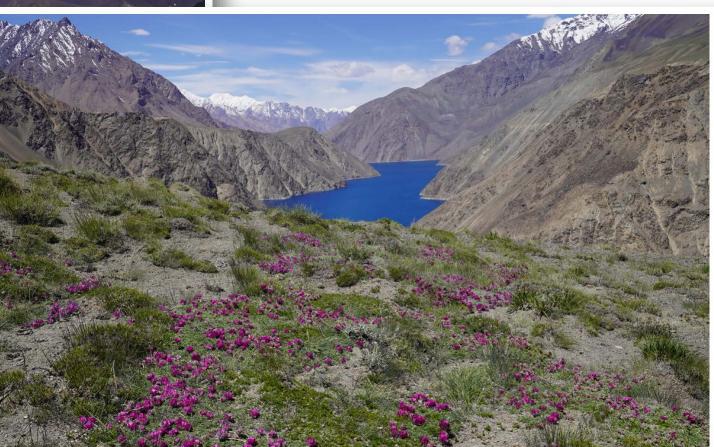
The project region



Impressions



A herder 's camp in Tajikistan. Credit: ANCOT 2020



Tajikistan mountainous landscape. Credit: tajwildlife/ANCOT

Human-Wildlife Interactions

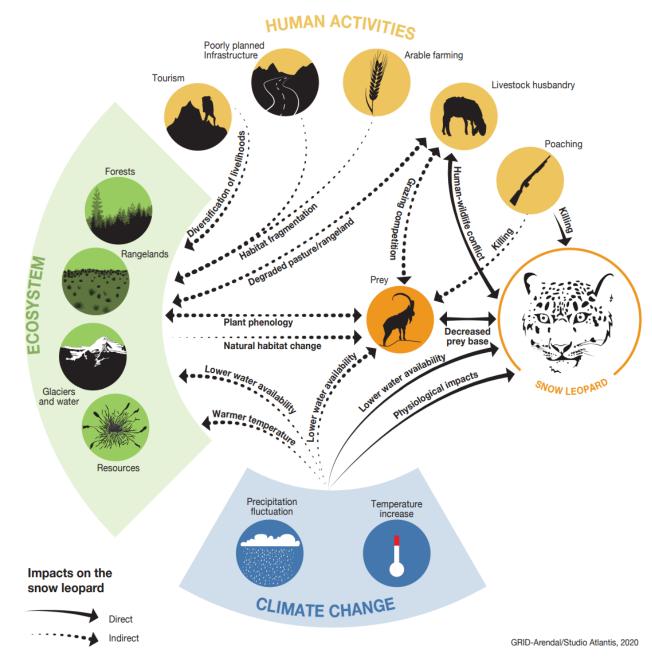
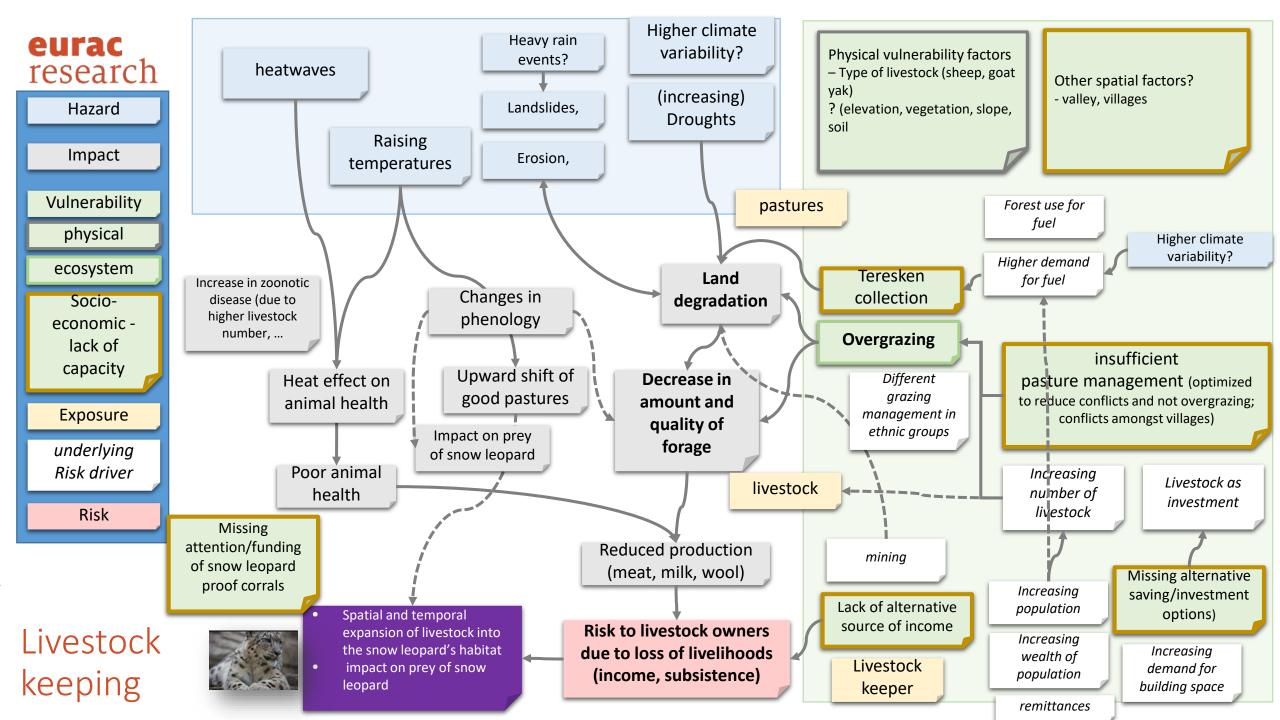


Figure 1: The impacts of climate change and human activities on the snow leopard in Central Asia

External Driver

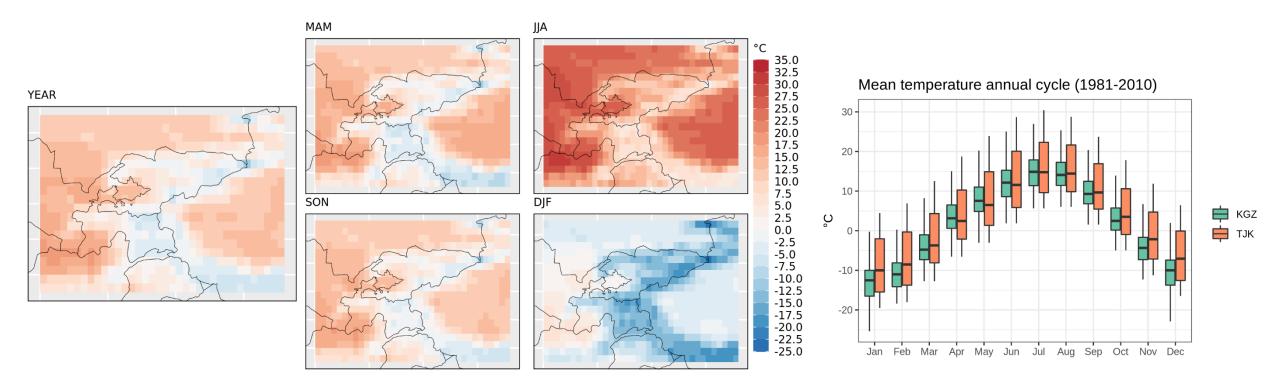
- Population development (Soviet + post-soviet)
- In Soviet Time: External supply with fodder (through KGZ)
- Dependencies on subsidies
- Dependencies on external aid
- Remittances (from migrant labour in Russia, Kyrgyzstan)
- Natural resources of the areas are used by external actors (
 - External livestock owners
 - Owners of hunting concessions
- Meaning of region for transnational activities
 - Mining
 - Transport
- Transboundary situation TJK <-> KGZ (Trans-humance pastoralist, traditional trans-boundary markets)
- Energy supply \rightarrow complex interaction with livestock

→ Region can not be completely self-sufficiency



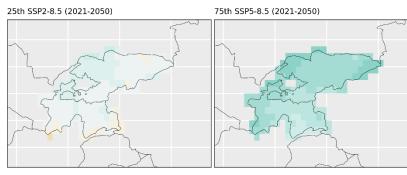
Climate Analysis: Current Climate

1981 – 2010 climatologies – mean temperature Source: CRU TS4-04



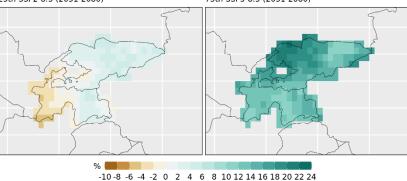
Change analysis

Total precipitation All models Regridded to 0.5°x0.5° grid Changes from 1981 – 2010



25th SSP2-8.5 (2051-2080)

75th SSP5-8.5 (2051-2080)



Annual total precipitation anomalies - Tajikistan Annual total precipitation anomalies - Kyrgyzstan 45 40 35 30 25 20 15 10 % 5 0 -5 -10 -15 -20 -25 -30 — SSP2-4.5 — SSP5-8.5 -35 historical 1950 1970 1990 2010 2030 2050 2070 2090 1950 1970 1990 2010 2030 2050 2070 2090 Tajikistan Kyrgyzstan 2021-2050 2051-2080 2021-2050 2051-2080 60 · 30 % -30 SSP2-4.5 × Ė SSP5-8.5 -60 MÁM SÓN DJF MÁM JJA SÓN DJF JJA MÁM JJA SON DJF MÁM JJA SÓN DJF Kyrgyzstan: SSP5-8.5 Tajikistan: SSP5-8.5 100 -100 m/month mm/month 1 2 3 4 5 6 7 8 9 10 11 12 2 3 4 5 6 7 8 9 10 11 12 - 2021-2050 - 2051-2080 1981-2010