Project Update: March 2019

Second phase

This study phase started immediately after the field work campaign was finalised in November 2019, with preparation of the EGS spatial distribution files first. Then we prepared three spatial scenarios for testing how potential land use change in combination with climate change will influence spatial distribution of mapped EGS colonies. We have tested the null scenario which represents no land use change and a conservative scenario in which we simulate increase in open grassland area percentage in zones with crop production and threaten scenario which represents decrease of open grassland areas in agricultural zones. Further we use these spatial scenarios and EGS distribution data mapped at the field with climate change model form Max Planck Institute (which in its simulation of changing climate include vegetation dynamic map).

Lab work results

The modeling experiment was run and in total we have one current and 18 future predictions of EGS potential distribution after accounting for land use and climate change.

The most valuable results in this experiment were:

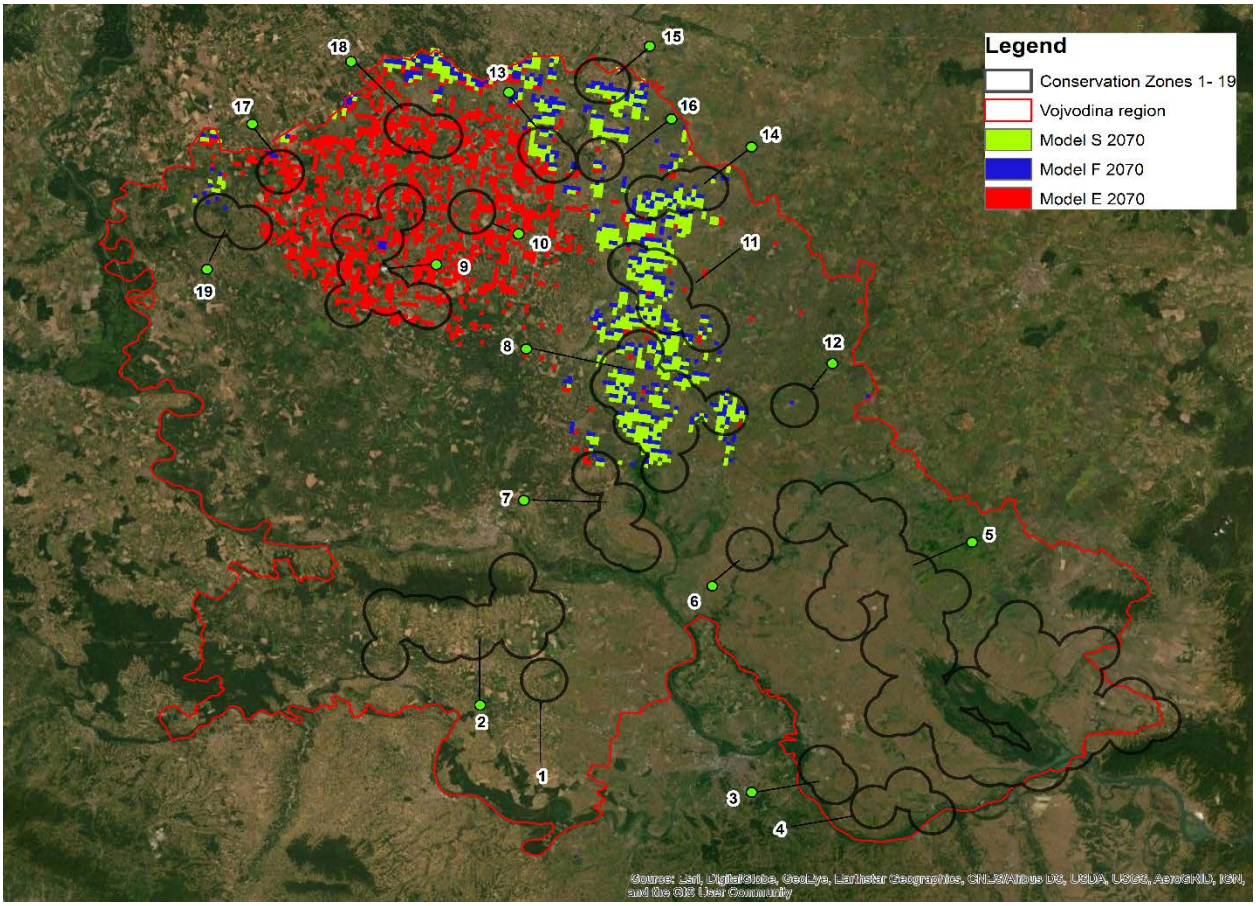
- Confirmation of current mapped colonies distribution with current modeled distribution.
- Identification of the future potential suitable areas in which most significant was zone in northern west part of the country.

The results however identify most future potential distribution zones in areas with simulated increase of open grassland at the expenses of crop production. Further, by overlapping these areas with previously developed conservation zones we are able to identify future zone of conflict of two sectors – agricultural and open grassland conservation.

We are still working on scaling composition and productivity of habitats in central Banat areas. A photo from the experiment is attached below:

Future plans

The preparation of EGS distribution files will be ongoing in 2020 with some of the local community members that will be engaged during the workshop sessions and other planned meetings. A workshop is scheduled for May 2020 to build the capacity of NGO, researchers and local authority on the need to carry out further joint conservation strategies and programs. Also, one of these activities will include joint regional program preparation which we all started in January 2020. Moreover, with mapped files in 2019 and the previous one (from 2014) we have prepared data for (meta) population analysis of EGS colonies in northern Serbia and will provide new insights at this scale as well - for the assessment of the EGS and open grassland conservation. All data will also be used for preparation of two peer reviewed publications.



Example of interaction between regional climate and landscape factors in modeling extent of current and future optimal environmental condition for grassland species specialist (F - current % of grasslands, S- 10% loss of grasslands, E – 10 % gain in grassland area).