# Field data collection plan

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Remote sensing has been widely used in large-scale land use and land cover classification. I used Sentinel-2 images to identify habitat types in Suli County in the western Qilian mountains. Supervised classification is an ideal choice when providing much training data and with limited computing ability. Therefore, I need to **collect ground points** covering all habitat categories, as well as **plant species composition** in different habitats, to equip my classification results with biological meanings. Besides, **plant specimen** will be useful when I am conducting dietary analysis of local herbivores.

Sampling design

I manually set 9 control points (hereafter CP) to distribute daily routes better. Altogether there are eight routes between each two CPs (CP01-02, CP02-03, CP03-04, CP04-05, CP05-06, CP05-07, CP07-08, CP08-09). Each route is approximately 25 km. All routes are distributed evenly in land cover types.
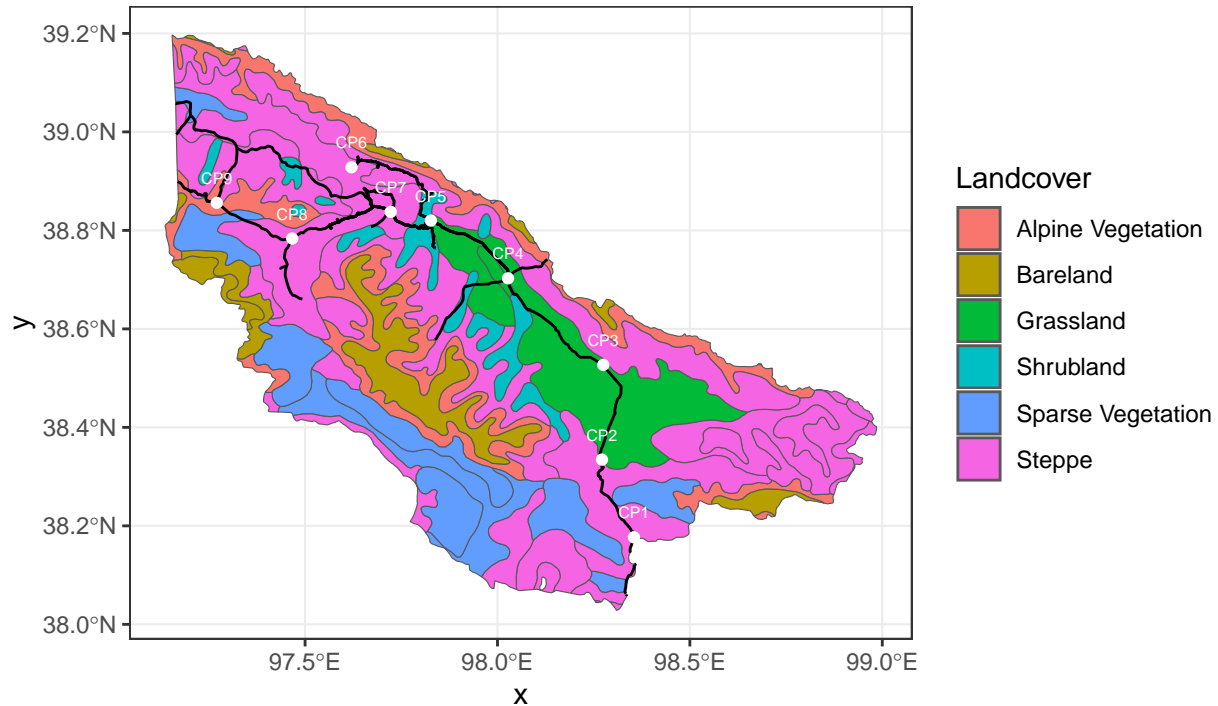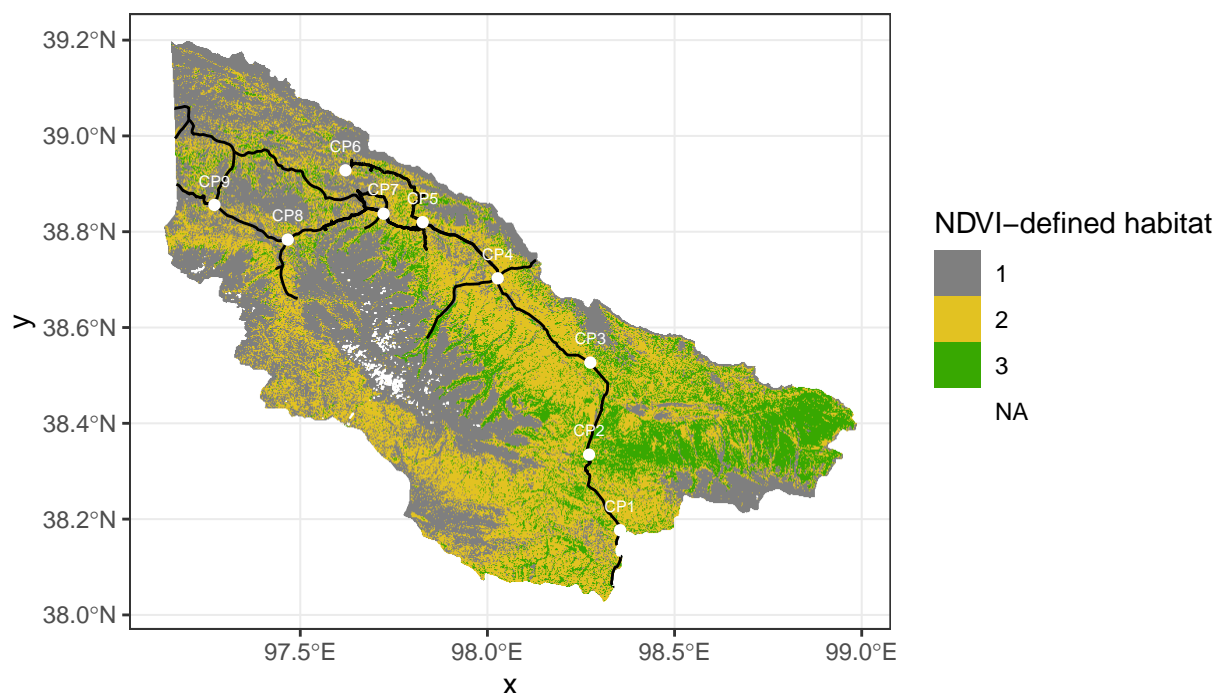
I plan to choose 5 to 8 transects for each route to represent typical habitat types, spacing at 2 km at least. Transects are actual movement tracks of filed staff, and will not be planned in advance. Next, I will record at least 5 sample points (If possible, 20 points at most) along each transect, spacing at least 100 m with each other (the minimal resolution of Sentinel-2 bands is 60 m). Considering there may be some transects that are difficult to access, I will use Unmanned Aerial Vehicle (UAV) to take pictures and identify habitat types later. The form designed to record all information is attached below:

栖息地类型地面点采集信息记录

样线编号：CP0＿＿0＿＿-＿＿＿　参与人：＿＿＿＿＿＿＿＿＿＿

日期：2023 年 6 月＿＿＿日　时间：＿＿＿＿＿＿　海拔：＿＿＿＿＿m

起点坐标：北纬＿＿＿＿＿＿＿＿＿°N, 东经＿＿＿＿＿＿＿＿°E

小地名：＿＿＿＿＿＿＿＿＿＿栖息地类型初判:＿＿＿＿＿＿＿＿

远景照片编号：＿＿＿＿＿＿＿＿＿　近景：＿＿＿＿＿＿＿＿＿

是否飞行无人机：是 □ 否 □ 照片编号：＿＿＿＿＿＿＿＿

植物物种调查
物种名：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

是否采集标本：是 □ 否 □　采集编号：＿＿＿＿＿＿＿＿

动物痕迹：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

其他备注信息：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

样线编号规则：路径所属 CP 点编号-今天第几条线。如 CP0102-01。无人机可代替地面打点，无需填写位点表。

位点

位点编号	北纬	东经	栖息地类型
P01			
P02			
P03			
P04			
P05			
P06			
P07			
P08			
P09			
P10			
P11			
P12			
P13			
P14			
P15			
P16			
P17			
P18			
P19			
P20			

Figure 1: data-collection-form

Apart from sampling ground points for habitat classification, I also plan to identify plants along each transect and collect specimens for each species. All tools needed for making specimens are prepared well.

Workload

I plan to sample 1 to 2 routes each day. Thus, all work should be done within seven days at most, and can be shortened to fewer days.

Day1: CP01-02

Day2: CP02-03

Day3: CP03-04

Day4: CP04-05

Day5: CP05-06, CP05-07

Day6: CP07-08

Day7: CP08-09