FB 19| Geography

Department of Environmental Informatics.

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Course Name: **Species Distribution Modelling** (SDM).
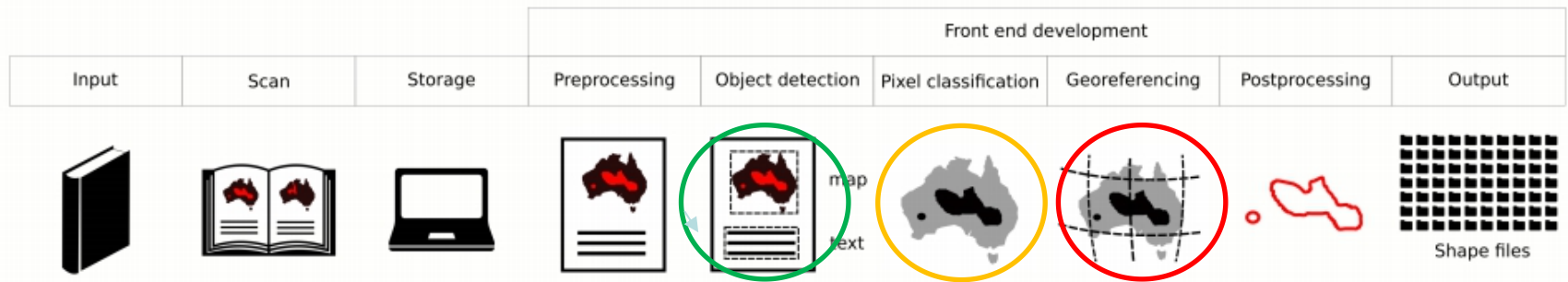
Software: **Digitize IT.**

Module: **Georeferencing.**

Software Tutorial

Processing steps of DigitizeIT software

Figure 3: Processing Steps [3]

- Extracting the Ground Control Points (from the images) and tracing the real time location of the species is called as Georeferencing.

[3].Dr.Dirk Zeuss , Department of Geography, University of Marburg.

Installation

- Link for downloading QGIS (Version > 3.0 and Standalone installer is highly recommended):

  https://qgis.org/en/site/forusers/download.html

- Load the Open Street Map (OSM) in QGIS: https://tile.openstreetmap.org/{z}/{x}/{y}.png

- Recommended EPSG: 102025 (Important).

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Geo-referencing

- ESPG keep in mind!.

- OSM link !.

- GCP points!.

- Batch processing through the GCP points!.
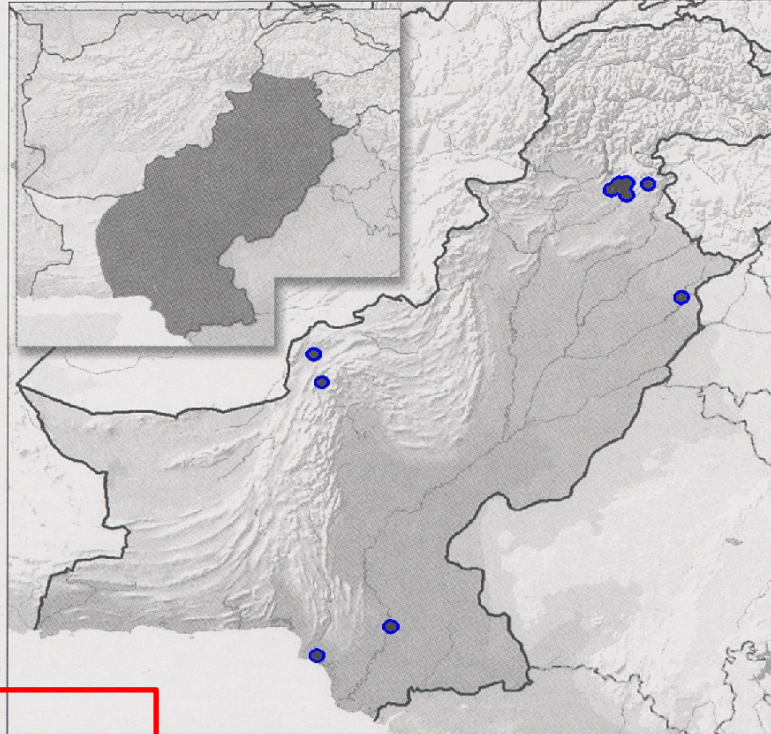
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Output

- The cartesian coordinates from the pixel classification are now converted into geographical

  coordinates.
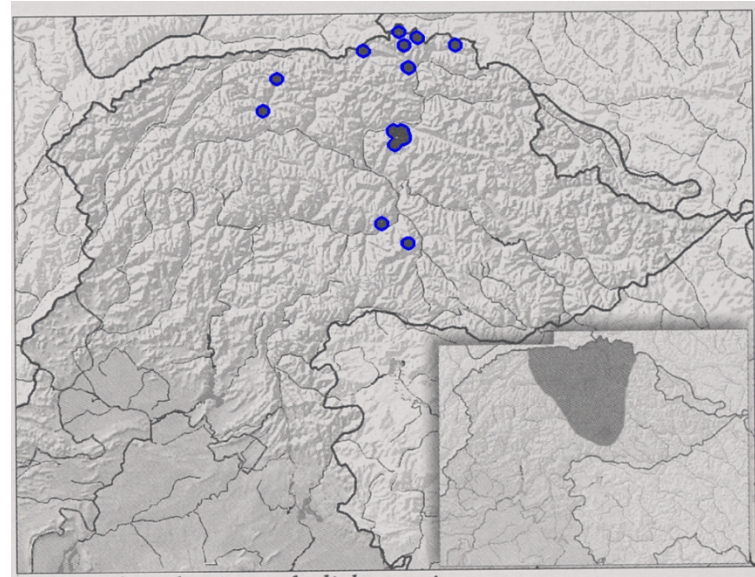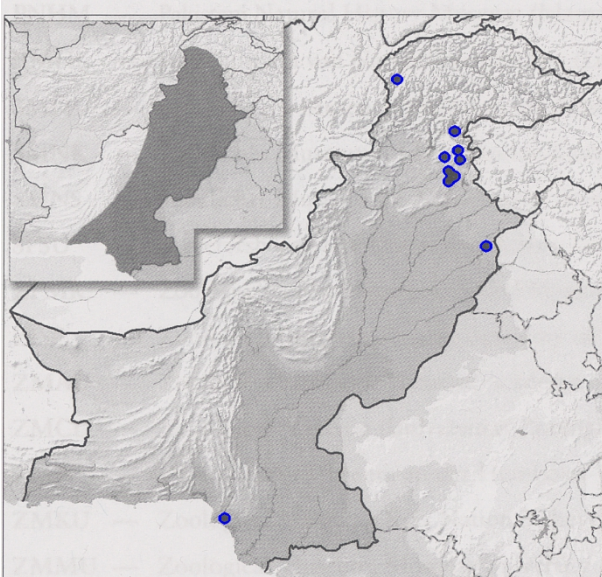
Geo-referenced images

GCP points table

Geographical
coordinates

/isible ▼	ID	Source X	Source Y	Dest. X	Dest. Y	dX (pixels)	dY (pixels)	Residual (pixels)
	0	120.069	-627.453	6.77685e+06	3.48481e+06	0.0357619	0.0176053	0.0398605
	1	854.447	-121.92	7.92549e+06	4.30613e+06	0.00211698	-0.00825466	0.00852179
	2	617.033	-520.348	7.54686e+06	3.67952e+06	0.0102937	0.00351005	0.0108757
	3	855.518	-1082.82	7.91411e+06	2.83707e+06	-0.00277004	0.00256487	0.00377515
	4	834.812	-825.953	7.87619e+06	3.2146e+06	-0.00386811	0.00599469	0.00713432
	5	786.972	-924.846	7.81153e+06	3.06785e+06	0.00208886	0.00526105	0.00566056
	6	348.558	-676.007	7.14001e+06	3.42465e+06	0.0274376	0.012296	0.0300668
	7	510.643	-637.449	7.3886e+06	3.49981e+06	0.018185	0.00511141	0.0188897
	8	242.882	-854.514	6.99081e+06	3.15306e+06	0.0382371	0.0137568	0.0406365

aster loaded: C:/Users/venkates.PC19557/Downloads/Pixel classification/0039.tifmap180_modified.tif   Transform: Linear Translation (1.09394e+10, 6.71654e+09) Scale (2.69975e+06, 2.40222e+06) Rotation: 0 Mean error: 0.0114972... 4992128,3528065... ESRI:102025

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GCP Points Table

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Total No of points for every map = 50

Tasks

- Perform template matching on tiff files for extracting all maps in your example book

- Delete unwanted maps in the output folder of object detection (clean output)

- Do pixel classfication for all those maps (Output: Masked occurrence points).

- Try to georeference five of those output maps

- Upload one output image for each assignment task in your GitHub classroom repository

- Make it work and good luck!

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Feedbacks

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