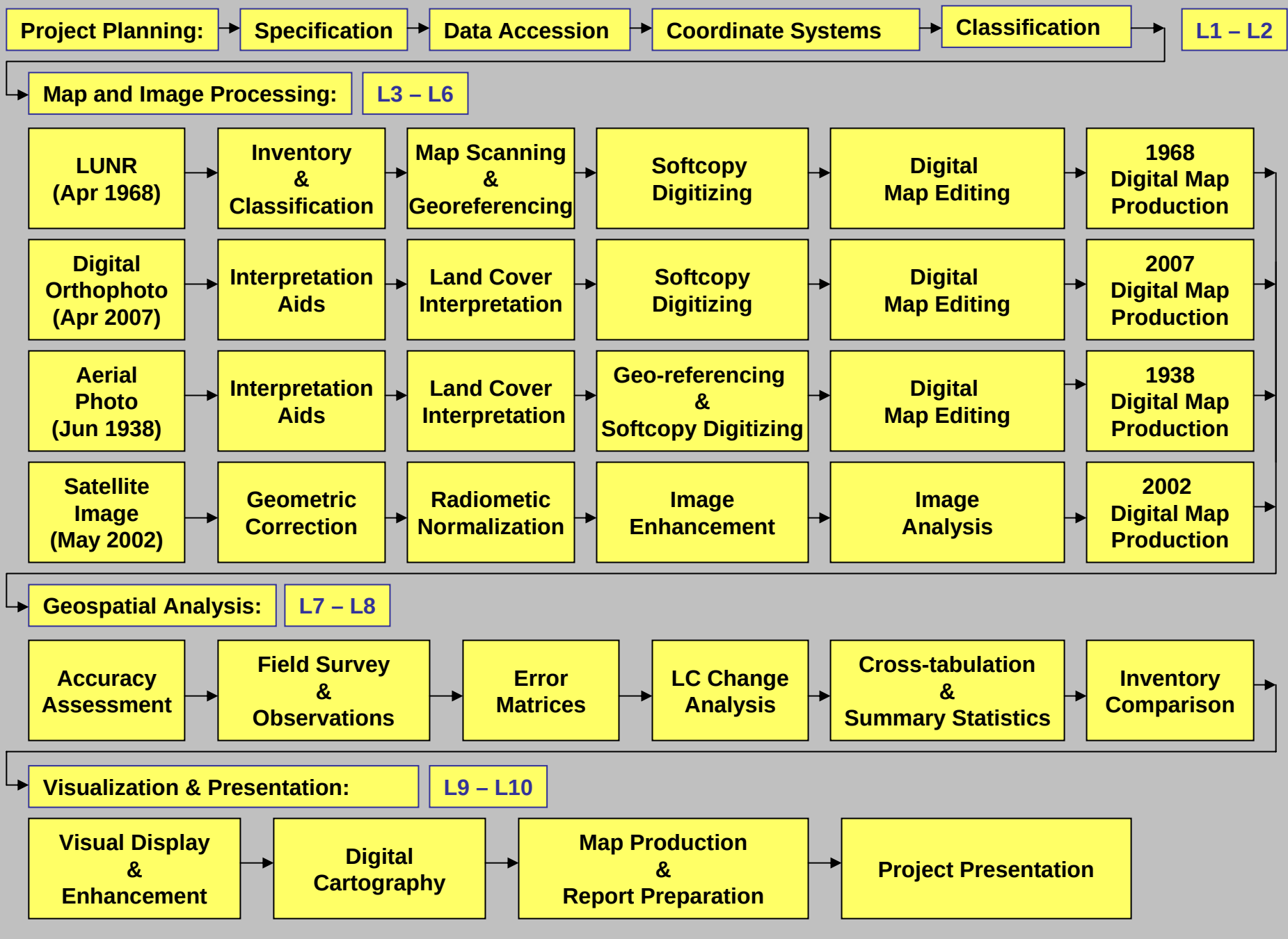
Steve DeGloria lightning…

Professor of Resource Inventory & Analysis
Director, IRIS
Department of Crop and Soil Sciences

- Teaching (70%):
  - CSS 4110 Environmental Information Science
  - CSS 4200 Geographic Information Systems
  - CSS 4650 Global Positioning System
  - CSS 6200 Spatial Modeling & Analysis

- Research (30%):
  - Reflectance spectroscopy for estimating soil properties for soil survey (Neafsey)
  - Spatial modeling of invasive species establishment (McNally)
  - Emergency Response Management System (Popowitch)
  - Dilmun Hill Cornell Student Farm: Arsenic/Lead field plot positioning
  - Spatial Modeling (Zambia): terrain derivatives for conservation agriculture
  - Spatial Modeling (Kenya): Soil biogeochemistry watershed maps
  - FLNF plot inventory data to USFS NRIS

CSS 4110 Project: Land Cover Change Assessment



CSS 4200:
Agro-Ecological Zoning and Site Suitability Assessment for Biofuel Crop Production

Global Properties:

Soil Drainage

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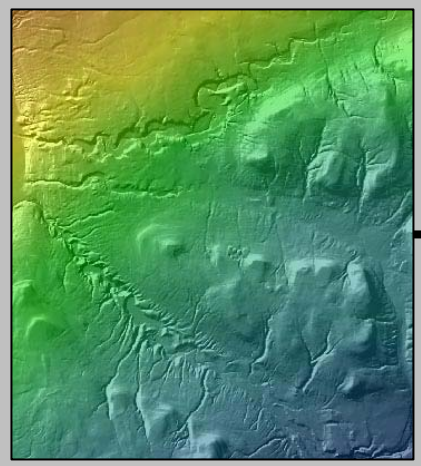

GDD

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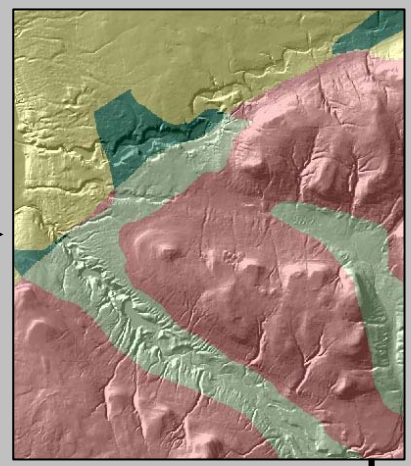

= AEZ

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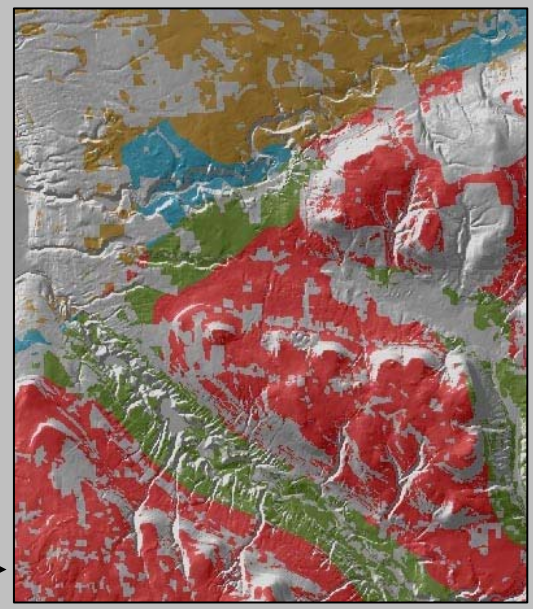
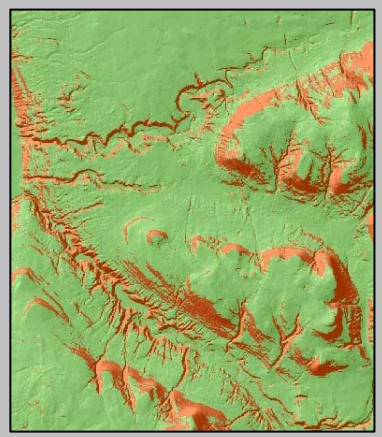


AEZ Biosuitability

Local Constraints:



Slope Gradient

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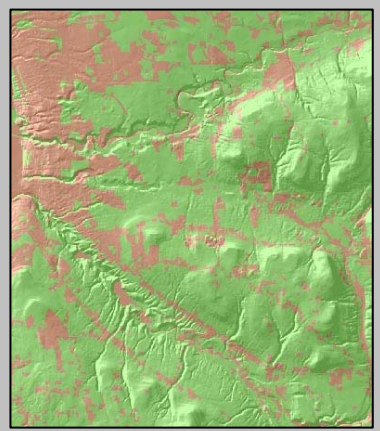

Land Cover

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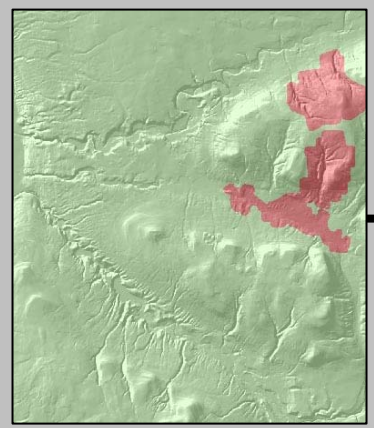

Unique Natural Areas

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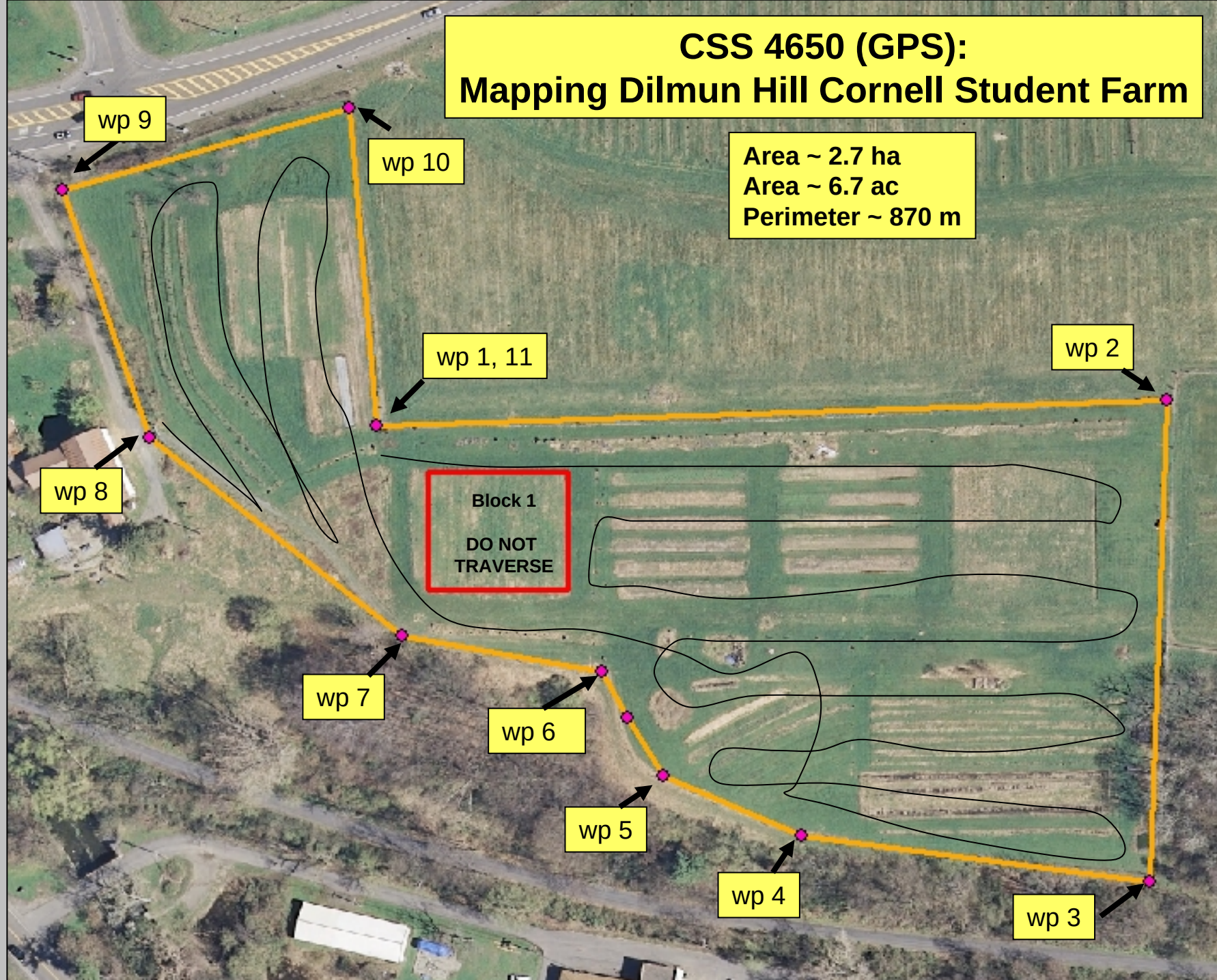
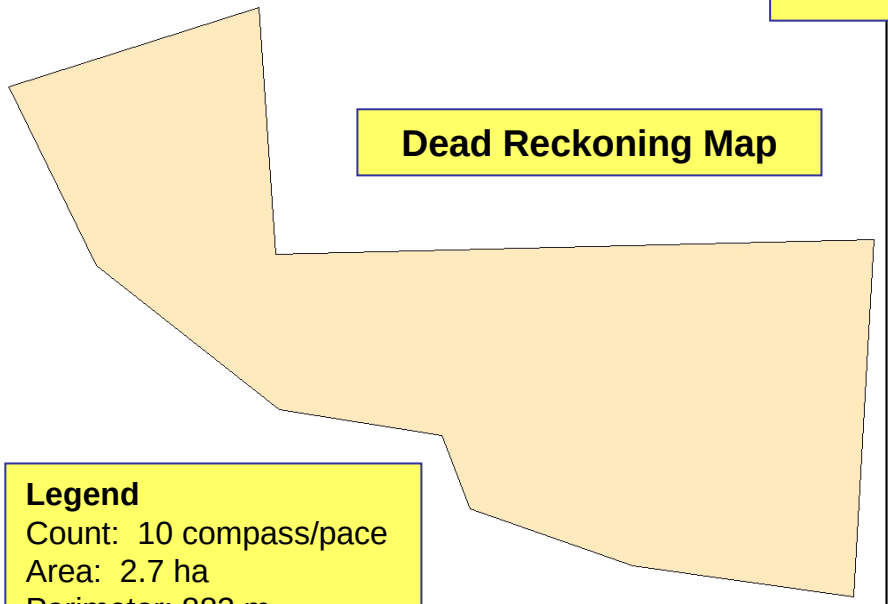
= Biosuitability


CSS 4650 (GPS):
Mapping Dilmun Hill Cornell Student Farm
Area ~ 2.7 ha
Area ~ 6.7 ac
Perimeter ~ 870 m
wp 9
wp 10
wp 1, 11
wp 2
wp 8
Block 1
DO NOT
TRAVERSE
wp 7
wp 6
wp 5
wp 4
wp 3

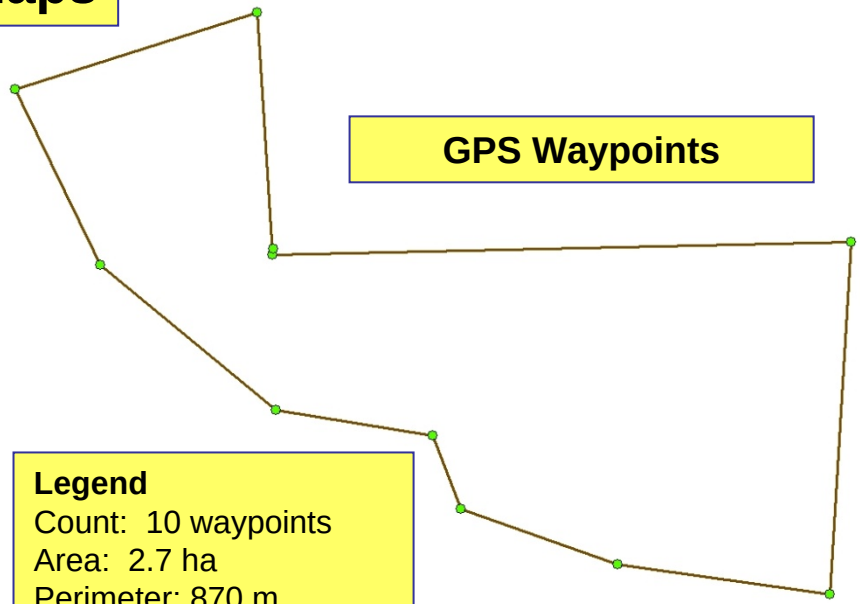
Final Maps

Dead Reckoning Map



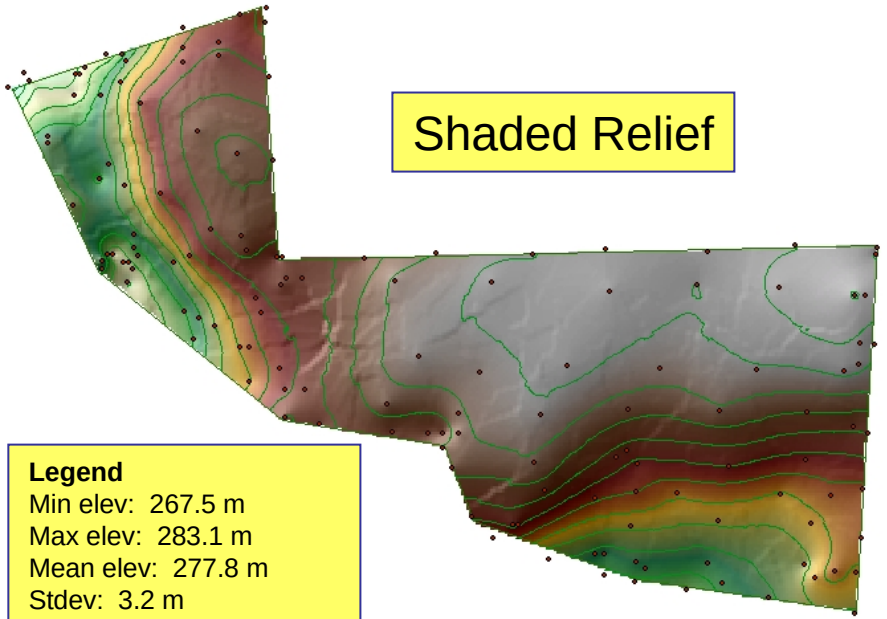
Legend
Count: 10 compass/pace
Area: 2.7 ha
Perimeter: 882 m

GPS Waypoints



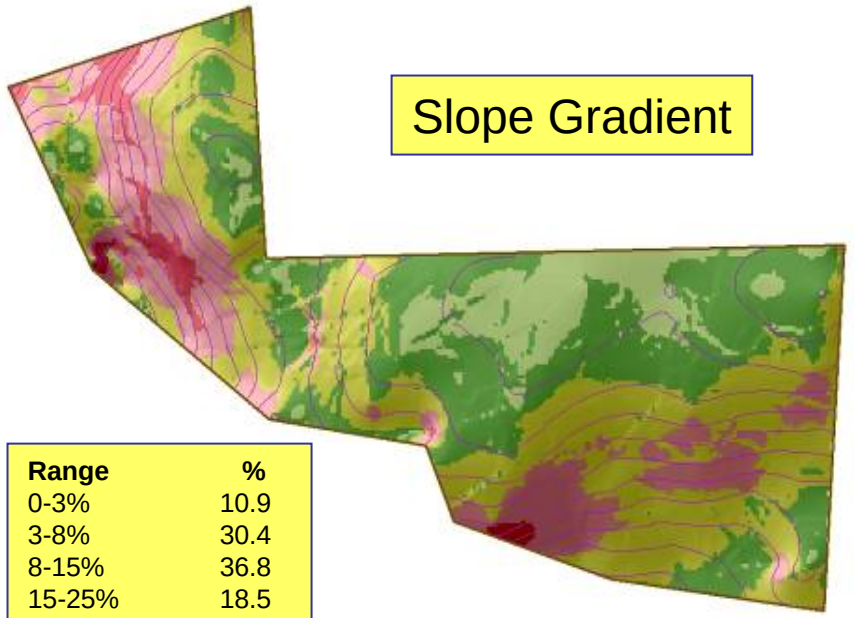
Legend
Count: 10 waypoints
Area: 2.7 ha
Perimeter: 870 m

Shaded Relief



Legend
Min elev: 267.5 m
Max elev: 283.1 m
Mean elev: 277.8 m
Stdev: 3.2 m
Contour interval: 1 m

Slope Gradient



Range	%
0-3%	10.9
3-8%	30.4
8-15%	36.8
15-25%	18.5
> 25%	3.4

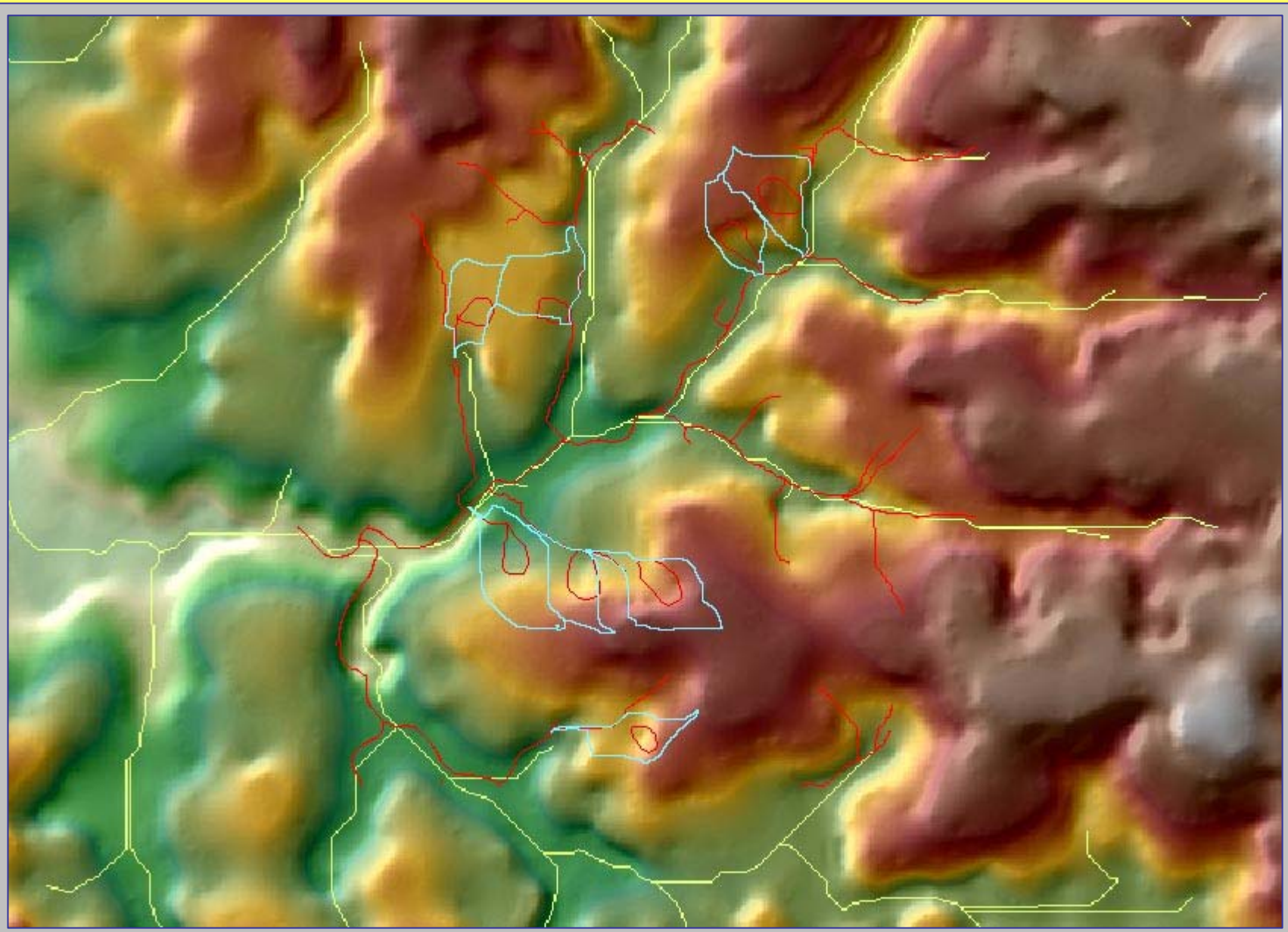
Sample Plot Positioning for Assessing Heavy Metals in Soils

Dilmun Hill Cornell Student Farm

Visible-Near Infrared Diffuse Reflectance Spectrosopy (VNIR DRS) for Soil Survey

Estimating Watershed Areas in Western Kenya Using DEM Derivatives

(Spatial Analyst > Hydrology; TauDEM; ArcHydro)



Spatial Modeling (Zambia): terrain derivatives for conservation agriculture