

What is ArcGIS?

Geographic Information System (GIS)

“lets us visualize, question, analyze, and interpret data to understand relationships, patterns, and trends.”

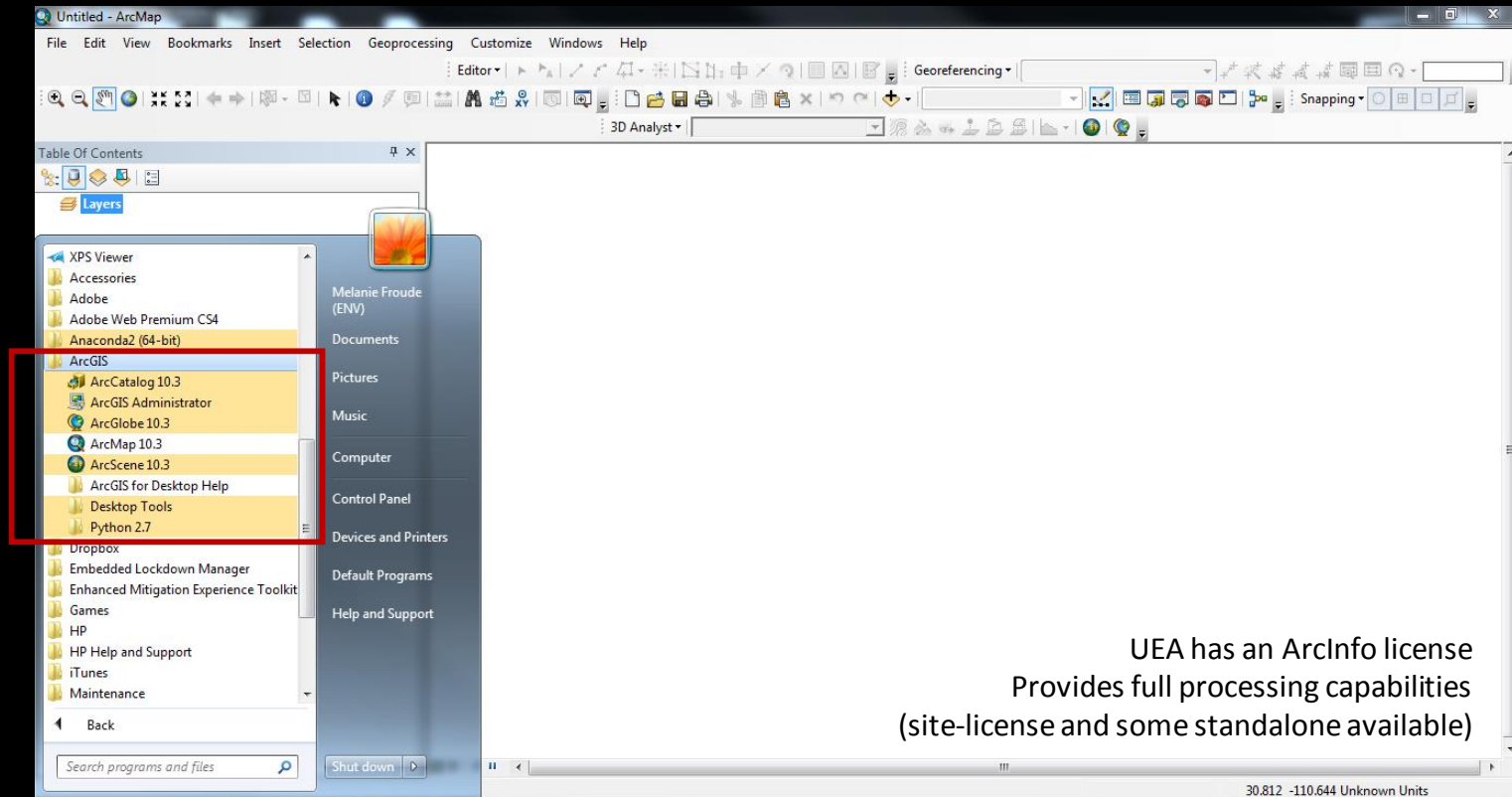
Open source and proprietary GIS options relevant to Python users

- ESRI ArcGIS (proprietary)
- GRASS (open source)



Software modules

- ArcCatalog
- ArcGlobe
- ArcMap
- ArcScene



UEA has an ArcInfo license
Provides full processing capabilities
(site-license and some standalone available)

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Extensions

Select the extensions you want to use.

- 3D Analyst
- ArcScan
- Geostatistical Analyst
- Network Analyst
- Publisher
- Schematics
- Spatial Analyst
- Tracking Analyst

Extend the core functionality of the software

Description:

3D Analyst 10.3
Copyright ©1999-2014 Esri Inc. All Rights Reserved

Provides tools for surface modeling and 3D visualization.

Close

Customize Windows Help

Editor | Georeferencing | Snapping

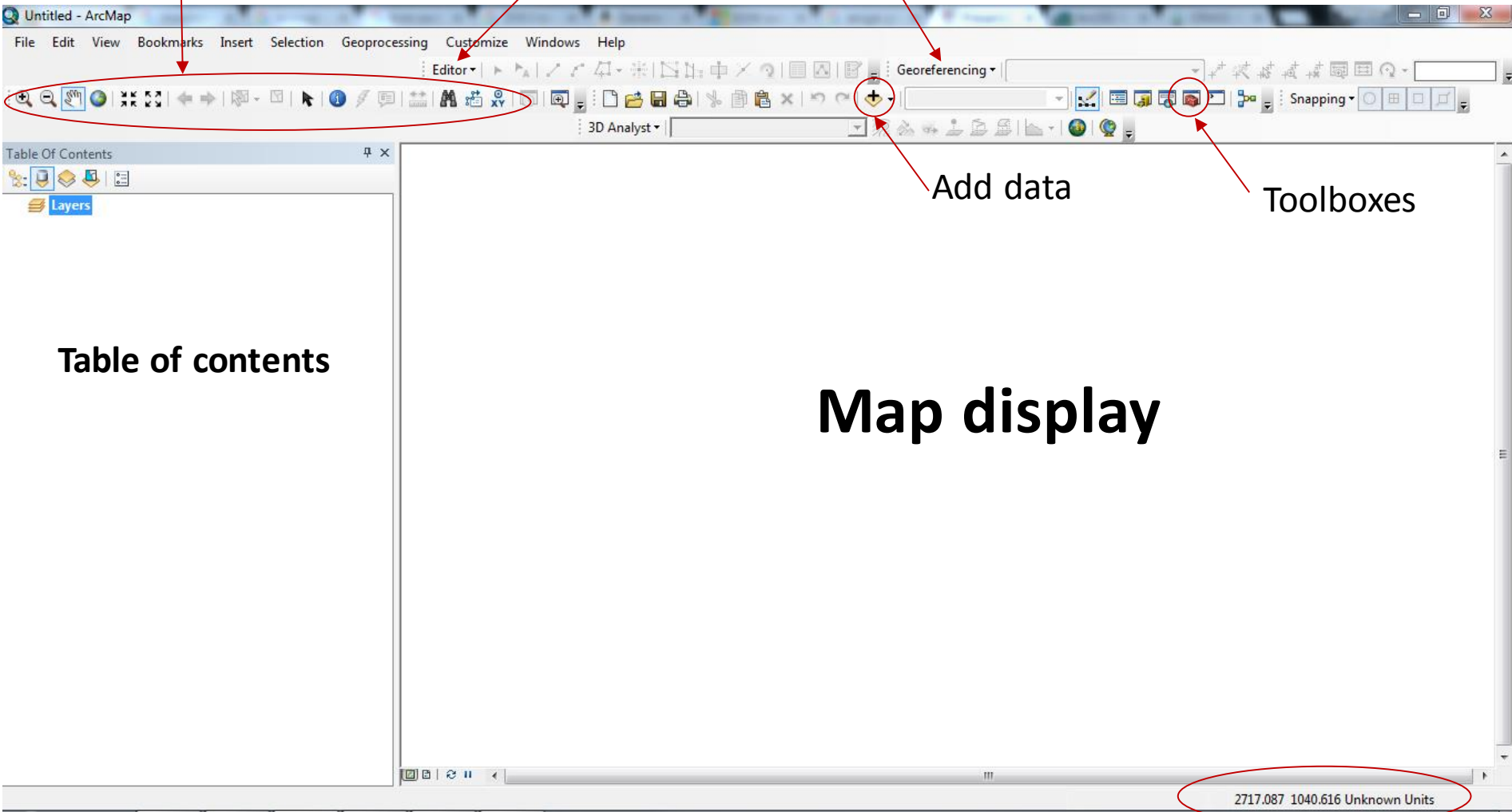
3D Analyst

30.812 -110.644 Unknown Units

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Interactive display navigation tools

Toolbars
(can be moved and docked)



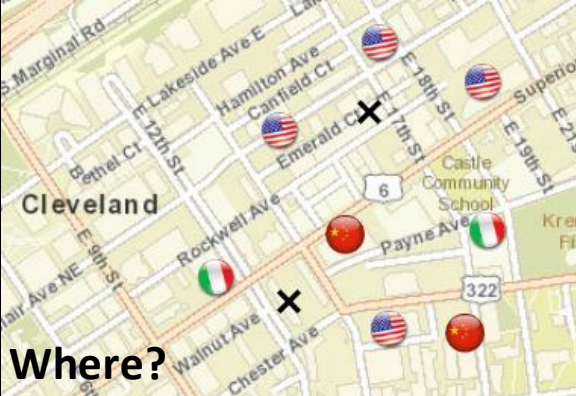
Add data

Toolboxes

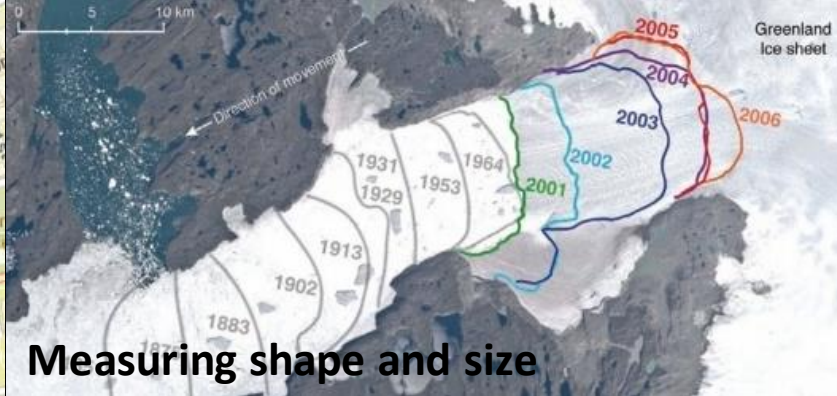
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Map display

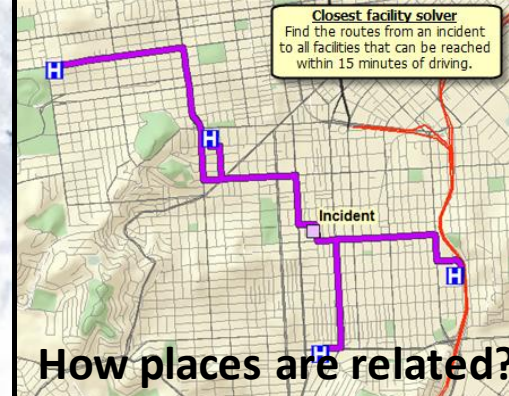
Status bar: coordinates and units



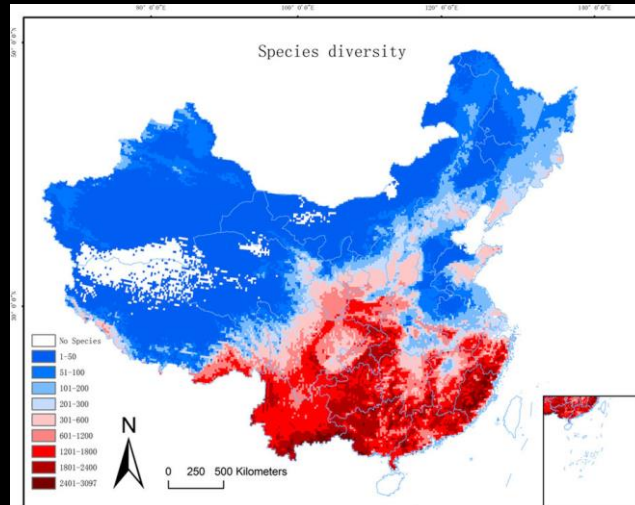
Where?



Measuring shape and size



How places are related?



Identifying and quantifying patterns

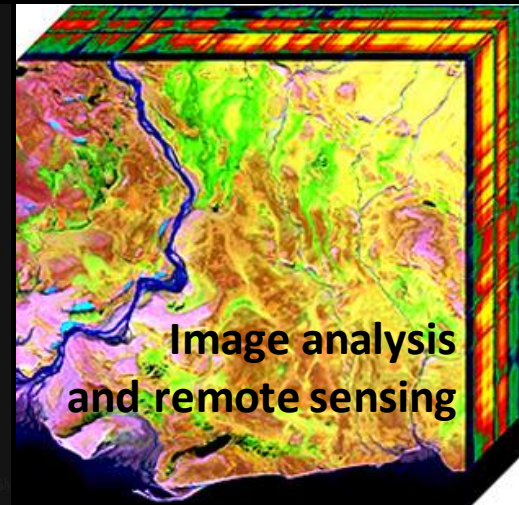
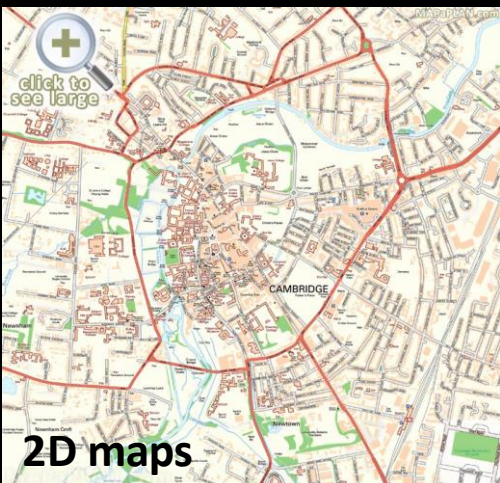
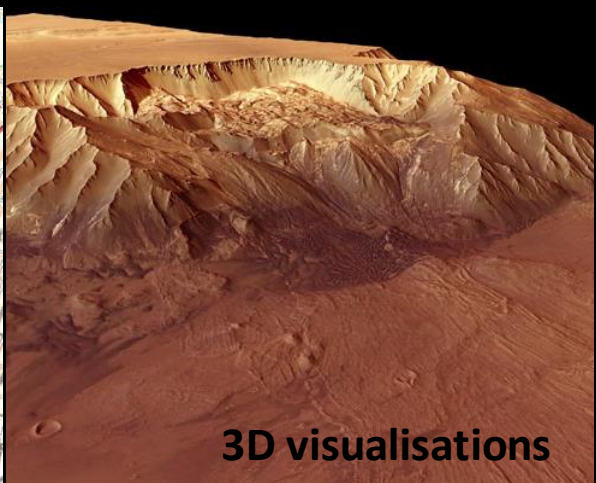


Image analysis and remote sensing



2D maps



3D visualisations

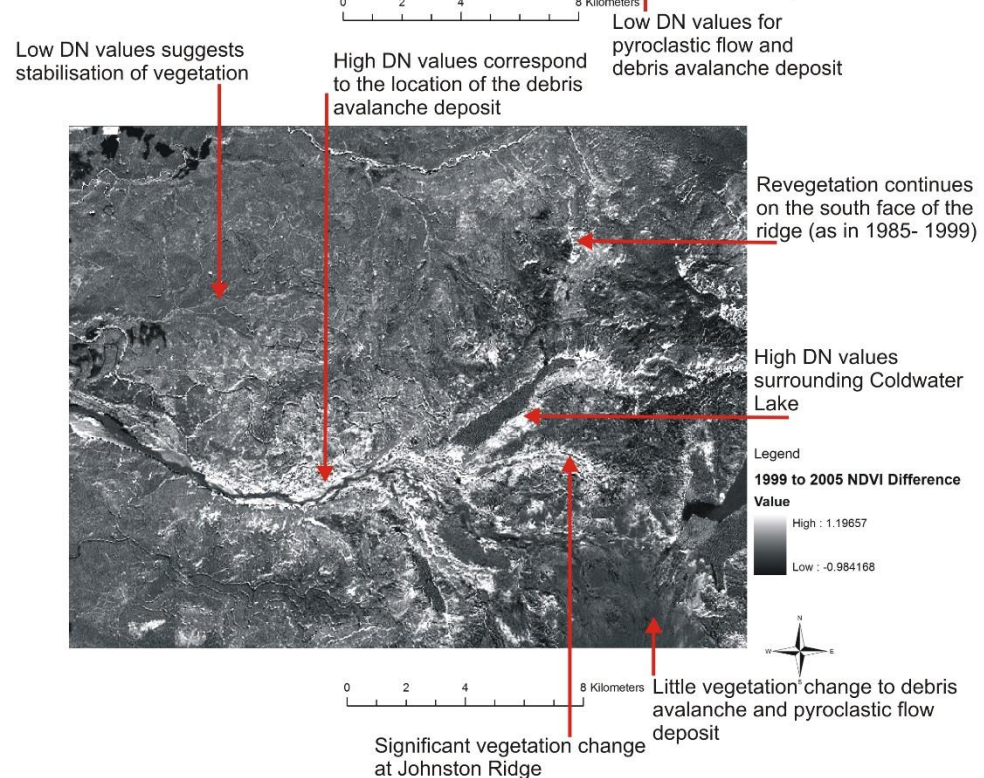
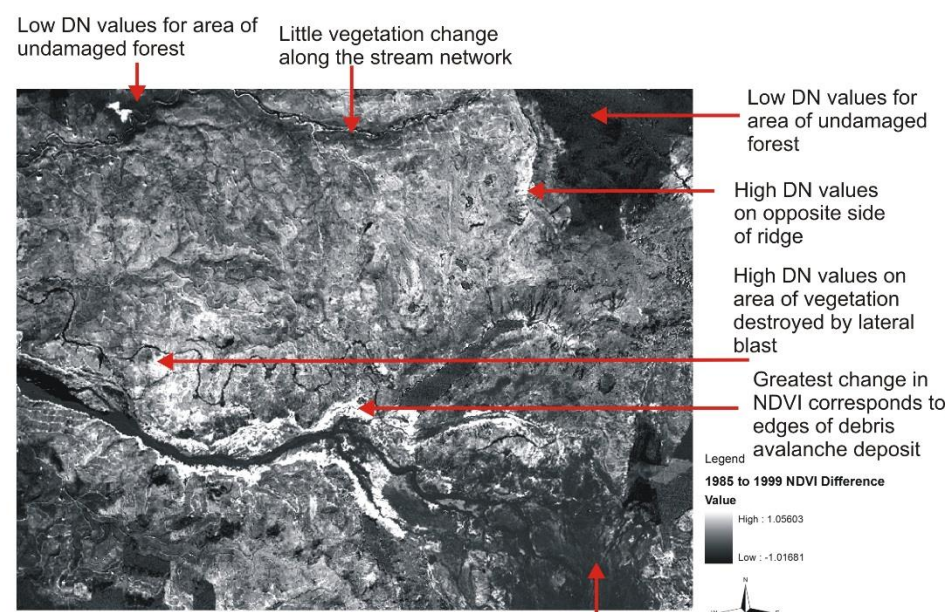


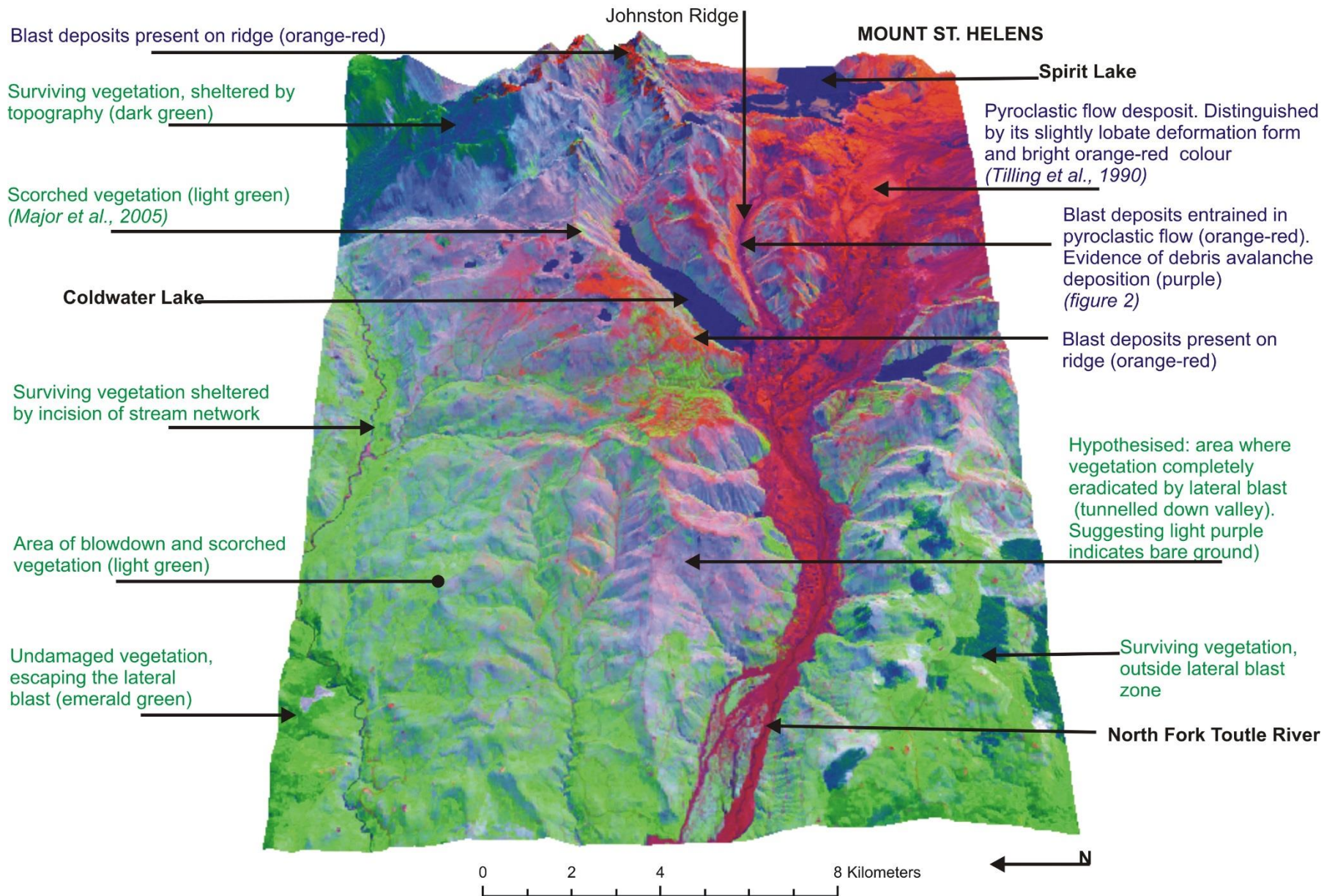
Community engagement
Mobile mapping

DEMO 1: Analysis of vegetation regrowth after a volcanic eruption : Mount St Helens

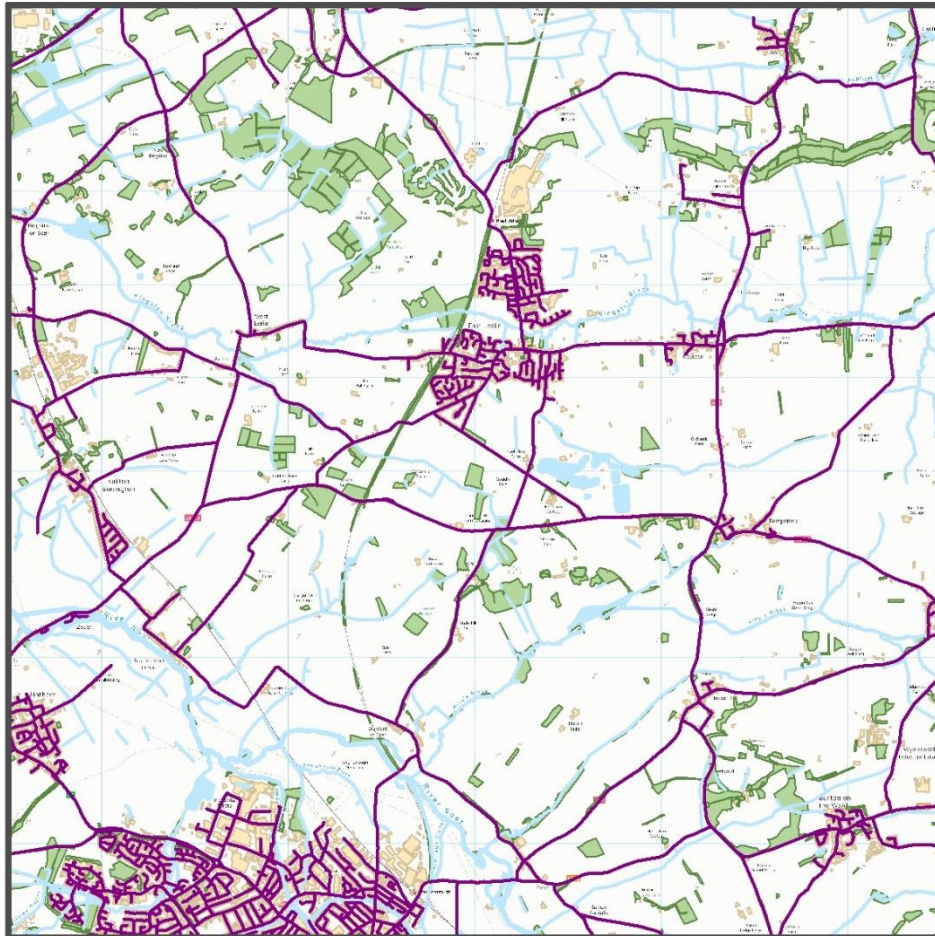
Normalised Difference Vegetation Index

$$NDVI = (NIR - R) / (NIR + R)$$

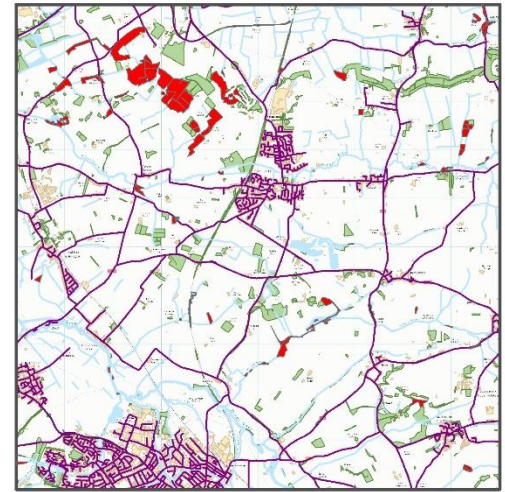




DEMO 2: Possibilities for protected woodland habitats



0 1 2 4 Kilometers



0 1 2 4 Kilometers

DEMO 3: ArcScene: 3D terrain

