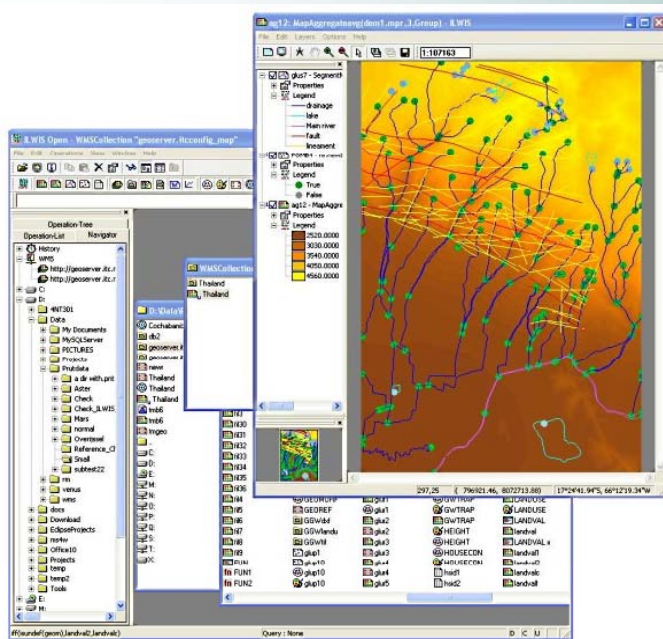


ILWIS Introduction



What is ILWIS for Windows ?

Windows based software for integrated use of G.I.S. and Remote Sensing

Introduction to ILWIS for Windows – Michiel Damen – ESA Dept.



ILWIS Introduction



➤ What can it do?

- Display of raster and multiple vector maps
- Display of tables
- Interactive retrieval of attribute data
- Image processing facilities
- Manipulation of maps using a Map Calculator
- Manipulation Manipulation of Tables in a Table Calculator
- G.I.S. analysis tools
- Script language to perform 'batch' jobs

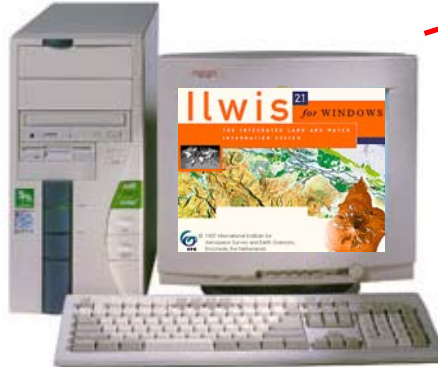
ILWIS Introduction



➤ Hardware



Digitizer



PC running
Window



Scanner



Printer



Plotter

Introduction to ILWIS for Windows – Michiel Damen – ESA Dept.





ILWIS Introduction

➤ Guides

Beginner's Guide

Introducing the basic concepts, essential ILWIS techniques and the main ILWIS- operations.

Reference Guide

Detailed description of the functionality of ILWIS including its window types, objects, operations.

User's Guide

Training the skills you need in ILWIS, including explanations and procedures for first time users in addition to topics for advanced users.

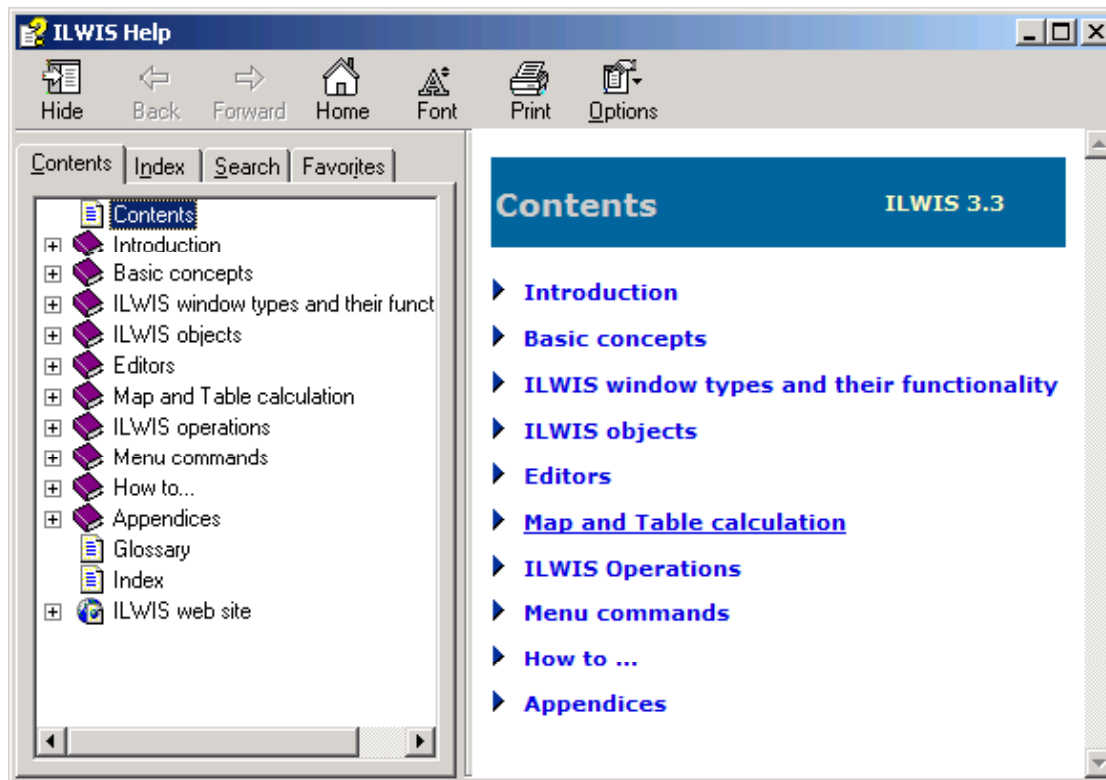
Applications Guide

Advanced procedures to work with ILWIS, providing case studies for various research disciplines



ILWIS Introduction

➤ HELP Function

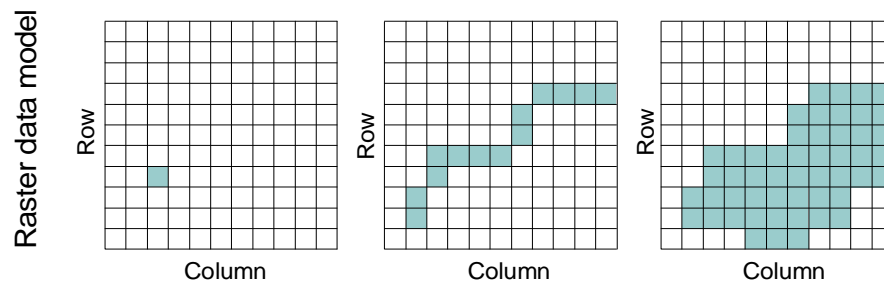
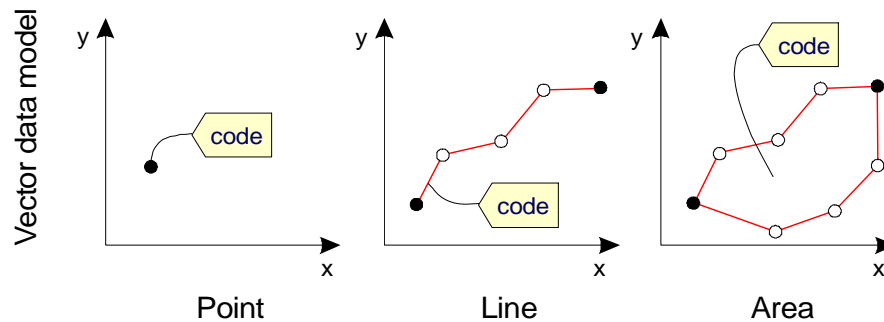




ILWIS Introduction

➤ Functionality

ILWIS functionality for both vector and raster data



Key for the vector models: ○ intermediate point
● node



ILWIS Introduction



➤ Functionality

ILWIS functionality for vectors include:

- Digitizing with mouse on screen or digitizer
- Interpolation from isolines or points
- Calculation of segment or point density
- Pattern analysis

ILWIS Introduction



➤ Functionality

ILWIS functionality for raster-maps include:

- Distance calculation
- Creation of a Digital Elevation Model (DEM)
- Calculation of slope / aspect
- Deriving attribute maps
- Classifying maps
- Manipulating maps with iff-statements
- Crossing maps

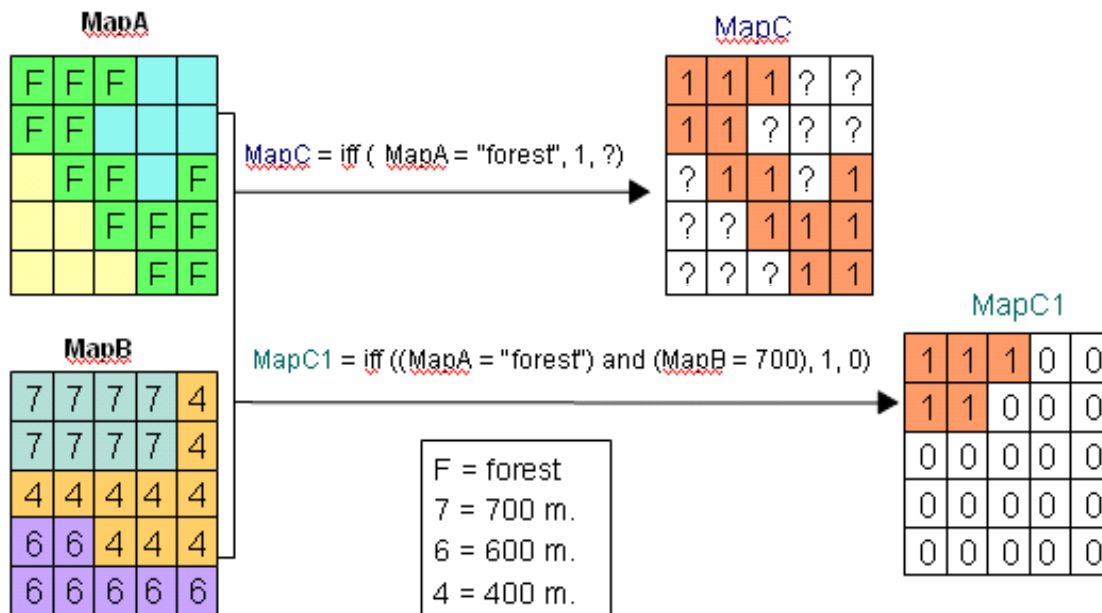


ILWIS Introduction

➤ Functionality

ILWIS functionality for raster-maps

Manipulating maps with iff-statements



ILWIS Introduction



➤ Functionality

ILWIS functionality for satellite imagery include:

- Creation of histograms
- Creation of color-composites
- Sampling and classification
- Filtering
- Multi-band statistics

ILWIS Introduction



➤ Functionality

ILWIS functionality for special applications

- Hydro_DEM Processing
- Spatial Multi-Criteria Evaluation
- NDVI
- Destriping
- Slopes
- Etc.

Based on scripts and “batch” processing

ILWIS Introduction



➤ Main data objects

ILWIS icons



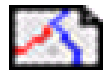
Raster maps

containing pixels



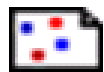
Polygon maps

containing area features



Segment maps

containing line features



Point maps

containing point features



Map list

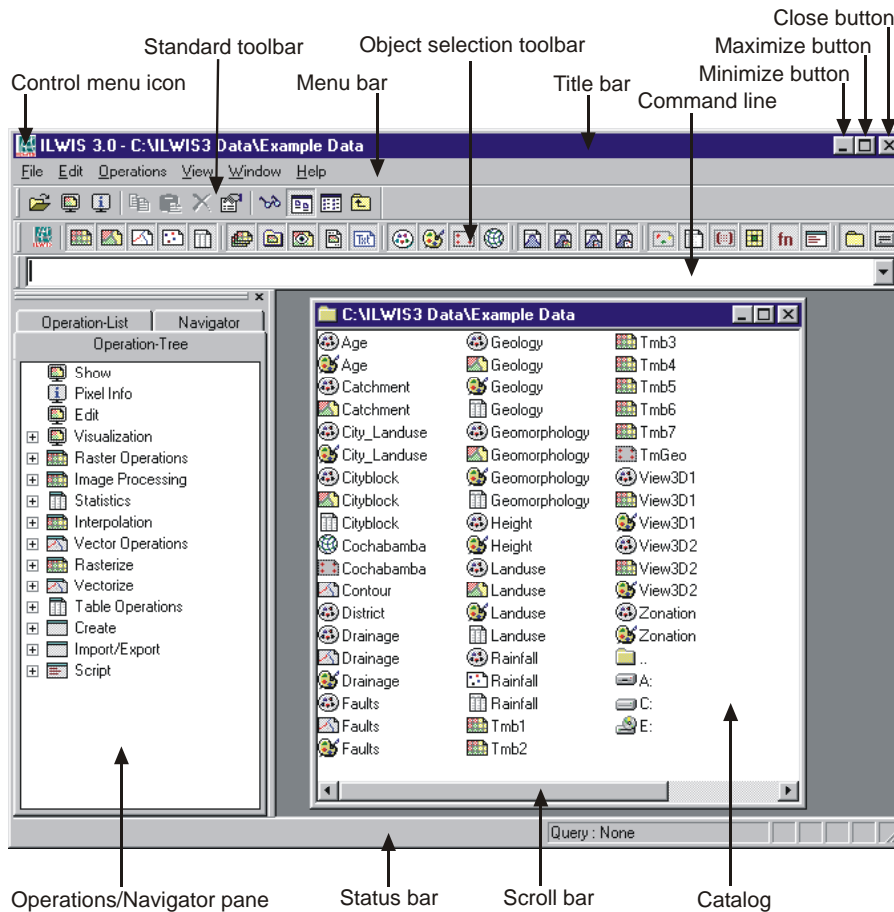
containing a set of raster maps



Tables

containing columns

ILWIS Introduction



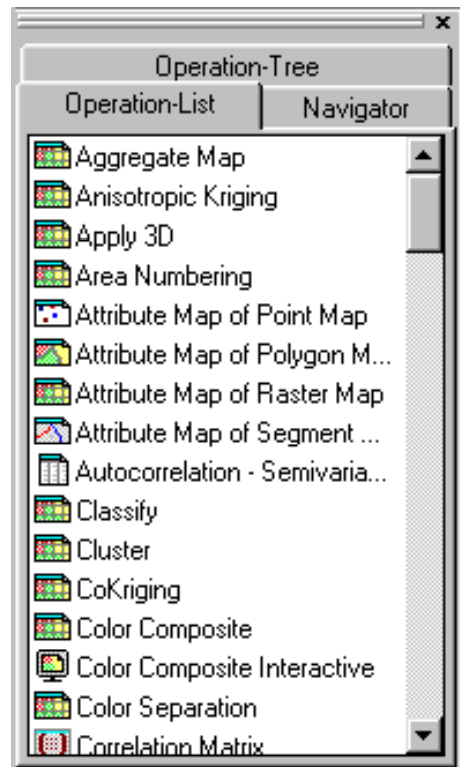
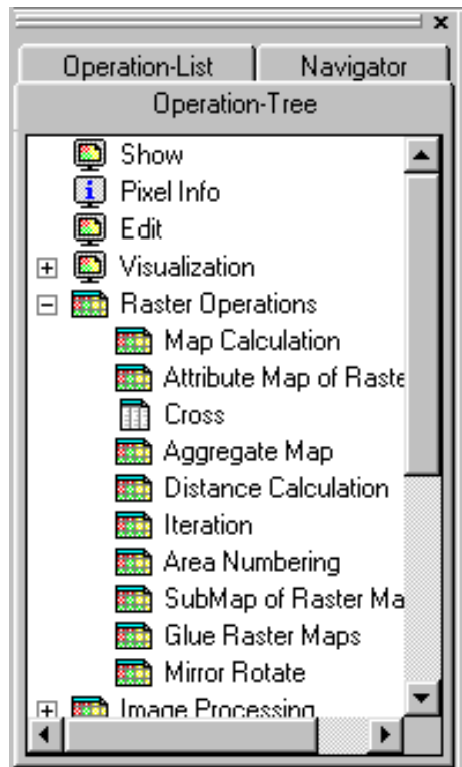
➤ Main Window





ILWIS Introduction

➤ Operation Tree & List












ILWIS Introduction



➤ Standard Toolbar



| | |
|---|---|
|  New Catalog |  Properties |
|  Open Map |  Customize Catalog |
|  Open Pixel Information |  List |
|  Copy |  Details |
|  Paste |  cd.. |
|  Delete | |



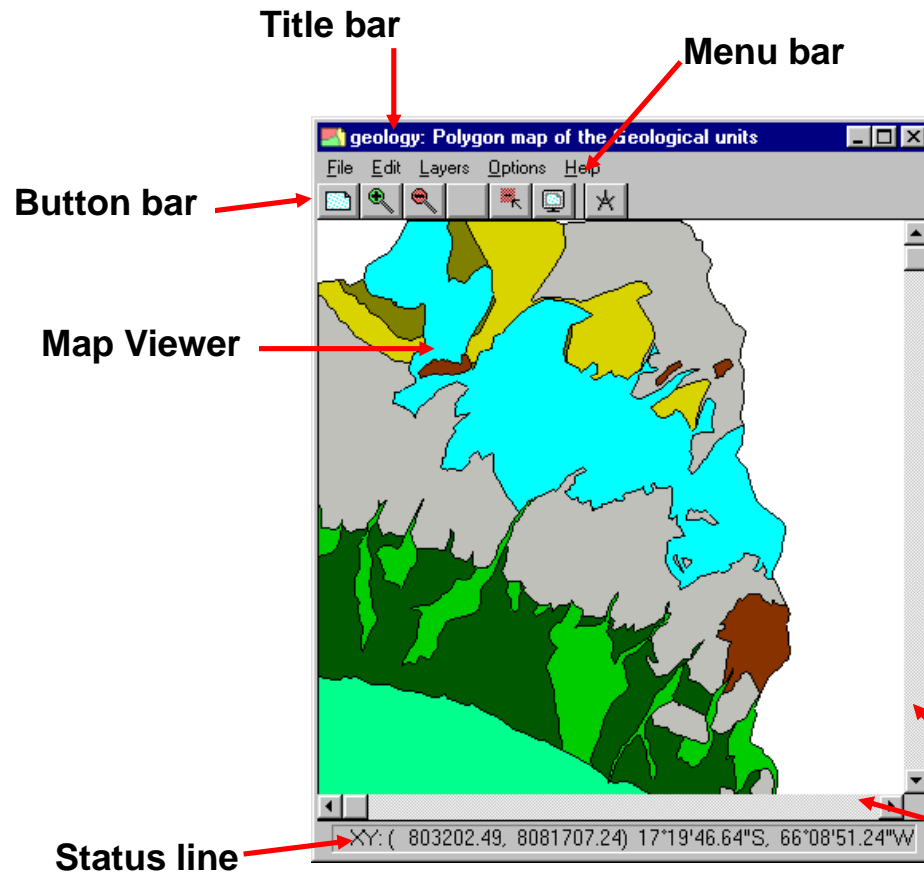
ILWIS Introduction

➤ Object Selection Toolbar



| | | | |
|--|-------------------------|--|----------------------------|
| | raster·maps· | | georeferences |
| | polygon·maps | | coordinates·systems |
| | segment·maps | | histograms·of·raster·maps |
| | point·maps | | histograms·of·polygon·maps |
| | tables | | histograms·of·segment·maps |
| | map·lists | | histograms·of·point·maps |
| | object·collections | | sample·sets |
| | map·views | | two-dimensional·tables |
| | layouts | | matrices |
| | annotation·text·objects | | (user-defined)·filters |
| | domains | | user-defined·functions |
| | representations | | scripts |

ILWIS Introduction



➤ Map Window



ILWIS Introduction

➤ Table Window

Title bar

Menu bar

Change column properties buttons

Command line

Record view buttons

Data viewer

Status line

Scroll bars

| | may | june |
|-------------------|-----|------|
| Aro Cagua | 9 | 2 |
| Cerro MachaMach | 55 | 38 |
| Colca Pithua | 10 | 4 |
| Laguna Santa Rosa | 54 | 35 |
| Laguna Totura | 59 | 35 |
| LagunaWaraWara | 60 | 39 |
| PROMIC | 14 | 5 |
| taquina | 15 | 5 |
| UMSS | 10 | 5 |



ILWIS Introduction



➤ Pixel Information Window

The screenshot shows the ILWIS software interface. On the left is a map window titled 'geol: MapRasterizePolygon[geol.mpa.co...]' displaying a geographical map with various colored regions. Labels on the map include 'Cerro MachaMach', 'Laguna Totura', 'Laguna Santa Rosa', 'Laguna', 'PROMIC', and 'Colca Pithua'. A red circle highlights a specific area on the map, with a red arrow pointing from this circle to the 'Pixel Information' window on the right. The 'Pixel Information' window displays the following data:

| Property | Value |
|-------------|---------------------------------|
| Coordinate | {802570.000000,8080350.000000} |
| geol | qoa |
| GeolUnit | Older alluvial deposits |
| Lithology | Old alluvial deposits; pebbles, |
| geolage | Quarternary |
| landuse | Shrubs and low gras |
| description | Shrubs and low grasses |
| dem | 2838 |
| rainfall | PROMIC |
| january | 93 |
| february | 89 |
| march | 81 |

Below the map window, the status bar shows 'ColRow: (355,509) XY: (802570.00, 8080350.00)'. A small icon of a computer monitor with an 'i' on it is positioned below the Pixel Information window.



ILWIS Introduction



➤ ILWIS objects - Domain

Domain

Defines the values, classes or identifiers that can be stored in a map or column

ID

for data objects that contain unique identifiers (for instance 1024, 1025,...)

Class

for data objects that contain classes (for instance soil units like clay, sand, loam,...)

Value

for data objects that contain measurable values (for instance height, concentration, ...)

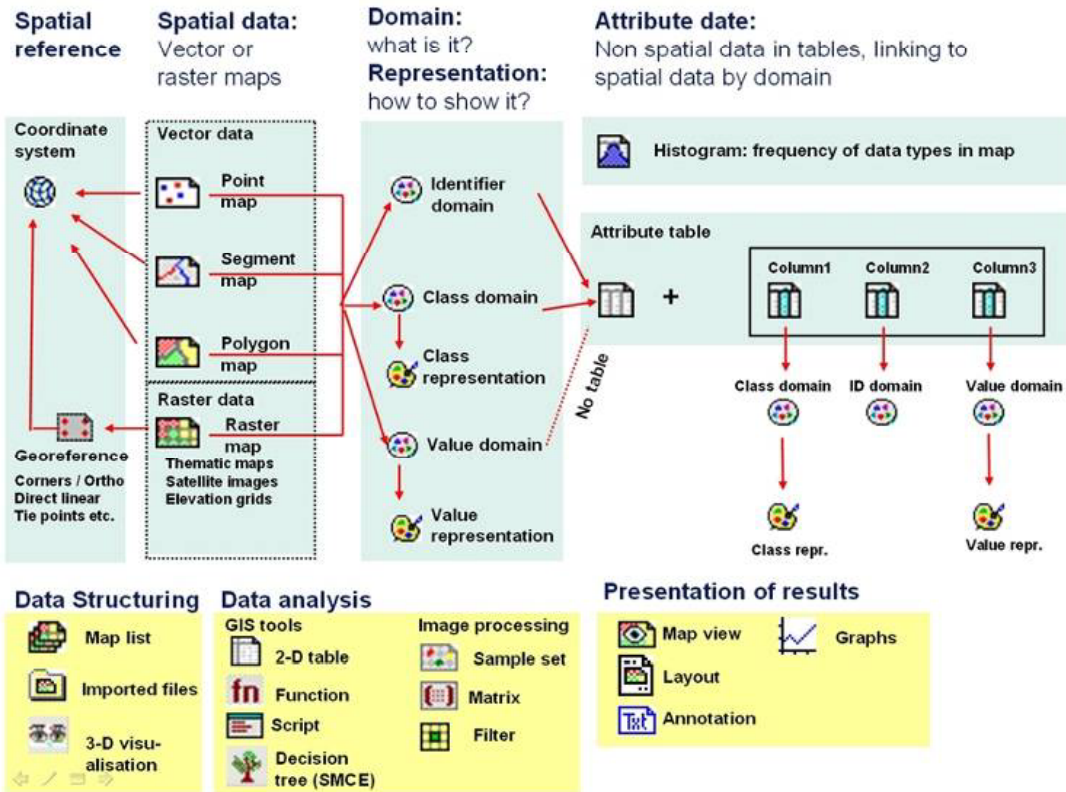
Image

for satellite images and scanned images that contain values between 0 and 255



ILWIS Introduction

➤ ILWIS objects - Domain

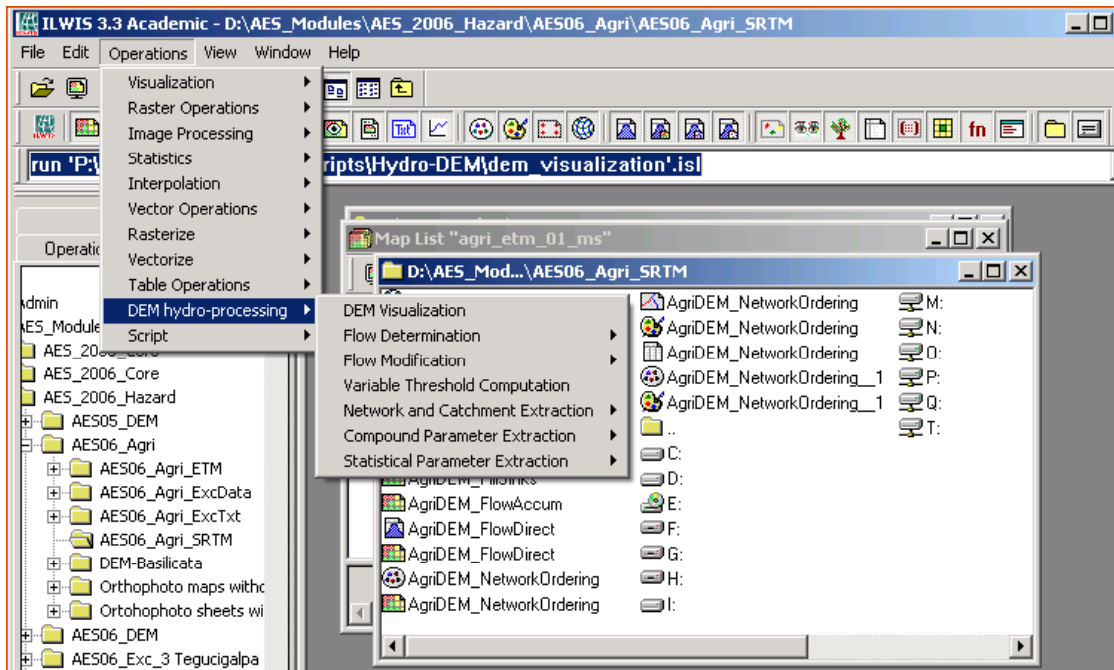




ILWIS Introduction

➤ Functionality

ILWIS functionality DEM Hydro Processing



ILWIS Introduction



➤ Free Data

ILWIS Free Download:

<http://52north.org/> Geoprocessing community



ILWIS Introduction



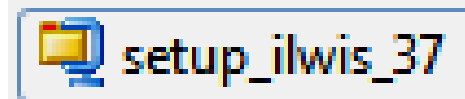
➤ ILWIS Installation



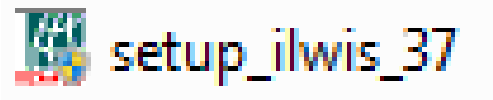
<http://52north.org/>

exploring horizons

1. UN-ZIP

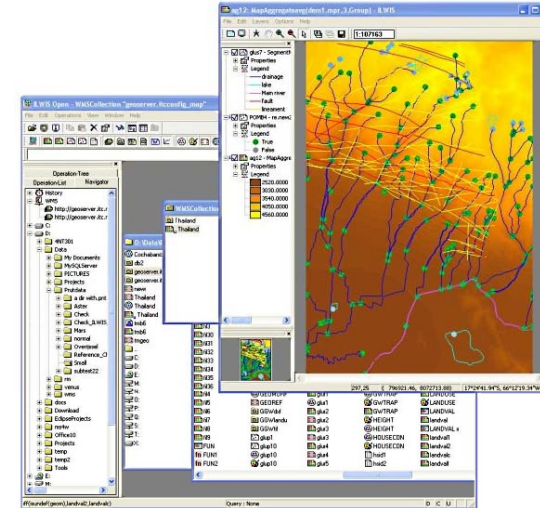


2. Click



3. Follow the ILWIS Set-up Wizard

ILWIS Introduction



Thanks,

Lets try it yourself

Introduction to ILWIS for Windows – Michiel Damen – ESA Dept.

