ILWIS Open

A flexible Open Source GIS

- Overview
- Applications
- Scripting & Map calculations
- Integration
- Case study : Geonetcast

What is ILWIS?

ILWIS: the **I**ntegrated **L**and and **W**ater **I**nformation **S**ystem

- PC-based integrated Geographical Information System (GIS) & Remote Sensing software
- Originally designed in 1985 for a land use zoning and watershed management project in Sumatra
- Developed originally at the ITC Netherlands now part of 52N
- Low Cost, Low threshold in use
- Open source (GPL)
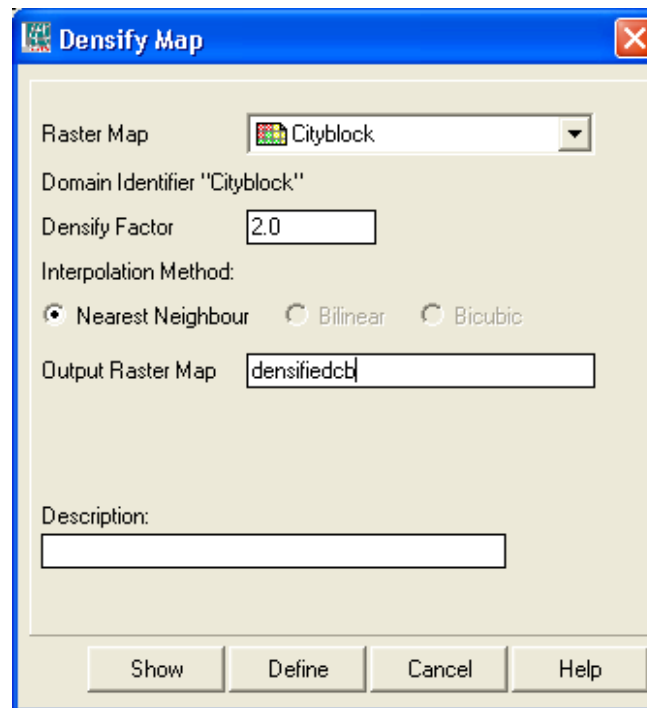
Overview

Regular components

Overview(2)

- Applications, operations on spatial and tabular data.
- Map calculations (more about that later)
- Extensive and flexible support for spatial reference systems and their transformations
- Large and comprehensive help system
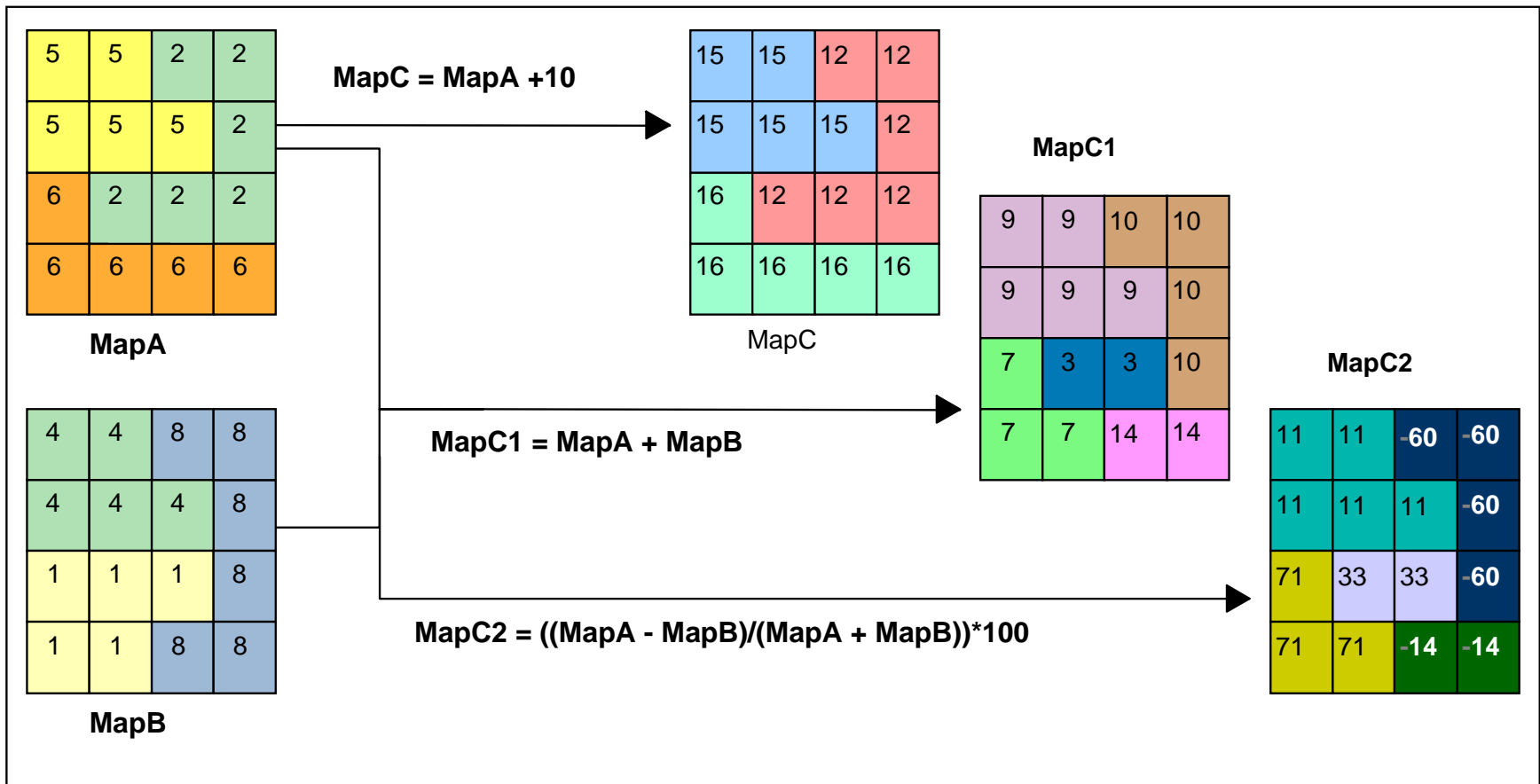- Ease of use

http://52north.org/ilwis

Applications

- All algorithmic operations on spatial and tabular data are called 'Applications'

- Applications are described by an expression e.g
dcb = *MapDensify(Cityblock,2,nearestneighbour)*

- Applications maybe used in other expressions and will be calculated as needed

Applications(2)

- User friendly way to enter expressions : applications forms

Map calculations

MapC = MapA +10

5	5	2	2
5	5	5	2
6	2	2	2
6	6	6	6

MapA

15	15	12	12
15	15	15	12
16	12	12	12
16	16	16	16

MapC

MapC1

9	9	10	10
9	9	9	10
7	3	3	10
7	7	14	14

MapC1 = MapA + MapB

4	4	8	8
4	4	4	8
1	1	1	8
1	1	8	8

MapB

MapC2

11	11	-60	-60
11	11	11	-60
71	33	33	-60
71	71	-14	-14

MapC2 = ((MapA - MapB)/(MapA + MapB))*100

Scripting

- Multiple applications combined with arithmetic, conditional and logical operations can be combined in a so called script which will be executed in sequential order

- Very easy to model complex combinations of different spatial data sources

Integration

- All ILWIS commands can be used within a DOS batch file
  ILWIS –C "<Any expression>"
  - This facilitates the usage of ILWIS in environments which needs heterogeneous use of processing software
  - Same interface can also be used through a C style interface
- Any External program can be used/started from within the ILWIS environment.
  - ILWIS is able to manage the execution flow of external programs

Geonetcast : Near real-time satellite reception

- Communication satellite based data distribution system
- Inexpensive way to access global data from freely available satellite products
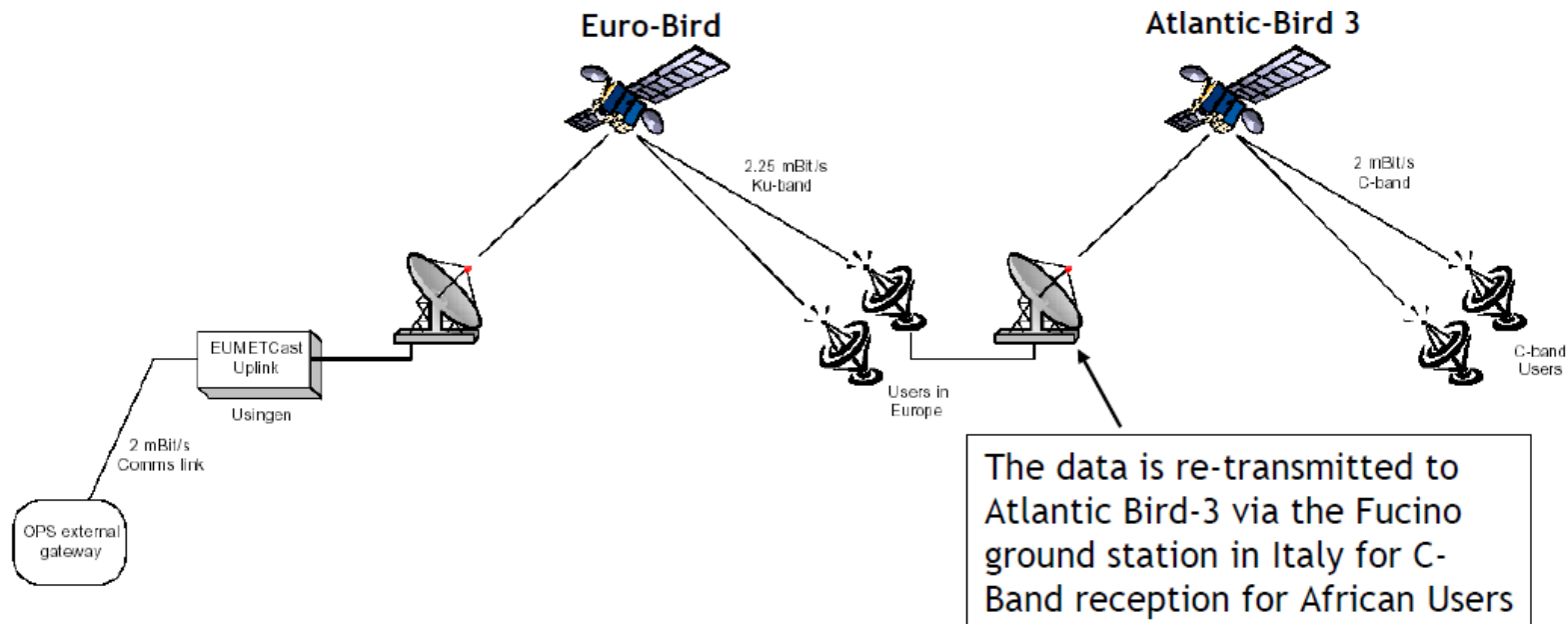
Case Study : Geonetcast

- **The GEONETCast Toolbox, developed as a plug-in as of the ILWIS version 3.6, is offering a set of utilities that facilitate easy import of various free satellite and environmental data / products that are disseminated via GEONETCast, into a GIS environment.**
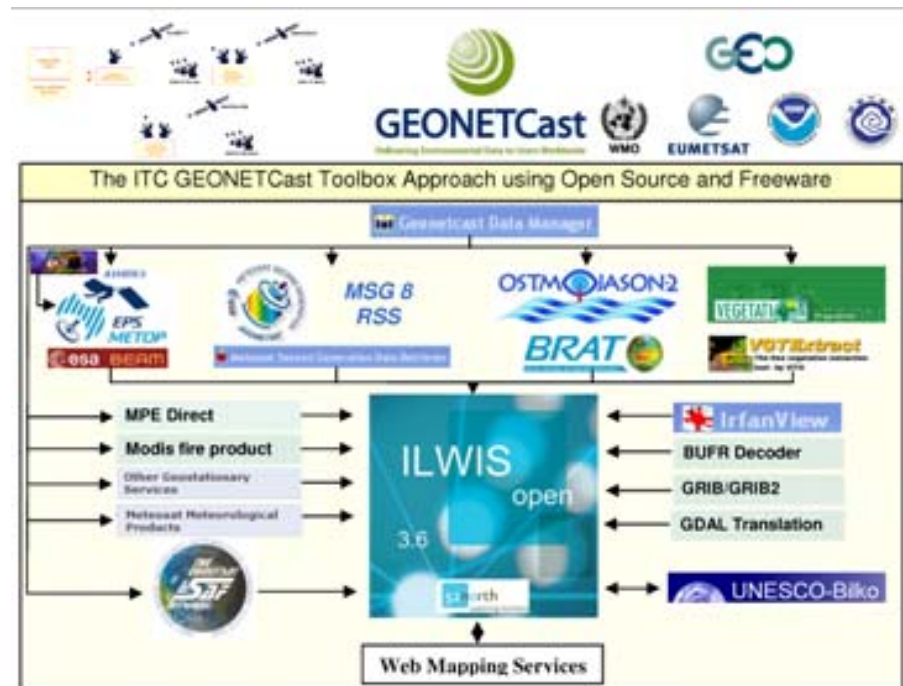
Putting things together

- Near-real time visualization:(1) using Windows Scheduler – (2) batch
- routines to extract new data – (3) Ilwis scripts for processing and (4)
- Virtually any application can be built depending on the User needs

rem: directory with raw MSG-Data is \\Pc2133-24002\Rawdata20061220\ and should be mapped as network drive z:\ on local system

d:\msgdataretriever\gdalwarp.exe --config GDAL_CACHEMAX 30 -t_srs "+proj=latlong" -te -12.059870 34.265180 18.662739 64.129717 -tr 0.04300 0.04300 -of ILWIS MSG(Z:\,%date:~-4,4%%date:~-7,2%%date:~-10,2%%1,(1,2,3),N,B,1,1) D:\MSG_auto\vis%1

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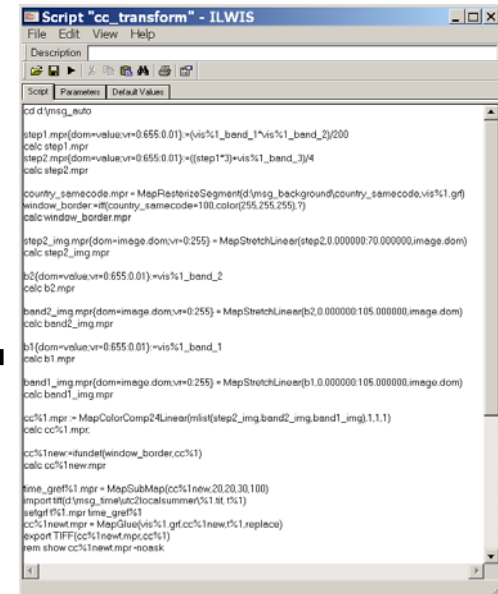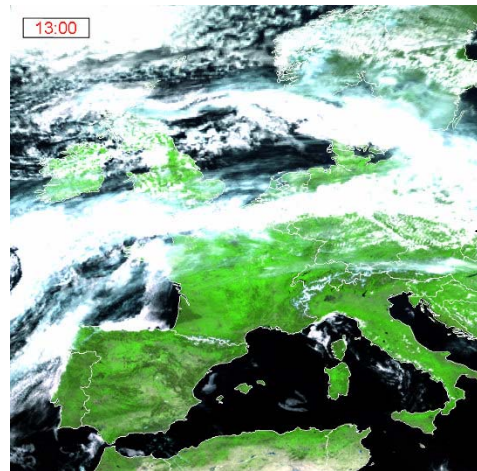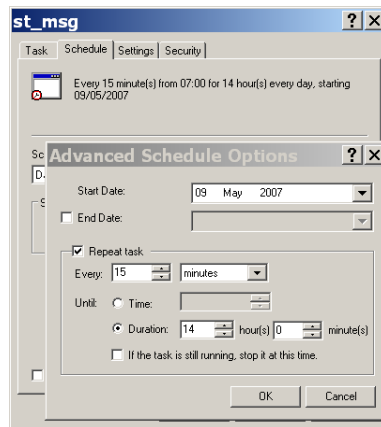
In Practice

- GEONETCast African Service received in Africa

End products
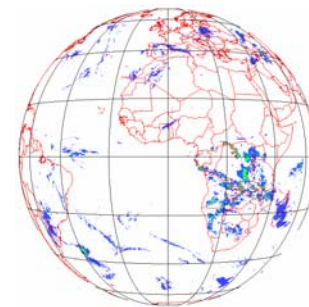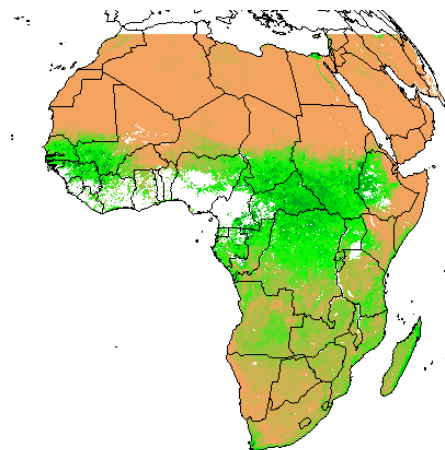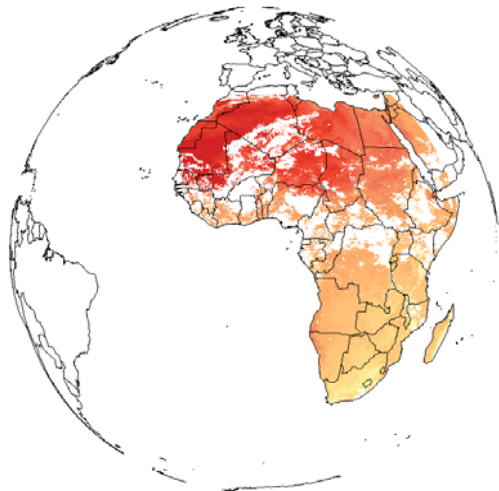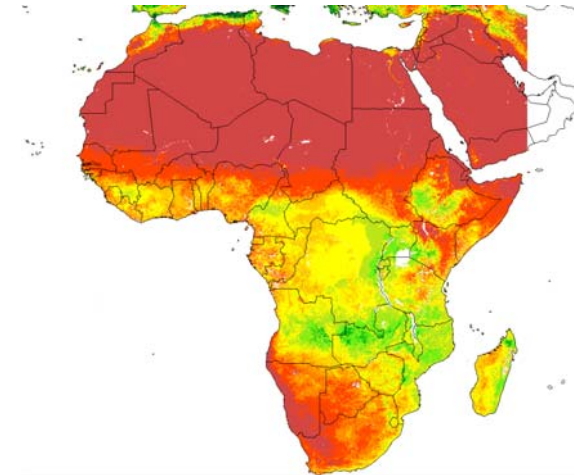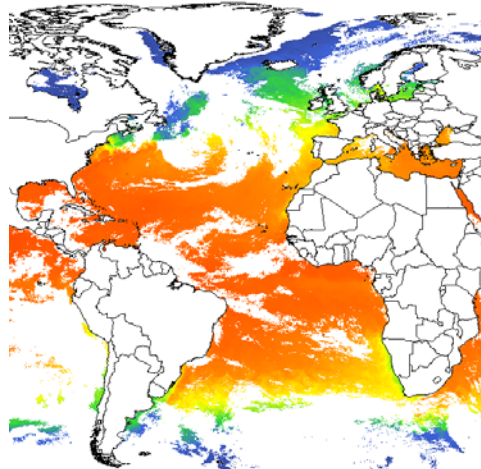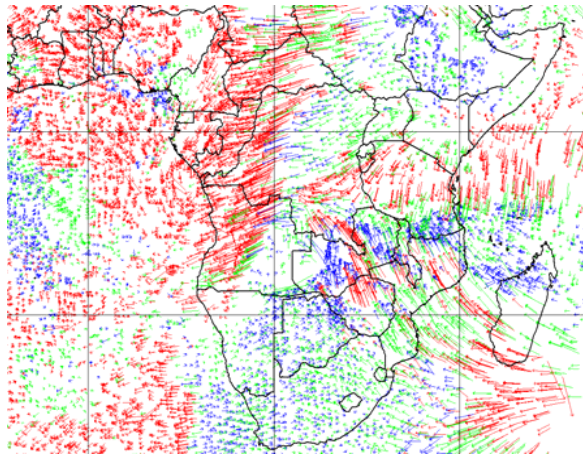
And much more. ……..

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