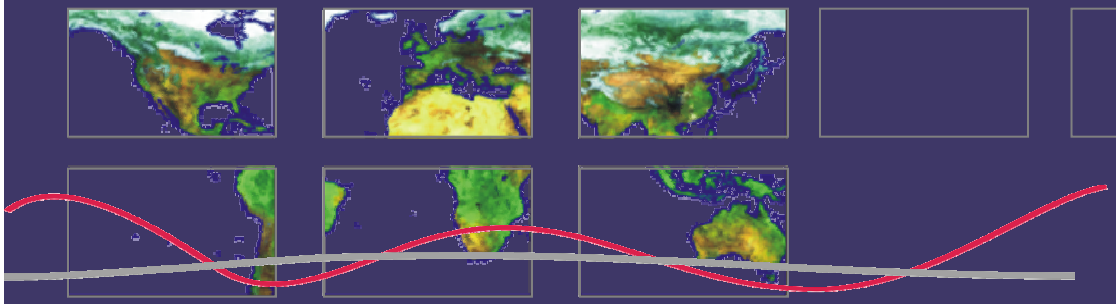
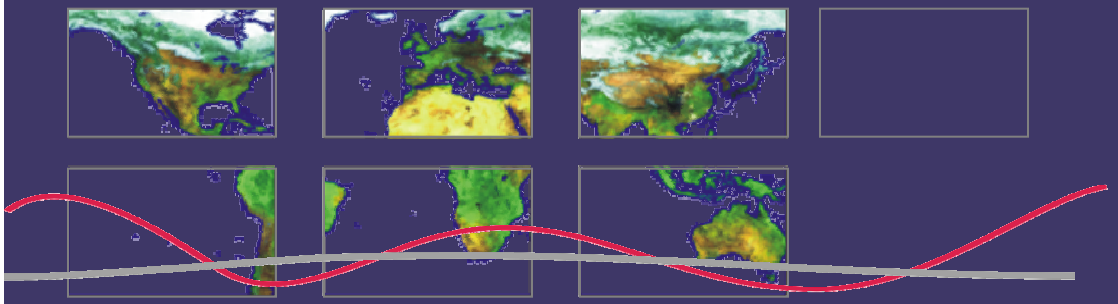


ECOSEG

Spatio-temporal segmentation based on subsequences of satellite image time series

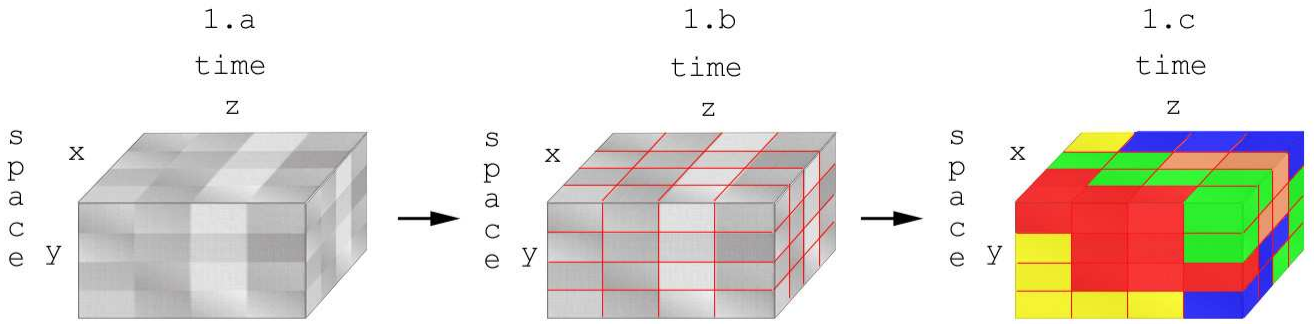
M3-BIORES, KULeuven

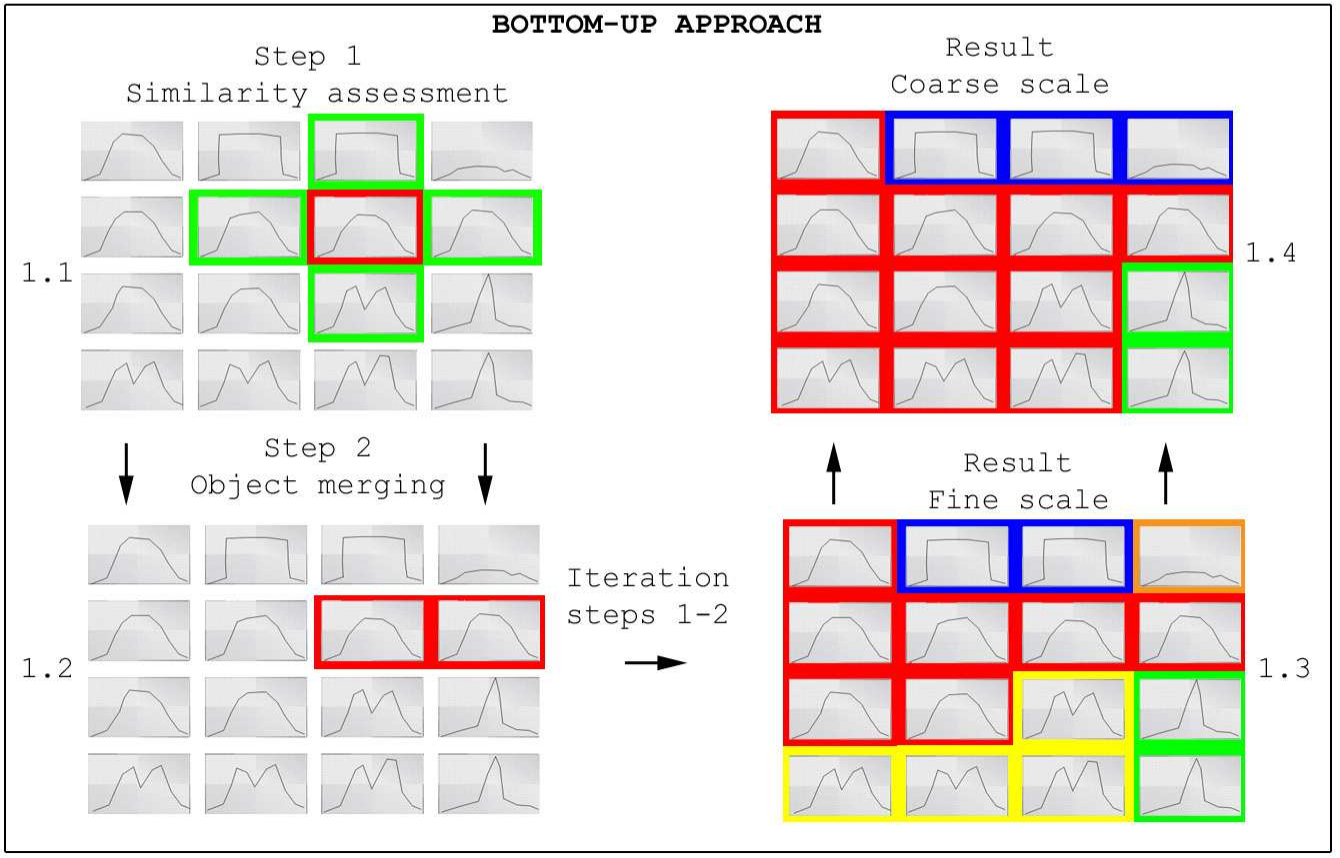
CSIRO Forest Biosciences

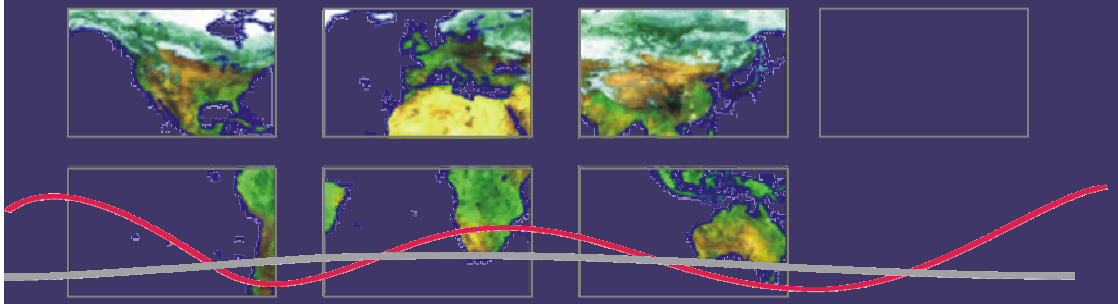


Why?

- Importance of:
  - Spatial information
  - Temporal information
  - Hierarchical information


1.a
time
z
space
x
y
1.b
time
z
space
x
y
1.c
time
z
space
x
y


BOTTOM-UP APPROACH
Step 1
Similarity assessment
1.1
Result
Coarse scale
1.4
Step 2
Object merging
1.2
Iteration
steps 1-2
Result
Fine scale
1.3



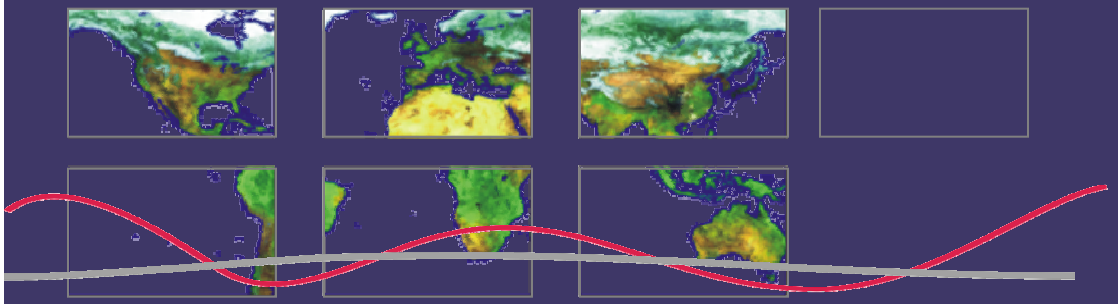
Research steps

- Development of EMTHIS:

  enhanced multi-temporal hierarchical image segmentation tool

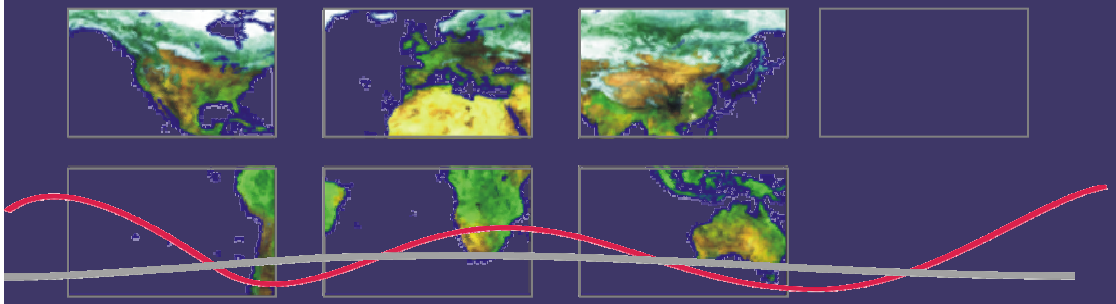
- Implementation, validation and optimization

- Dissemination



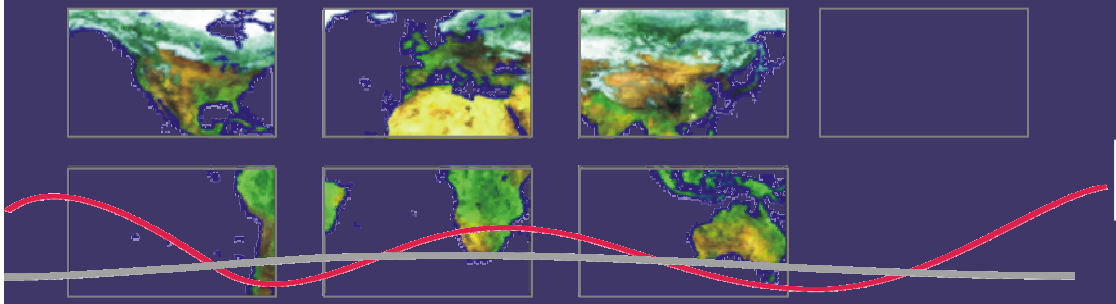
Development EMTHIS

- Comparison similarity measures
  - Raw value based
  - Transformation based
  - Metric based
- Introduction texture
- Development GUI



Implementation

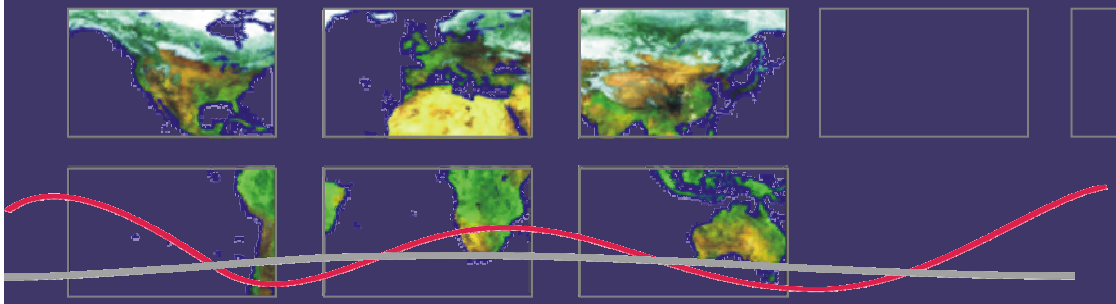
- Artificial data sets:
  - Europe, South-Africa, Australia
- Comparison approaches and similarity measures
- Application on time series biophysical indicators forest health



Dissemination

- Publications
  - Lhermitte *et al.* (2008). Hierarchical image segmentation based on similarity of NDVI time series. Remote Sensing of Environment, 112 (2), 506-521.
  - Lhermitte *et al*. (submitted). Comparison of time series similarity measures for mapping NDVI time series and detecting changes. Remote Sensing of Environment.
- Workshops
- Website

  www.kuleuven.be/ecoseg



Thank you for your attention!

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jan.verbesselt@csiro.au