2nd EARSeL Workshop on
Education and Training

Development of a Web-based Remote Sensing Software for Schools

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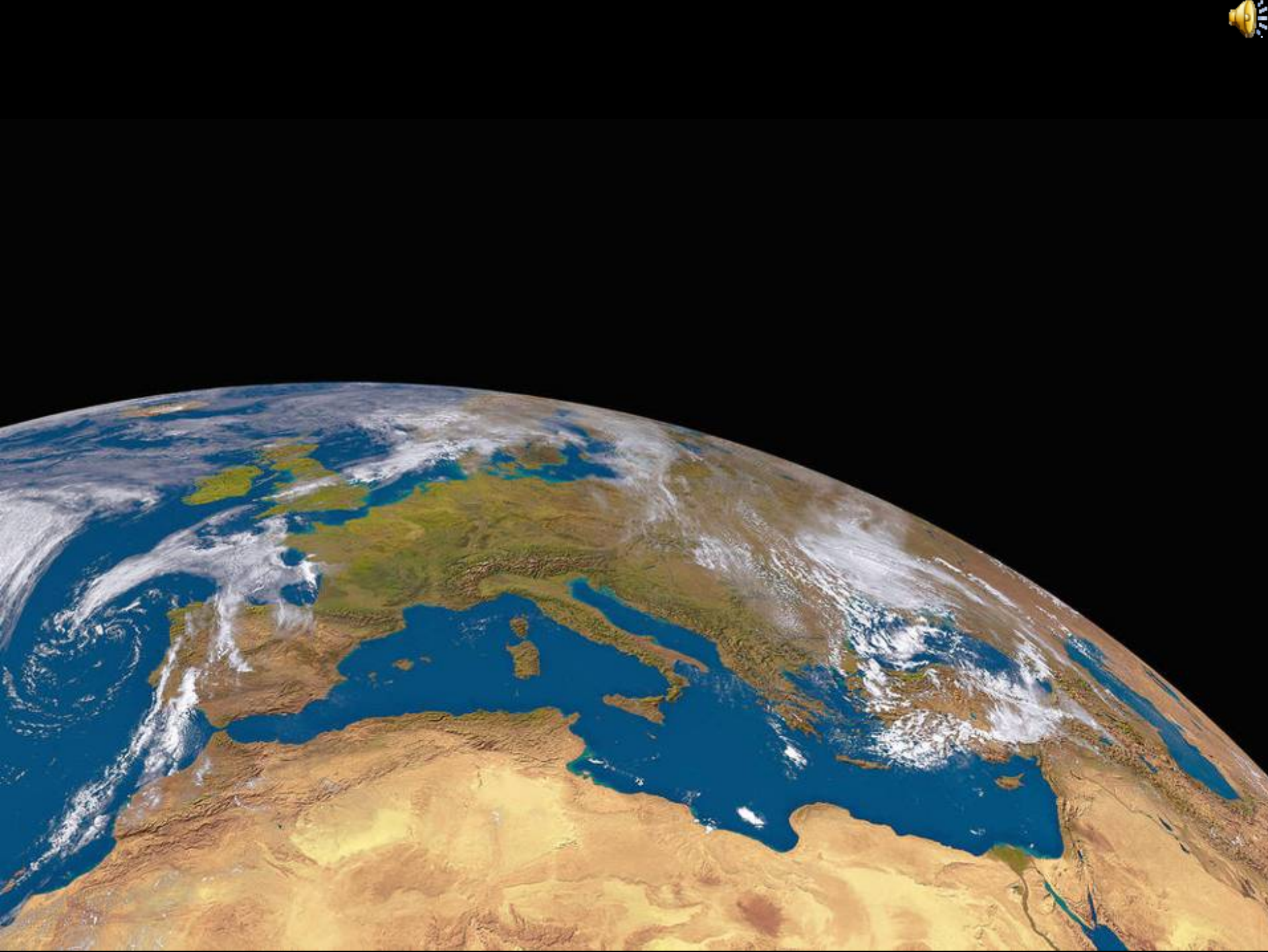
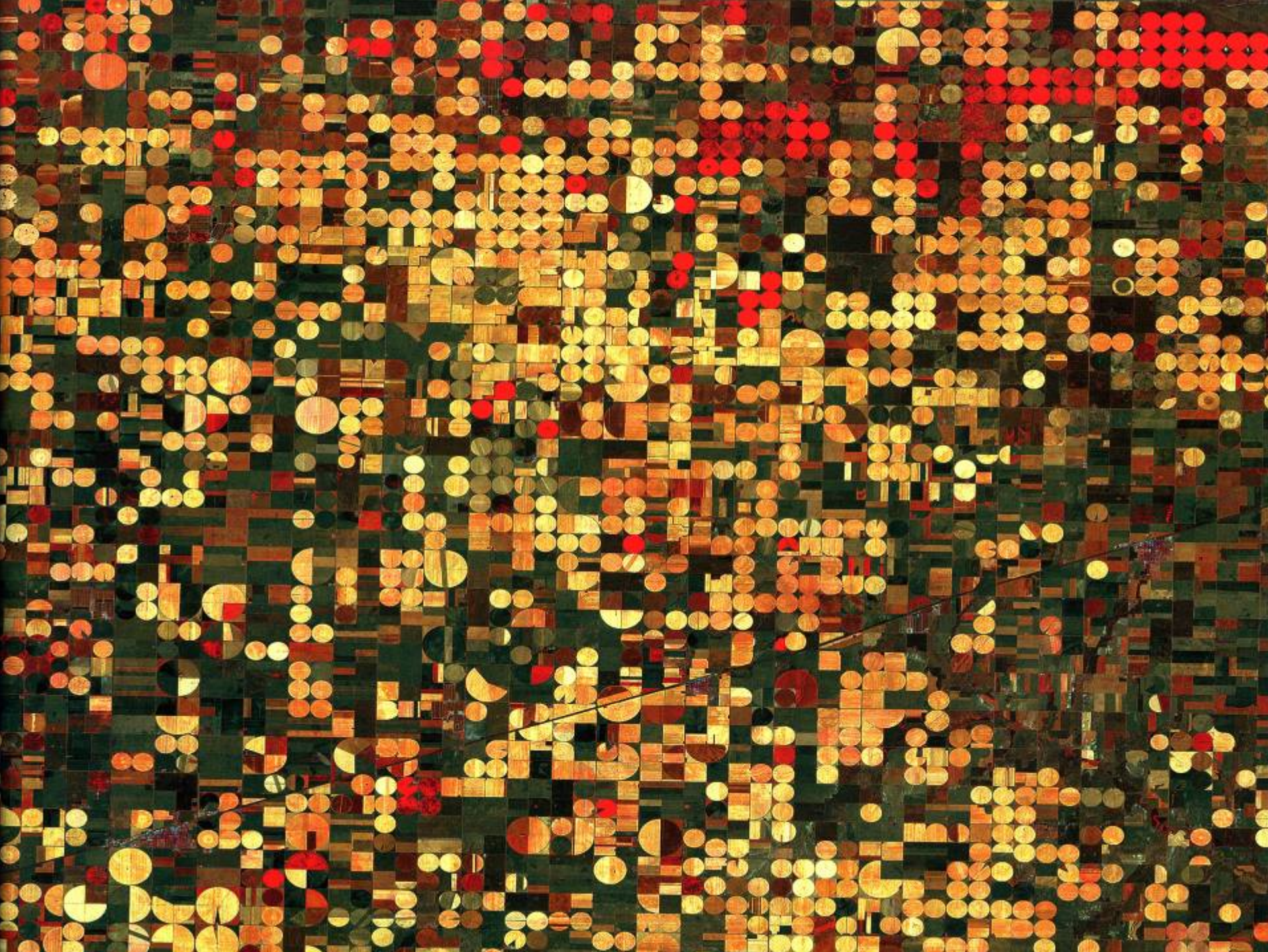
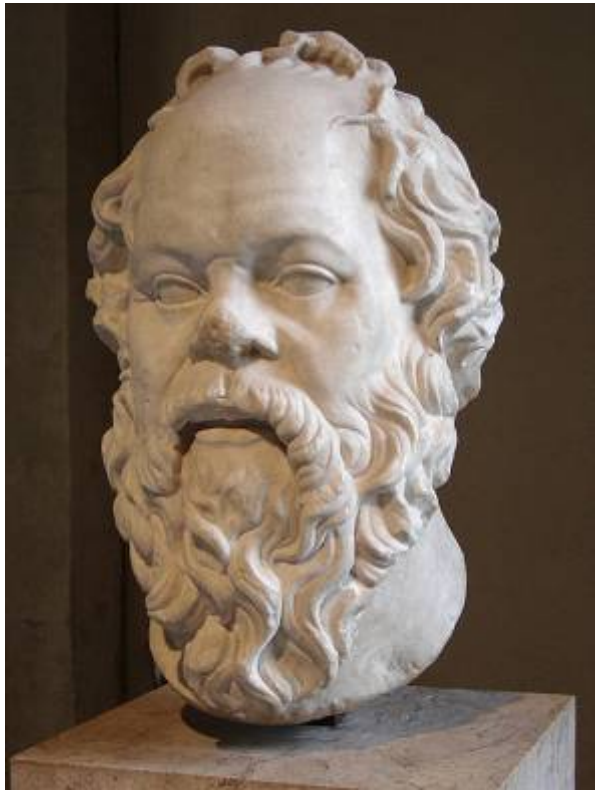
Chania, 16. June 2009





Potential of Remote Sensing in School



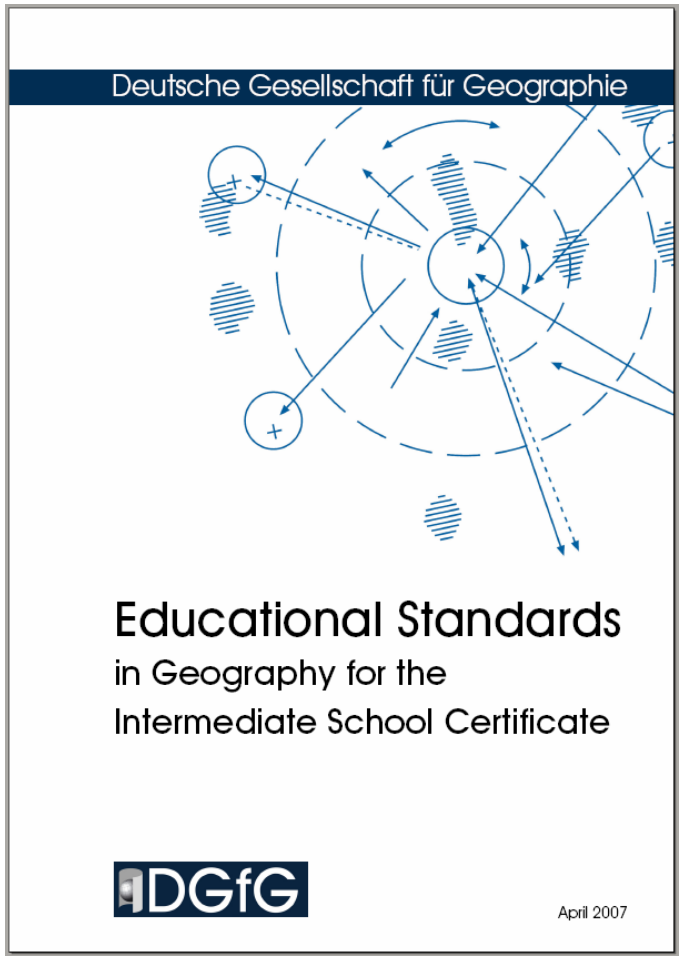
„We would understand the earth, if we could see it from above “

Sokrates

„As I flew around the earth, I recognized its beauty…“

Jurij Gagarin

Educational Standards



Standards for the competence area "Spatial Orientation“

“topographic knowledge and skills and competences (…) to produce simple maps of one‘s own.”

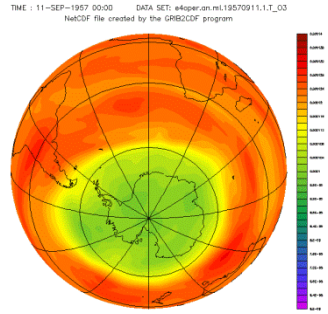
Standards for the competence area "Acquisition of Knowledge/ Methodology“

“Knowledge of sources and forms of information, and information strategies (**M1**),
ability to gather information (**M2**),
ability to analyse information (**M3**),
ability to describe methodological steps for acquiring geographical/ geoscientific information (**M4**)”

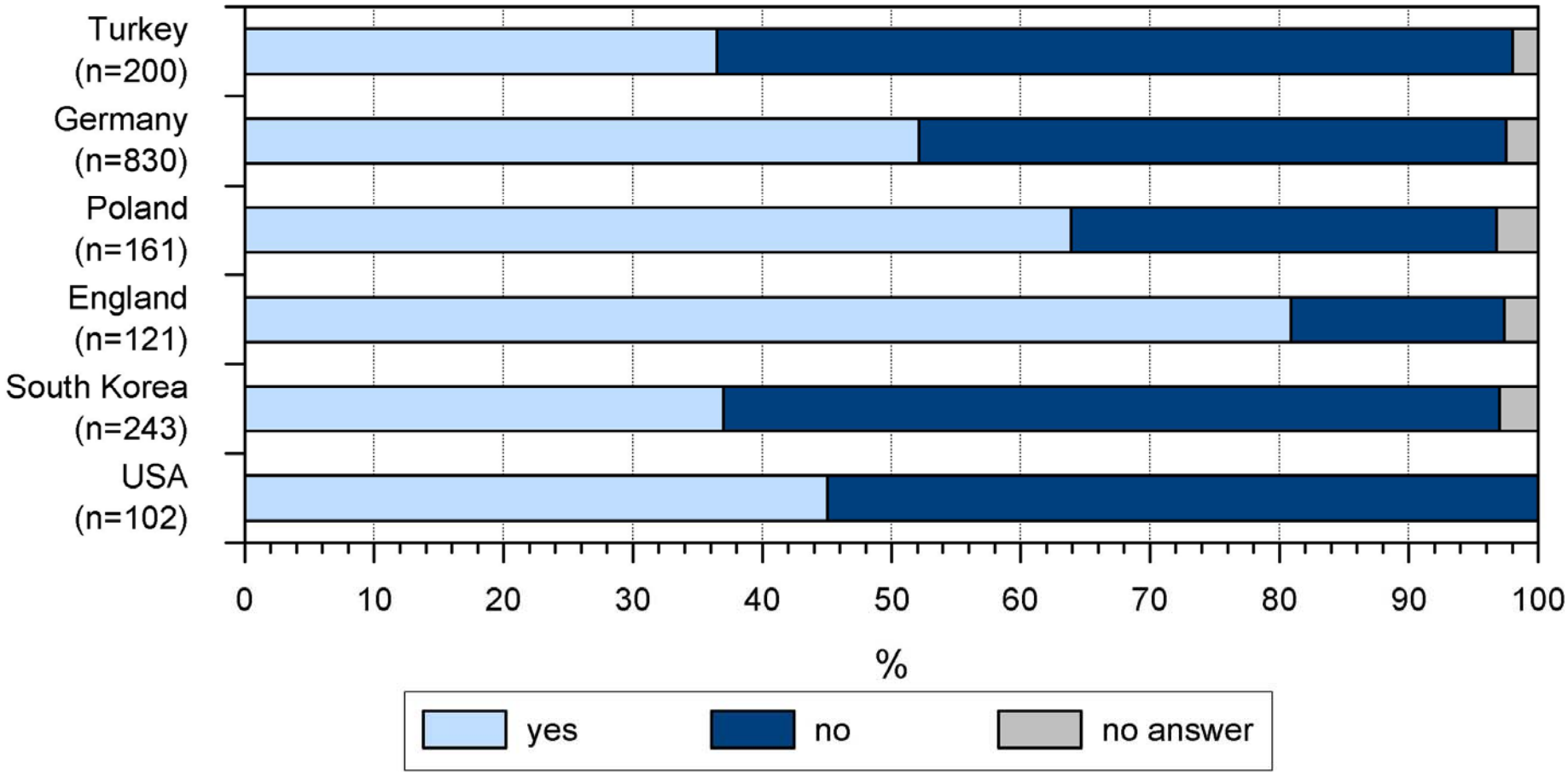
Standards for the competence area "Evaluation"

“They learn, about the different value of maps, aerial photographs and **satellite images** (…) transform data into maps or diagrams”.

Satellite Images in Schools – Global to Local

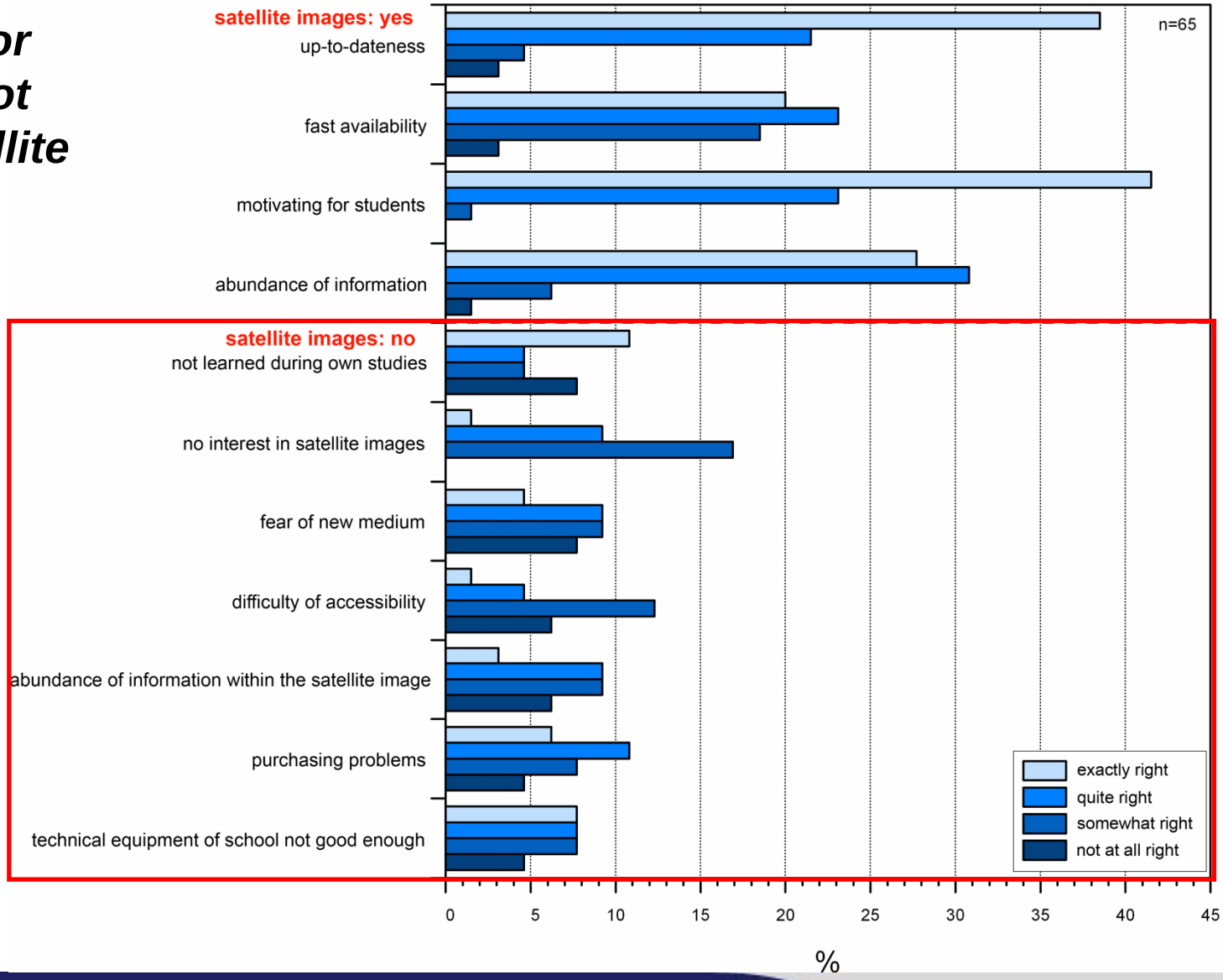
Scale Level	Examples	Use of Remote Sensing
	• Hole in the ozone layer • Shifting of ecozone • …	
	• Deforestation of the rainforest • Desertification • Land-use change and land consumption • …	
	• Discovering proximity • Transport infrastructure • Digging and mining of georessources • …	

"I have already worked with satellite images at school ..."

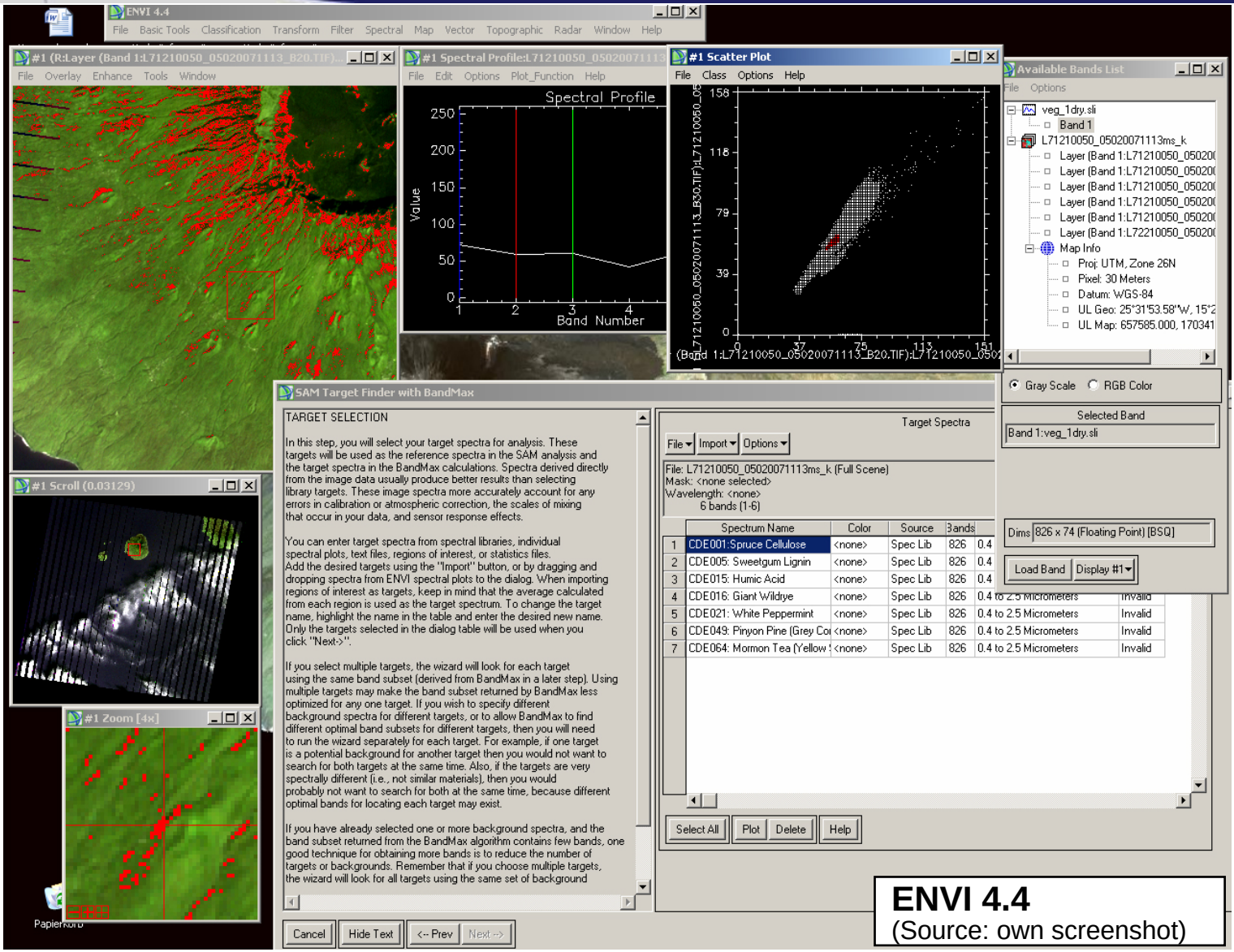


International Comparative Study

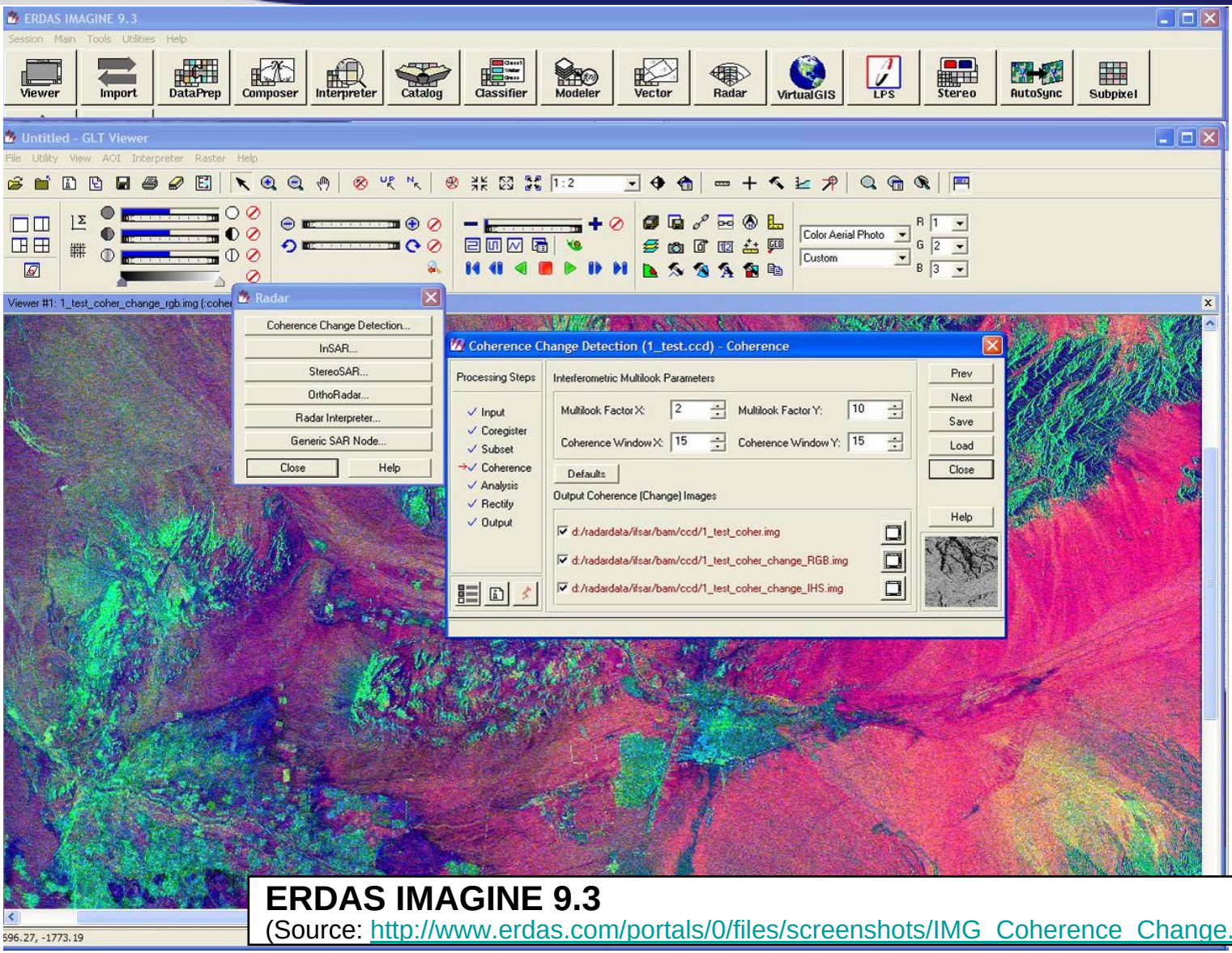
Reasons for using or not using satellite images in schools



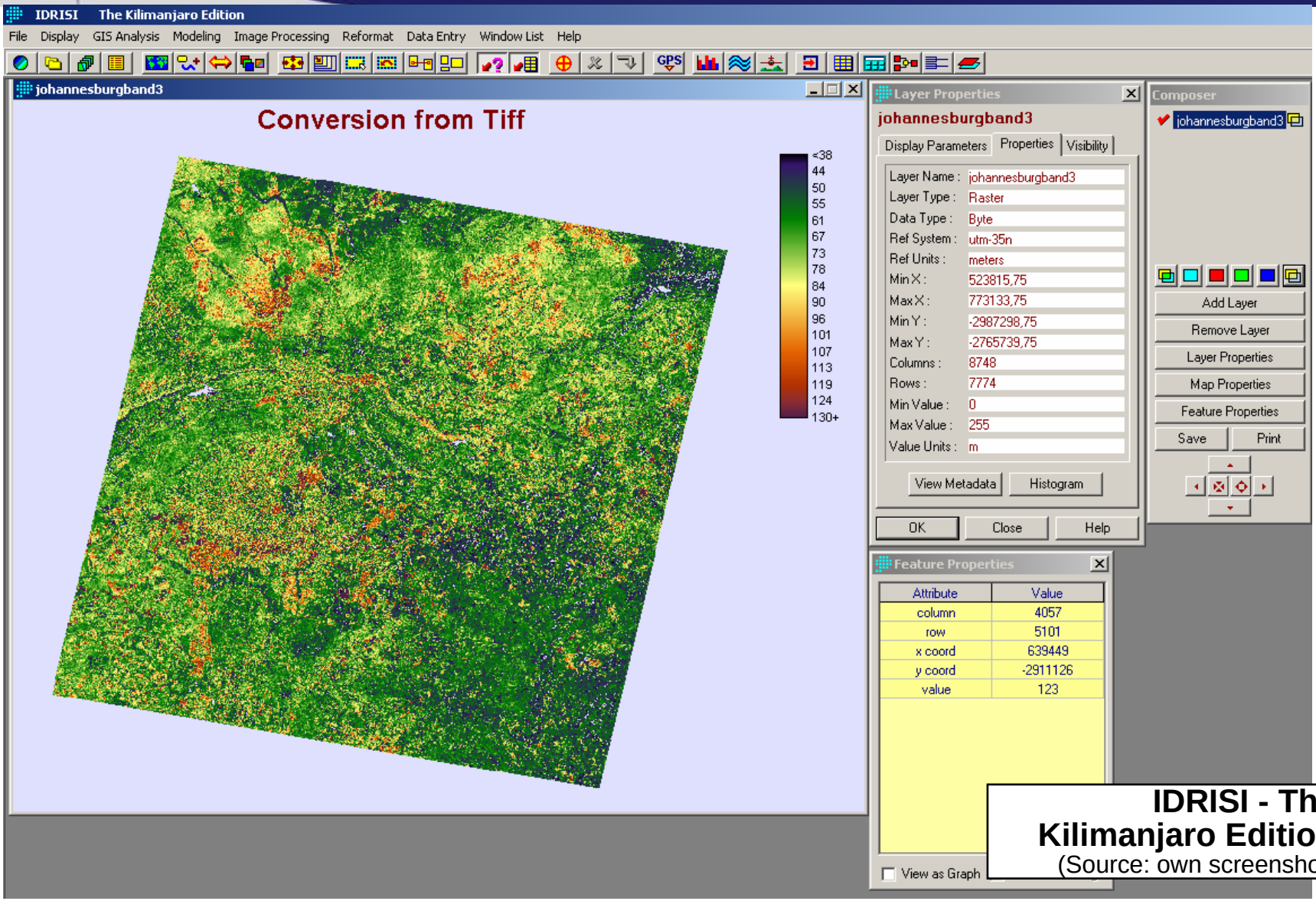
Professional Remote Sensing Software



ENVI 4.4
(Source: own screenshot)

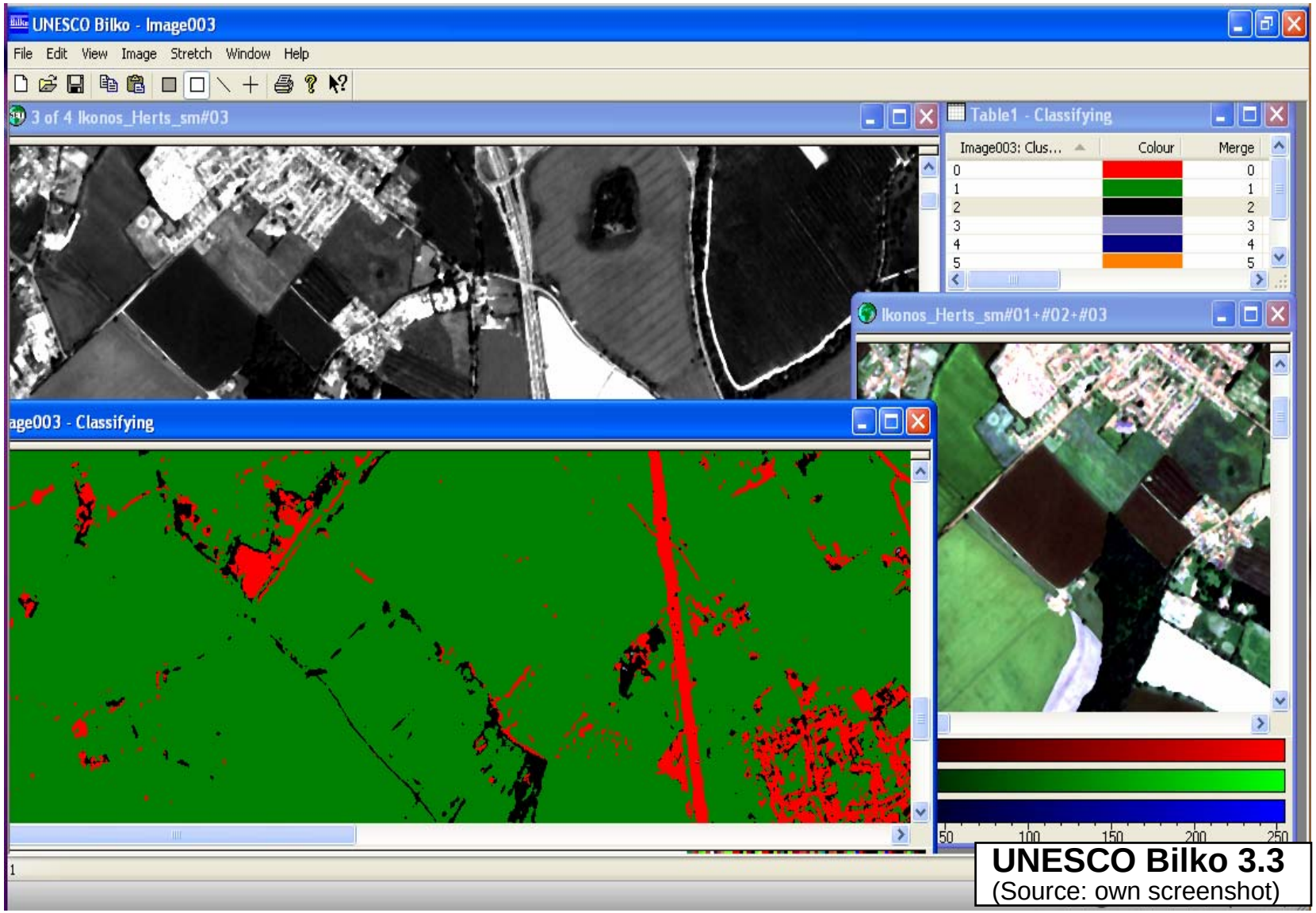


ERDAS IMAGINE 9.3
(Source: http://www.erdas.com/portals/0/files/screenshots/IMG_Coherence_Change.JPG)

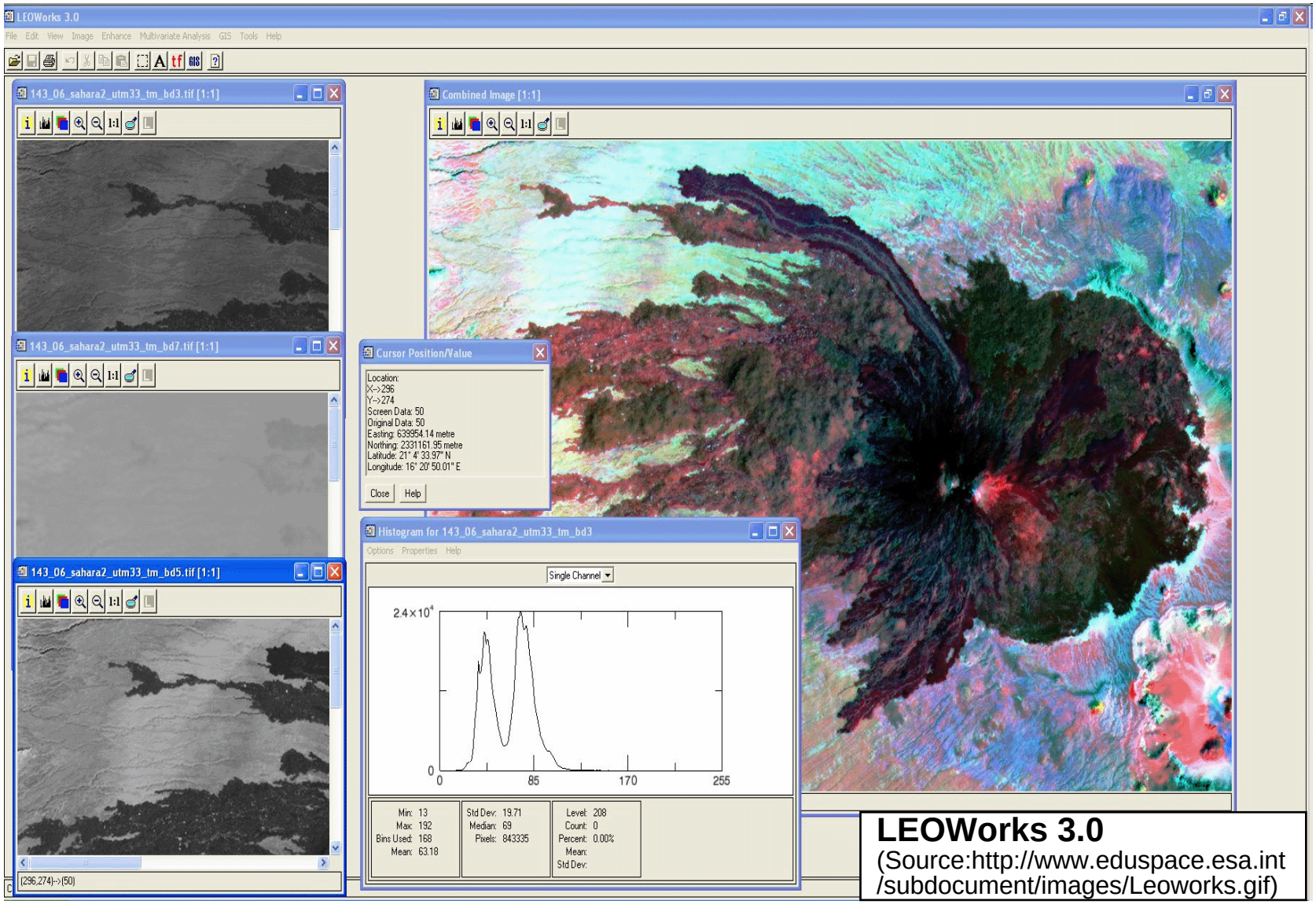


IDRISI - The Kilimanjaro Edition
(Source: own screenshot)

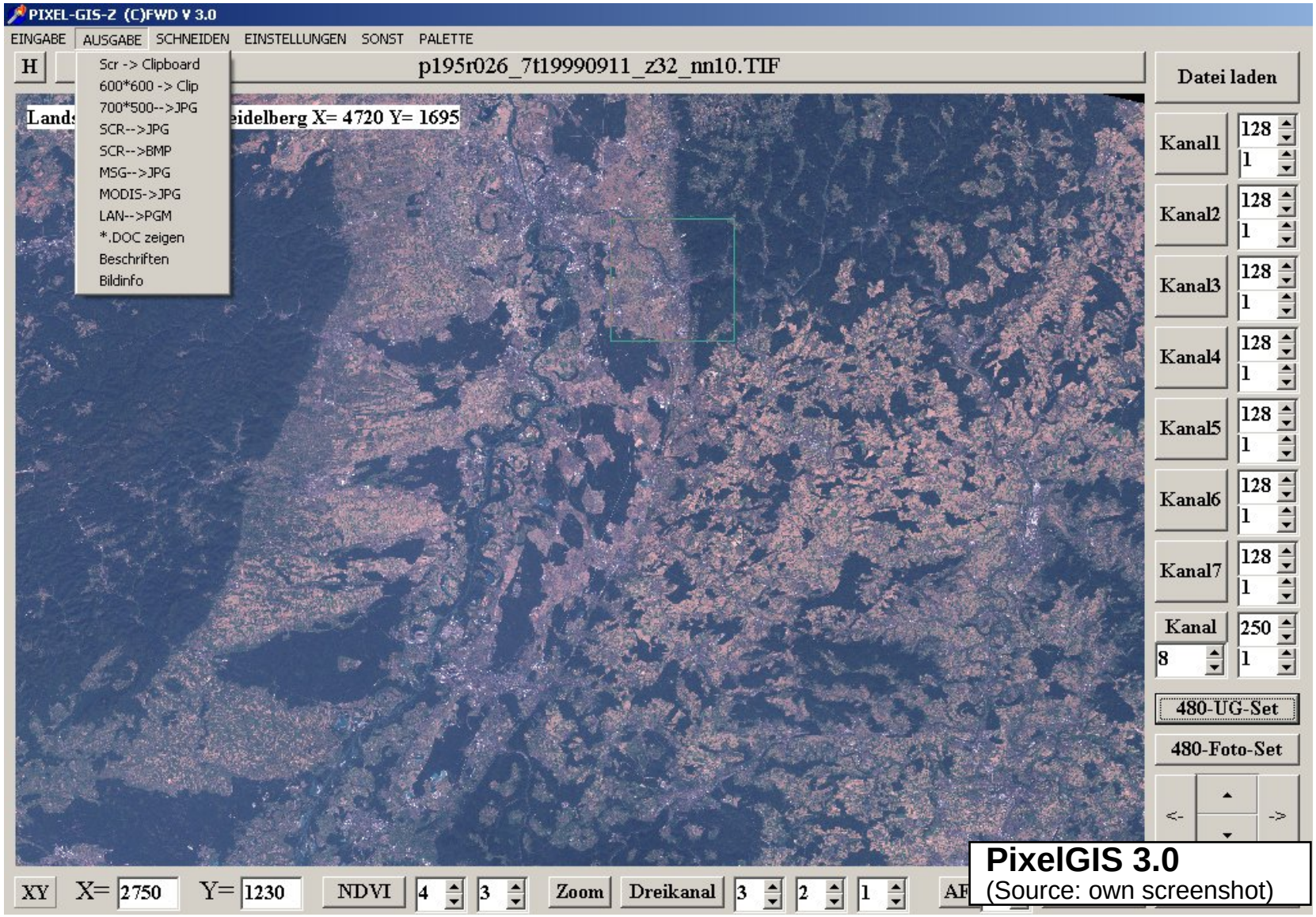
Remote Sensing Software for Students



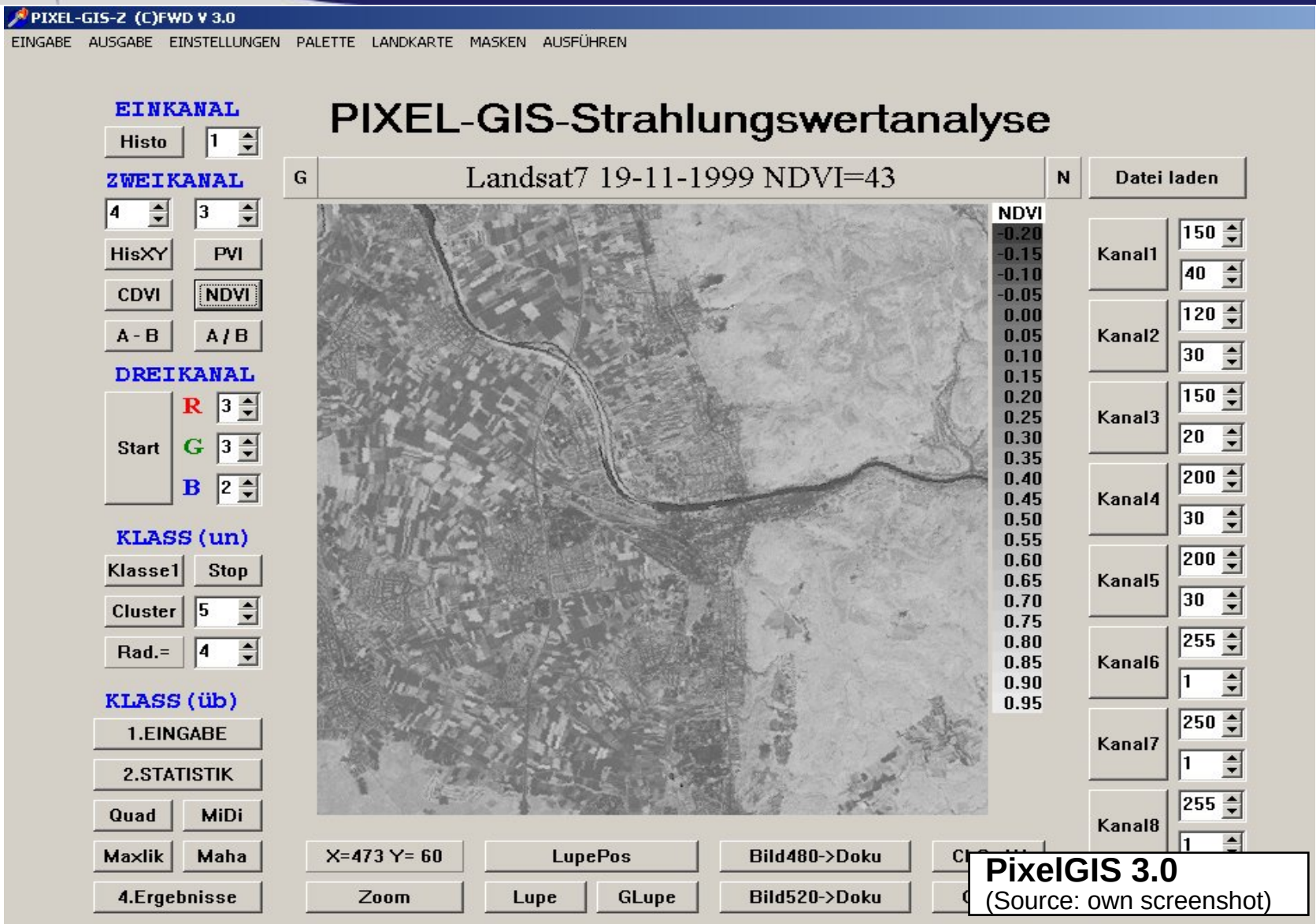
UNESCO Bilko 3.3
(Source: own screenshot)



LEOWorks 3.0
(Source:http://www.eduspace.esa.int/subdocument/images/Leoworks.gif)



PixelGIS 3.0
(Source: own screenshot)

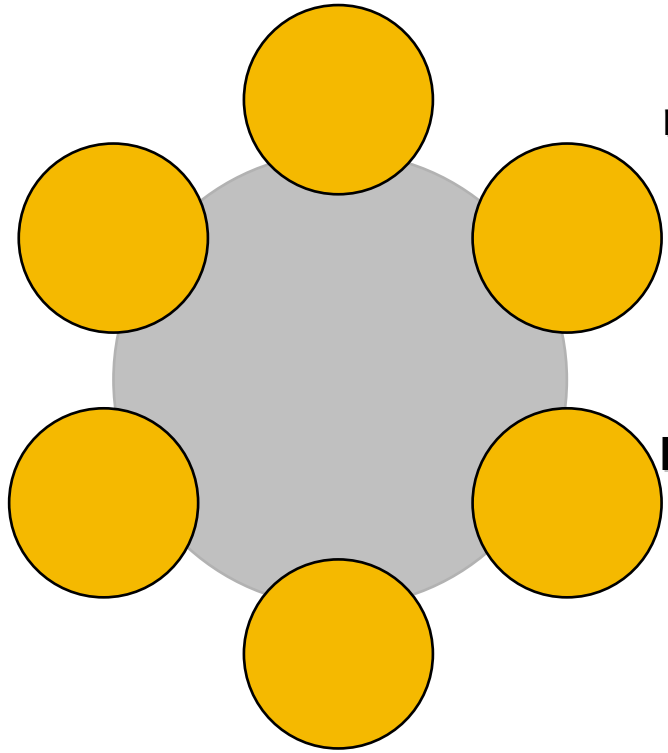


PixelGIS 3.0
(Source: own screenshot)

Evaluation and Dissemination of Remote Sensing Software BLIF

Compilation of satellite images on an dynamic web server

Basic conditions for requesting remote sensing software in schools



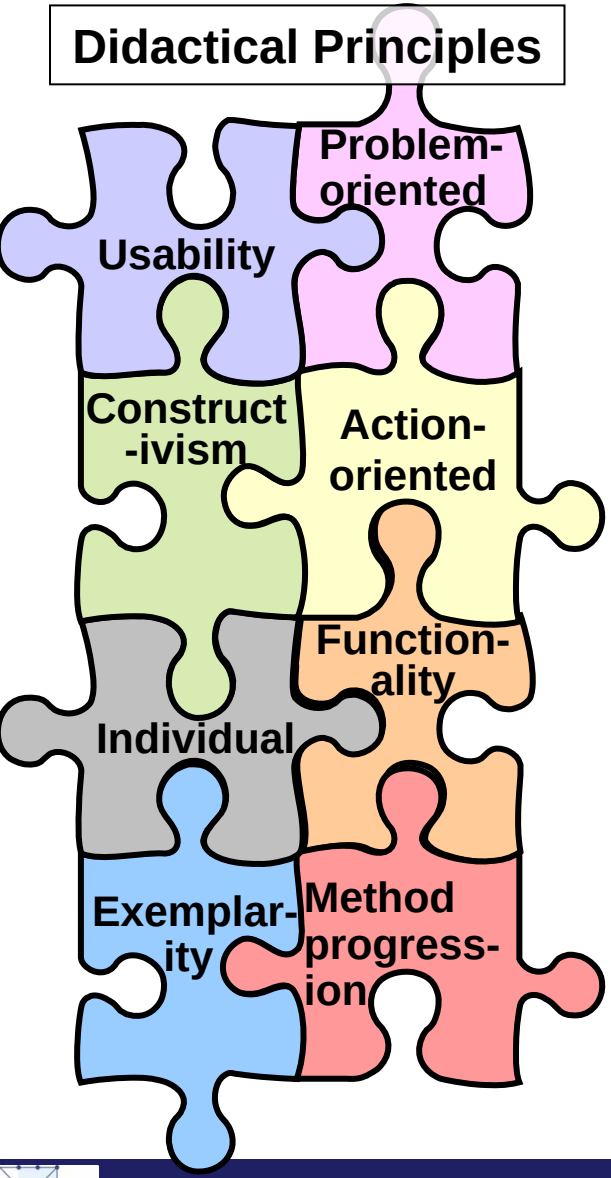
Development of teaching and learning aids (conforming to educational standards)

Furthering of a didactical remote sensing concept

Development of BLIF

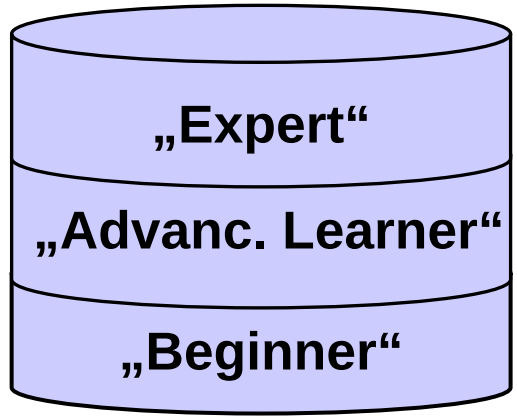
Conception of BLIF

Didactical Principles

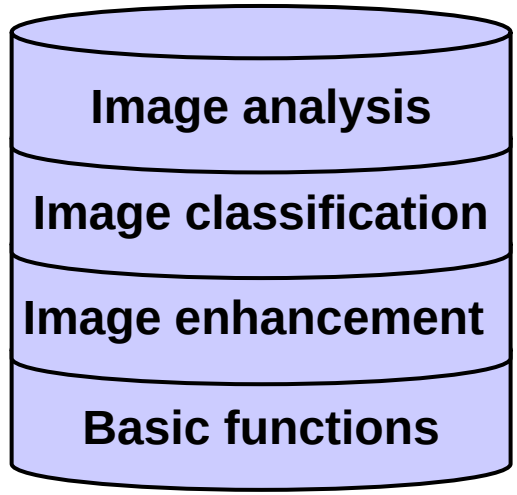


Two Modes

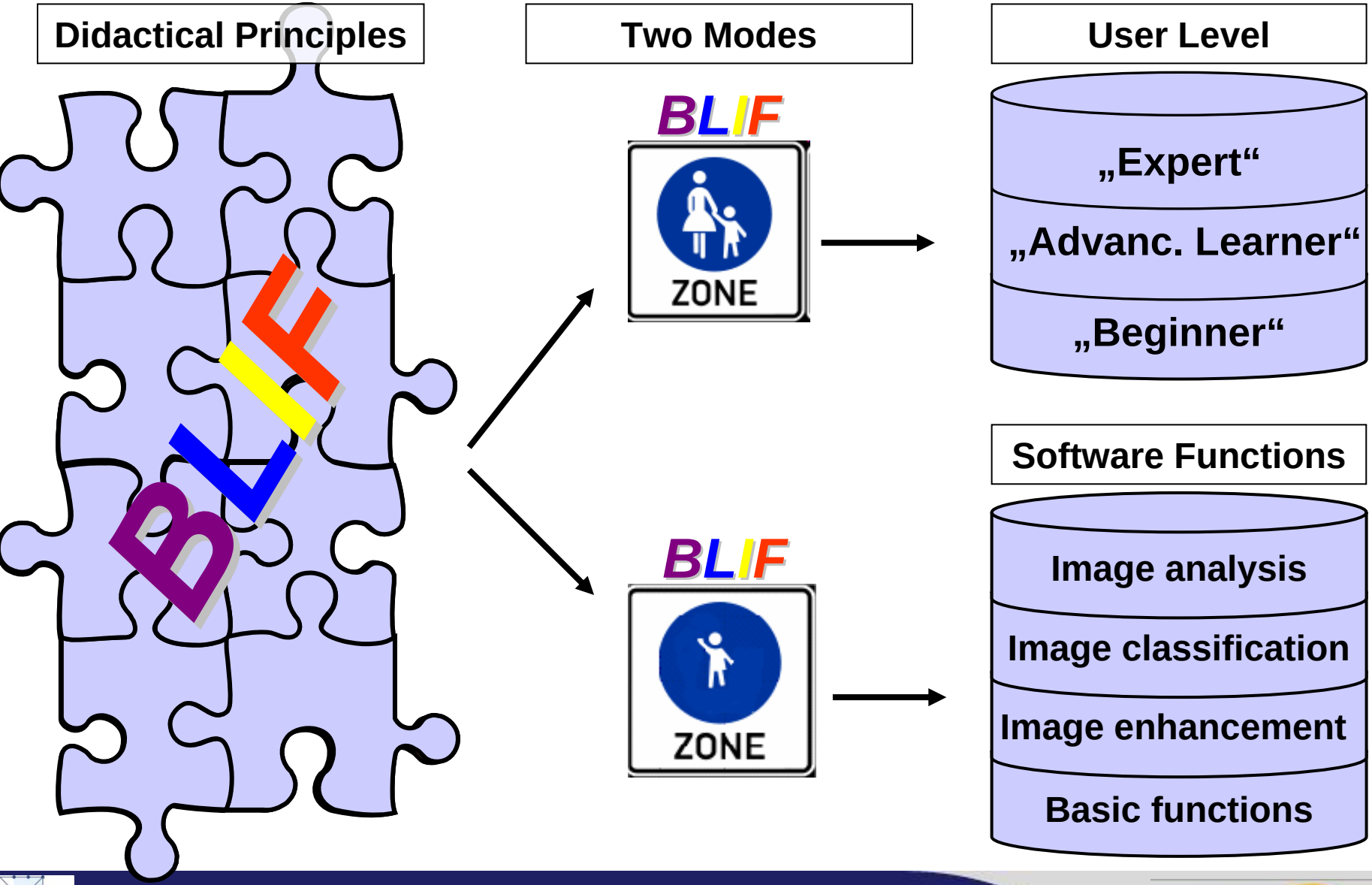
User Level



Software Functions

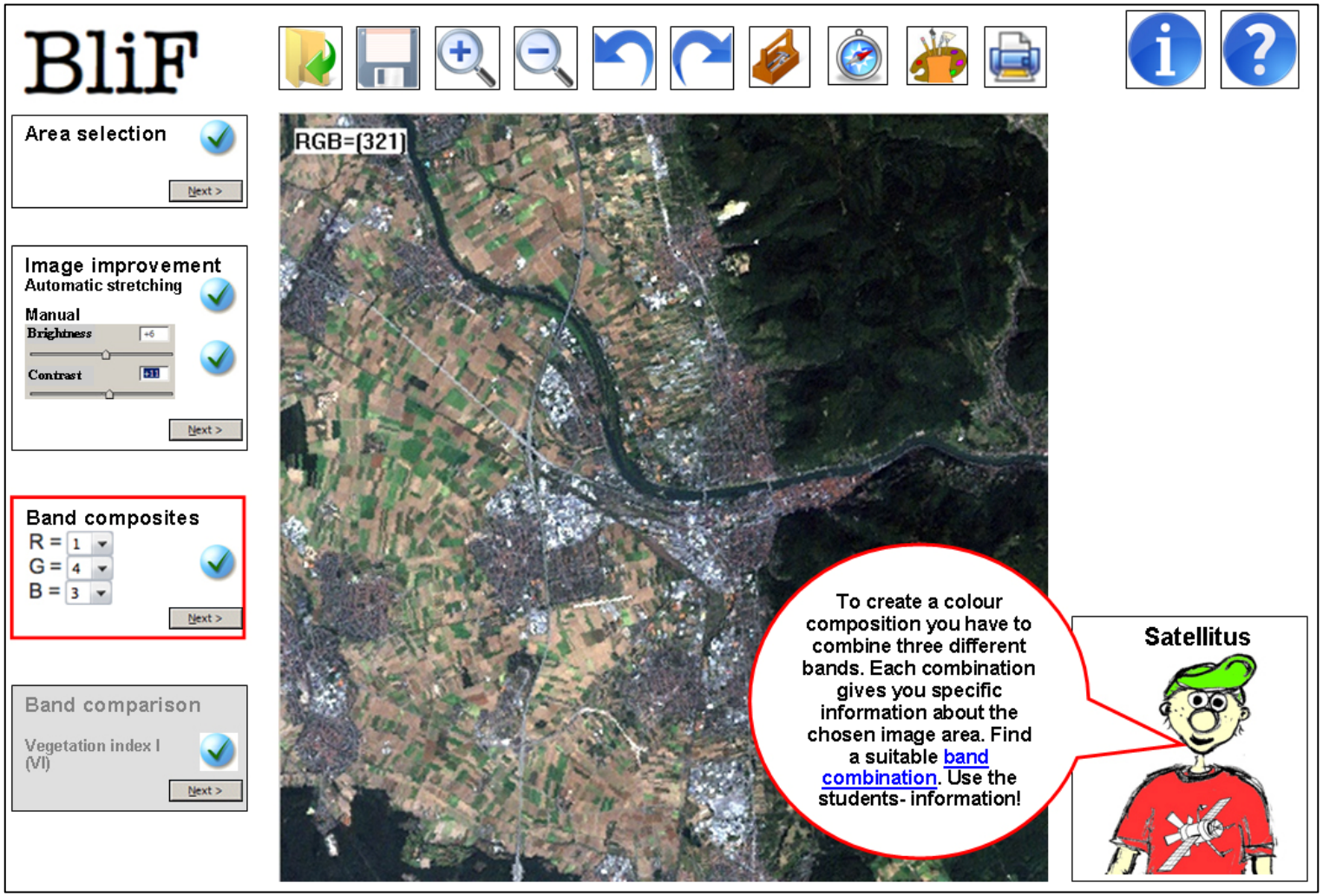


Conception of BLIF



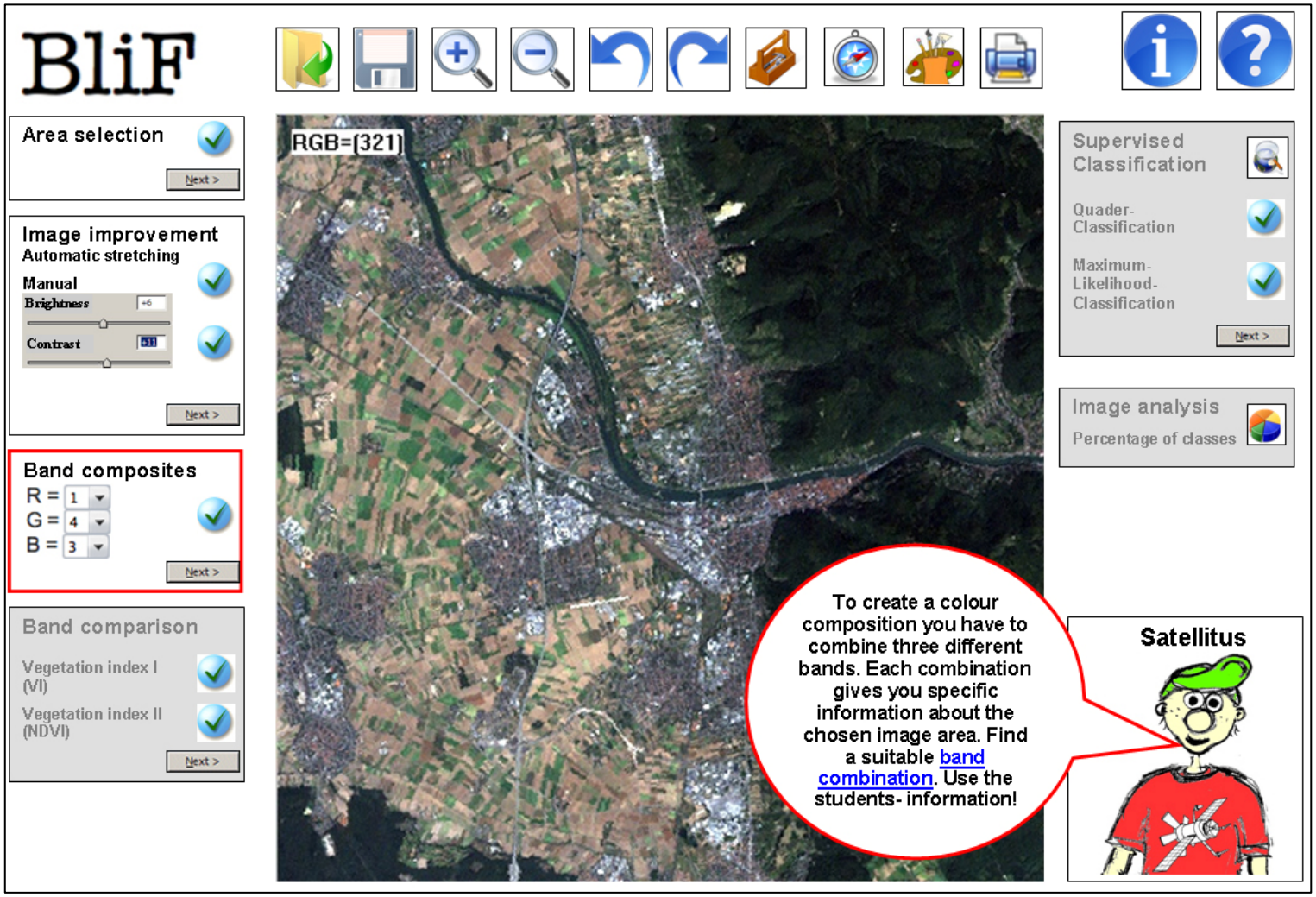
Conception of BLIF

Assistent Mode: „**Beginner**“

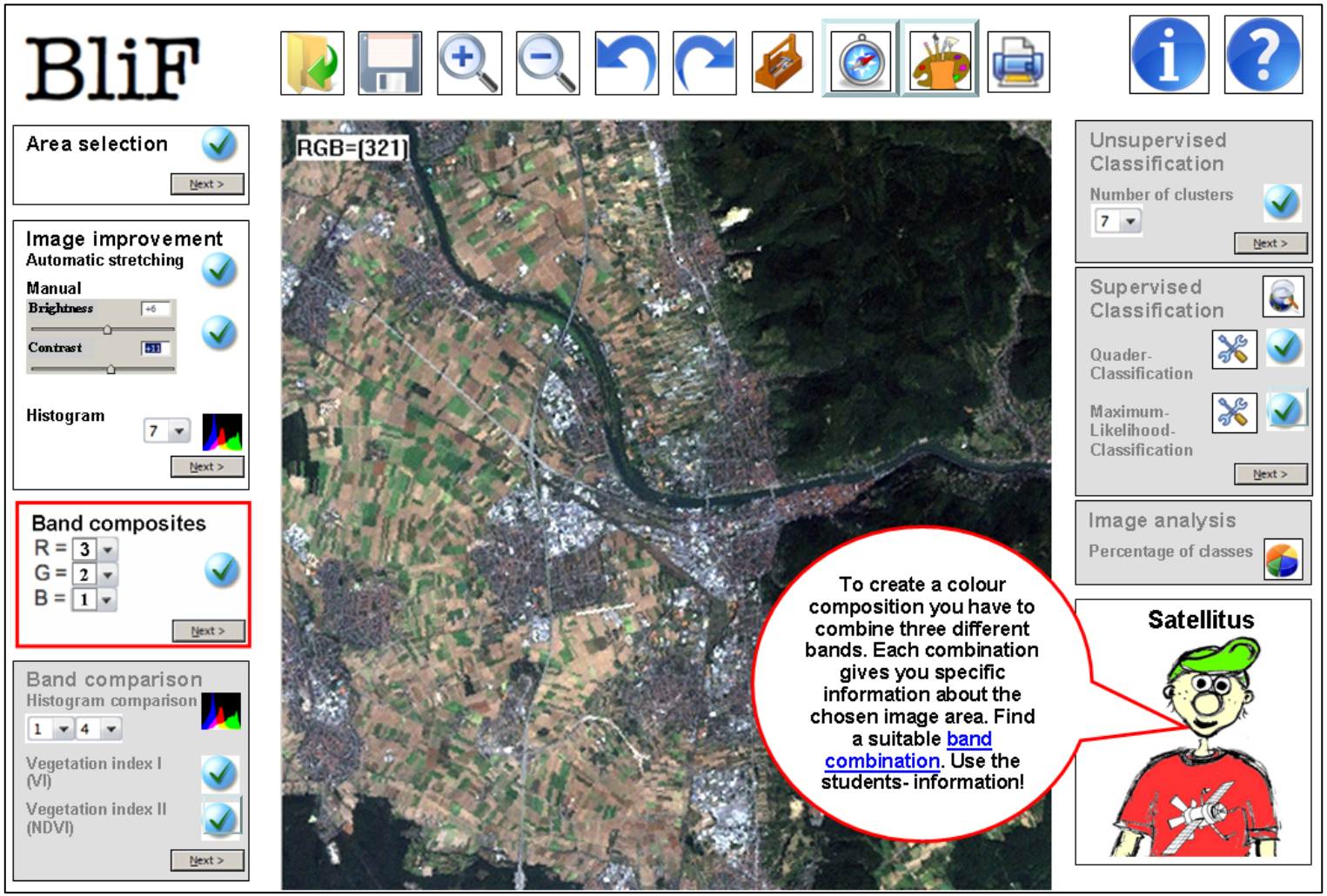


Conception of BLIF

Assistent Mode: „**Advanced Learner**“

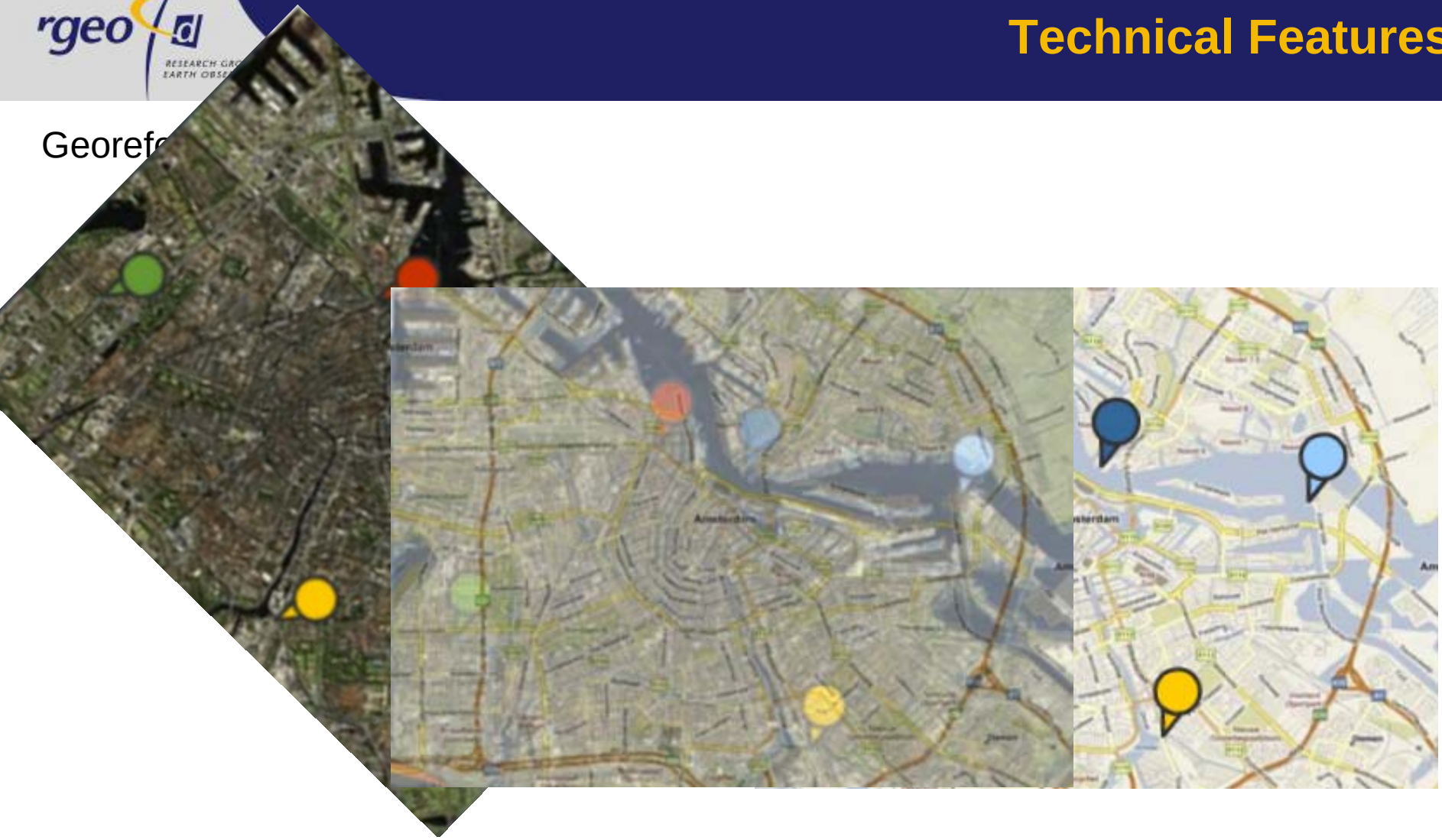


Assistent Mode: „**Expert**“

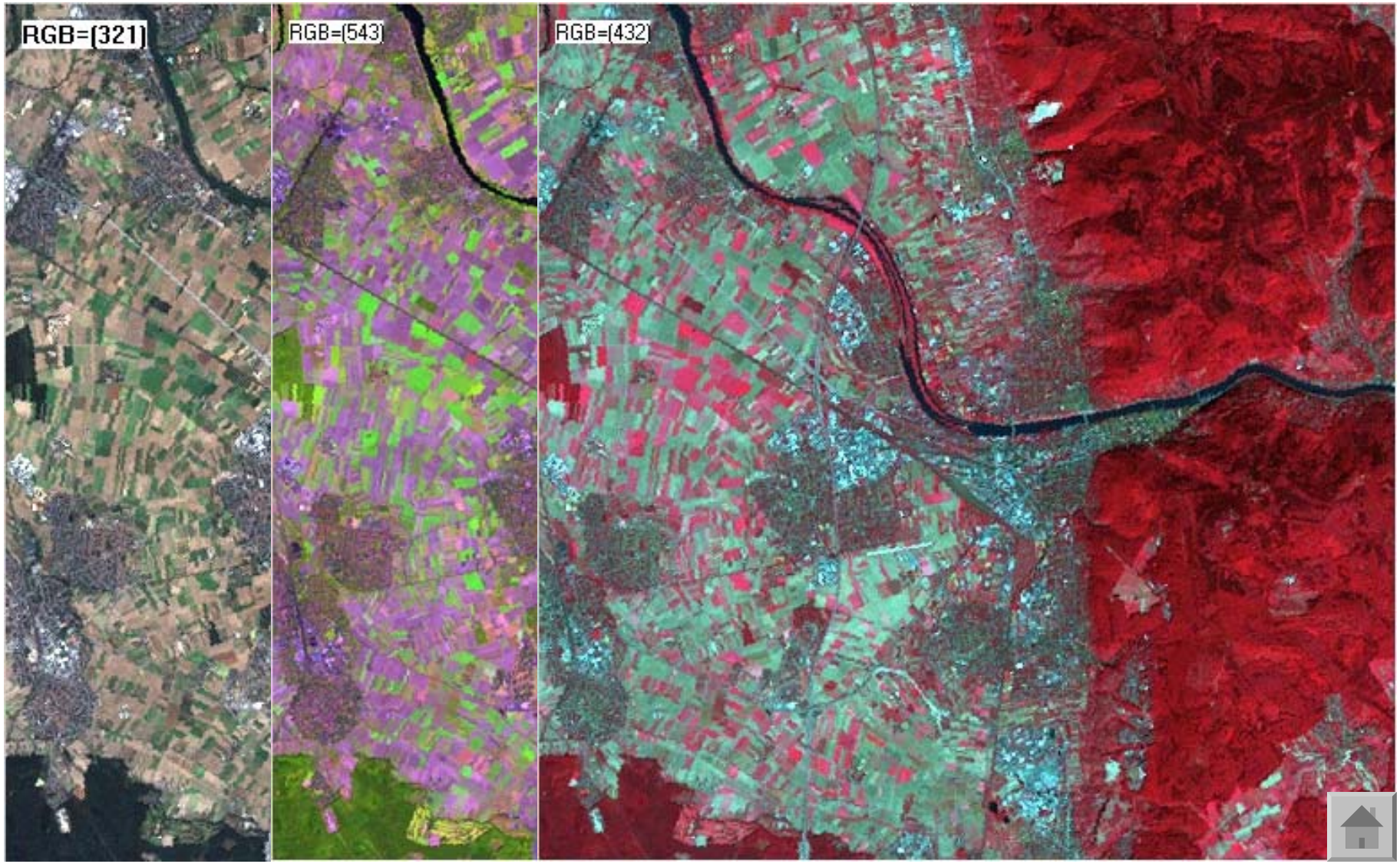


Technical Features

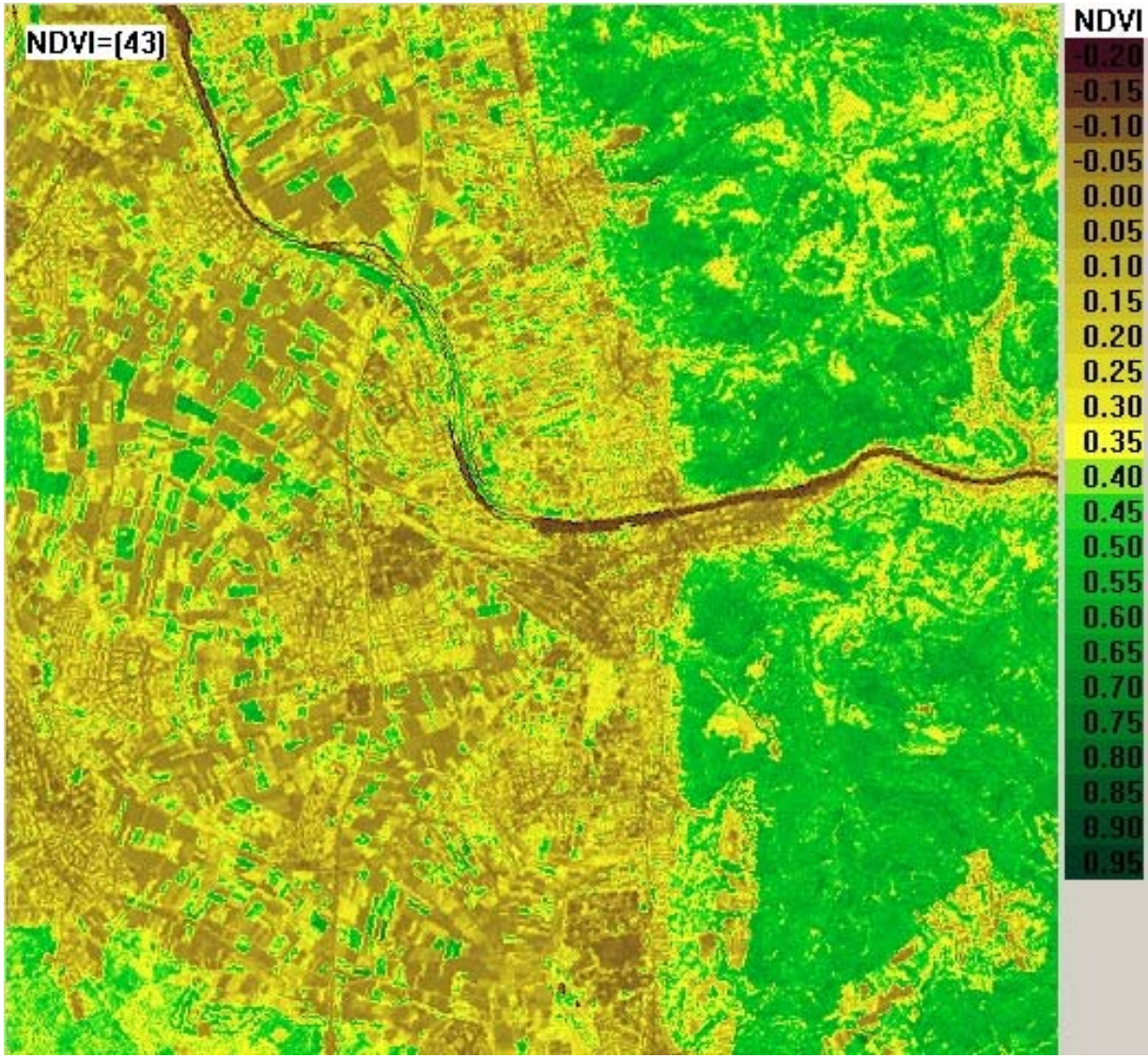
Georefe



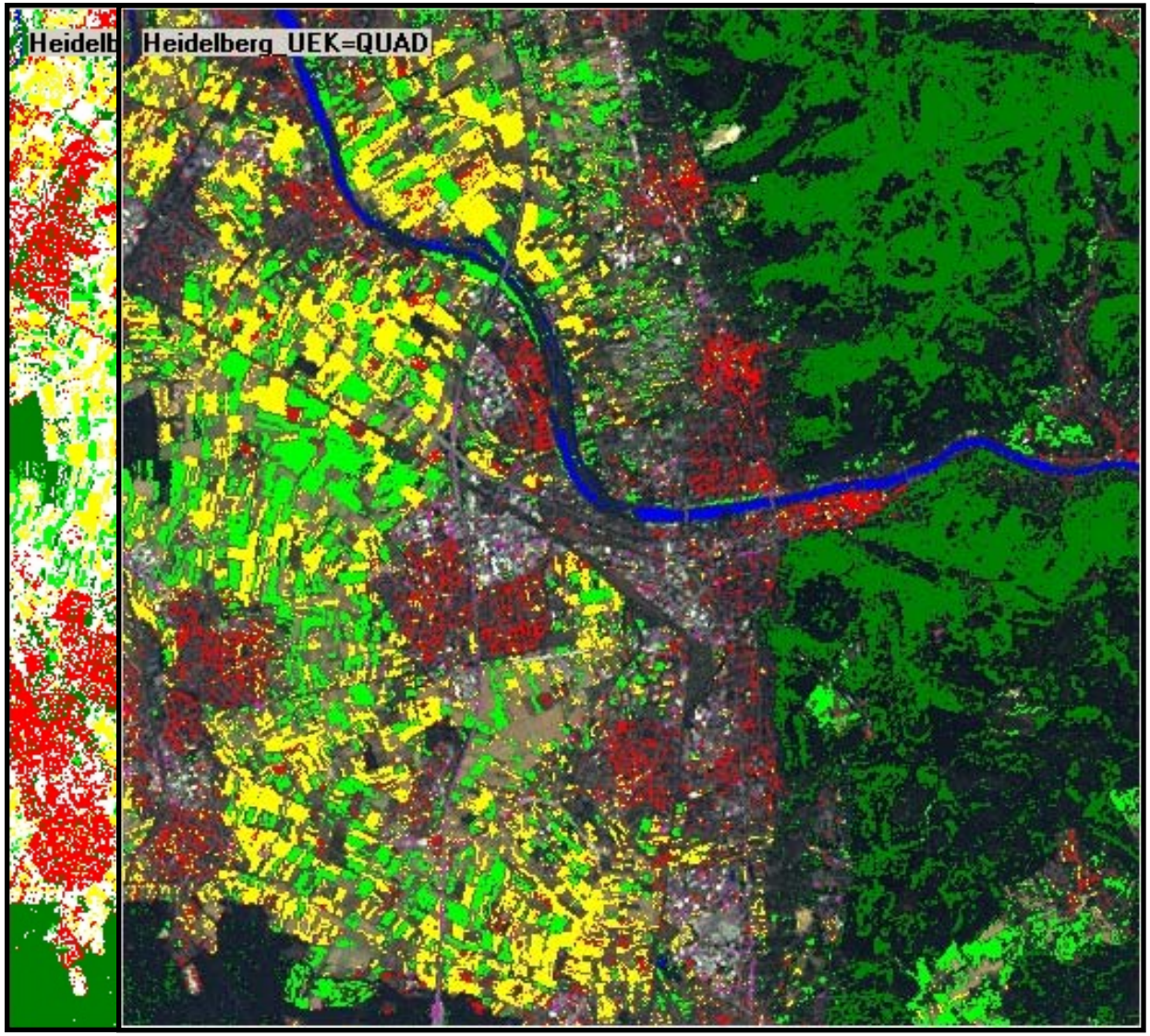
Technical Features: Band Composites



Technical Features: NDVI



Technical Features: Supervised Classification



- Settlement
- Forest
- Grassland
- Farmland
- Water
- Unclassified

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Thank you for your attention!

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