



Josef Strobl



Z_GIS

Geoinformatik interdisziplinär –
Mehrwert der räumlichen Perspektive

Calendar

- ▶ 09. Oct.: JFFB-Opening, Edmundsbourg, Salzburg
- ▶ 09. - 11. Oct.: Visit us at BITERGEO, Hannover
- ▶ 22. - 24. Oct.: Visit us at Synergie 2012, Alpbach
- ▶ 25. - 28. Oct.: Worldwide UMGIS partner meeting in Salzburg
- ▶ 04. - 05. Dec.: Visit us at European LIDAR Mapping Forum, Salzburg

Z_GIS Blogs

- SocialMedia@AGIT [AGIT]
- AGIT 2012 - Erfolgreicher Call for Papers [AGIT]
- Washington DC – University of Salzburg has joined the University Consortium of GIS (UCGIS) [GIScience]
- Dr. Thomas Blaschke held the keynote presentation at GEOBIA 2012 [GIScience]

Home



Welcome to the Department of Geoinformatics!

Z_GIS is an interdisciplinary Centre of Competence for Geoinformatics, serving the University of Salzburg as well as partner institutions and the geospatial community worldwide. By integrating basic and applied research with graduate education and outreach activities, we are contributing to applying new technologies and developing methods for managing our societies, businesses and environments.

Geographic Information Systems and Services (GIS) today are important interfaces between the real and the virtual worlds. The concept of 'Digital Earth' addresses public participation and 'spatially thinking citizens', including education and learning across all disciplines and levels, which Z_GIS is fostering through academic programmes, outreach to schools and public service initiatives.

Z_GIS contributes to the worldwide geospatial community through memberships in scientific and professional associations, through project partnerships and as a centre of expertise for industry partners. Our global network of academic partner institutions is a strong platform for exchange of students and faculty, joint research and fostering awareness, motivation and sustainable management of livelihoods.

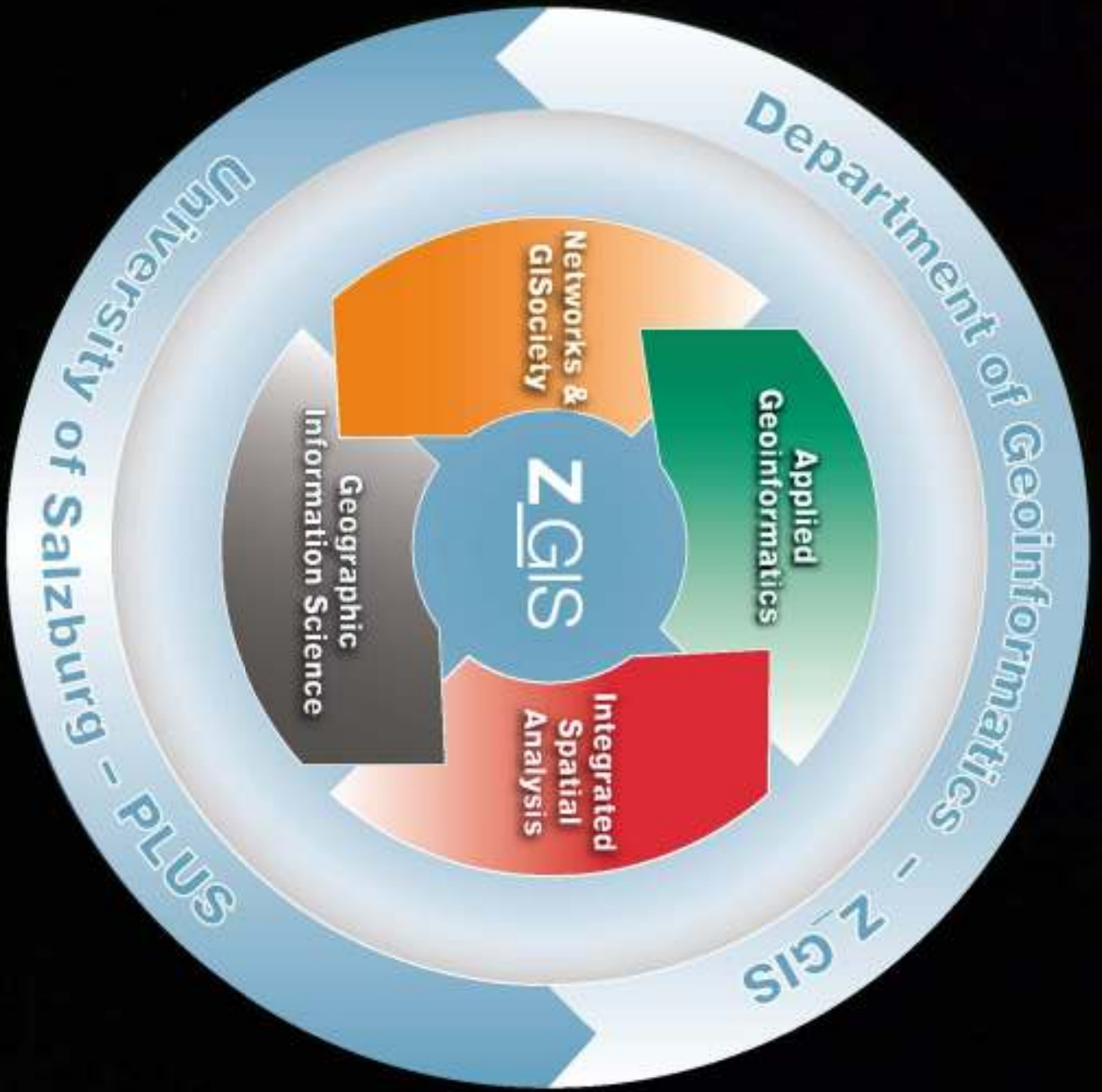
Twitter

GIStrobi: "Geozitation of Space" - check out the paper by #ZGIS' etal/Fischer/Wogler: <http://t.co/7eOrnDpIe> - free download! [GIStrobi]

GIStrobi: #GIScience Mobility: Thea Turkington welcome at #ZGIS - CHANGES research on climate models / hazards / mountains <http://t.co/Try3awebp> [GIStrobi]

agf: team: #AGIT2012 - Toler Nachbericht zur #AGIT: Studierende der #TUM haben im Auftrag des #RTGIS e.V. einen <http://t.co/xcc9Skkf> verfasst. [GIScience]





**„Geospatial“
Wissen und Kompetenz müssen
interdisziplinär konzipiert werden.**

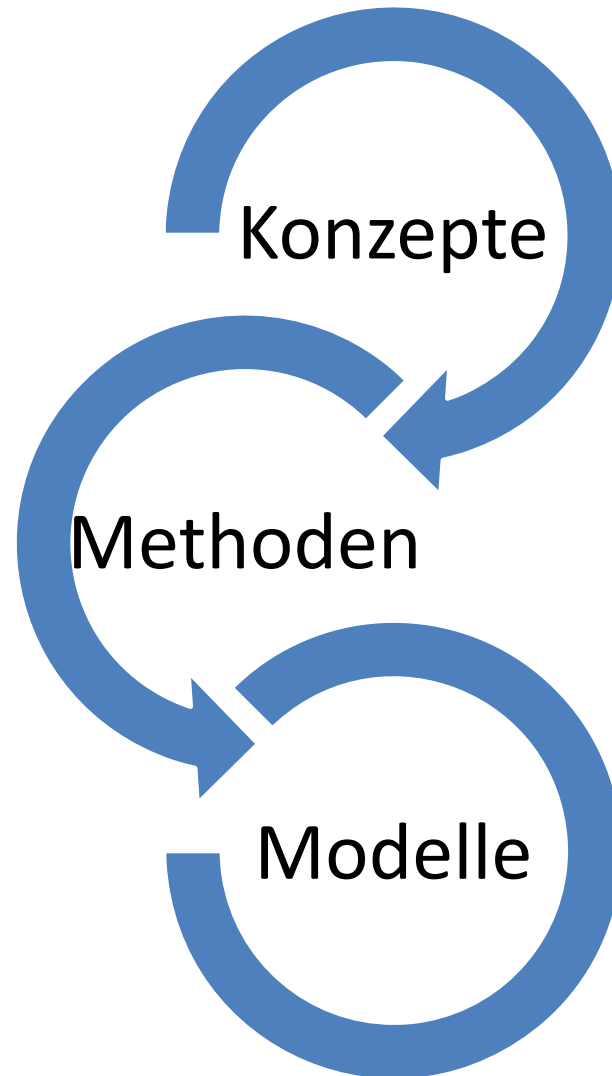
Building the Geospatial Knowledge Platform

Dr. A. Kalam

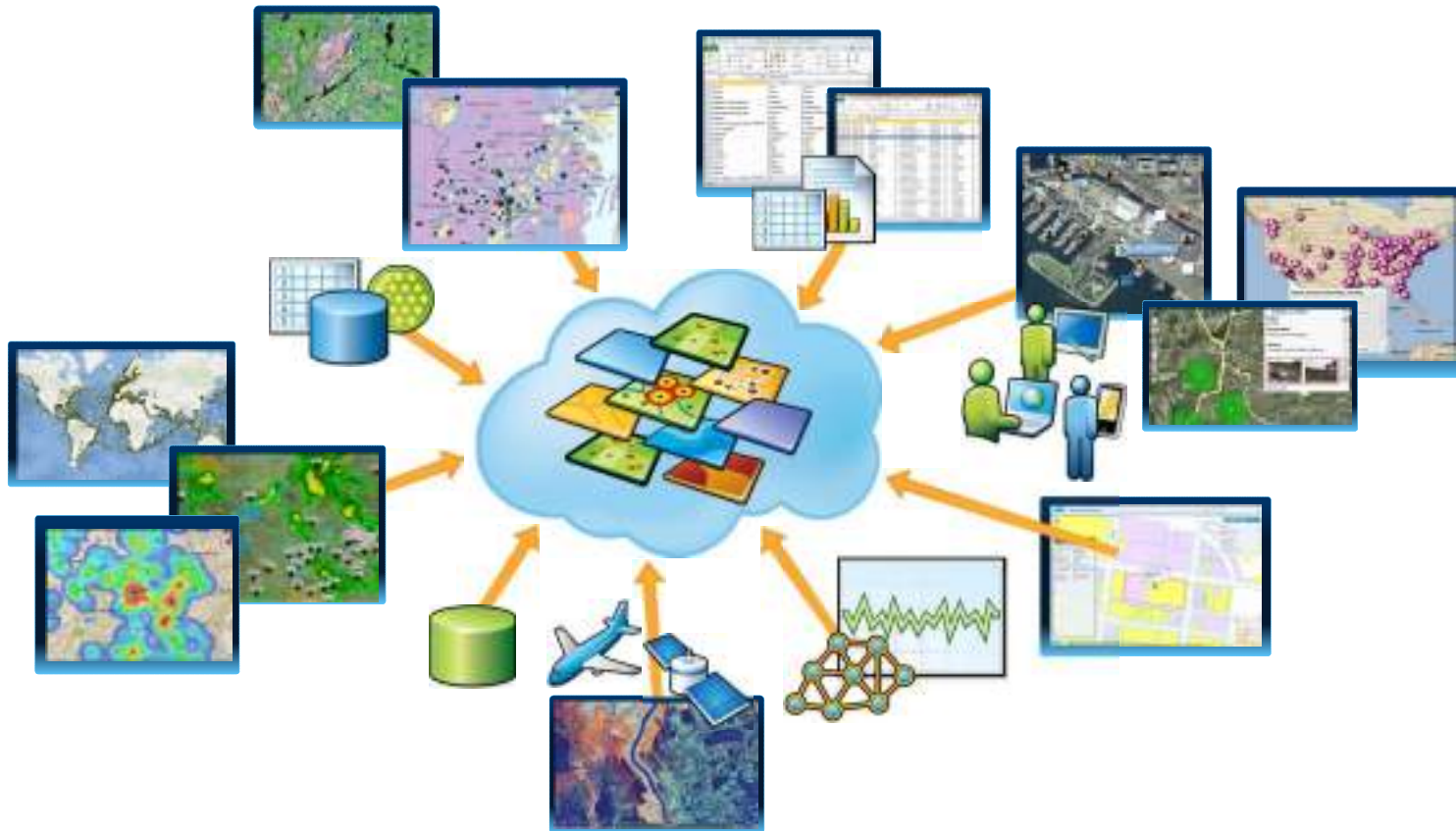
Themen ...



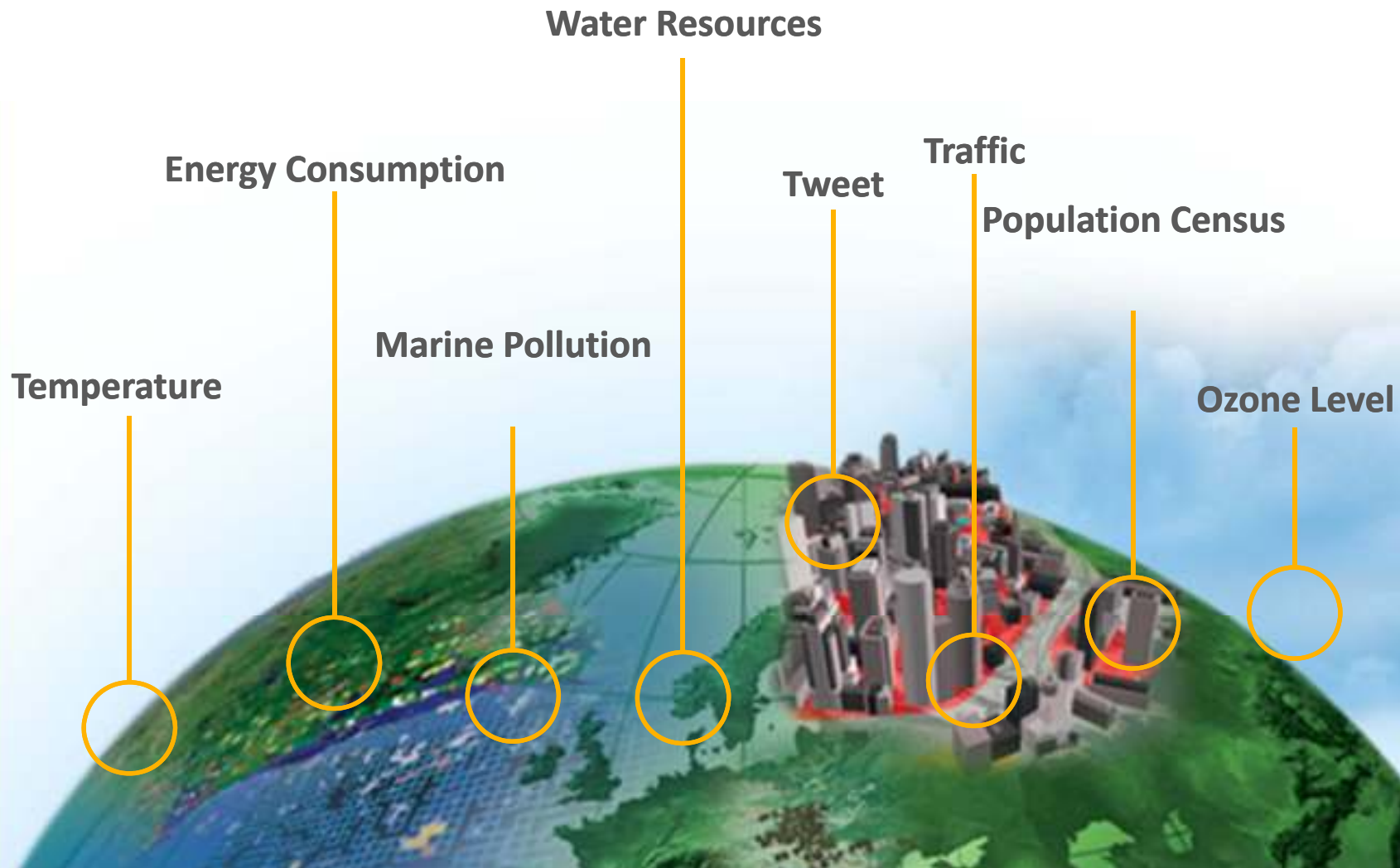
Integrierte Geoinformatik



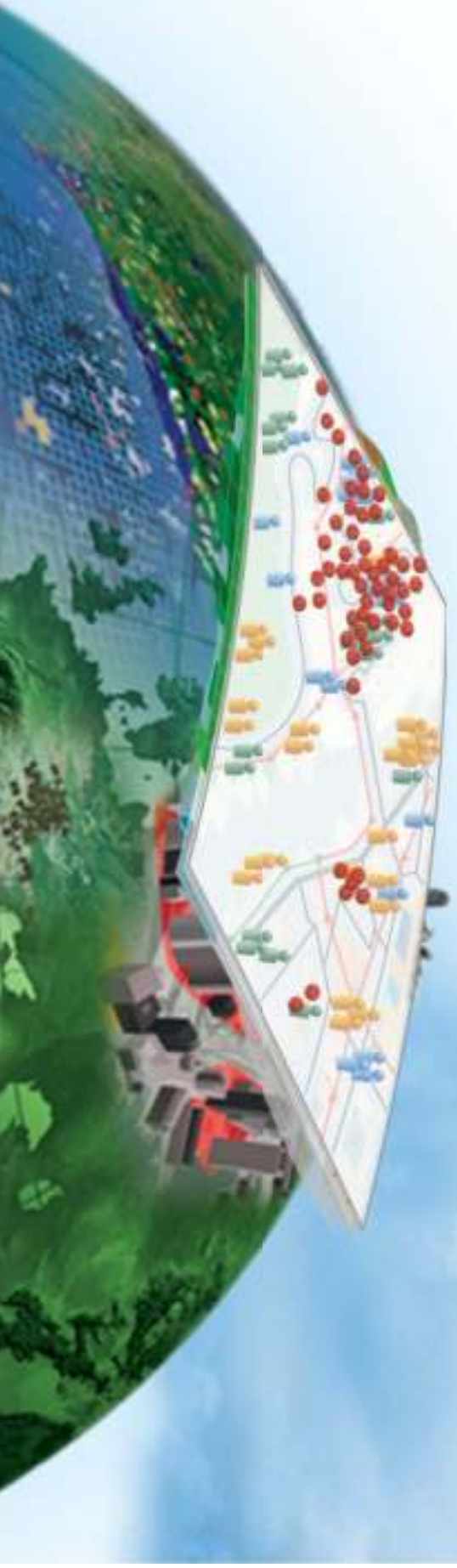
Integrationsplattform



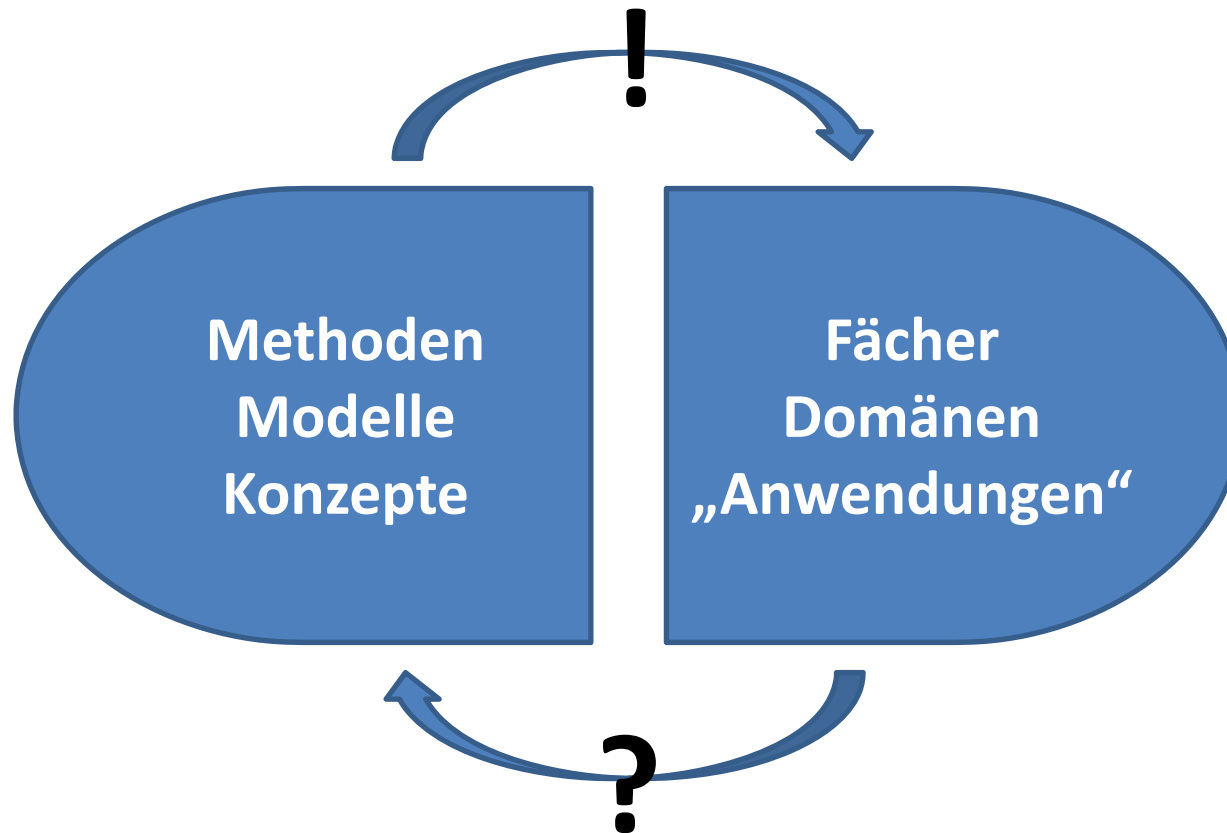
Problemdomänen



Integrierte Organisation



Räumliche Perspektive



WITHOUT
GEOGRAPHY



WE'RE
NOWHERE!

METSKER MAPS OF SEATTLE



BORDER ROADS ORGANISATION

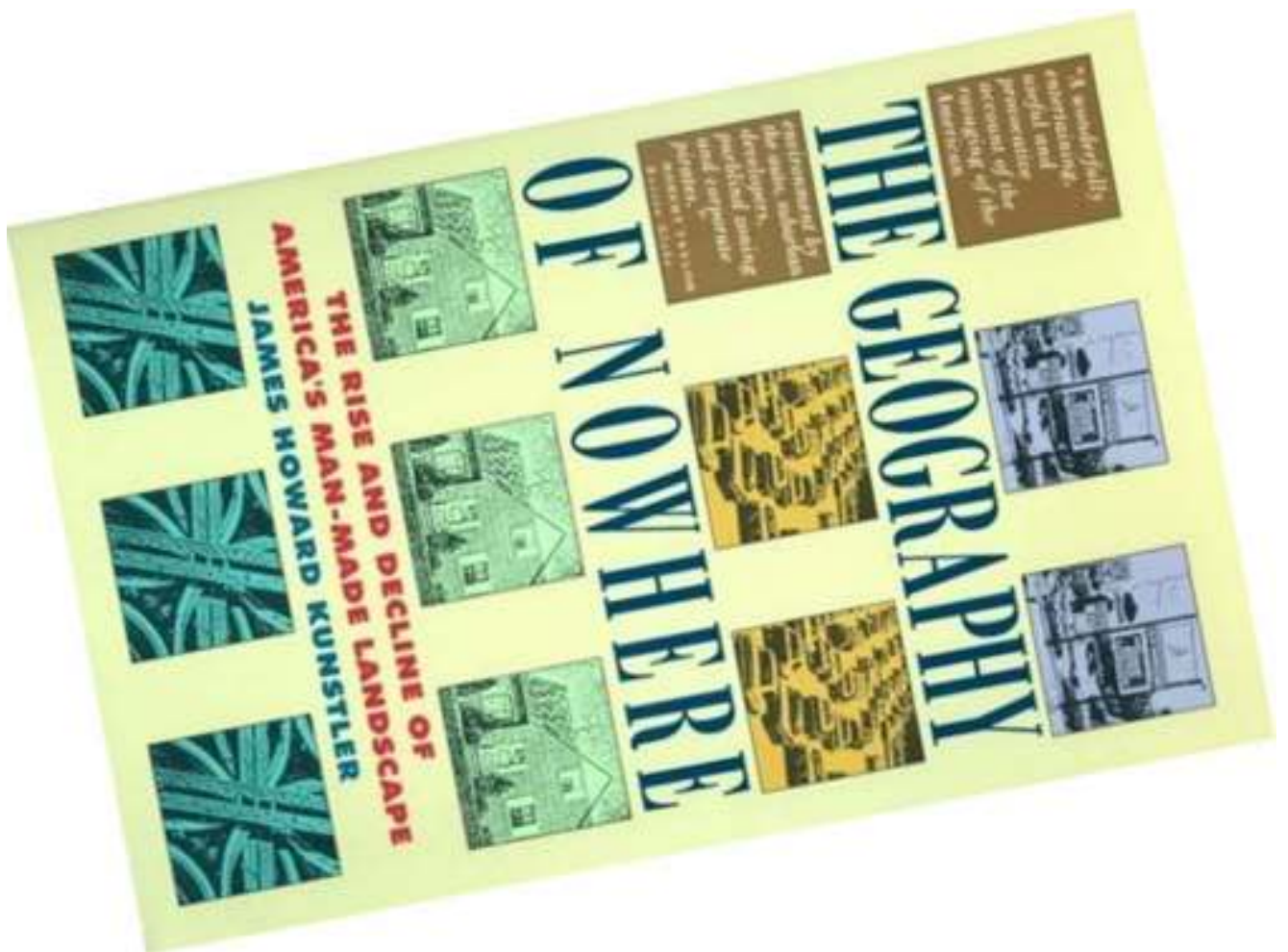
NIMANK

WITHOUT GEOGRAPHY

YOU'RE NOWHERE.

-JIMMY BUFFETT

ASIRHPL #A RCC 15 TH

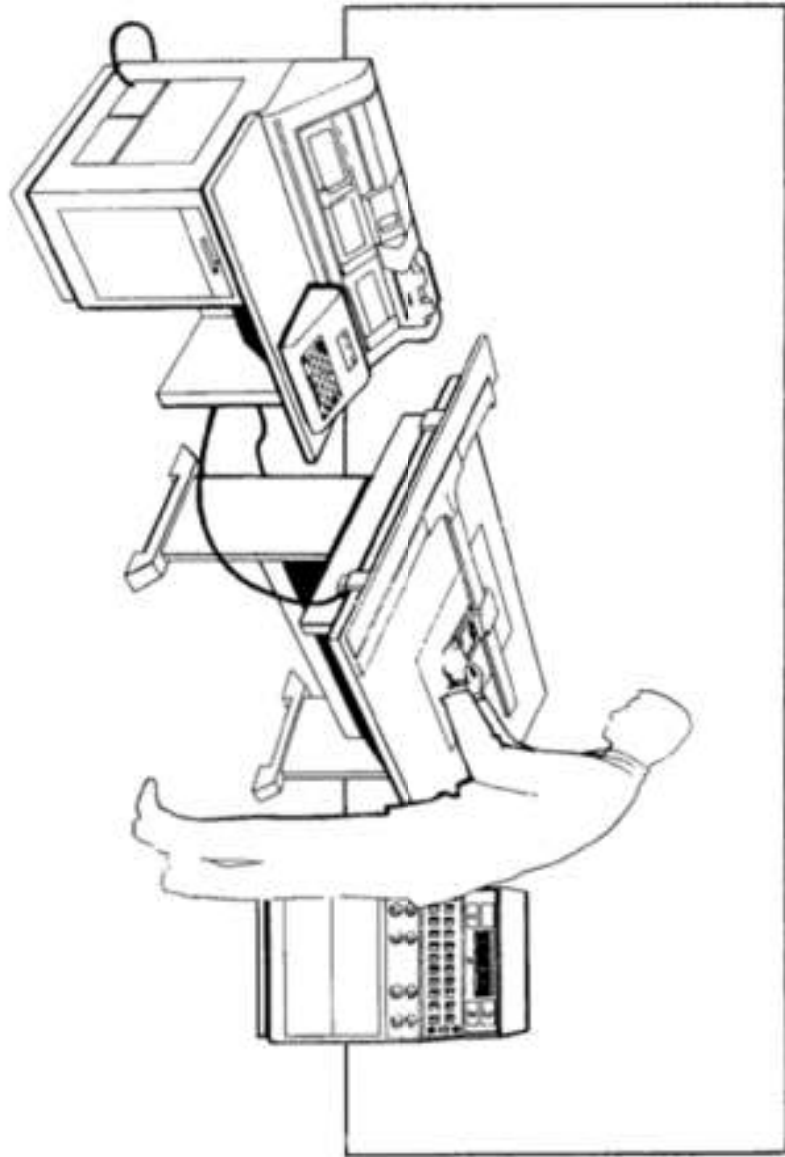


ORBIS TERRAE COMPENDIOSA DESCRIPTIO



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Text block on the right side of the page, containing several columns of dense Latin text.

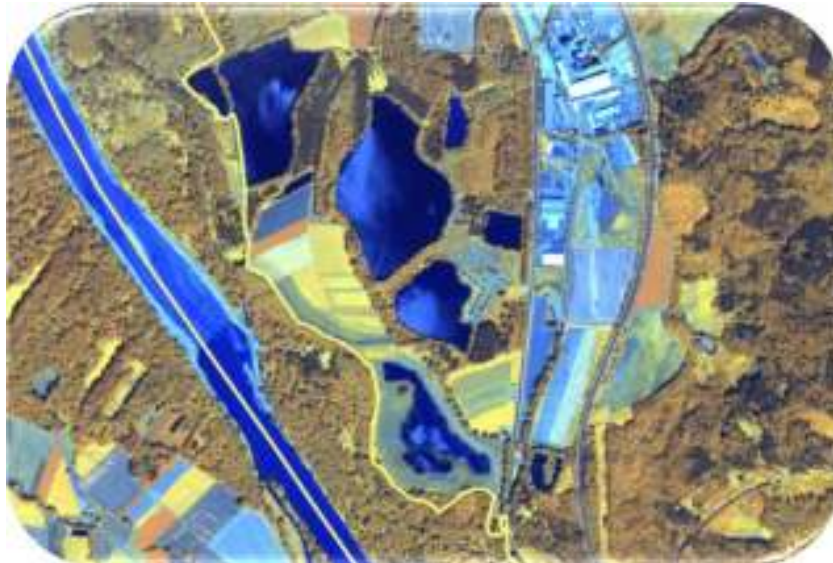


**“THE FURTHER BACKWARDS YOU LOOK,
THE FURTHER FORWARD YOU CAN SEE”**

Winston Churchill



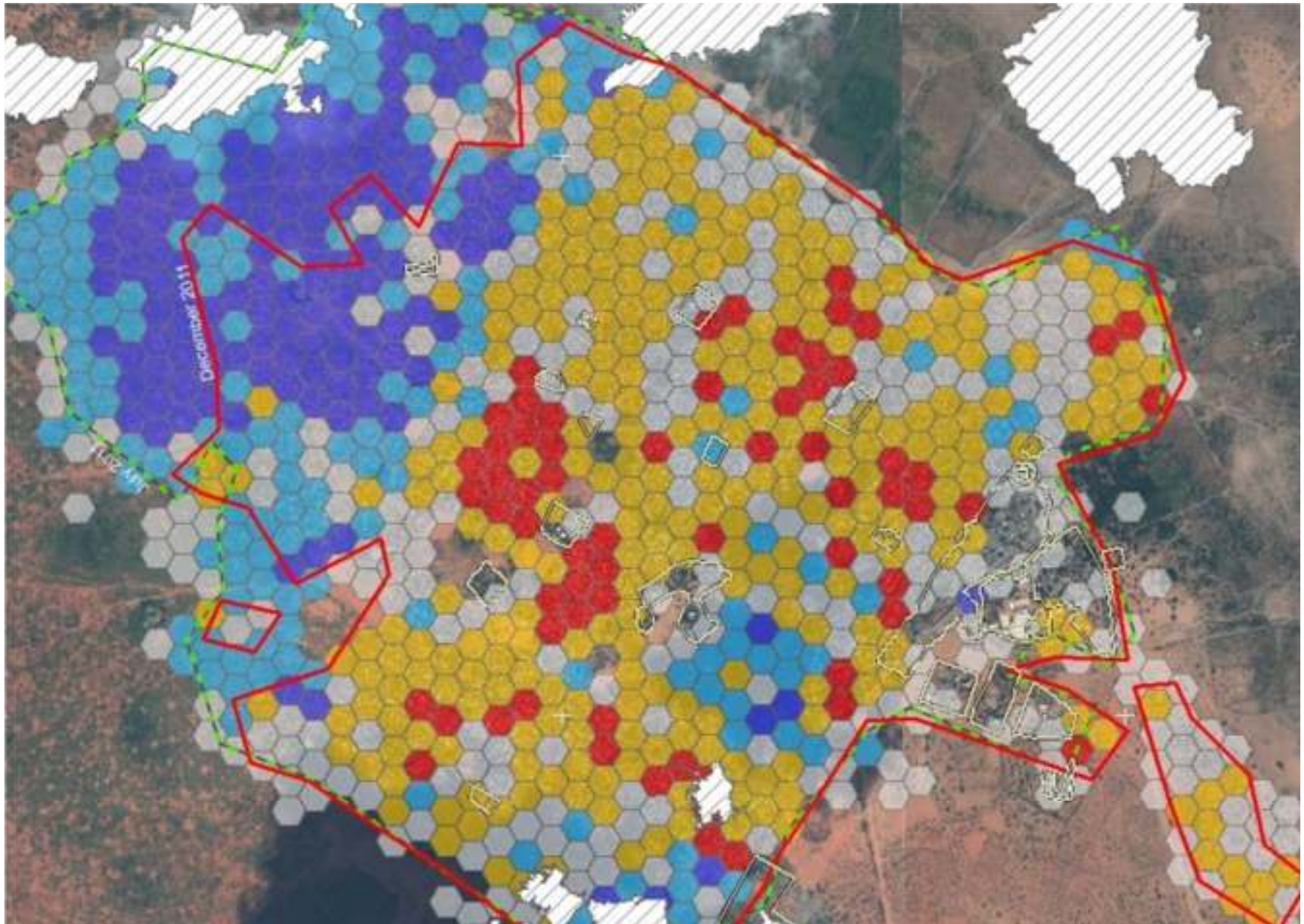
INTEGRATED SPATIAL ANALYSIS



Fernerkundungsbasierte Habitatkartierung in den Salzachauen nördlich von Salzburg. Das FFH Gebiet steht unter speziellem europäischen Schutz und soll in seiner Qualität und Entwicklung beobachtet werden.



INTEGRATED SPATIAL ANALYSIS



Automatisierte Extraktion von Dichteparametern in Mega-Flüchtlingslagern (hellere/dunklere Tönung), kombiniert mit einer Veränderungsanalyse der Entwicklung innerhalb des Jahres 2011 (rot: Verdichtung)

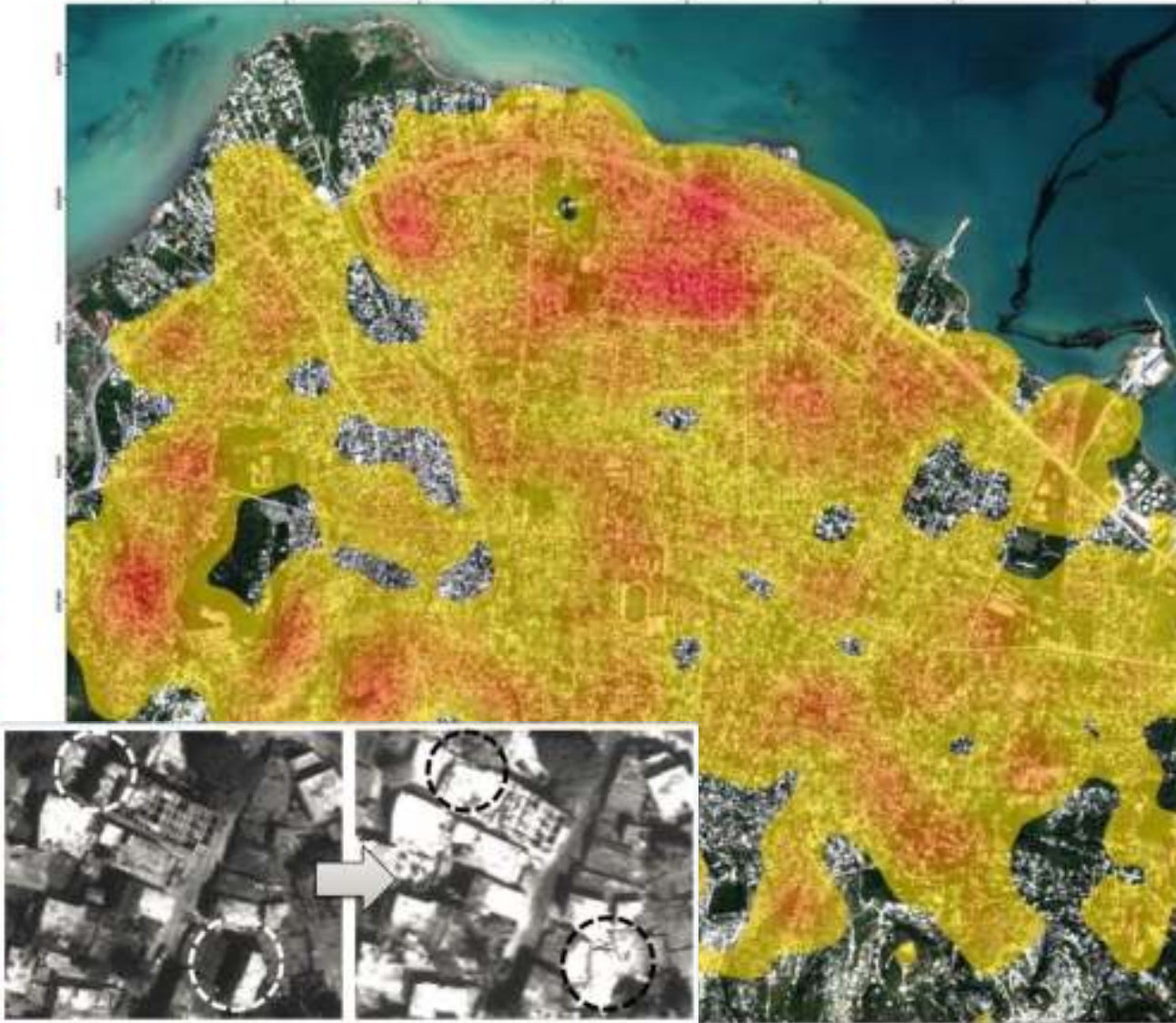
Kooperation "Ärzte ohne Grenzen" [2012-2015, Fördergeber: Karl-Kahane Stiftung]

19/01/2010

UNCLASSIFIED,
For Official Use Only

DAMAGE ASSESSMENT FOR THE HAITI EARTHQUAKE (12th January 2010) - AUTOMATED ANALYSIS

INTEGRATED SPATIAL ANALYSIS



RGR

G-mosaic

emes

Projection: Universal Transverse Mercator
Zone: 18N
Spheroid: WGS84
Datum: WGS84

Image: GeoEye-1
Date: 13/01/2010

G-MOSAIC RGR service utilized by:
UN-DRR Cartographic Section
Spanish Red Cross
Belgian Ministry of Defense

This map shows the density of damaged building structures in Cap-Haïtien. Red areas indicate areas with a higher degree of damage whereas yellow areas show areas with lower damage.

The automated change detection was produced with the G-MOSAIC Major Operational Reporting Service and is based on pre and post imagery of GeoEye-1. Object-based extraction of damage situations (mainly windows) was performed by the Centre for GeoInformatics, Salzburg University (supported by Delémont).

Density of damaged buildings

Low High

1 Kilometre = 1000 metres

This product is compliant with EU Security Regulation (2005/60/EC).
This product is not for military or intelligence purposes and should not be used for such purposes.
This product is not for nuclear, chemical, biological or radiological purposes and should not be used for such purposes.
Report to the user of this product.

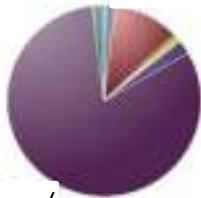
UNIVERSITÄT SALZBURG ZGIS

Automatische Berechnung von Schadensverteilungskarten aus Satellitendaten nach dem Erdbeben in Haiti, 2010. Veröffentlicht am 19.1.2010 und an die Nutzer (vor Ort) weitergegeben -12 Stunden nachdem die Satellitendaten zur Verfügung gestellt wurden.

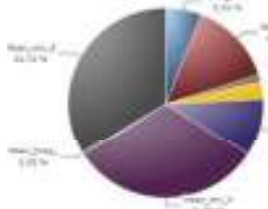
G-MOSAIC: GMES Services for Management of Operations, Situation Awareness and Intelligence for regional Crises [2009-2012, Fördergeber: EU FP7-SPACE Collaborative Project, 40 Partner]

Hot Spot Characteristic

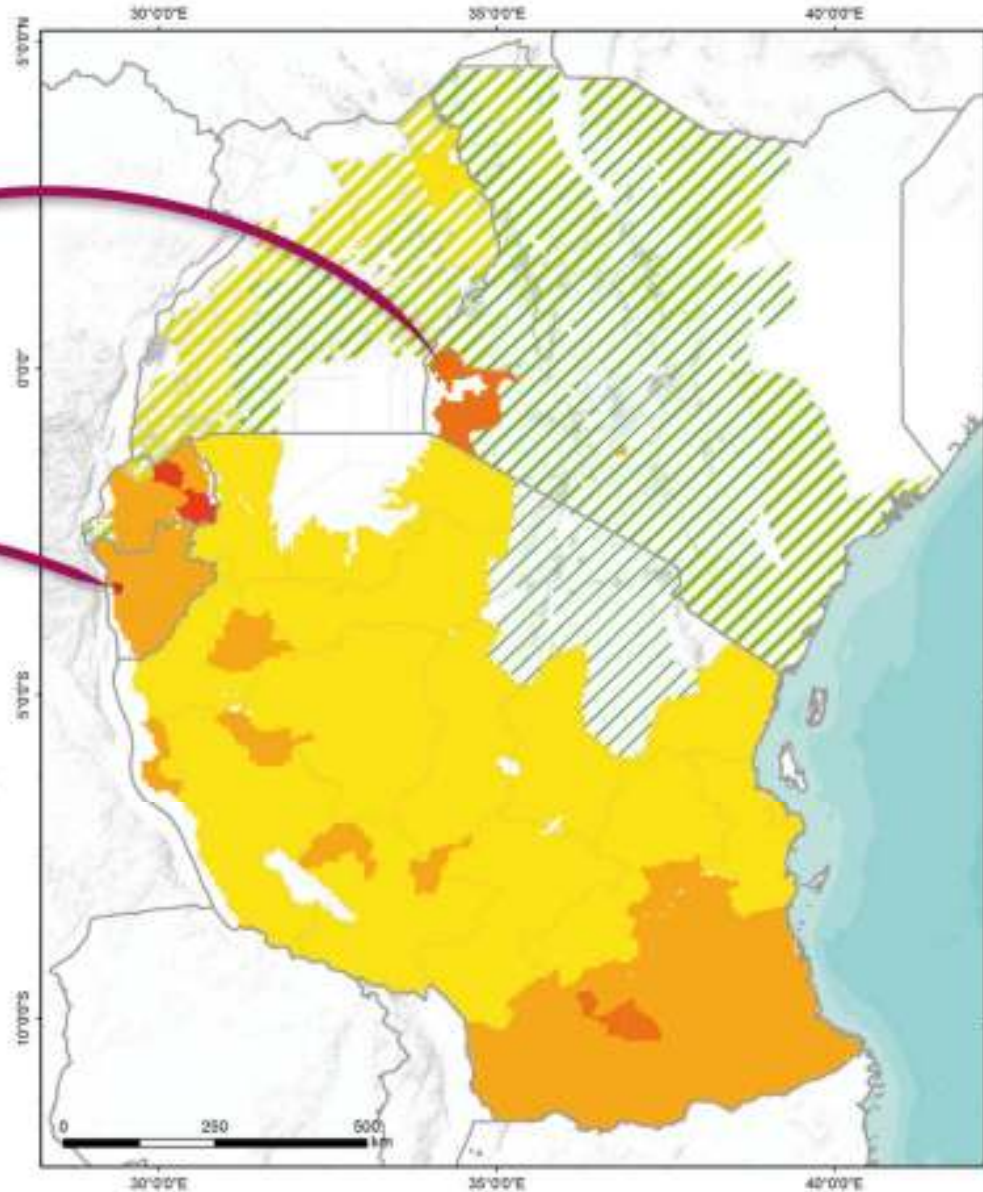
Children under 5
1.68%



Infant mortality rate
81.32%



INTEGRATED SPATIAL ANALYSIS



HEALTHY FUTURES

Social Vulnerability (Malaria)
Eastern Africa

Vulnerability Index

- 0.0 - 0.1
- 0.11 - 0.2
- 0.21 - 0.3
- 0.31 - 0.4
- 0.41 - 0.5
- 0.51 - 0.6
- 0.61 - 0.7
- 0.71 - 0.8
- 0.81 - 0.9
- 0.91 - 1

Other Information

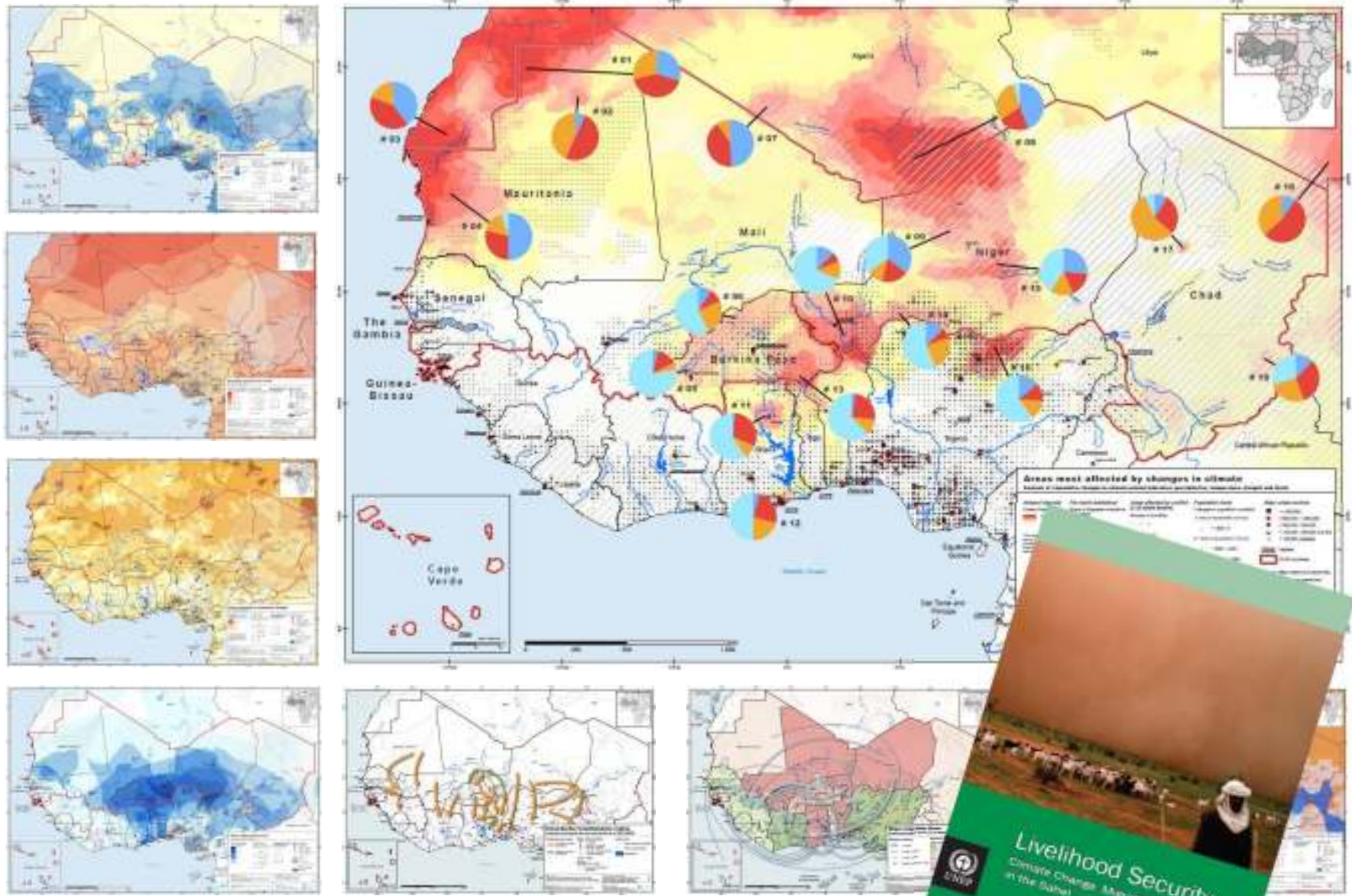
- Study Region East Africa
- National borders
- Sub-national borders

Draft version: 18/04/2012

UNIVERSITÄT SALZBURG ZGIS

Räumliche Analyse der sozialen Vulnerabilität in Bezug auf Malaria in Ostafrika (Burundi, Kenia, Ruanda, Tansania, Uganda).

INTEGRATED SPATIAL ANALYSIS

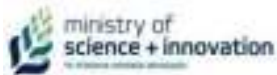
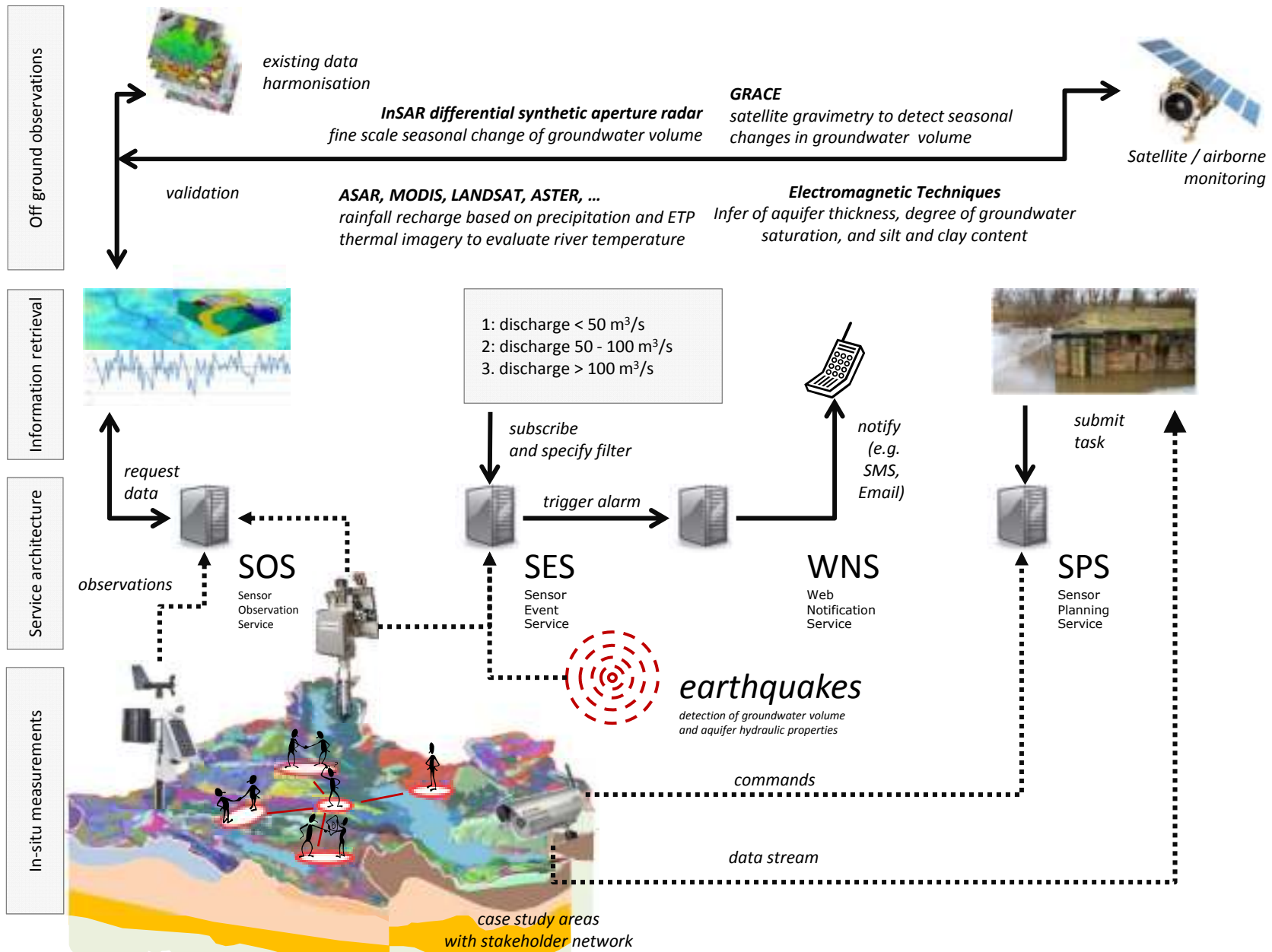


Erstellung der Karten für den UNEP Bericht „Livelihood Security: Climate Change, Migration and Conflict in the Sahel“, welcher auf der UN-Klimakonferenz in Durban (COP 17) offiziell vorgestellt wurde

UNEP SAHEL: Livelihood Security: Climate Change, Migration and Conflict in the Sahel [2010-2011, Fördergeber: UNEP]



INTEGRATED SPATIAL ANALYSIS

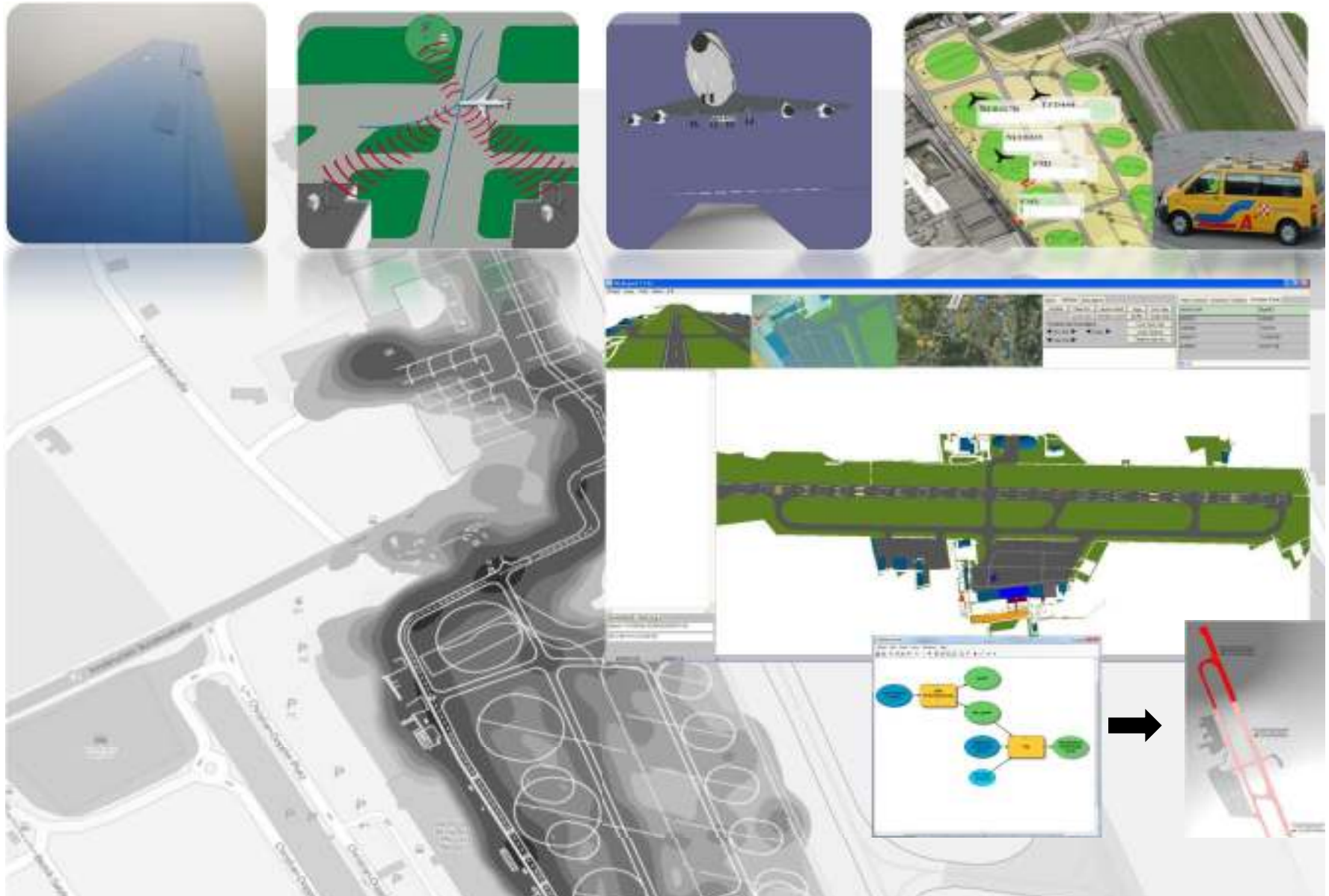


Charakterisierung von Neuseelands Grundwasserressourcen auf Basis harmonisierter Geodaten, Fernerkundungstechnologie und stationäre Sensorüberwachung integriert in einem WebGIS

SMART Aquifer Characterisation [2011-2017, Fördergeber: MBIE Neuseeland]



INTEGRATED SPATIAL ANALYSIS



Neue Methoden für die Erfassung, Analyse und Bereitstellung heterogener Geo-Daten an Flughäfen wurden in SESAAM erforscht. Eine Geo-Infrastruktur samt Visualisierung ermöglicht die integrierte Nutzung dieser Lageinformationen.

INTEGRATED SPATIAL ANALYSIS

The screenshot displays the NanoLyse software interface. The main window shows a red background with several green particles. A table at the bottom lists the following data:

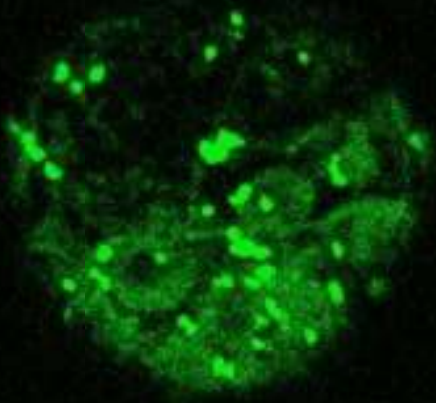
ID	Class	Compactness	Length/Width	Number of pixels	Elliptic Fit	FeretDiameter_nm	area_fraction_all	area_sqrn	circle
0	Particle	1.373	1	571	0.9334501	24	7.0243835	365.44	21.570
1	Particle	1.2454985	1.7884715	1895	0.9018470	52.6361093	7.0243835	1212.8	39.296
2	Particle	1.3634020	1.111	975	0.9097436	31.8496468	7.0243835	624	28.187
3	Particle	1.3893967	1.0526316	1094	0.8537477	36.2038672	7.0243835	700.16	29.8575
4	Particle	1.3432836	1.1111111	603	0.884	25.5248898	7.0243835	385.62	22.1668
5	Particle	1.414328	1	374	0.9023528	20.7646753	7.0243835	239.36	17.4874
6	Particle	1.404	1.0702608	927	0.9158576	31.2	7.0243835	593.28	27.48431
7	Particle	1.3157242	1.2736380	1535	0.918	41.299	7.0243835	982.4	35.367
8	Particle	1.4436247	1.3082819	1030	0.9184466	35.6785650	7.0243835	658.2	28.971
9	Particle	1.3077679	1.0857143	1017	0.9528024	32.2896977	7.0243835	650.88	28.787504
10	Particle	1.3972429	1.08	541	0.9079786	24.2123939	7.0243835	346.24	20.8963444
11	Particle	1.2892712	1.1944266	895	0.933	30.662	7.0243835	572.8	27.0057700
12	Particle	1.3294112	1.1908964	1040	0.927	34.2414953	7.0243835	665.6	29.1113078
13	Particle	1.455	1.1351351	1068	0.9026217	33.6056052	7.0243835	603.52	29.5005880
14	Particle	1.3922752	1.2215893	649	0.8921418	28.3746366	7.0243835	415.36	22.9967993

The interface also includes a control panel on the right with options like 'Segmentation - Multiresolution', 'Define pool size', 'Threshold - Brightness', 'Separate dark nanoparticles', 'Statistics', 'Create Object Table', and 'Project reset'. A 'Create object table' dialog is open, showing 'Select measurements' as '[Compactness, Length/Width, Number of pixels]', 'Select folder for exporting particle statistics' as 'D:\temp', and 'Export particle statistics (*.csv)' as 'Export particle statistics'. An inset image shows a grayscale electron micrograph of particles with a 100 nm scale bar.

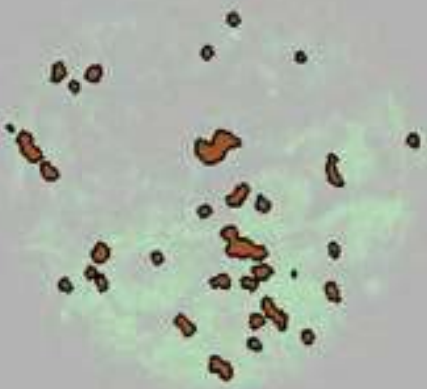


Softwareentwicklung für die automatische Extraktion und Quantifizierung von Nanopartikeln in Elektronenmikroskopaufnahmen

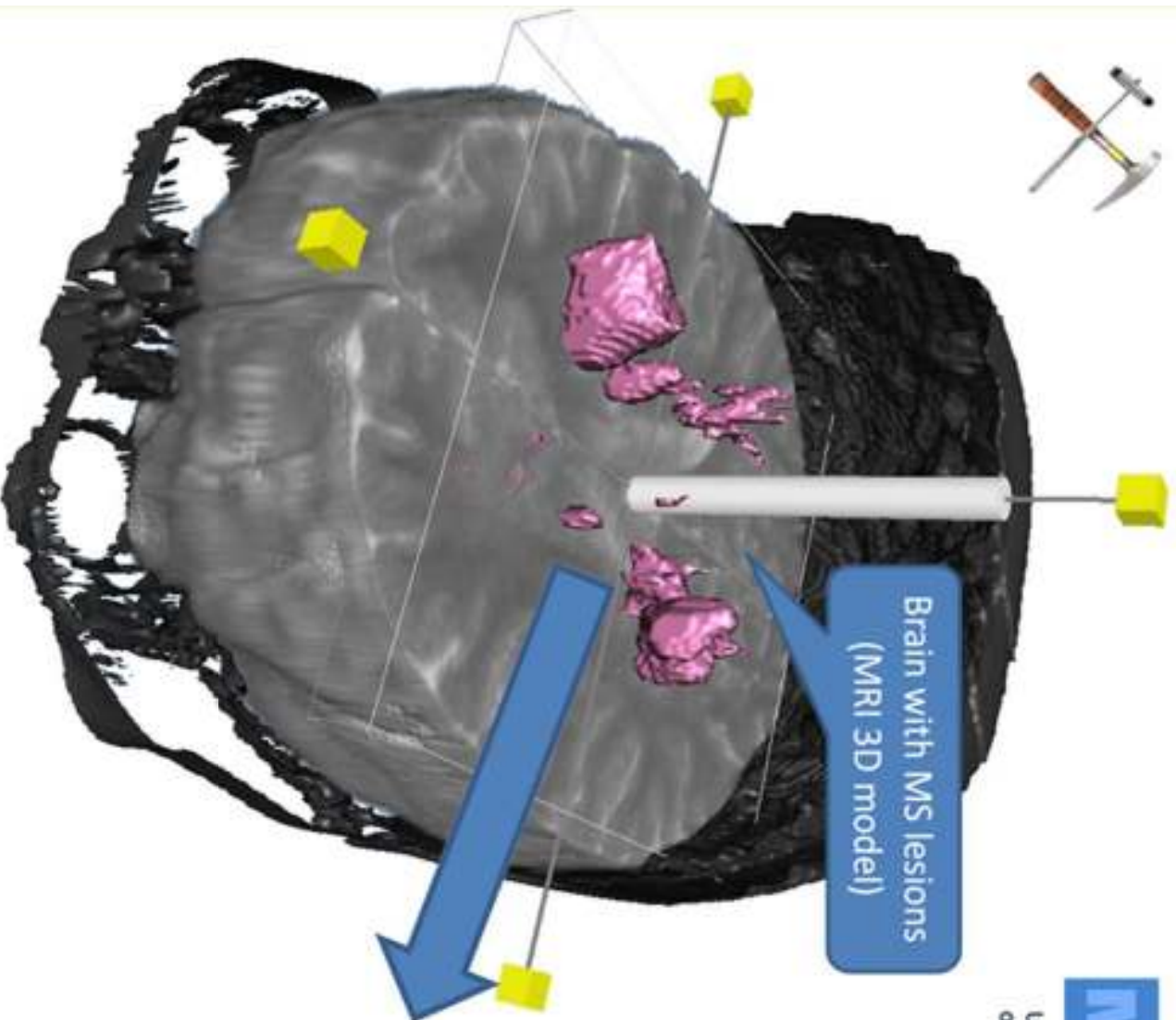
NanoLyse - Nanoparticles in Food: Analytical methods for detection and characterisation [2010-2012, Fördergeber: EU FP7 Collaborative Project, Z_GIS: sub-contractor]



main, T: 0

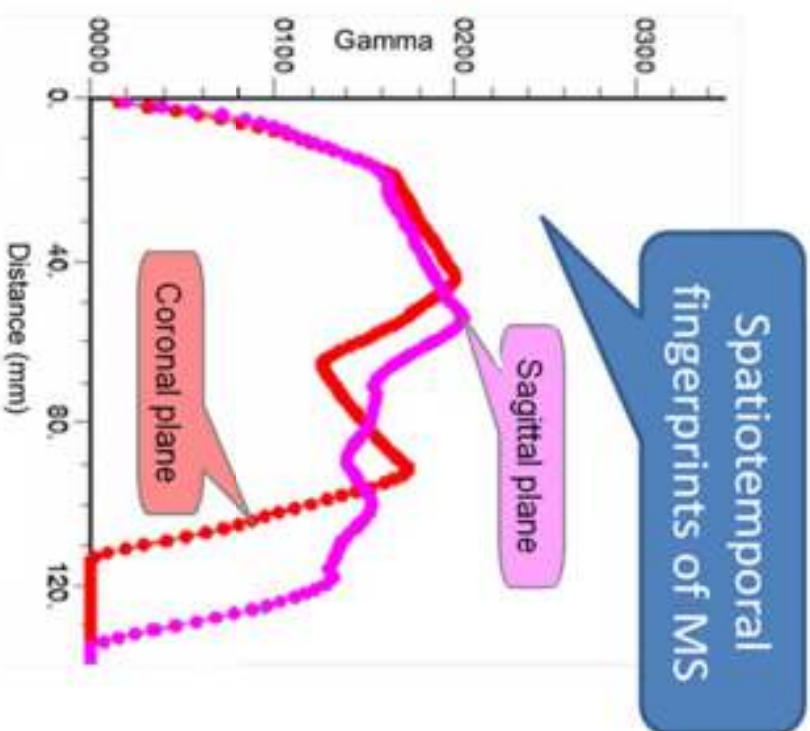


main.



Brain with MS lesions
(MRI 3D model)

Usability and Potential of Geostatistics for Spatial Discrimination of Multiple Sclerosis Lesion Patterns (2012)





ImageJ Stack

Name	Size	Scale
CT_and_Bd1	Edged	0.00025
Stack_Stack	Edged	100%
knife_1f	Edged	100%
knife_1f [32x32]x160	Edged	100%

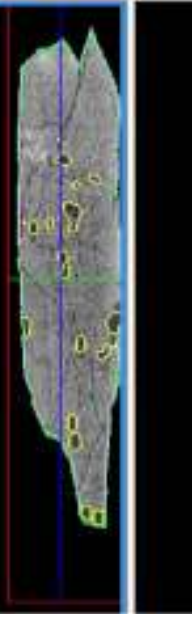
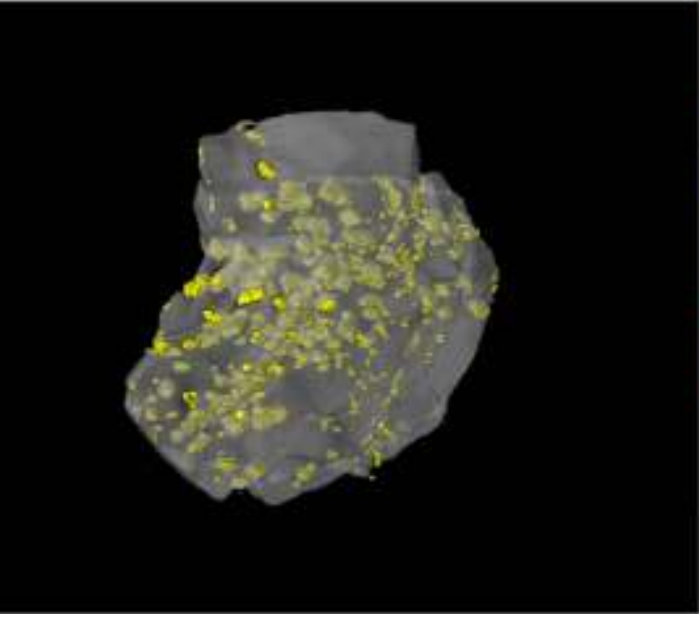
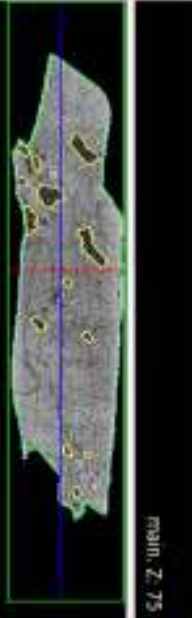
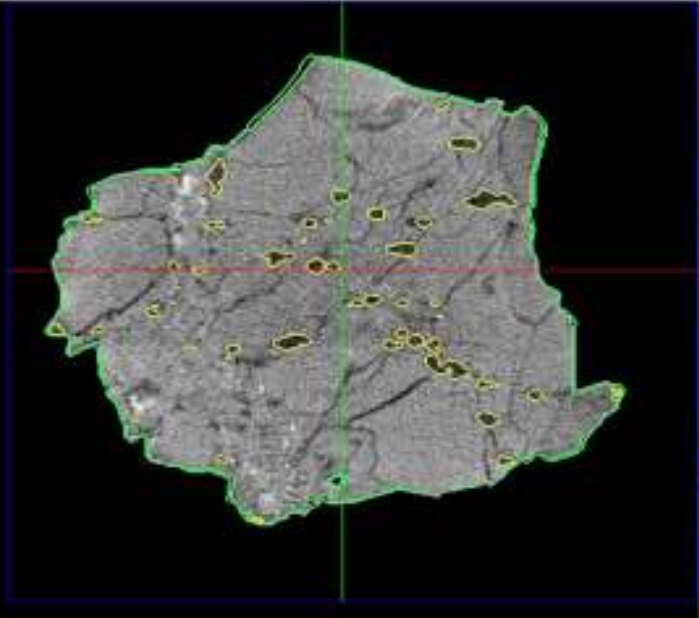
Let View (default) | History | Items

Process List

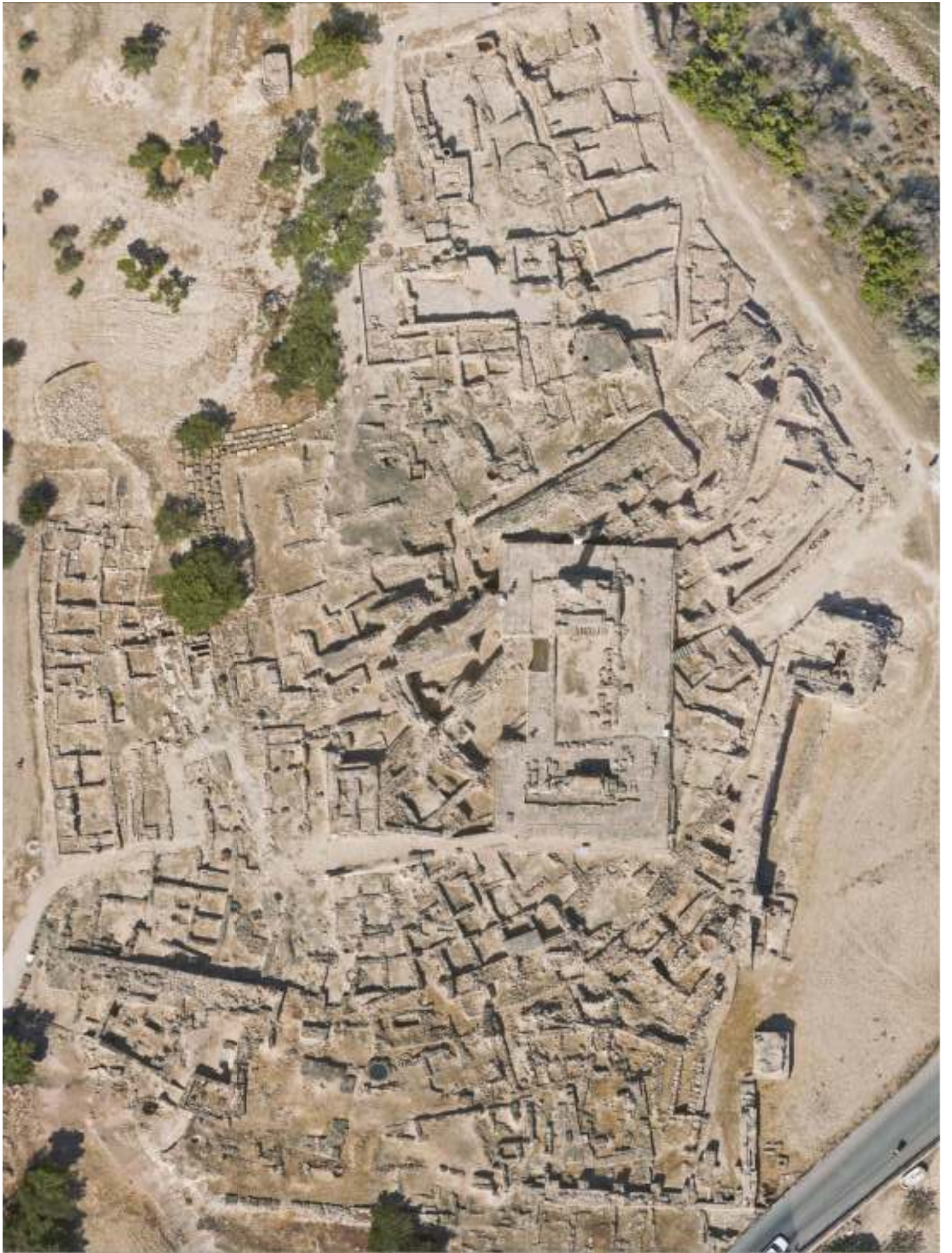
- helpops
 - unclassified with Existence of sub objects background [1] = 1 at Level 2: background
 - potential holes at Level 2: unclassified
- main
 - solid segmentation and classification [Level 1]
 - 230 (ShapeObj compo[0,1]) creating Level 1
 - with Ratio to score Layer 1 < 1 at Level 1: background
 - unclassified at Level 1: specimen
 - background at Level 1: merge object
 - solid segmentation and classification [Level 2]
 - specimen, unclassified with Ratio to score Layer 1 < 2.2 at Level 1: border
 - border with Rati, border to specimen = 1 at Level 1: potential crack
 - specimen, unclassified at Level 2: potential hole
 - create base 2D objects
 - background border, potential crack, potential knife, specimen, unclassified at Level 1: shape
 - potential holes at Level 2: blank, vana, white[1]x32] when nil, area of closed snail to 0

Image Level 3: main:main

Feature	Value
Scene Features	Score Variables
1f[2]knifeCrack	1
1f[2]vanerOfSpecimenHole	38
Class-Fielded	Number of classh...
_objects	1
nil	1

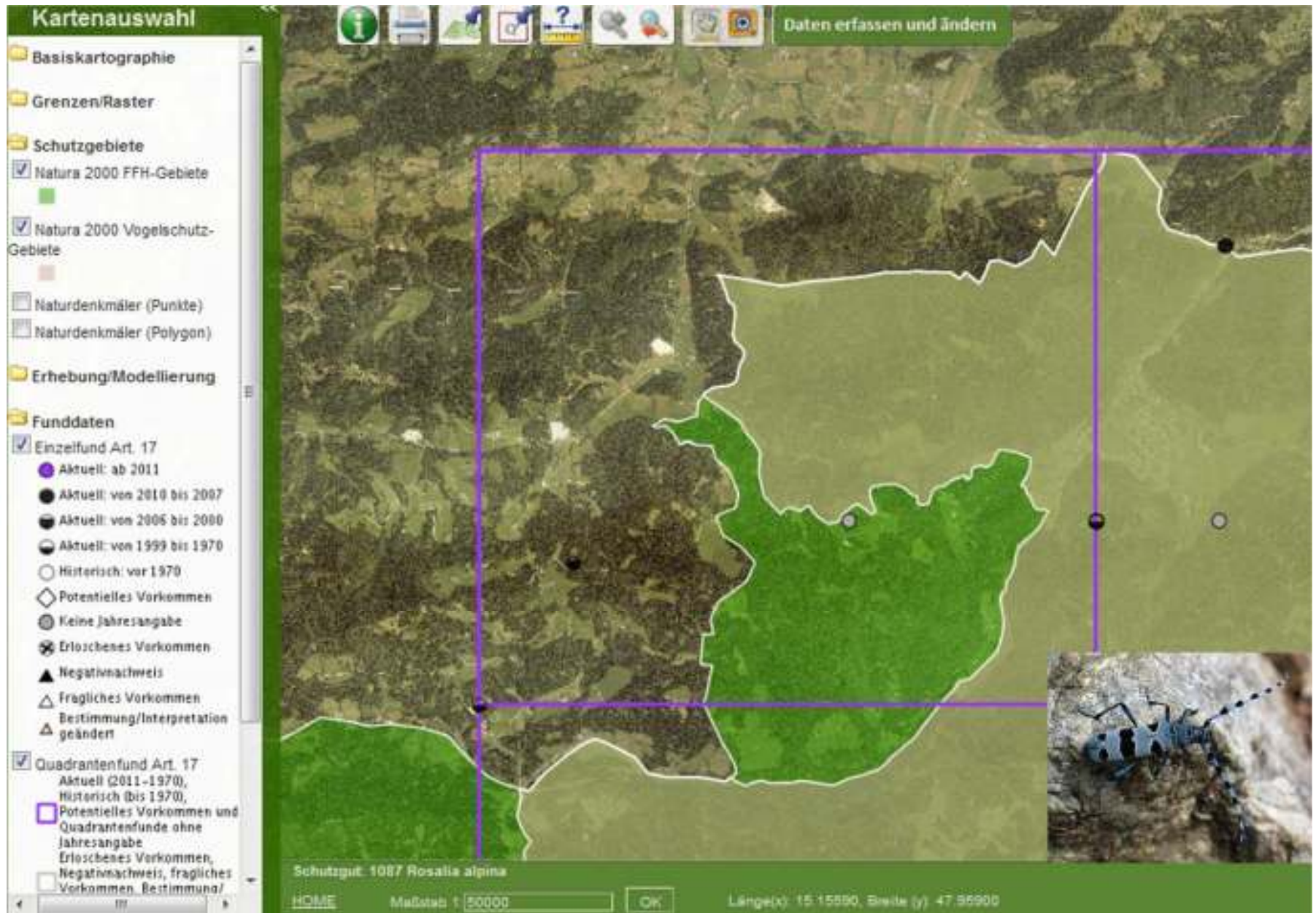








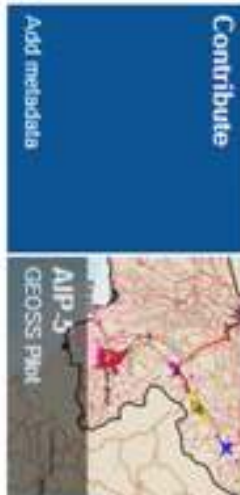
INTEGRATED SPATIAL ANALYSIS





EnerGEO Geoportal

is focusing on integrating technology, policies, standards, human resources and related activities necessary to acquire, process, distribute, use, maintain, and preserve spatial information.



Recent

The new EnerGEO Geoportal is online! Its new style aims to make geo-knowledge access easier and more intuitive. You can find metadata using the discovery app and add metadata after logging in.

EU FP7 EnerGEO

EnerGEO provides a versatile modelling platform that enables calculation, forecasting and monitoring of the environmental impact of the energy mix on various scales.





digital-earth.eu



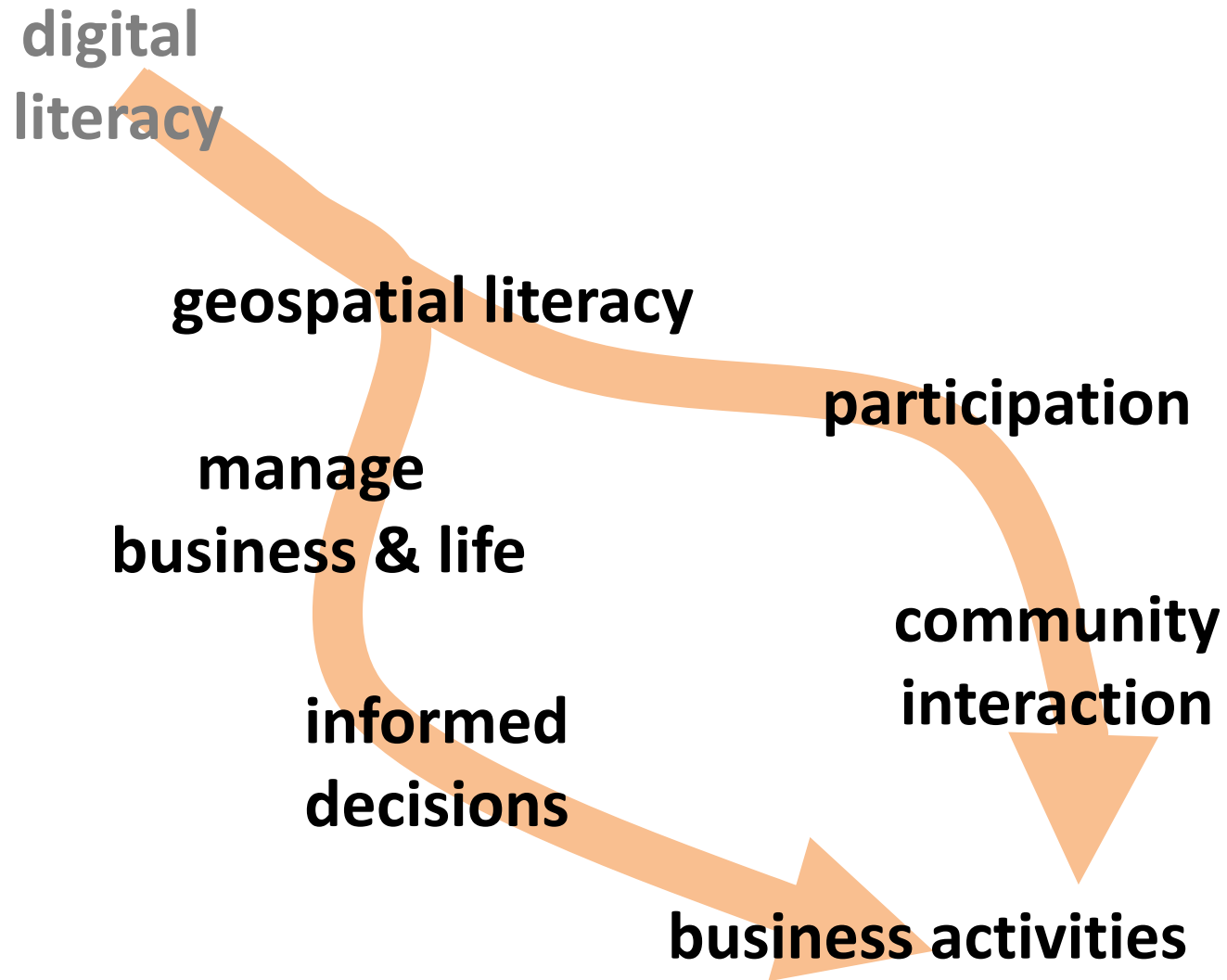
digital:earth – spatial citizen brainware



© 2012 digital-earth.eu

This project has been funded with support from the European Commission. This Web site reflects the views only of the network, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Spatial Citizenship





digital-earth.eu


The **digital-earth.eu** project examines the use of geographic media in schools and teacher education. Geo-media is the visualisation of information from different media sources and is concerned with digital content and its processing based on place, position and location. Many geographic media are widely used for navigation and routing purposes. Cartographic communication has never been so easy to implement, therefore 21st century school education needs to include geo-media into daily work. Innovative approaches to teaching and learning are needed to study environments from local to global scale.

The **digital-earth.eu** network links innovative centres around Europe where geo-media use is well developed. Products, resources, experiences and ideas are shared between the centres and opened to the public wherever possible.

A **digital-earth.eu** infrastructure is under development. The European Centre and an accredited network of national and regional Centres of Excellence are developing an online catalogue of materials, courses, publications, links and good practice scenarios, and are publishing a series of core publications.

Supported by:




 Digital-earth.eu
digitalearth.eu

digitalearth.eu Animating the cartography of disaster
#geomedia bit.ly/wN079c
lnkd.in/MaNU4p
23 hours ago · reply · retweet · favorite

digitalearth.eu What Is The Purpose of Geospatial Media?
vector1media.com/vectorone/?p=9...
lnkd.in/HW-SSZ
23 hours ago · reply · retweet · favorite

digitalearth.eu Satellite images showing change over time
cnn.com/SPECIALS/world...
lnkd.in/MSrWuV
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twitter  Join the conversation



digital-earth.eu presented at Media and Learning 2011

More than 300 delegates present at the Media and Learning Conference attended digital-earth.eu screening on Nov. 24th, 2011. The presentation introduced the importance of geospatial



13:50-14:40

Lecture Plus 3
Learning 'how' online – the benefits
KS2-P16
David Hildings, Education Consultant

14:55 - 15:45

Lecture Plus 4
Water security: what we need to know
Subject Update
Professor J.A. Allen, Professor Emeritus, King's College London

Lecture 5
Global energy dilemmas: a geographical perspective
Subject Update
Professor Michael Bradshaw, Professor of Human Geography, University of Leicester

Lecture 8
Exploring differences in society using the UK census
Subject Update
Dr Paul Merritt, Lecturer in Human Geography, University of Leeds

16:30-17:20

Lecture Plus 5
Geo-media in secondary education
KS4
Alan Parkinson, Consultant, and Dr Michael Sefton, Educational Affairs Director, Association of American Geographers.
Sponsored by digital-earth.eu

Lecture 6
Making sense of diversity
KS1-3
Eleanor Knowles, Director, Cumbria Devised Centres

Lecture 9
Social geography of young people

Lecture 11
Citizenship, cities and difference: young people's perspectives
Aurélien

17:35-18:25

Lecture 14
Adapting to climate change: lessons from water resource management
Subject Update
Professor Clive Aylward, Vice President, The Institution of Environmental Engineers

17:00 Exhibition



digital-earth.eu

GEO-MEDIA IN THE CURRICULUM!
FOR A BETTER WORLD!
a European Geographers Network connecting those using Spatial Media and GeoInformation in school



Workshop (11) 23
14:00-15:00

digital-earth.eu – Geo-media in Schools



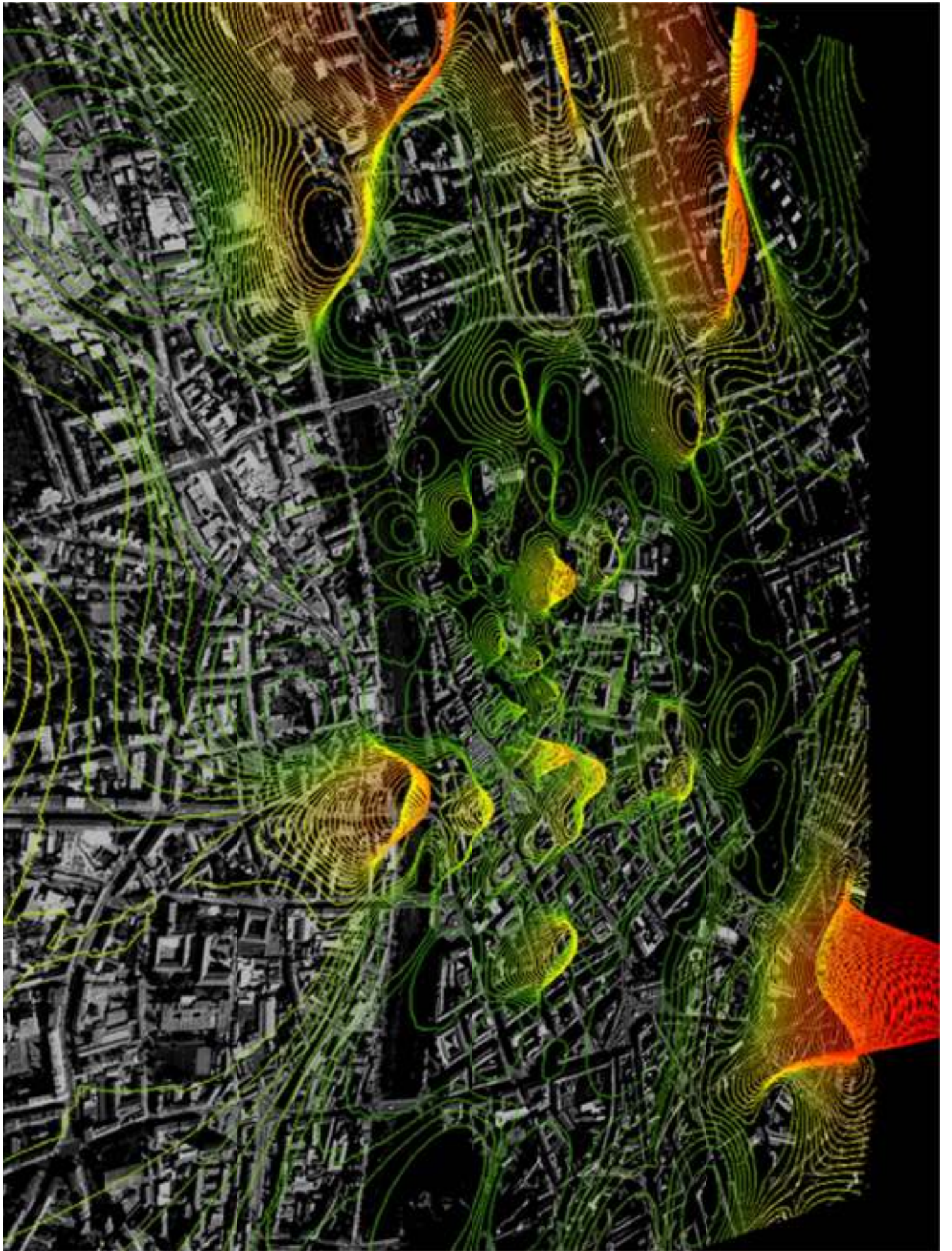
digital-earth.eu

Call for Applications

**“digital-earth Centres of Excellence”
&
“digital-earth Experts”**



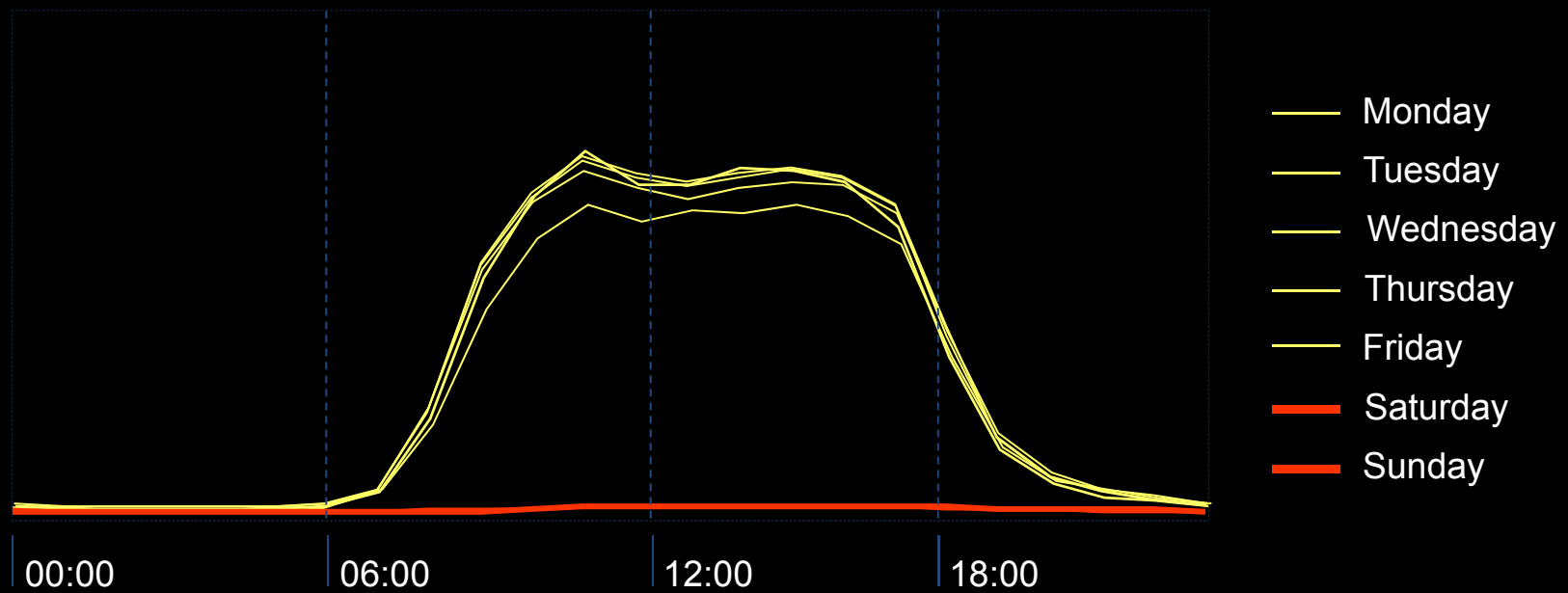
People as Sensors







World Trade Center

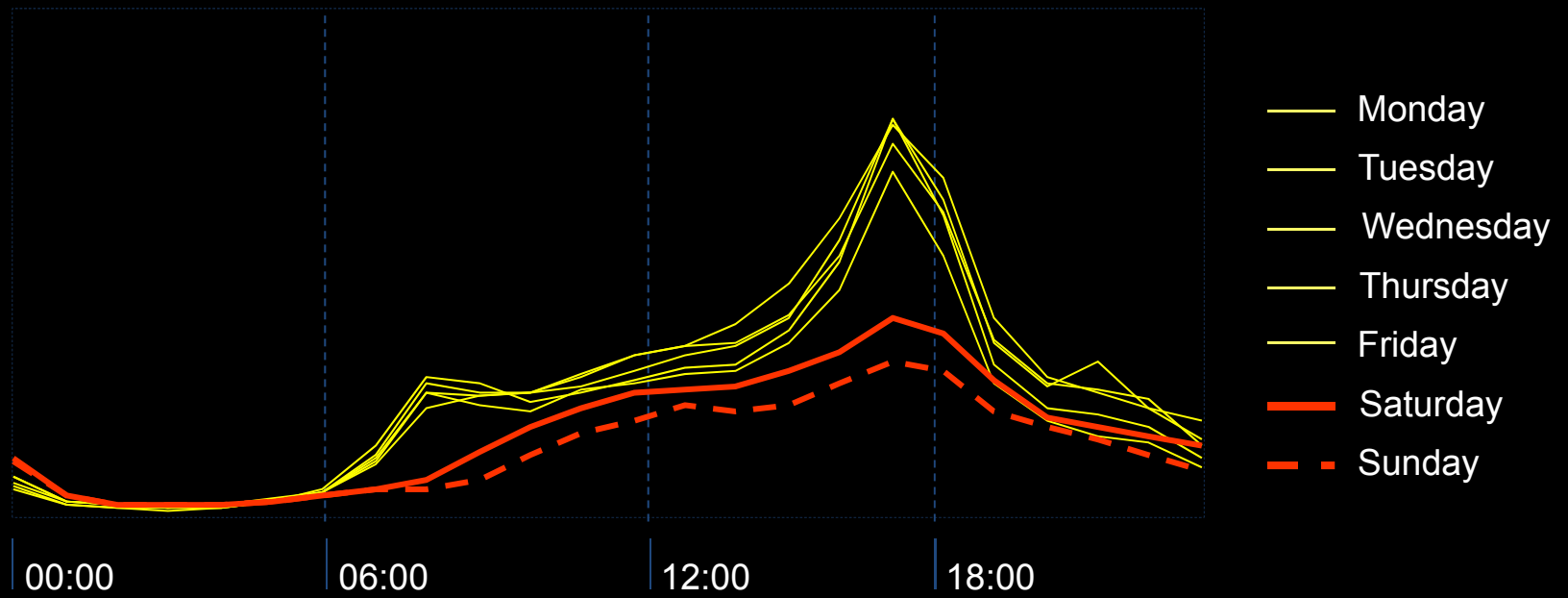


Aggregated call intensity

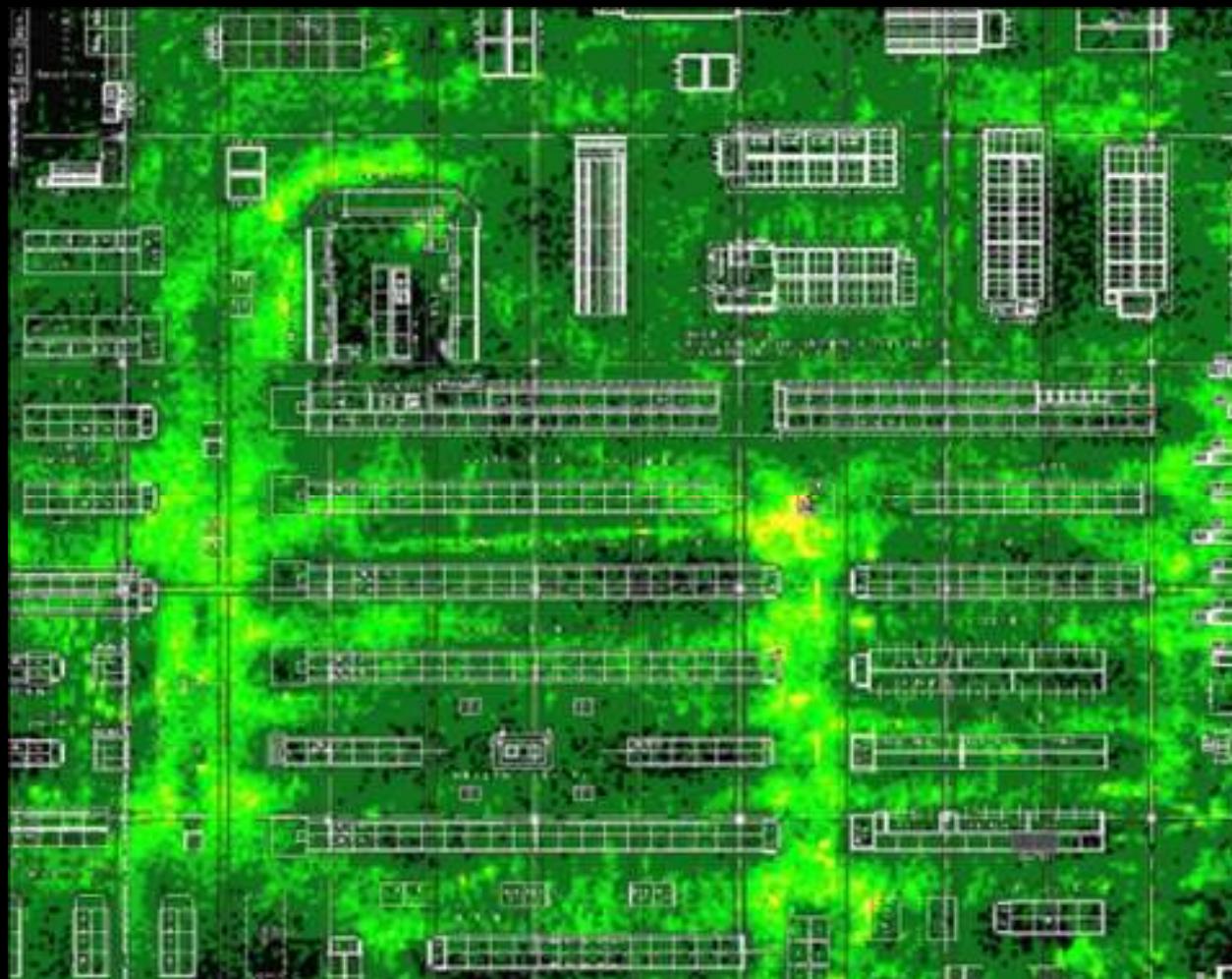


Source: bMA Amsterdam

Central Station

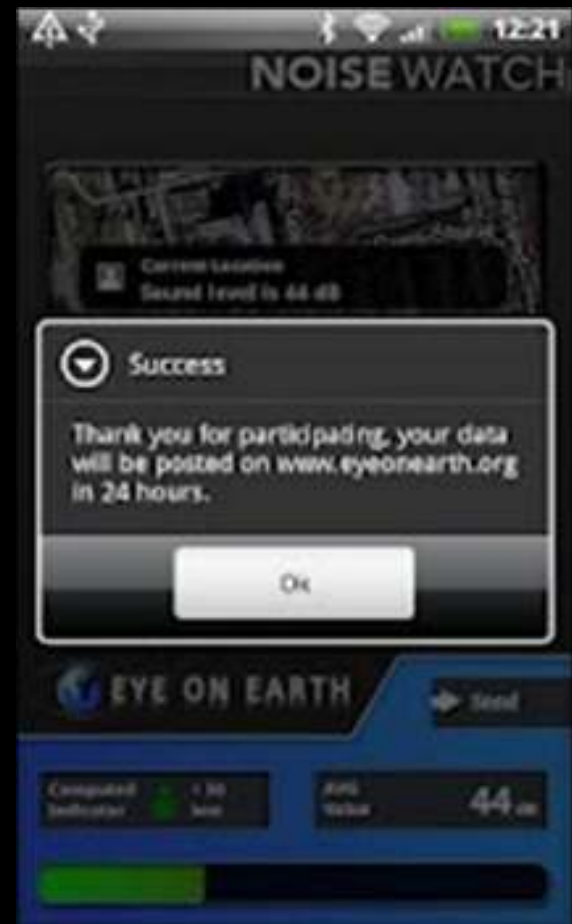


Aggregated call intensity









Nuevo Evento

Título del Evento

Descripción

Date & Time: Today

Categorías

- 1. Emergencia
- 2. Amenazas
- 3. Catastro
- 4. Respuesta
- 5. Noticias de Personas
- 6. Comercio Abierto



Ubicación precisa

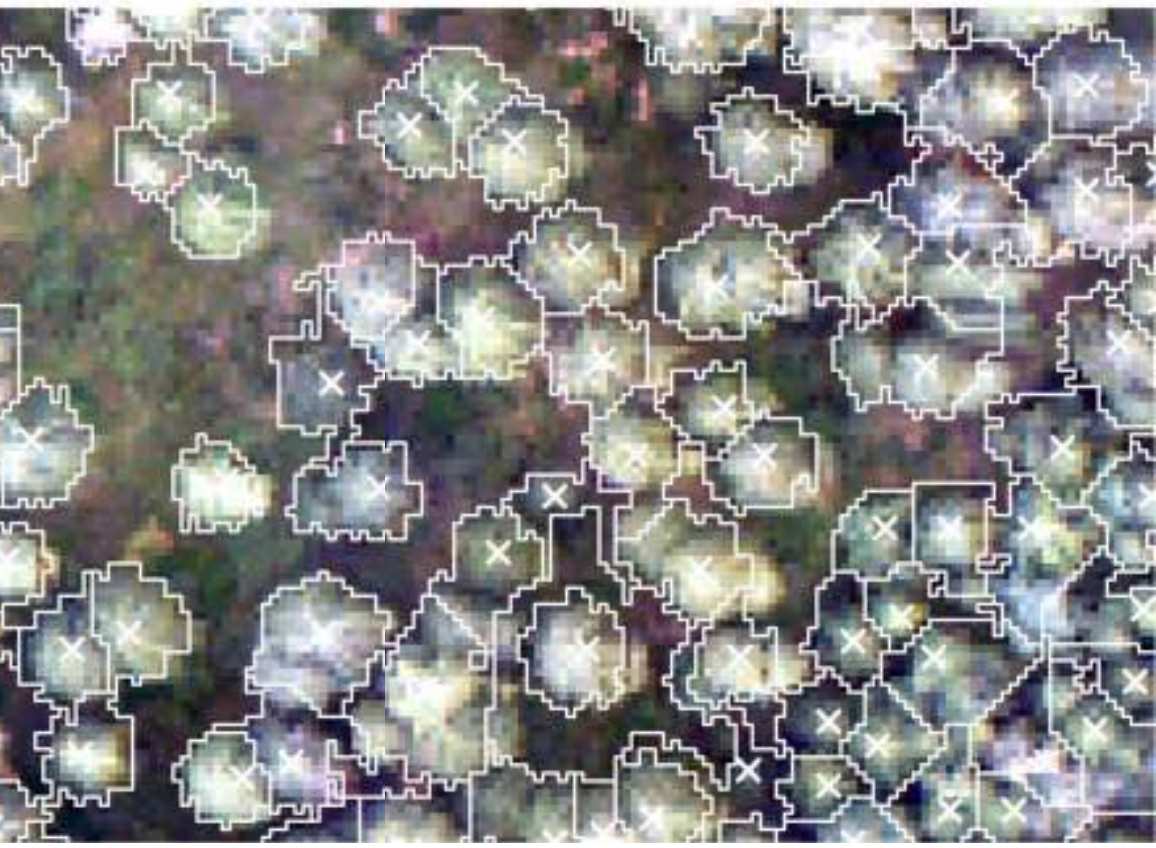
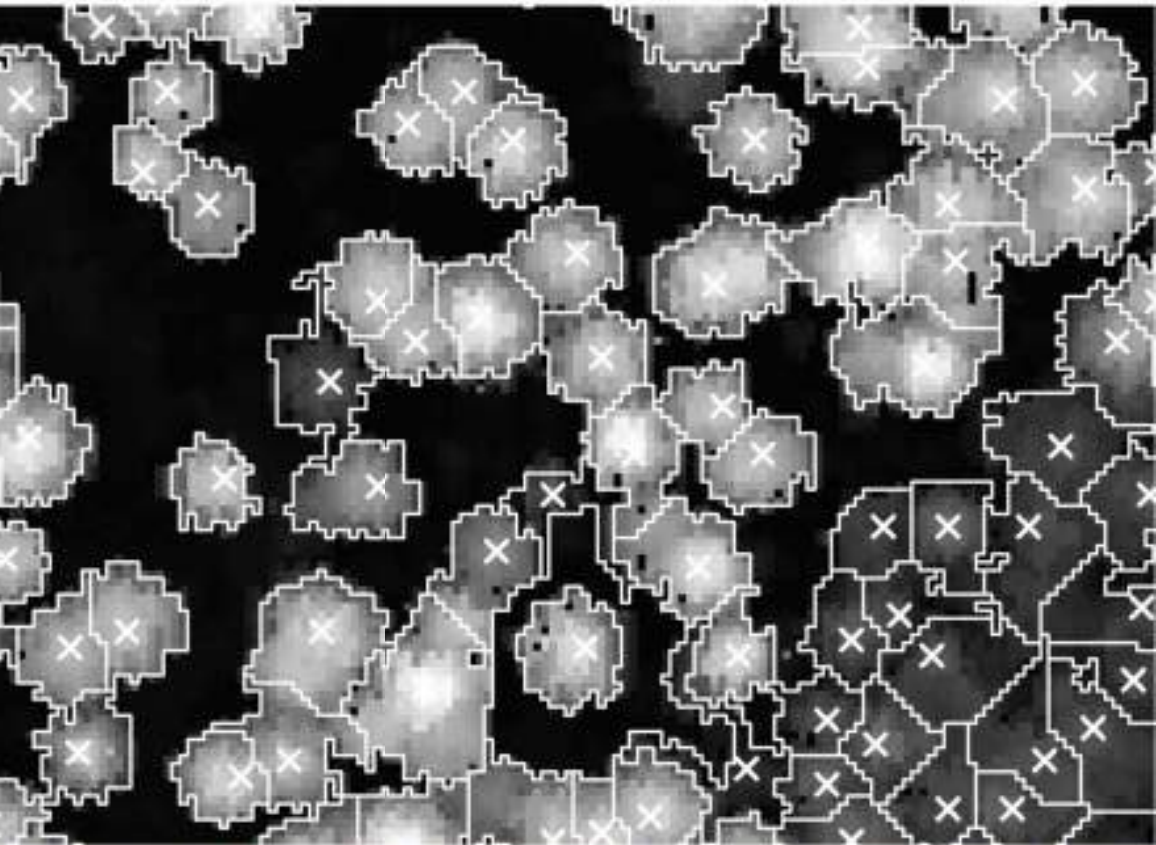
Enlace a fuente de Noticias

SS / AD Información Opcional

Digital ,Skin' of our planet



- über den Wald und die Bäume







Geo-Informationen Gesellschaft

Josef Strobl



Josef Strobl



Z_GIS

Geoinformatik interdisziplinär – Mehrwert der räumlichen Perspektive

