


User needs, possibilities and limitations of remote sensing for Natura 2000 monitoring




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Scientific Institute of the Flemish Government

Multi-scale Service for Monitoring NATURA 2000 Habitats of European Community Interest




GMES / Copernicus

- Remote sensing
- Continental level
- Member state level
- Site level

Project: 2010-2013

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Three complementary actor groups



ACADEMIA & RESEARCH	INDUSTRY / SME	USERS (with technical contribution)
<ul style="list-style-type: none"> AT: Paris Lodron Universität Salzburg, Centre for Geoinformatics (Z_GIS) FR: Cemagref BE: Flemish Institute for Technological Research GR: National Observatory of Athens / Institute for Space Applications and Remote Sensing IT: EURAC Research - Inst. Applied Remote Sensing DE: Rheinische Friedrich-Wilhelms-Universität PL: Instytut Geodezyjny i Kartografii DE: Berlin Institute of Technology 	<ul style="list-style-type: none"> DE: EIT D3C Fernstudium Technologiecenter GmbH AT: Aichlauer GmbH UK: Spectra Natura Limited DE: Luftbild Umwelt Planung GmbH 	<ul style="list-style-type: none"> ES: University of Malaga - European Topic Centre for Spatial Information and Analysis (UMA - ETC/ISA) BE: Research Institute for Nature and Forest GR: The Goulandris Natural History Museum / Greek Biotope Wetland Centre (ENH) DE: State Agency for Agriculture, Environment and Rural Affairs of the State of Schleswig-Holstein ES: Regional Conservatory for Natural Areas Langostica - Resourdan
		<p>ENVISAGED PARTNERSHIP OUTSIDE EUROPE</p> <ul style="list-style-type: none"> GE: Georgian National Park, Nouristan

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User needs, possibilities and limitations of remote sensing...



A user perspective!

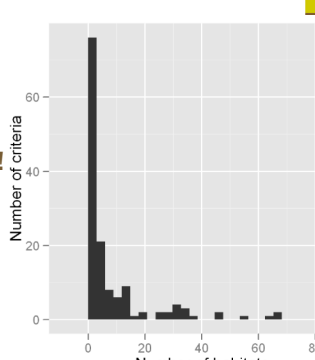
User needs...

- Conservation status - EU/member state habitat manuals
- Katalog biotopů České republiky
- Assessment and reporting under Article 12 of the Birds Directive
- Explanatory Notes & Guidelines for the period 2008-2012
- Einleitung von Kriterien, Indikatoren und Schwellenwerten zur Beurteilung des Erhaltungszustandes der Natura 2000-Schutzgüter
- INTERPRETATION MANUAL OF EUROPEAN UNION HABITATS
- Ontwikkeling van criteria voor de beoordeling van de lokale staat van instandhouding van de Natura 2000 habitattypen. Versie 2.0.



User needs...

- Conservation status
- EU/member state habitat manuals
- Diversity of criteria!



Conservation status criteria for Flanders

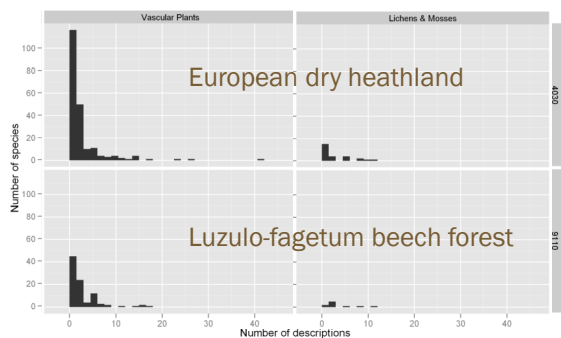
User needs...

- Conservation status
 - EU/member state habitat manuals
 - Diversity of criteria!
 - More diverse: Variation across Europe

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Variation in criteria across Europe: key species



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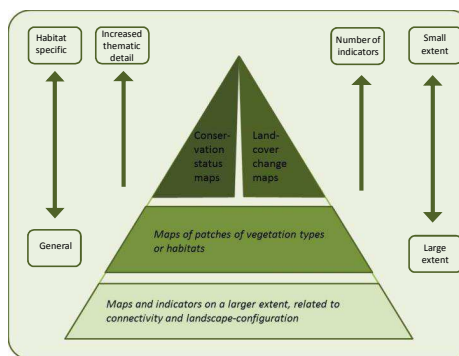
User needs...

- Conservation status
 - EU/member state habitat manuals
 - Diversity of criteria!
 - More diverse: Variation across Europe
 - Site specific needs
- Current user needs are too diverse!**

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User needs analyzed

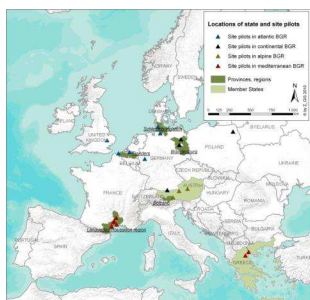


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Remote sensing possibilities: Case studies in Natura 2000 sites

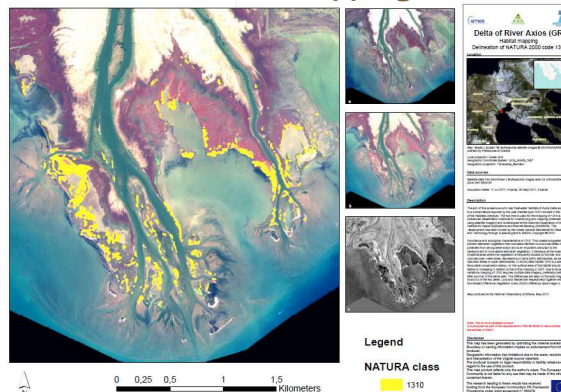
- MS.MONINA:
- 12 remote sensing partners
 - 15 services
 - 20 characteristic types
 - 20 special areas of conserv.
 - 62 habitat types covered
 - 228 potential habitat types



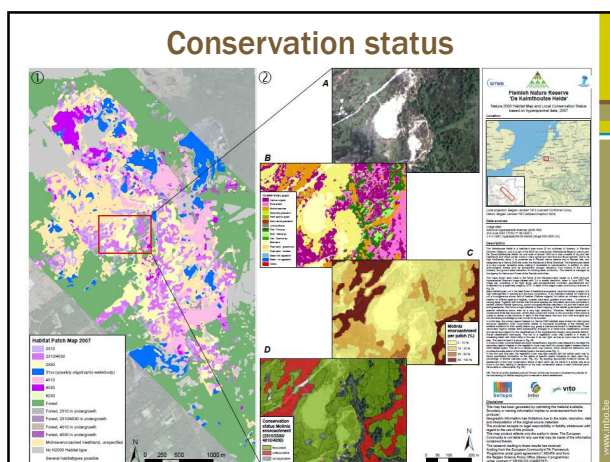
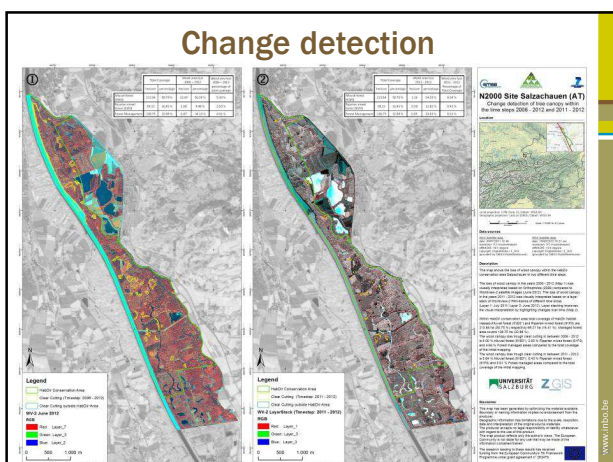
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Habitat mapping



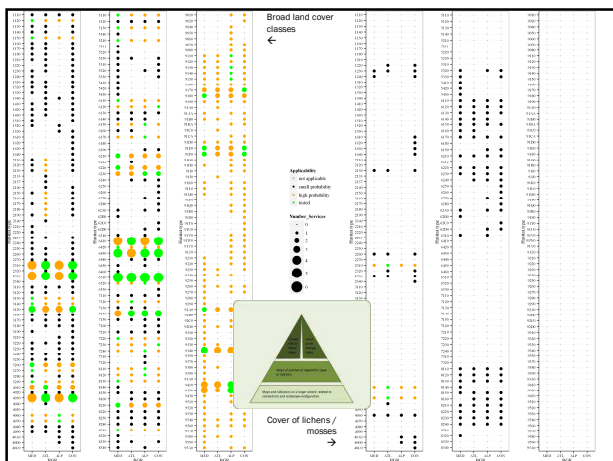
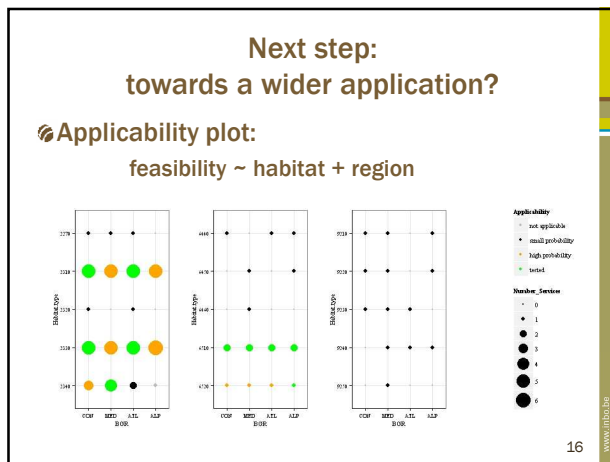
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Next step: towards a wider application?

- Nice examples, but...
- Where are services/ RS techniques applicable?

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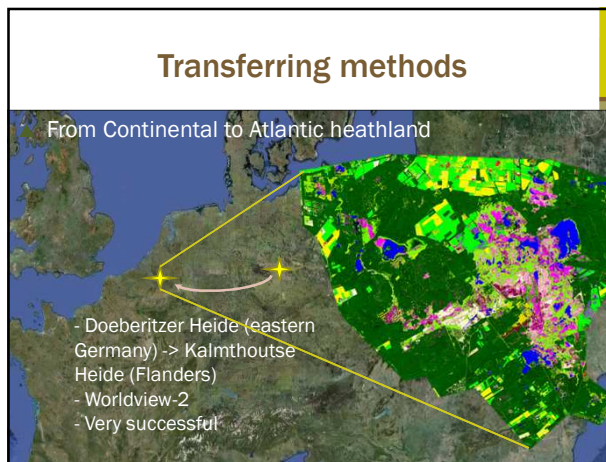
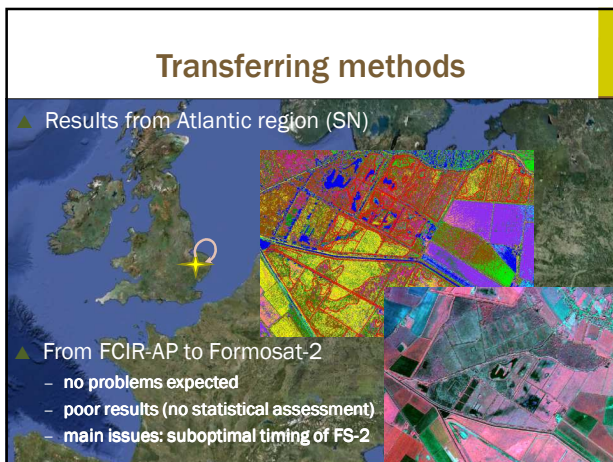
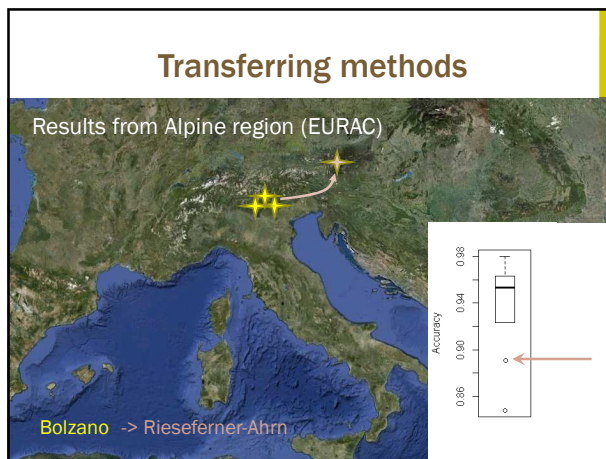
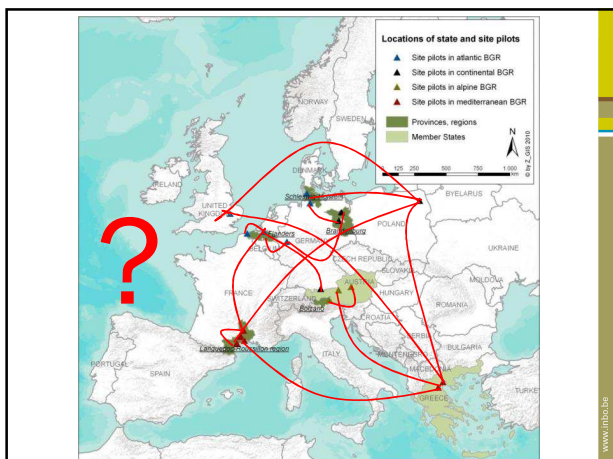


Towards a wider application...

Need to handle (small) differences in imagery (type, spatial resolution timing,...)
 location (phenology, structure)
 habitats

→ Can methods be transferred?

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Towards a wider application?

Some transfers were successful, others not

- Key elements of success yet unclear

Essential to explore transferability of new methods!

- can methods be transferred?
- modification costs?
- 'behaviour' of the accuracies?

Take home messages

Very diverse user requirements

- ➔ no pure remote sensing solution for N2000 monitoring

Huge possibilities of remote sensing

- many success stories published

Limitations...

- ... often remain unpublished.
- Critical evaluation of techniques needed!

Thank you!

Websites:

<http://www.ms-monina.eu>
<http://www.ms-monina.eu/geoportal>

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