









Projects GEONETCAB and EOPOWER EARTH OBSERVATION CAPACITY BUILDING ACTIVITIES

Přemysl Štych, Lucie Kupková, Lucie Červená, Renáta Suchá, Jan Kříž, Lukáš Holman,

Charles University in Prague, Faculty of Science Scientica Agency Czech Republic stych@natur.cumi.cz

4. ČESKÉ UŽIVATELSKÉ FÓRUM COPERNICUS, 12. -13. 5. 2015

Content of the presentation

> Aims and outputs of the projects GEONETCAB and EOPOWER

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BUILDING A GLOBAL EARTH OBSERVATION SYSTEM OF SYSTEMS GEOSS





GEOSS BUILDING A GLOBAL EARTH OBSERVATION SYSTEM OF SYSTEMS





EOPOWER - Earth Observation for Economic Empowerment www.eopower.eu 2013-2015

General goals

Roadshow activities to promote the increased use of EO products and services for environmental applications,

Portfolio of potential EO applications for economic development and environmental management;

> The resource facility on capacity building in the GEO web portal;

Explore the establishment of a forum of stakeholders (resource providers, international organizations)

Building on the GEONetCab, EGIDA, enviroGRIDS, BalkanGEONet, OBSERVE and SEOCA projects,





EOPOWER project

www.eopower.eu

13 partners – Central, South and Eastern Europe, Africa, North and South America

Strong consortium – share knowledge for purpose of wider use and implementation of EO technologies with a significant impact on economic empowerment as a contribution for sustainable economic development.







pour le développement





HCP











GOALS and OUTPUTS

Valorisation of science for practical applications,

Feedback from the end-users to the science and development community,

➢ to create the conditions for the improvement and increase of the <u>GEO/GEOSS</u> and <u>Copernicus</u> capacity building activities

A base of technical expertise for capacity building in Earth observation is established – END USERS in nature preservation

Quick Win project (Success Story) Importance of the Success Stories to affect as "Snow Ball"

Effort to coordinate and associate EO education activities

EOPOWER - methods

www.eopower.eu

GEO/GEOSS and COPERNICUS PROMOTION

EODOWED	
Earth SUCCESS STORIES	ACCES PORTAL
ome Project Overview Consortium Associated partners Work Packages Events Resource of Earth Observation for Economic Empowerment	centre EOPOWER Discussion Contact
MARKETING TOOLKIT	Username *
	Capacity building needs

The purpose of the EO

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nt through the increased use of Earth observation products and services for environmental applications. This purpose

serves the higher goal of effective use of Earth observation for decision making and management of economic and sustainable development processes.

The EOPOWER project builds on the results of the GEONetCab, BalkanGEONet, OBSERVE, enviroGRIDS, SEOCA and EGIDA projects. The GEONetCab project produced global and regional marketing studies, success stories, marketing toolkits and valuable feedback from promotion activities and quick-win projects. This enables the EOPOWER project and the partners involved to benefit fully from the experience of the GEONetCab and the other projects.

Toolkits (Power Point Presentation)

- <u>agriculture</u>
- <u>climate change</u>
- <u>disaster management</u>
- energy & mining
- <u>environmental management</u>
- forest management
- <u>health</u>
- <u>marine resources & environment</u>
- <u>urban management</u>
- water management
- weather

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- Toolkits (pdf)
- <u>agriculture</u>
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- forest management
- <u>health</u>
- marine resources & environment
- urban management

Toolkits reference lists

- <u>agriculture</u>
- <u>capacity building</u>
- <u>climate change</u>
- <u>disaster management</u>
- energy & mining
- environmental management
- forest management
- general
- <u>health</u>
- marine resources & environment
- <u>market studies & cost benefit</u>
- <u>urban management</u>
- water management
- weather

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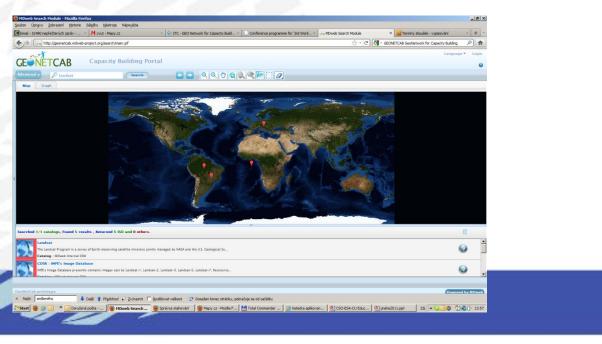


GEOCAB catalog Earth Observation Capacity Building Portal

http://geonetcab.mdweb-project.org/

www.geocab.org

Aims to deliver information about Capacity Building resources for the Earth Observation domain.



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EOPOWER Success stories





SUBURBANIZATION AND U

A project called 'Suburban developme Suburbanisation and Urban Sprawl' was carried out the Czech Republic with the aim to assess and tac the negative impacts on the environment.

The research was done by a working group consist of social geographers affiliated with the Char University in Prague, Faculty of Science, Department Social Geography and Regional Development. 7 research was made possible by a granted from Czech Ministry of Environment for the period 200' 2011.

Earth observation data, areal photographs, ortopho and QuickBird images were the main data sources evaluate the spatial spread of suburbanization.

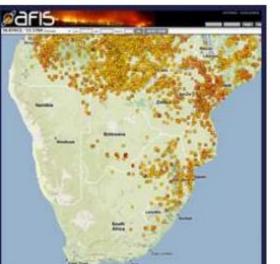
The project aims at assessing the current spatial ext and the intensity of the suburbanisation process in Czech municipalities. In addition, an attempt was ma to quantify the predominantly negative consequen of suburbanisation from the point of view sustainable development of society in general and landscape in particular. On the basis of empirical a analytical findings, a system of indicators is propoin order to monitor size, intensity and impact suburban development, also with respect atomaticaal houshmouldar Oue of the



SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC) ADVANCED FIRE INFORMATION SYSTEM (AFIS)

Fire is prevalent throughout Southern Africa, with local to regional impacts on land use, productivity, carrying capacity and biodiversity. Bushfires occur every season, destroying vast environmental resources. Large parts of the territory are burned every year and fire activity will increase with the projected climate change due to increased climate variability.

In 2002, damages to infrastructure and loss of grazing due to wild land fires in South Africa were estimated to be in the region of \$50 million. An urgent need was identified to develop a satellite based information system that could not only provide information on the frequency and distribution of fires over time for the change detection research community but could also provide a near-real time



SUCCESS STORIES

PORT

ORIES





GEONETCAB **Atlas of Remote Sensing in Nature Preservation** CAC. 1220 6.4 Stanovení land cover z dat DPZ v NP České Švýcarsko 14 Využití DPZ Land cover části NP České Švýcarsko di Horského, Bakového a Mij land cover 2006 oblast požáru (2006, před požárem) snímek z družice Formosat (2006) Indu s DO 1 IP České Švýcarsk NP České Švýco opak v mě ofer see beinds write kpe patrië under - web - Larta ranki iehličnatý les odní tok níšený le shlomin louky a pastv snímek z družice Formosat (2009)

orná půda

ostatní plocha

land cover 2009







hranice obce

oblast požáru



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Quick Win project

Giant Mountains National Park (Krkonoše)

Dissemination of EO skills - EO lectures,

EO exhibition, workshop



Implementation of EO technologies into environmental monitoring (meadow vegetation classification and monitoring, forest health, land cover change)



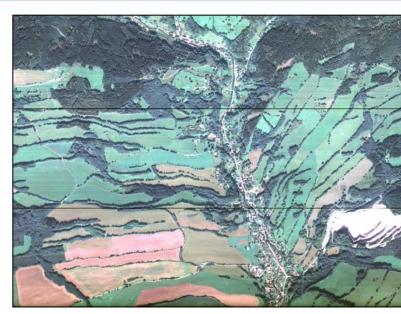
Quick Win project NP Krkonoše

WorldView-2 acquisition in the framework of GEONETCAB/EOPOWER project Mainly for meadows vegetation research

UNESCO Project Planet Action

Project HyMountEcos EUFAR framework, Cooperation with Warsaw University Aerial Hyperspectral data Acquisition

Master and PhD theses







WorldView-2 image

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THE FIELD DATA

2 km



other

- meadows with dominat Nardus stricta
- degraded meadows
- meadows with dominant Vaccinium sp. and Caluna sp.
- meadows with dominant Trisetum flavescens, Dactylis glomerata or Alopecurus pratensis
- waterlogged meadows
- valuable anthropogenic associations

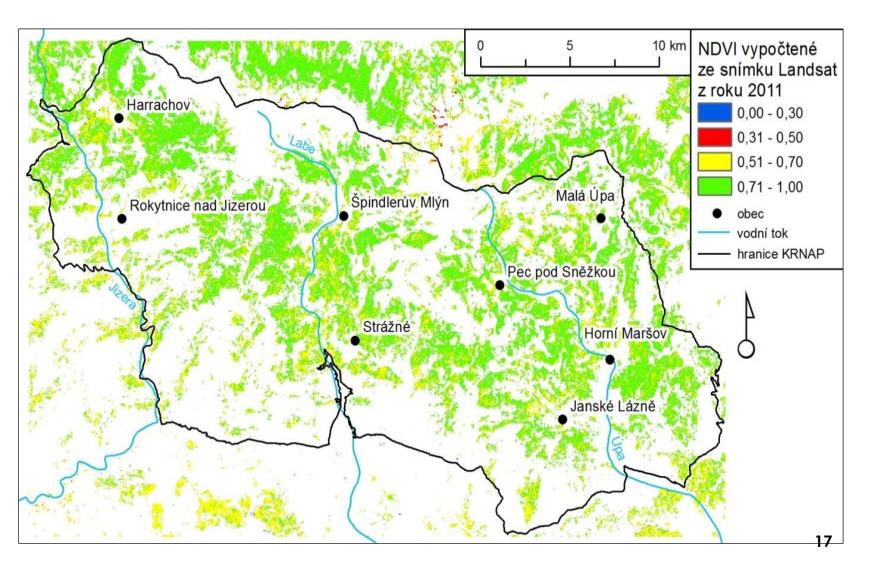




Spruce forest area



Landsat - NDVI













Přírodovědecká fakulta Univerzity Karlovy v Praze, Jihočeská univerzita v Českých Budějovicích, Správa Národného parku Nízke Tatry v Banskej Bystrici a Univerzita Mateja Bela v Banskej Bystrici

usporadúvajú odborný pracovný seminár

APLIKÁCIA DIAĽKOVÉHO PRIESKUMU ZEME VO VÝSKUME ŽIVOTNÉHO PROSTREDIA

20. - 21. máj 2015, Fakulta politických vied a MV, Univerzita Mateja Bela,

Kuzmányho 1, Banská Bystrica

Seminár predstaví aplikácie moderných metód diaľkového prieskumu Zeme (DPZ) vo výskume a ochrane životného prostredia. Cieľom seminára je ako v teoretickej, tak i praktickej rovine prezentovať možnosti využitia DPZ v mnohých sférách životného prostredia a diskutovať možnosti zapojenia technológií DPZ do praxe.

Prvý deň seminára budú prezentované vybrané tématy aplikácií DPZ, ako napr. využitie DPZ v monitoringu lesnej a voľnej krajiny, DPZ v hodnotení kvality vody či energetickej bilancie povrchu, ako i predstavenie významných programov rozvoja technológií a aplikácií DPZ: Copernicus a GEO/GEOSS.

Druhý deň seminára bude venovaný zdrojom a spracovaniu dát DPZ so zameraním na voľne dostupné dáta a SW technológie. Predstavená bude praktická ukážka vyhľadania a spracovania satelitných multispektrábnych dát Landsat a ich aplikačné možnosti.

Seminár je primárne určený pre pracovníkov inštitúcií ochrany prírody a krajiny, zamestnancov štátnej správy v oblasti ŽP, ľuďom z akademickej a privátnej sféry. Na seminári budú účastníkom počas druhého dňa k dispozícii počítače.



Tento seminár je podporený projektom FP7 EOPOWER (www.eopower.eu). Technické zázemie a priestory seminára poskytuje CEKR (www.fpvmv.umb.sk). <u>Vstup na seminár pre účastníkov zdarma.</u>

Informácie k programu: RNDr. Přemysl Štych, Ph.D., PřF UK v Praze, e-mail: stych@natur.cuni.cz



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Registrácia: https://docs.google.com/forms/d/1-P3ilhBlwA7n-6wiJkTpNFzrSnyjqrhx-04p9vEyItA/viewform



Identification of options/barriers of EO applications

No.	Indicator		Qualitative assessment (to be indicated on a scale of 1 (= poor) to 5 (= excellent)
1	Fit-for-purpose	Not applicable	Based on description of what the EO application actually does

Are the proposed impact indicators satisfactory and complete?

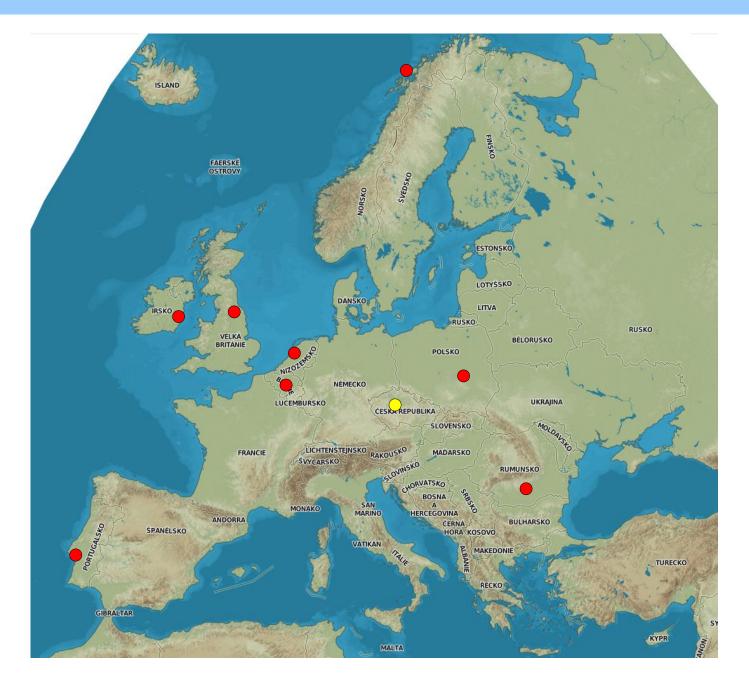
With respect to the impact indicators for Earth observation applications: which ones need most attention to make EO applications more successful for your region / activity?

	6	Reliability / continuity of service	Not applicable	Based on sensitivity analysis of the EO application
		Resilience	Cost-benefit calculation of plan B	Based on risk analysis of the EO application
		Reproduction capacity / flexibility	Calculation of reproduction costs for application in other regions or situations; measurement of spreading of actual use	Based on quantitative assessment and description of EO application
-		Acceptance	None, or survey results about acceptance. After introduction of the solution: number of clients and/or users.	Based on user testimonials and user surveys
	10	Level of knowledge transfer required	Cost and time required to get the users at the desired knowledge and skill level	Based on knowledge transfer plans and evaluation of training activities

European Space Education Resource Office



ESERO in Europe





Project Consortium



Scientica Scientica Agency Ltd. (concractor)



Charles University in Prague



Astronomical Institute of AS CR



TEREZA Association



IQ Landia Science Center



City of Prague



AKADEMIE GEOINFORMACNICH DOVEDNOSTI



ACADEMY OF GEOINFORMATIC SKILLS

Educational programmes





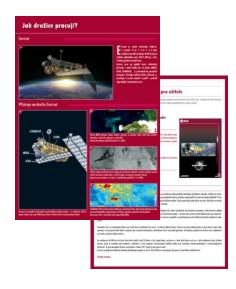
Educational materials



Translatated ESA products

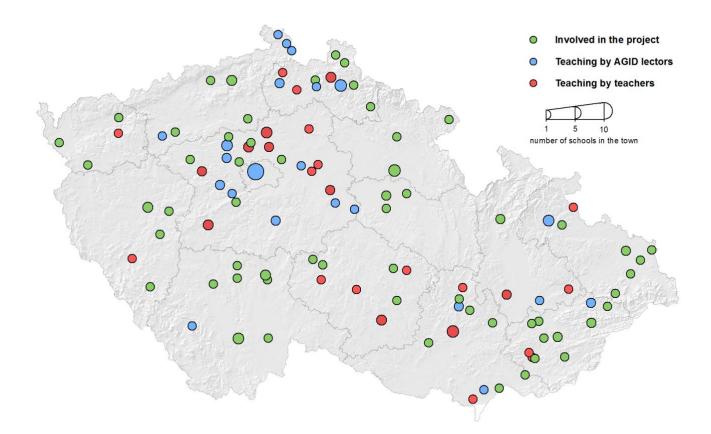
Work with teachers and talented students







NETWORKING



- 6 400 pupils
 - 320 teachers
 - **216** schools
 - **16 ESA partner schools**



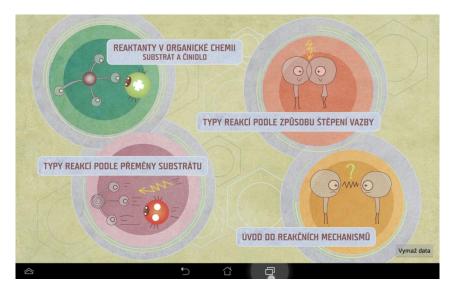




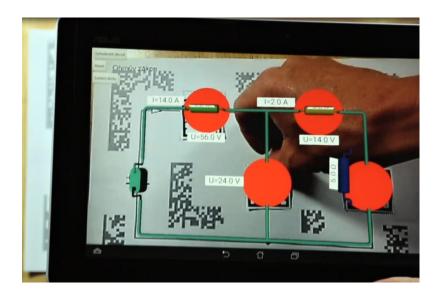
TABLETARIUM Tablets in Science Education

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TABLETARIUM – Tablets in Science Education









ESERO CZ – RESOURCES AND ACTIVITIES (2015)

Implementation and development of ESA education resources

classroom resources

- 1) Tablet app on Earth Observation
- 2) Tablet app on GNSS
- Running CANSAT and Mission X
- Networking
 - Workshops and conference for teachers
 - Summer school
- Curriculum consultations
 - Strategy of EO, digital learning



Remarks and Plans



- to evoke interest of end users and to find a joint topic and area
- EO data both to distribute and to explain: What is the added value of EO data?
- to share capacity provide data, field survey, promote GEO and Copernicus programs
- to provide reliable information about data and benefits of EO time consuming field survey x price of data per 1km² x free downloaded data
- To cooperate on the capacity building and dissemination activities in the Slovak Republic
- networking with EO organizations (academic, state, private sector) in the Czech and Slovak Republics
- valorization of scientific results, educational activities ESERO CZ



Thank you for your attention

stych@natur.cuni.cz

