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.cuni.cz

Content of the presentation

- *Aims and outputs of the projects GEONETCAB and EOPOWER*
- *ESERO CZ*

Group on Earth Observations

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.*

EOPOWER/GEONETCAB projects

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 **GEO/GEOSS** and **Copernicus** 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

Toolkits (Power Point Presentation)

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

Toolkits (pdf)

- agriculture
- climate change
- disaster management
- energy & mining
- environmental management
- forest management
- health
- marine resources & environment
- urban management

Toolkits reference lists

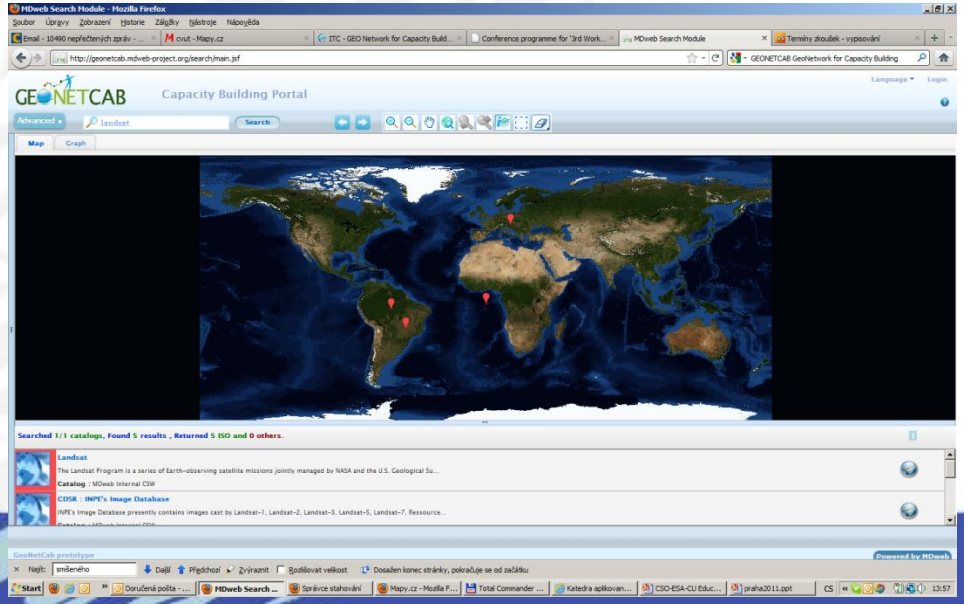
- agriculture
- capacity building
- climate change
- disaster management
- energy & mining
- environmental management
- forest management
- general
- health
- marine resources & environment
- market studies & cost benefit
- urban management
- water management
- weather

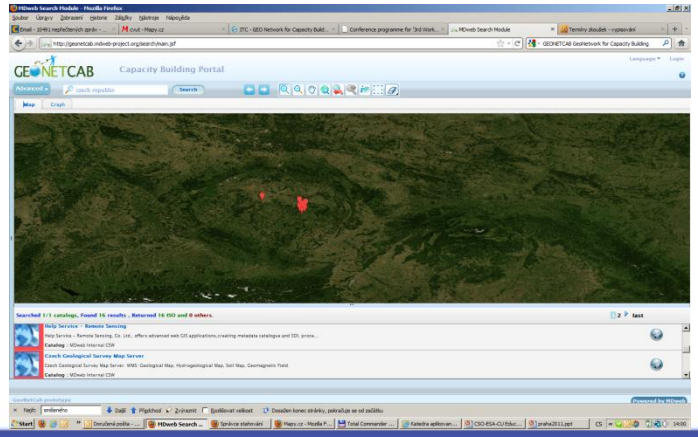
GEOCAB catalog
Earth Observation Capacity Building Portal

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

www.geocab.org

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





EOPOWER

Success stories

GEONETCAB

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, Departmen
Social Geography and Regional Development. T
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 propos
in order to monitor size, intensity and impact
suburban development, also with respect

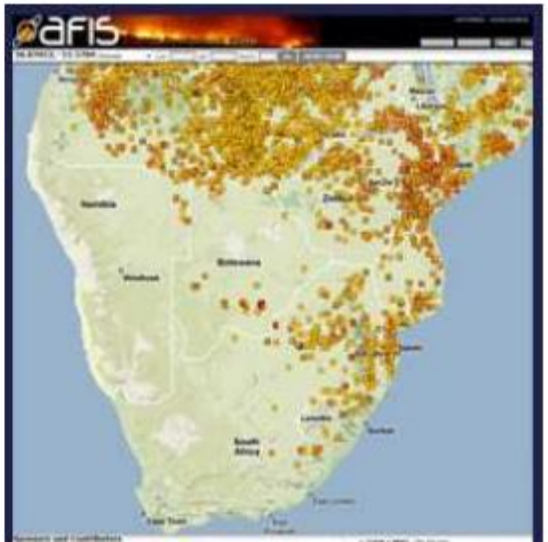
ORIES

PPORT

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

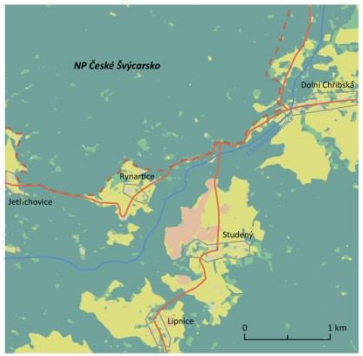


Atlas of Remote Sensing in Nature Preservation

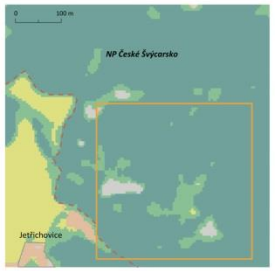
Stanovení land cover z dat DPZ v NP České Švýcarsko

Land cover části NP České Švýcarsko

land cover 2006

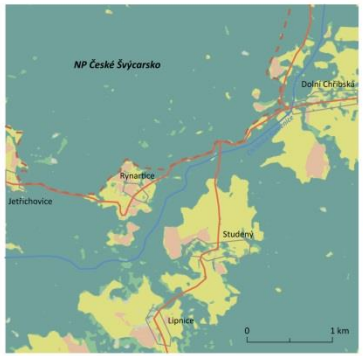


oblast požáru (2006, před požárem)

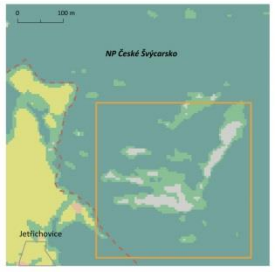


snímek z družice Formosat (2006)

land cover 2009

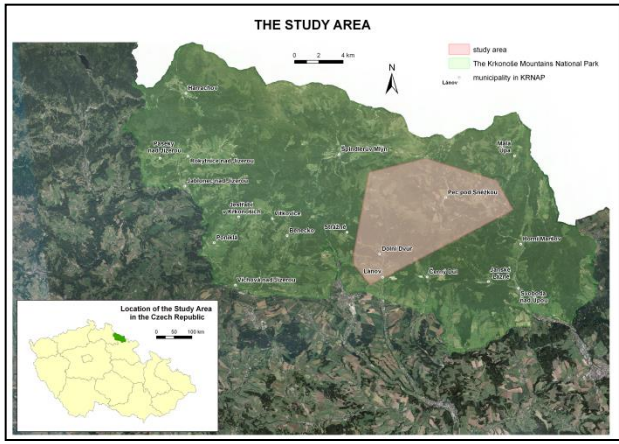


oblast požáru (2009, po požáru)



snímek z družice Formosat (2009)

Quick Win project

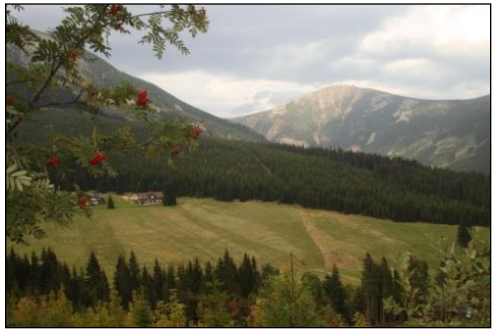


Giant Mountains National Park (Krkonoše)

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**

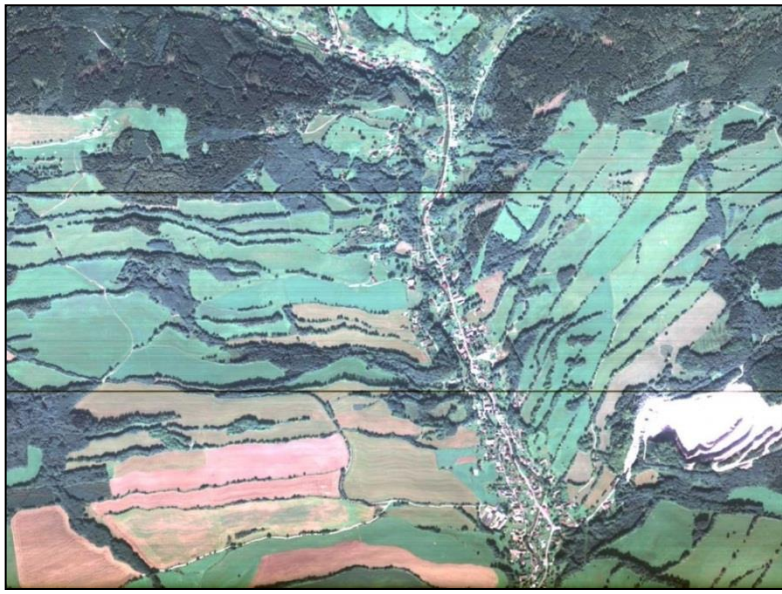
UNESCO Project Planet Action

Project HyMountEcos

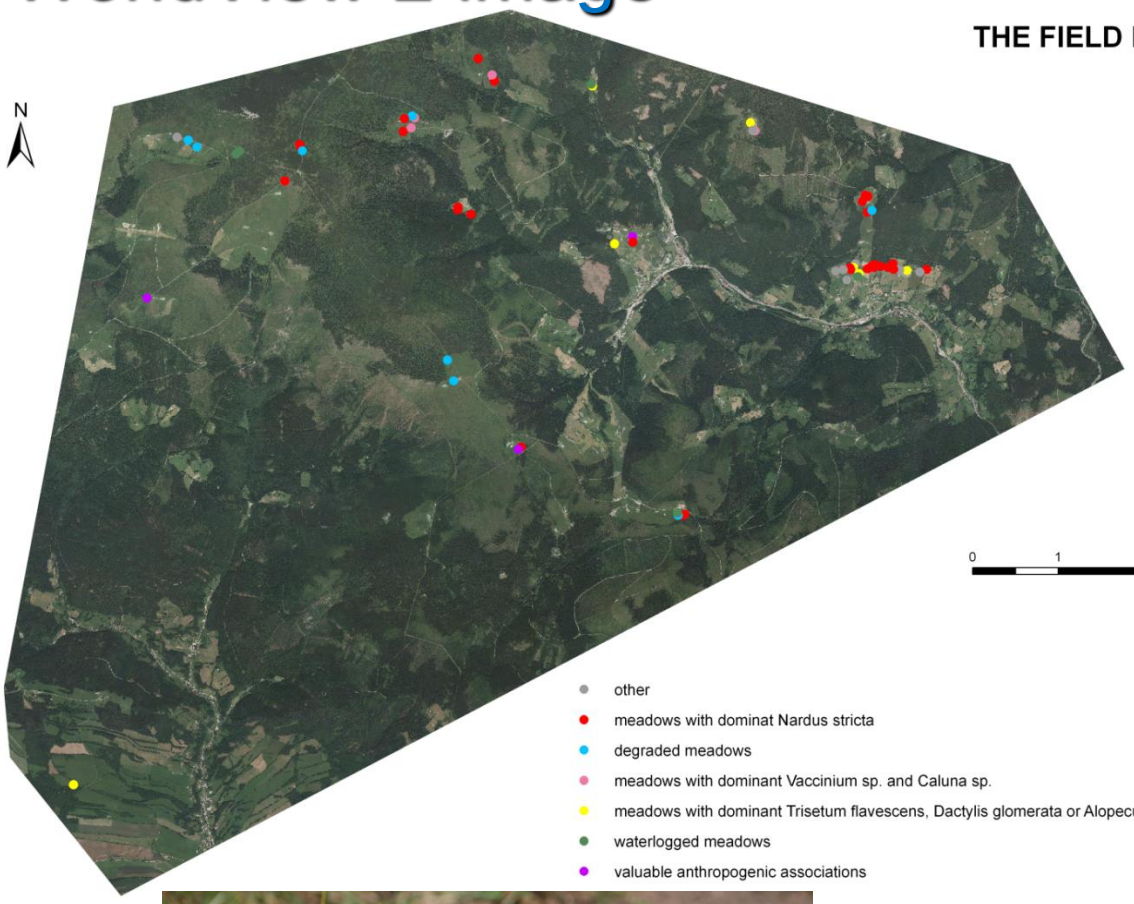
EUFAR framework, Cooperation with Warsaw University

Aerial Hyperspectral data Acquisition

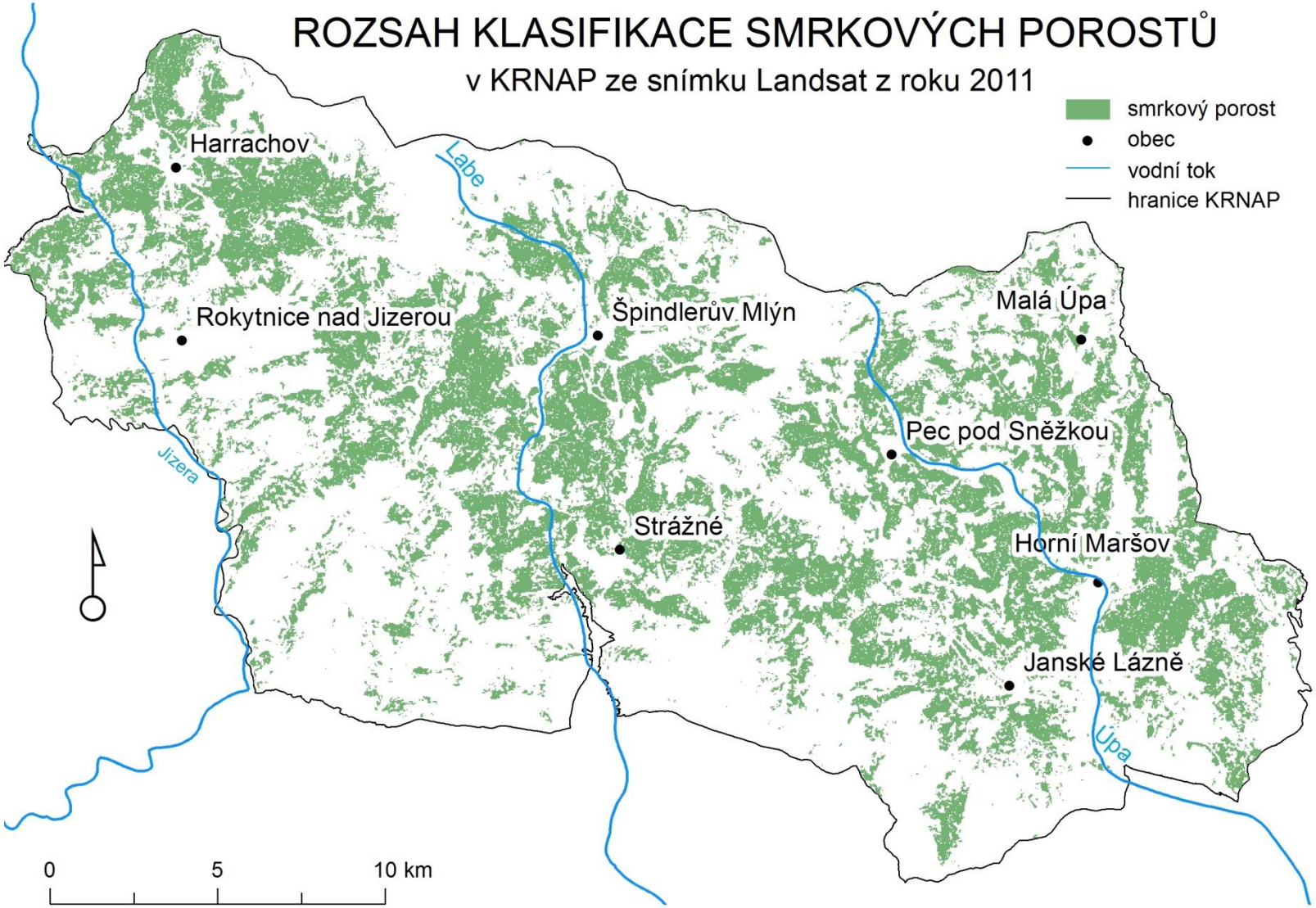
Master and PhD theses



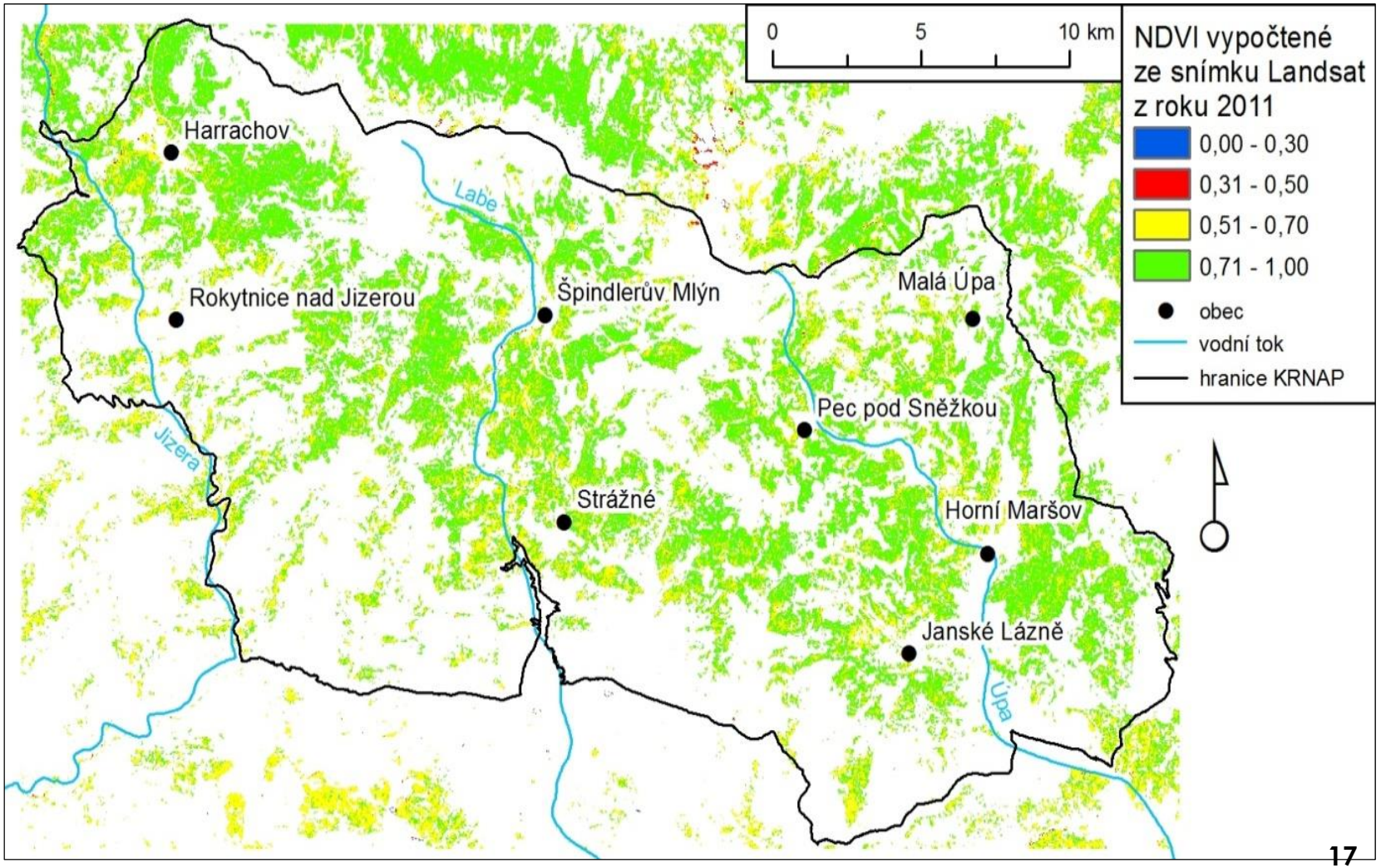
WorldView-2 image

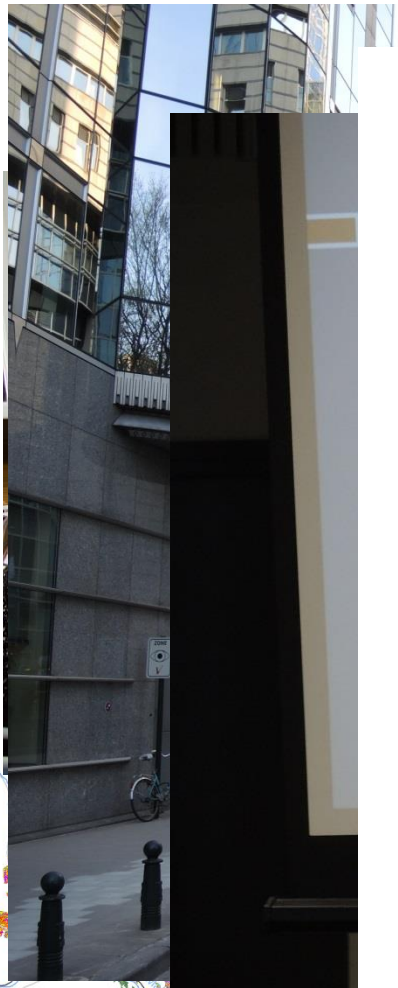


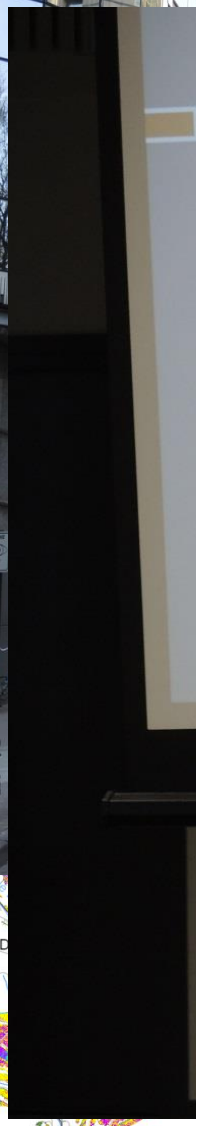
Spruce forest area

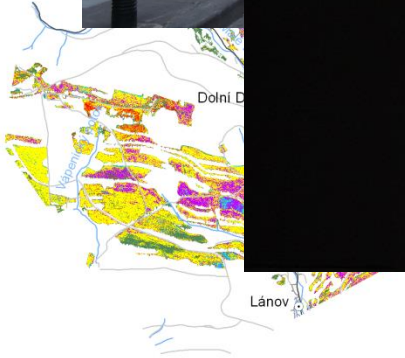


Landsat - NDVI









Přírodovědecká fakulta Univerzity Karlovy v Praze,
Jihočeská univerzita v Českých Budějovicích,
Správa Národného parku Nizke 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 multispektrálnych 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.

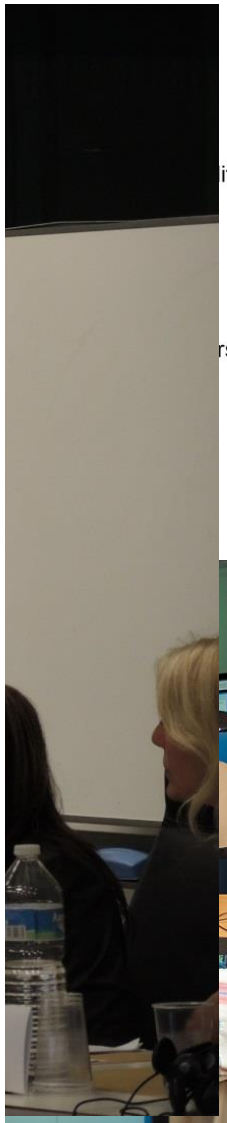
Tento seminár je podporený projektom FP7 EOPOWER (www.eopower.eu).

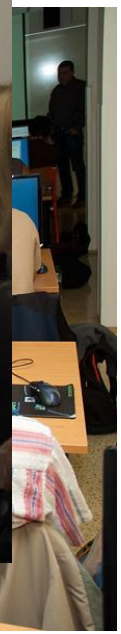
Technické zázemie a priestory seminára poskytuje CEKR (www.fpvmv.umb.sk).

Vstup na seminár pre účastníkov zdarma.

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

Registrácia: https://docs.google.com/forms/d/1-P3ilhBlwA7n-6wiJkTpNFzrSnvjqrhx-o4p9vEyItA/viewform





Identification of options/barriers of EO applications

No.	Indicator	Quantitative assessment	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?

			assessment
6	Reliability / continuity of service	Not applicable	Based on sensitivity analysis of the EO application
7	Resilience	Cost-benefit calculation of plan B	Based on risk analysis of the EO application
8	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
9	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

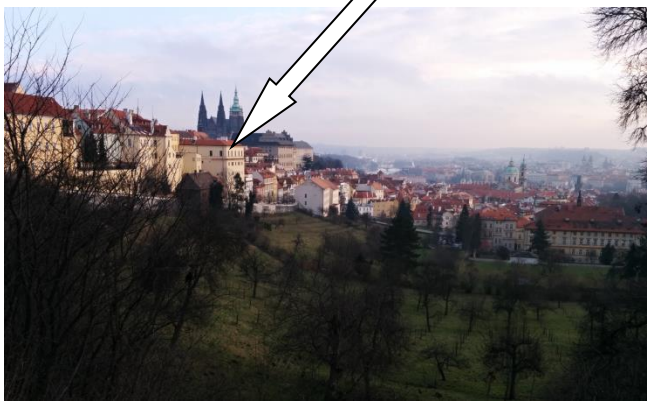
Czech Republic

esero

esero

.cz

esero



ESERO in Europe

- Project Consortium

Scientica Agency Ltd. (concractor)

Charles University in Prague

Astronomical Institute of AS CR

TEREZA Association

IQ Landia Science Center

City of Prague

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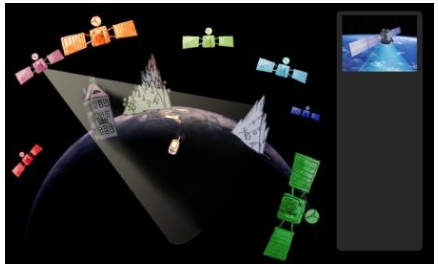
OTHERS

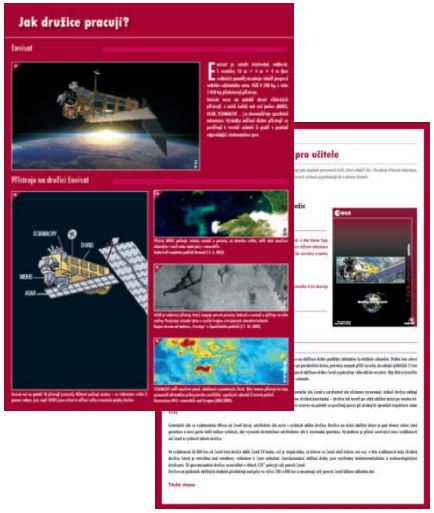
AKADEMIE GEOINFORMAČNÍCH DOVEDNOSTÍ

ACADEMY OF GEOINFORMATIC SKILLS

- Educational programmes

- Educational materials

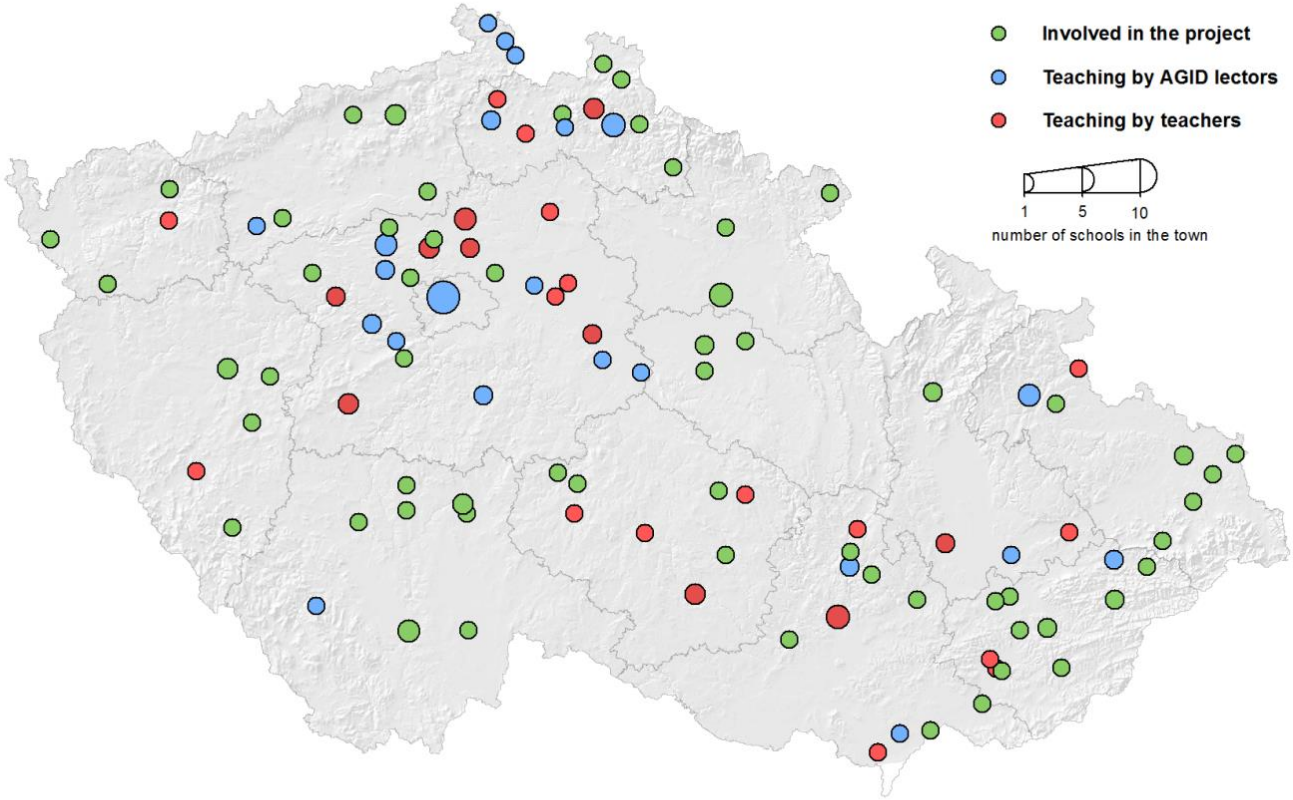




- Translatated ESA products

- Work with teachers and talented students

NETWORKING

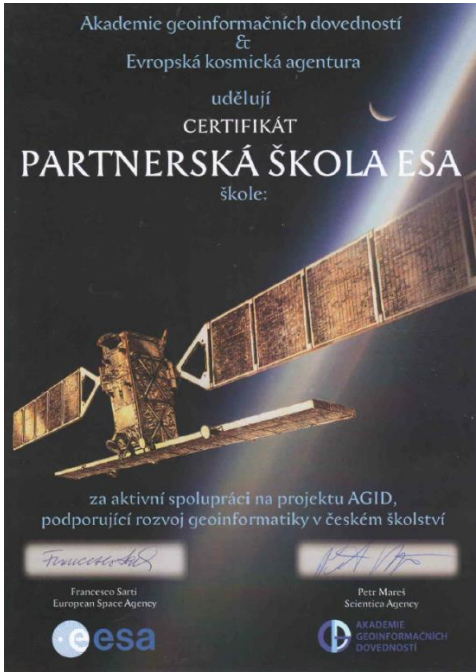


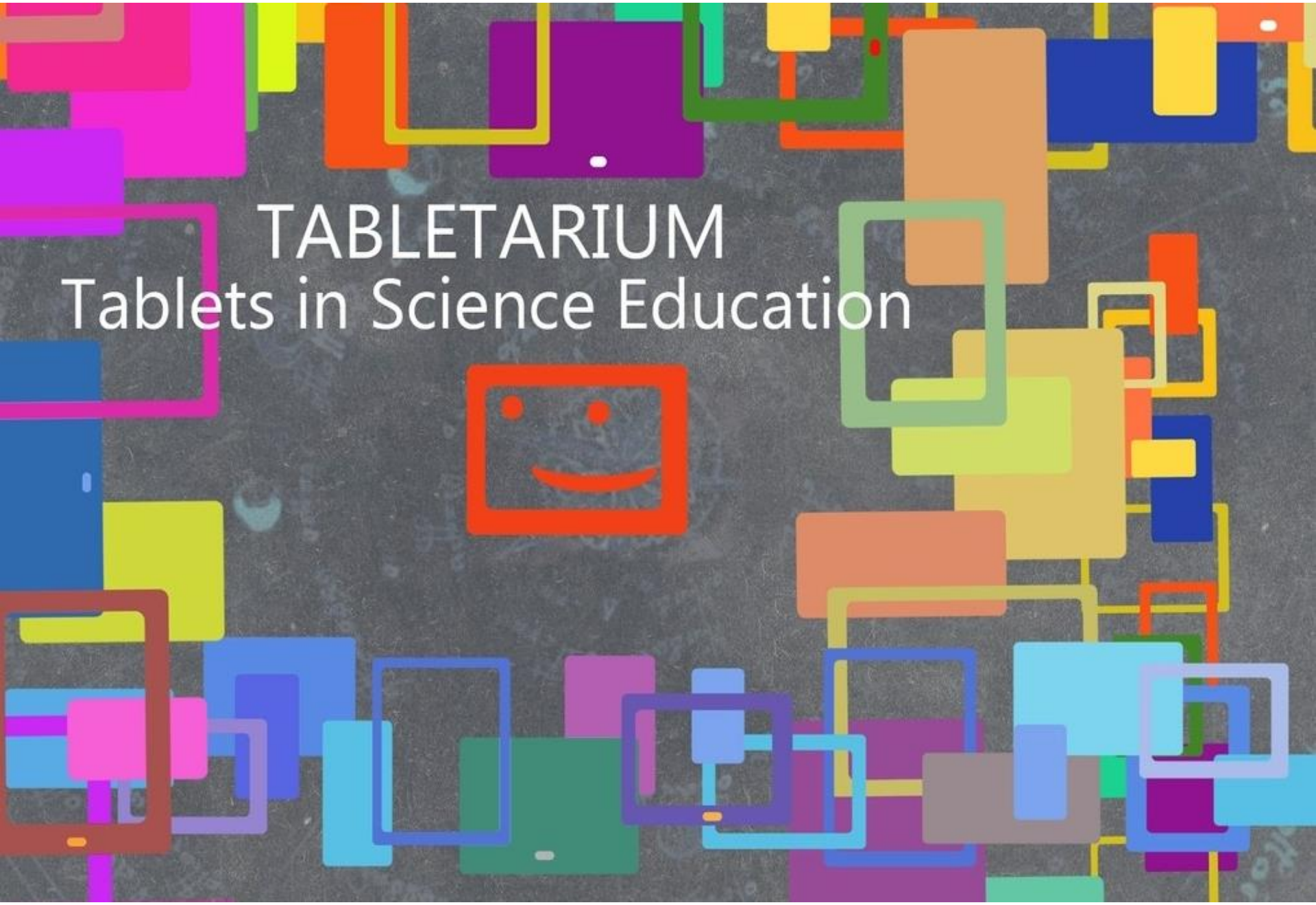
6 400 pupils

320 teachers

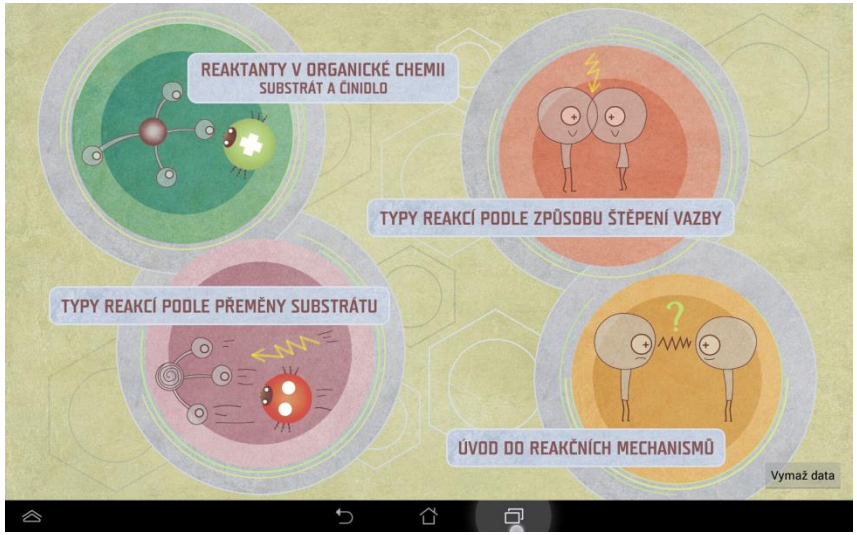
216 schools

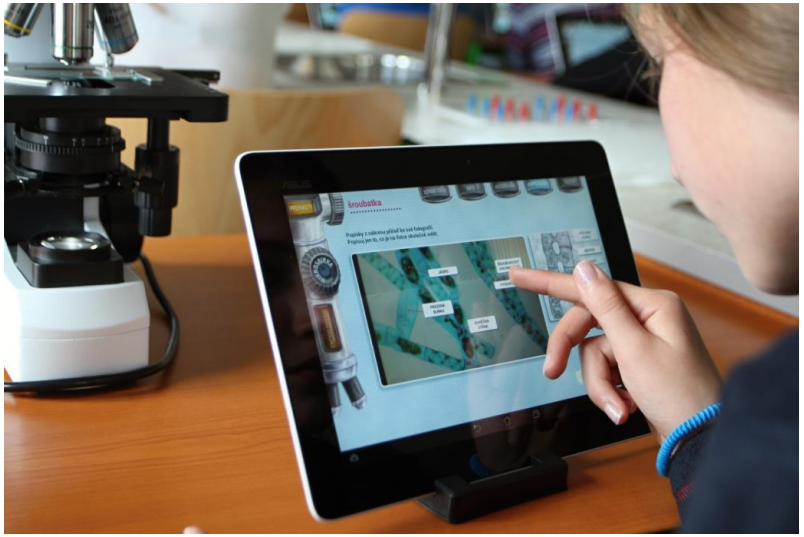
16 ESA partner schools

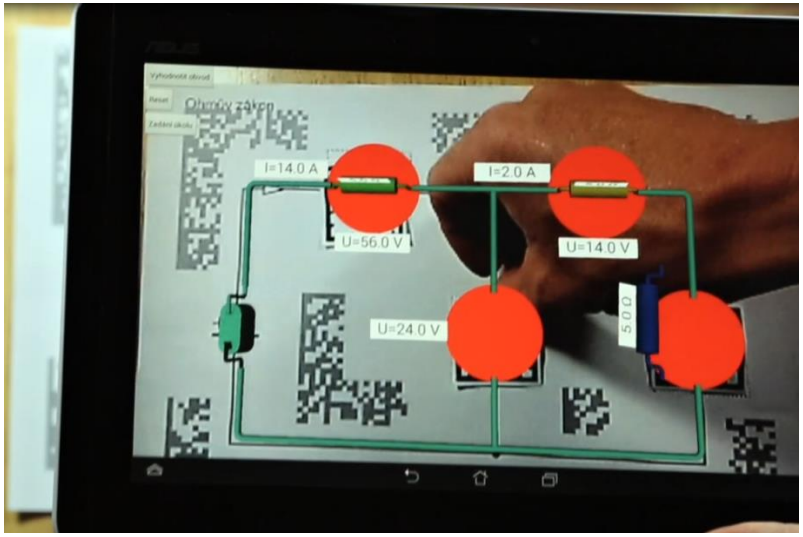


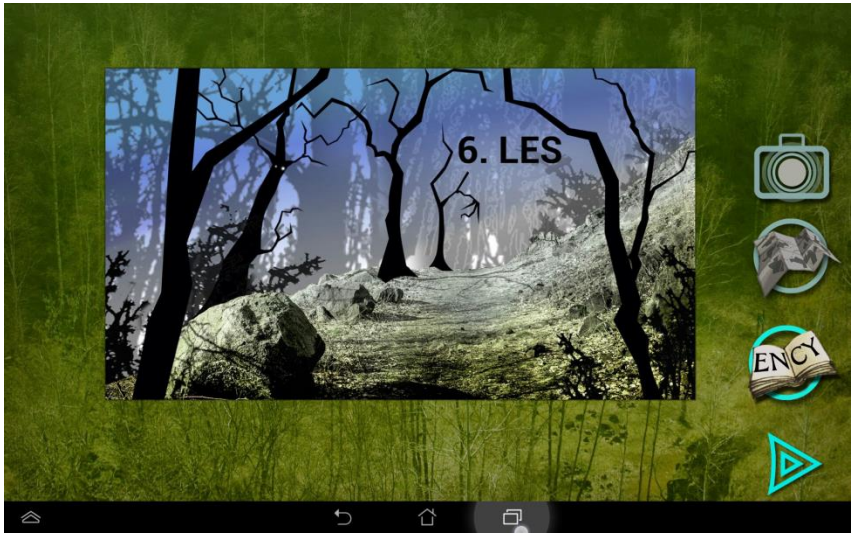

TABLETARIUM
Tablets in Science Education

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 1km^2 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