

# *CzechGlobe – Global Change Research Centre*

*Academy of Sciences of the Czech Republic*

*Funding R&I infrastructures with ESIF*

*Interlink of funding – never ending adventure*

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OP Výzkum a vývoj  
pro inovace

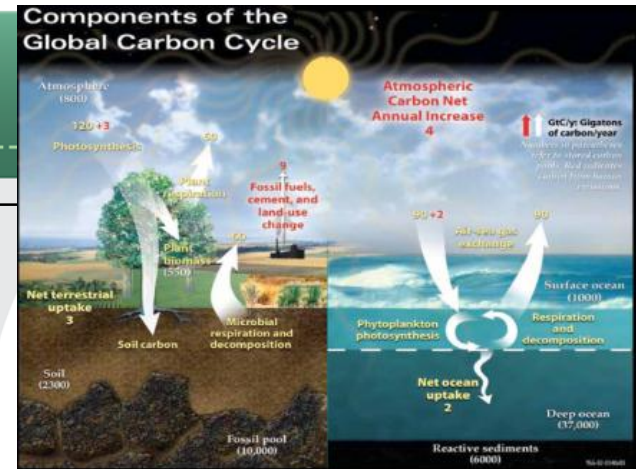


MINISTERSTVO ŠKOLSTVÍ,  
MLÁDEŽE A TĚLOVÝCHOVY



EVROPSKÁ UNIE  
EVROPSKÝ FOND PRO REGIONÁLNÍ ROZVOJ  
ŠANCE PRO VÁŠ ROZVOJ

## CzechGlobe motivation



Global Change (GC) is still under strong attention of the society. It is not only the ecological, sociological and technical problem.

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**The current situation of GC is accented by the significant political dimension.**

**„Global change“ wide spectrum of the biophysical, ecosystems and socio-economical changes, which are responsible for the observable changes of the plant Earth function“**

**For example: climate changes, changes of biodiversity, air chemistry, landscape and ocean productivity“**

**Global Climate Change (GCC)“**, or the **Global warming** is the PART of the GC and represents the long-term deviations of the climatic parameters of the planet Earth.

**GC shows unique property - is strongly connected to the human activity**, mainly because of the remarkable releasing of the greenhouse gases into the atmosphere, the landscape changes, deforestation, intensive agriculture and transport.

## **CzechGlobe motivation**

**The primary objective** of the **CzechGlobe** project is **to obtain deep expert knowledge of the Global Change (GC)** issues and on the development of processes that would help eliminate the GC impacts or help adapt to its effects. **The resolution of the CzechGlobe project stems from three basic questions:**

- 1. To what extent is the biosphere of the Earth able to absorb evincible residue of carbon dioxide and others greenhouse gasses, which are induced into the atmosphere by humans and thus possibly leading to negative impacts on the greenhouse effect?**
- 2. Are terrestrial ecosystems really the most vulnerable part of carbon sinks of the planet Earth?**
- 3. Is the development of human society in the context of the Global Climate Change sustainable?**

*International dimensions and milestones of the CzechGlobe, which can be regarded as a „child“ of EU research programmes*

**1992 – EPOCH EU 4. FW** – the first full participation on GCC research „OTC“

**1995 – ECOCRAFT EU 5. FW** – enhanced CO<sub>2</sub> - „Lamella domus spheres“

**1996 – EUROFLUX EU 5. FW** – first „eddy covariance“ technique in East Europe

**1997 – CARBOMONT EU 5. FW** – carbon budget of mountain areas

**1998 – MERCI EU 5. FW** – European infrastructure: Carbon physiology of forest trees

**2003 – IP CARBOEUROPE EU 6. FW** – Carbon and GHG budget

**2008 –ESFRI EU 7. FW** – pan-european infrastructure ICOS, AnaEE a  
EUFAR

## Interconnection of the CzechGlobe to ESFRI projects

CzechGlobe - **CORE INSTITUTION** of the ESFRI infrastructure ICOS

ESFRI infrastructure **ICOS**: European infrastructure for observation and research on the Carbon cycle

*Integrated Carbon Observation System*



CzechGlobe – **CORE INSTITUTION** of the ESFRI infrastructure ANAEE

ESFRI infrastructure **ANAEE**: pan-European infrastructure of airborne carriers

*ANALysis and Experimentaion on Ecosystems*



CzechGlobe **INVESTIGATOR - MEMBER** of the ESFRI infrastructure EUFAR

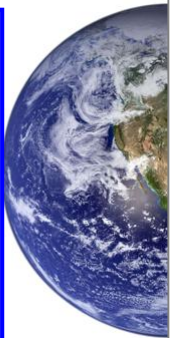
ESFRI infrastructure **EUFAR**: pan-European infrastructure airborne carriers used in RS

*European Fleet of Airborne Research*



## ***Interconnection of the CzechGlobe to Czech national roadmap***

***The CzechGlobe project was accepted to be a base  
for establishment of the national infrastructure -  
network of eddy- covariance towers across the territory  
of the Czech Republic  
the national research infrastructure CzeCOS.***



## ***Thematic content of the CzechGlobe***

The CzechGlobe project issue **is focused** on the basic thematic segments of the GC impacts, *i.e.:*

***Atmosphere***

***Ecosystems***

***Socio-economic systems***

accompanied by the ***innovation*** and ***educational platforms***

# CzechGlobe – infrastructure of the global change research





## National point of the high-rise observation of GHG at the atmospheric reference level



## *Airborne remote sensing laboratory*



**Cesna Caravan flying carrier of the thermal and hyperspectral sensors and LIDAR**

## *Pavilion of isotopic, metabolomic laboratory and phytotron cluster*



- **gas chromatography coupled to mass spectrometry (GC-MS)**
- **HPLC coupled to mass spectrometry (HPLC-MS)**
- **weight isotope detector for the assessment of stable isotope ratio (irMS)**
- **thermogravimetric analyzer (connected to GC)**
- **Raman spectrometer + FT-IR**
- **remote sensing data processing**
- **satelite receiver**

## *Long-term impact experimental tools*



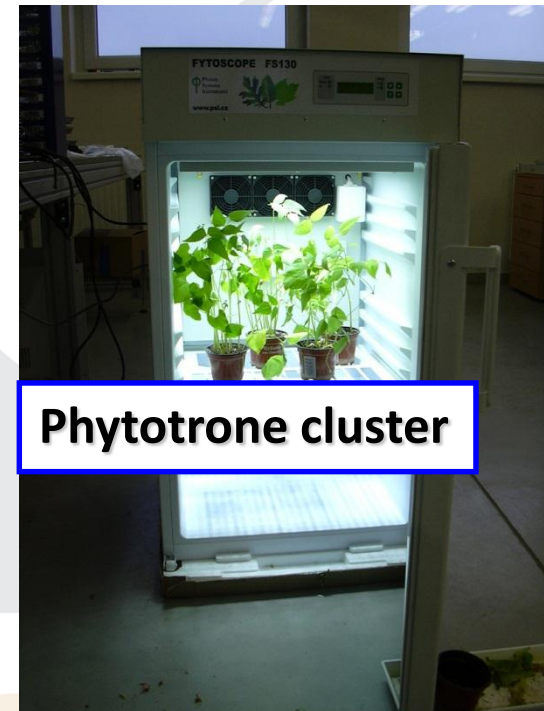
**Cultivation spheres**



**OpenTop Chamber**

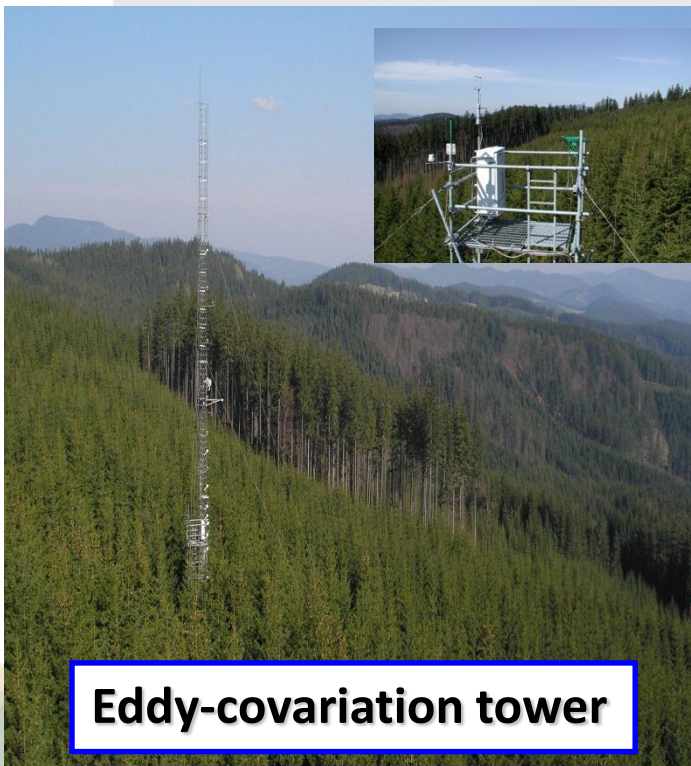


**OpenTop Chamber farm**



**Phytotrone cluster**

## *Ecosystem stations network*



**Eddy-covariation tower**



**Ecosystem CO<sub>2</sub> efflux measurement**



**Microclimatology**

# Benefits of synergies

- State of the art infrastructure
- New opportunities and project partners
- Project management experience
- Evaluation and feedback from external institutions (e.g. funding agencies, audits...)
- Multifunctional use of the built infrastructure by various users

## Dark side of various funding resources use

- Complexity and sometimes clash of the rules
- Usually it does not fit in time (various funding use various periods of implementation)
- Push to become project opportunistic and reactive
- Permanent uncertainty for researchers and research centre management

## Dark side of various funding resources use

- Innovation obsession – however long term monitoring and routine work is needed and needs long term support
- Staff instability
- Cultural differences still matters (e.g. various funding agencies, evaluators, international researchers, companies...)
- Resortism



# Solution?

- Coordination of the funding agencies (e.g. ESIF rules in compliance with H2020 rules)
- Complete reform of peer review process
- Bigger accountability of project evaluators and funding agencies
- Reform of European Institute of Technology

***Thank You....***