

Global Learning and Observations to Benefit the Environment



GLOBE Europe - Eurasia



CLIMATE RESEARCH

Activities and opportunities

By Matthijs Begheyn – coordinator of GLOBE Regional office Europe–Eurasia

Washington, 17 November 2010

Overview

- ▶ **Intro**
- ▶ **Aerosols**
- ▶ **New ideas:**
 - ▶ **Soil respiration**
 - ▶ **Tree profile**
 - ▶ **Photo phenology**
 - ▶ **Carbon Cycle**



Intro: GLOBE Netherlands

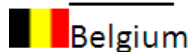
- ▶ Scientists
- ▶ Schools



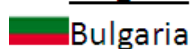
Regional Office Europe–Eurasia



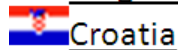
Austria



Belgium



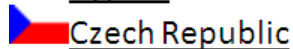
Bulgaria



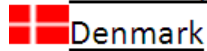
Croatia



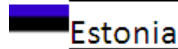
Cyprus



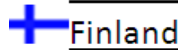
Czech Republic



Denmark



Estonia



Finland



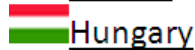
France



Germany



Greece



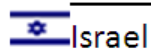
Hungary



Iceland



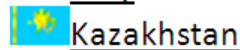
Ireland



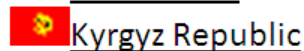
Israel



Italy



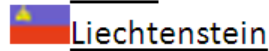
Kazakhstan



Kyrgyz Republic



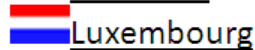
Latvia



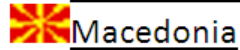
Liechtenstein



Lithuania



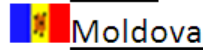
Luxembourg



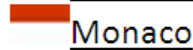
Macedonia



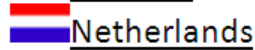
Malta



Moldova



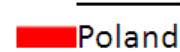
Monaco



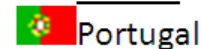
Netherlands



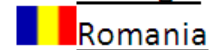
Norway



Poland



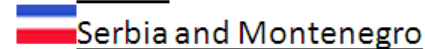
Portugal



Romania



Russia



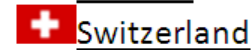
Serbia and Montenegro



Spain



Sweden



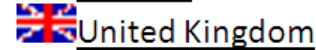
Switzerland



Turkey



Ukraine



United Kingdom



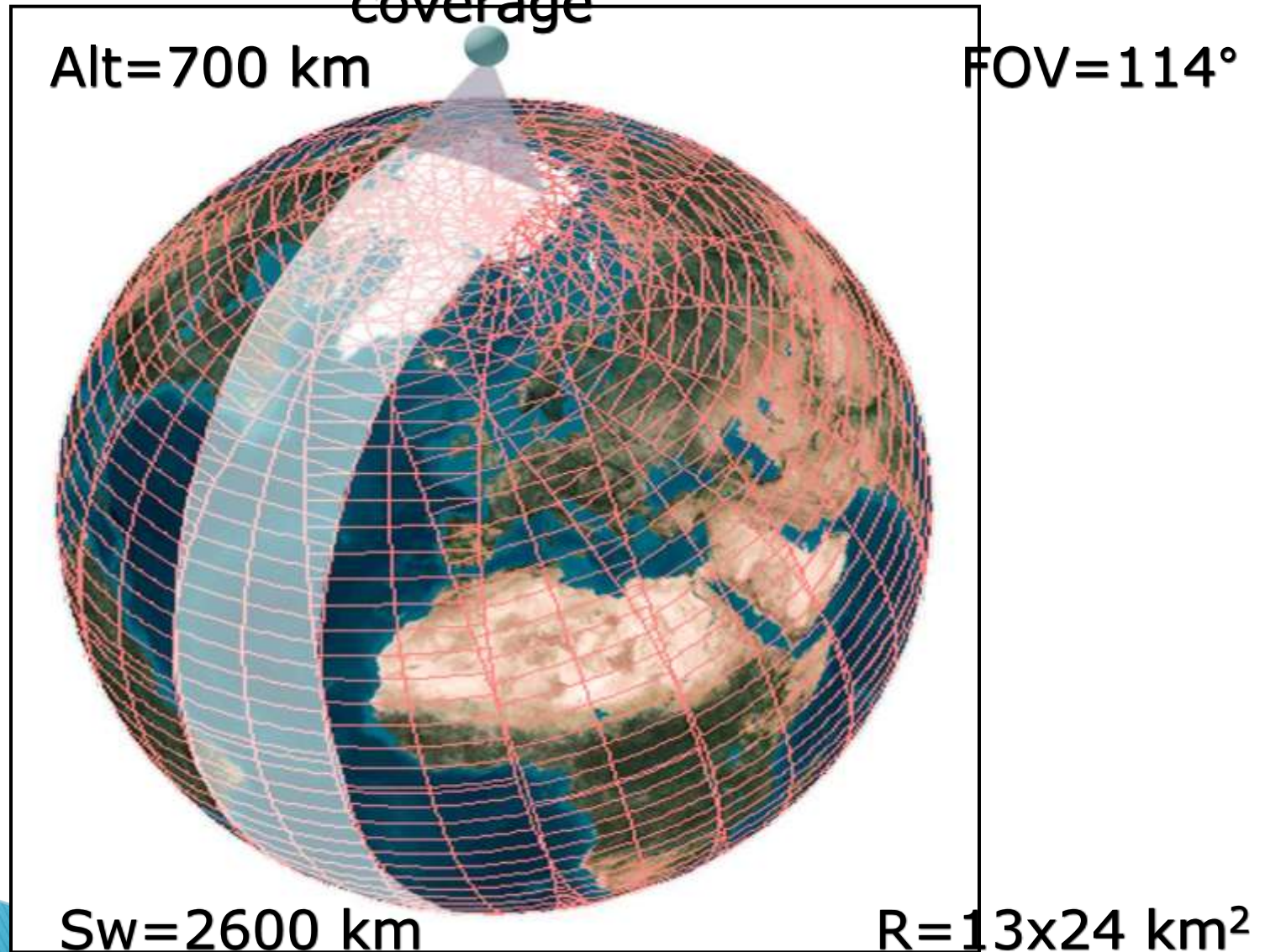






The Power of OMI

“ small ground pixels and daily global coverage ”

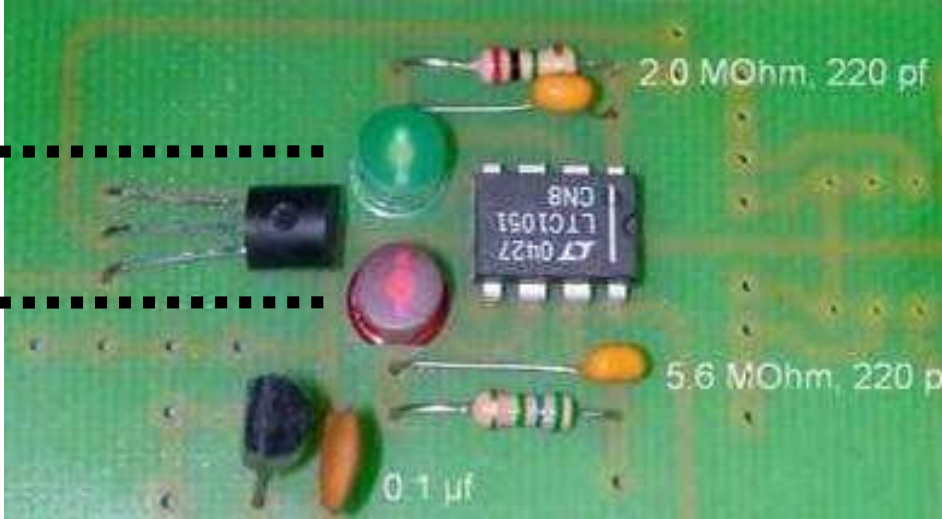


GLOBE Sun photometer



508 nm

625 nm

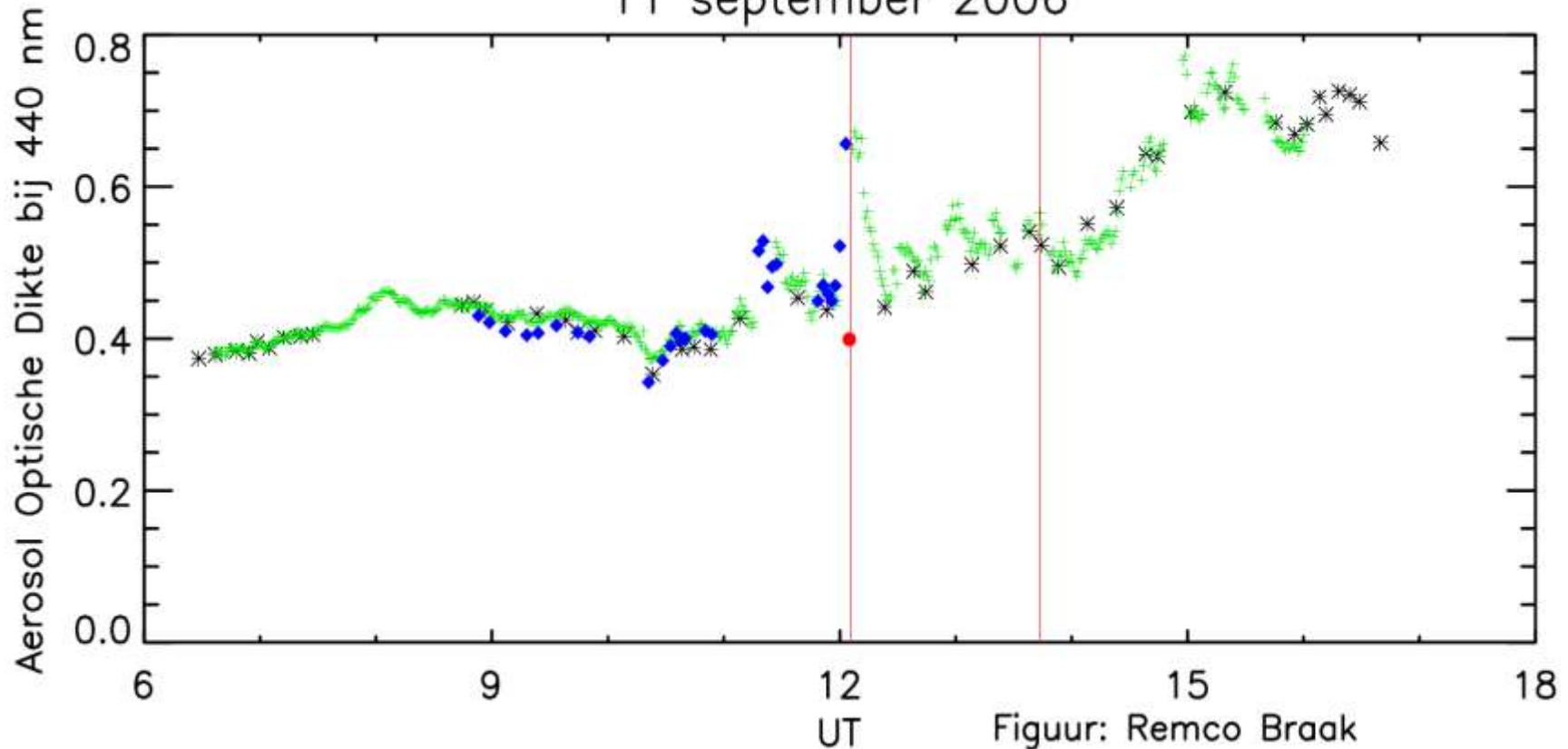


Global Learning and Observations to Benefit the Environment



Journal of Geophysical Science

11 september 2006



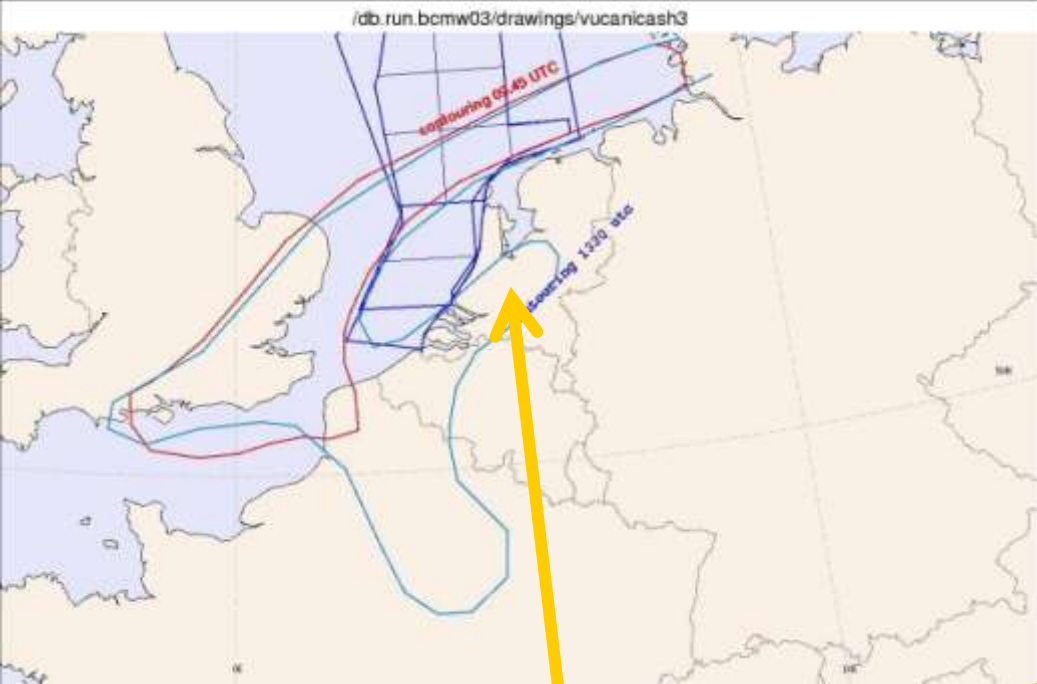
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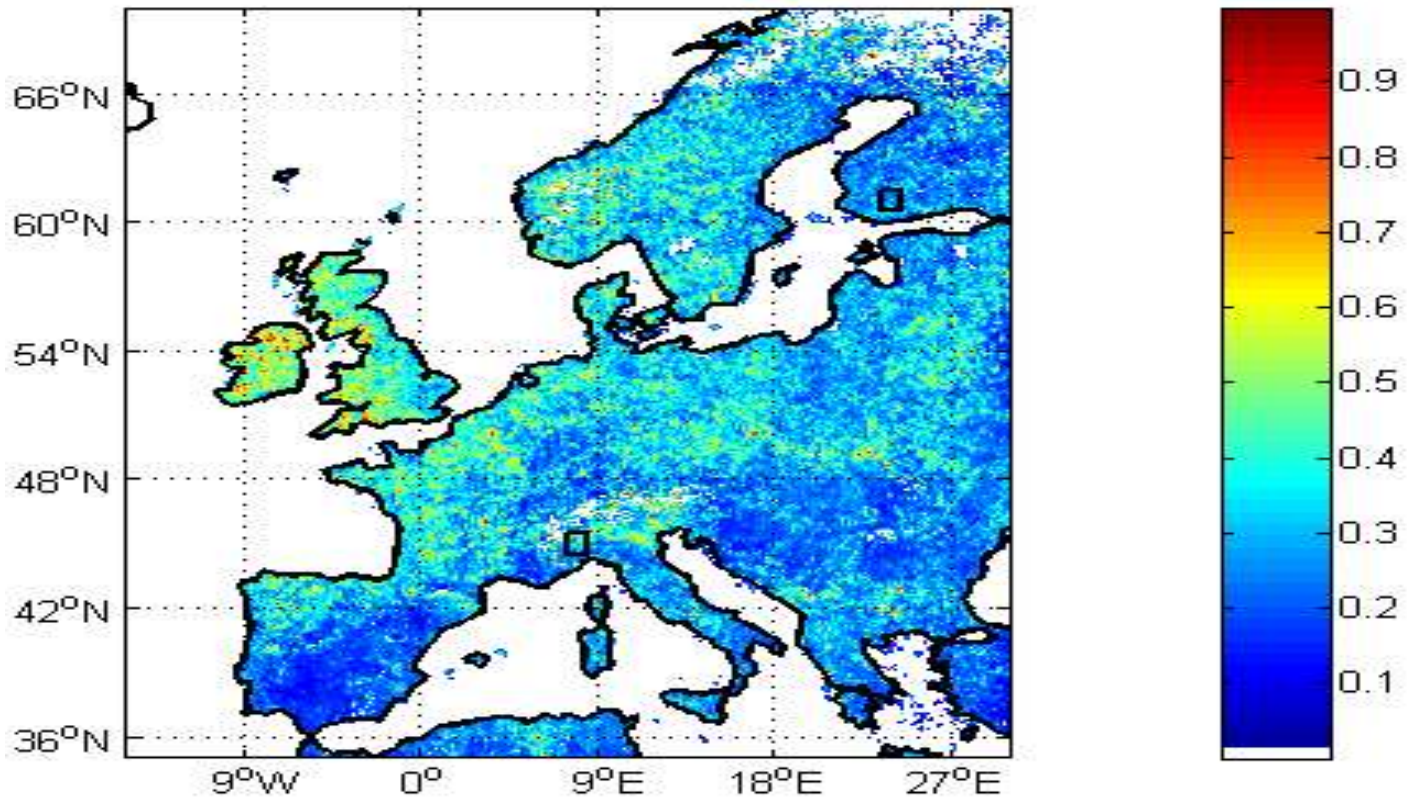




0.60
AOT

0.25
AOT





AOD 555NM



- ▶ Director in BoR
- ▶ Scientist 3 days/wk
- ▶ Start up workshops
- ▶ Feedback
 - ▶ Student
 - ▶ Teacher
- ▶ Student conference
- ▶ Scientific publications



How to make it more successful?

▶ Social network

- Profiles of scientists, teachers and students
- Feedback online for everyone to see results
- Computer Supported Collaborative learning
- Post movies, documents, wiki's etc.
- Start projects and groups

▶ Web conference

▶ Scale it up (to European level)

Global Learning and Observations to Benefit the Environment



GLOBE Europe - Eurasia



Soil respiration





Global Learning and Observations to Benefit the Environment













Opportunity

- ▶ Enthusiastic scientists really in need of data
- ▶ It's cross curricular (biology, geography)
- ▶ Part of Dutch curriculum

Threats

- ▶ Not connected to GLOBE database
- ▶ No data visualisation
- ▶ No web2.0 tool for easy feedback

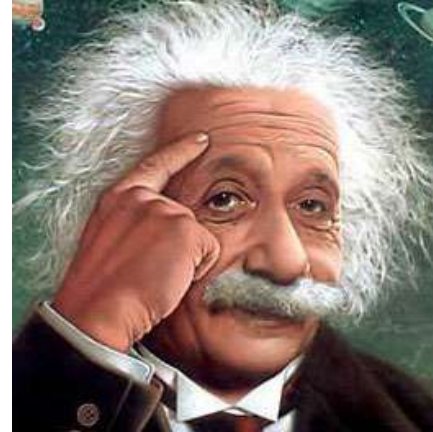


Photo Phenology

Student profile



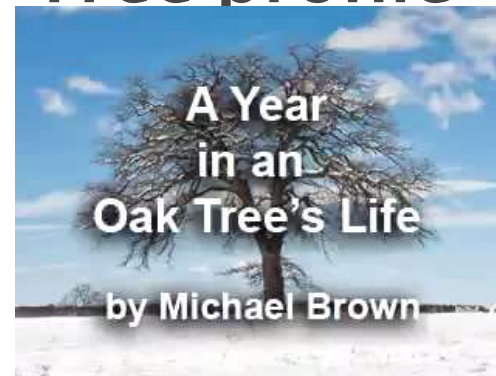
Scientist profile



Teacher profile



Tree profile



My Tree

as carbon sink

- Measure circumference every year add to profile
- My tree has sequestered ## kg of CO₂ this year
- All trees in the world have...
- This is enough to compensate ## km of a car



One network

to facilitate all our ideas

- ▶ One social infrastructure for Computer Supported Collaborative Learning with a map function where physical school and research location are stored
- ▶ Open source: any scientist (environmental organisation, teacher or even student) can develop a project with data entry/visualization linked to the physical location of the participating schools and their research locations
- ▶ Projects can start local and if they are successful grow global.
- ▶ GLOBE has 23.000 schools worldwide



12. GLOBE Games

Program

12. 8. 2012	12. 9. 2012
12. 9. 2012	12. 10. 2012
12. 10. 2012	12. 11. 2012
12. 11. 2012	12. 12. 2012

12. 12. 2012

Thank you!

PEŠI ZÓN



MIMO ČASOVANÍ
8-10 10-22
MIMO 32



TEREZA THE **GLOBE** PROGRAM



In the netherlands we have a group of scientists involved in GLOBE. This works only if:

Critical success factors

- There is an easy to use infrastructure for data entry and access
- The research is relatively easy and doesn't take too much time
- Research materials can be obtained easily and are not too expensive
- There is educational need by teacher (preferrably integration in curriculum)
- There is scientific and/or outreach need by the scientist
- There is feedback and training by a scientist that has an fair amount of time to invest in the education project.
- There are physical or virtual meetings for training and collaboration
- There is an organisation responsible for management of the project.

Other success factors

- The project is relevant to students/society
- The project is catchy (PR)
- The project involves volunteers (on a local level) to help teachers implement the research.

