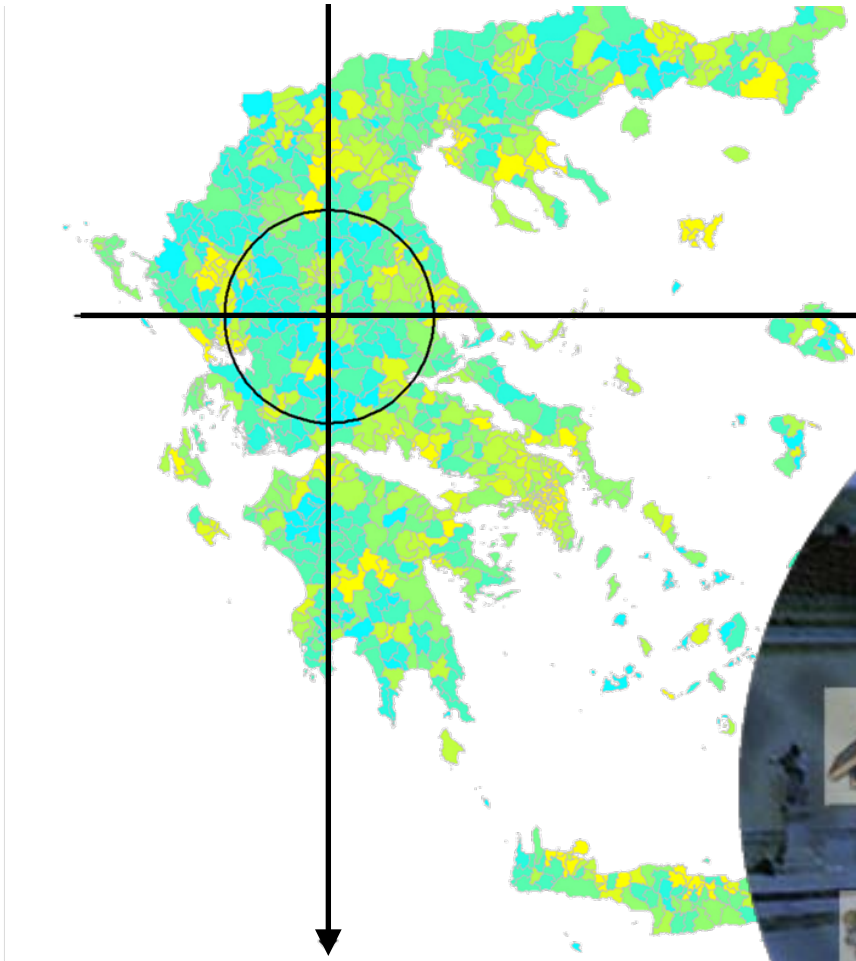
ΕΘΝΙΚΟ & ΚΑΠΟΔΙΣΤΡΙΑΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ,
ΤΜΗΜΑ ΓΕΩΛΟΓΙΑΣ & ΓΕΩΠΕΡΙΒΑΛΛΟΝΤΟΣ



Επ. Υπεύθυνη:
Επικ. Καθηγ. Ευελπίδου Νίκη

IP ERASMUS
‘Runoff Erosion’

Κοτοπούλου Ηλέκτρα

Ημερίδα διαχείρισης Εντατικών Προγραμμάτων 2013
Αθήνα, 31 Μαΐου 2013, Ξενοδοχείο Αμαλία

ΕΘΝΙΚΟ & ΚΑΠΟΔΙΣΤΡΙΑΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ

ΤΜΗΜΑ ΓΕΩΛΟΓΙΑΣ & ΓΕΩΠΕΡΙΒΑΛΛΟΝΤΟΣ

Runoff erosion IP Erasmus

RUNOFF EROSION training school

Runoff erosion IP Erasmus

Bragança Polytechnic Institute – Environment and Natural Resources

Szent Istvan Egyetem – Nature Conservation and Landscape Ecology

National & Kapodistrian University of Athens – Geology and Geoenvironment

University of Santiago de Compostela – Soil Science and Agricultural Chemistry

Université Paris Est Créteil (UPEC) – Géographie

1st circular

Intensive Training Programme

Runoff erosion aims at bringing together scientists from different disciplines but all related to runoff erosion and its effect in both soils and geological formations, studying the parameters which affect the different kinds of erosion deriving from runoff, measure them (both in the lab and in the field), calculate them through various geoinformation methodologies, weighted and manipulated them through Geographical Information Systems. Modeling of this natural hazard is also one of our targets and we shall try to teach you both how to use existed models and how to build your own model taking into account the particular conditions of each study area.

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6 ECTS

Course contents

Runoff erosion, different types, parameters affecting runoff erosion, how to measure those parameters (both in lab and in the field), protection measures design, implementation, management in order to prevent or to repair. Management in differently aggravated areas e.g. after fires. Geochronology of erosion sediments.

Case studies: presentation of different case studies from different countries having being proceeded with different approach.

Modeling: How to calculate parameters affecting runoff erosion through various geoinformation methodologies, weighted and manipulated them through GIS. How to use existed models and how to build a new model taking into account the particular conditions of each study area.

Teaching staff

National & Kapodistrian University of Athens
- Niki Evelpidou
- Andreas Vassilopoulos
- Kosmas Pavlopoulos
- Nikolaos Tsoukalas

University of Santiago de Compostela
- Agustin Merino

Bragança Polytechnic Institute
- Tomás de Figueiredo
- Felicia Fonseca

Szent Istvan Egyetem
- Csaba Centeri

Departement de Geographie-Universite Paris Est Creteil
- Stephane Cordier

Information & applications: runoff-erosion.geol.uoa.gr

Intensive Program

Athens, Greece

Spring 2012

22/04-05/05

Runoff erosion IP Erasmus

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6 ECTS

Information & applications: runofferosion.geol.uoa.gr

Intensive Programme

Athens, Greece

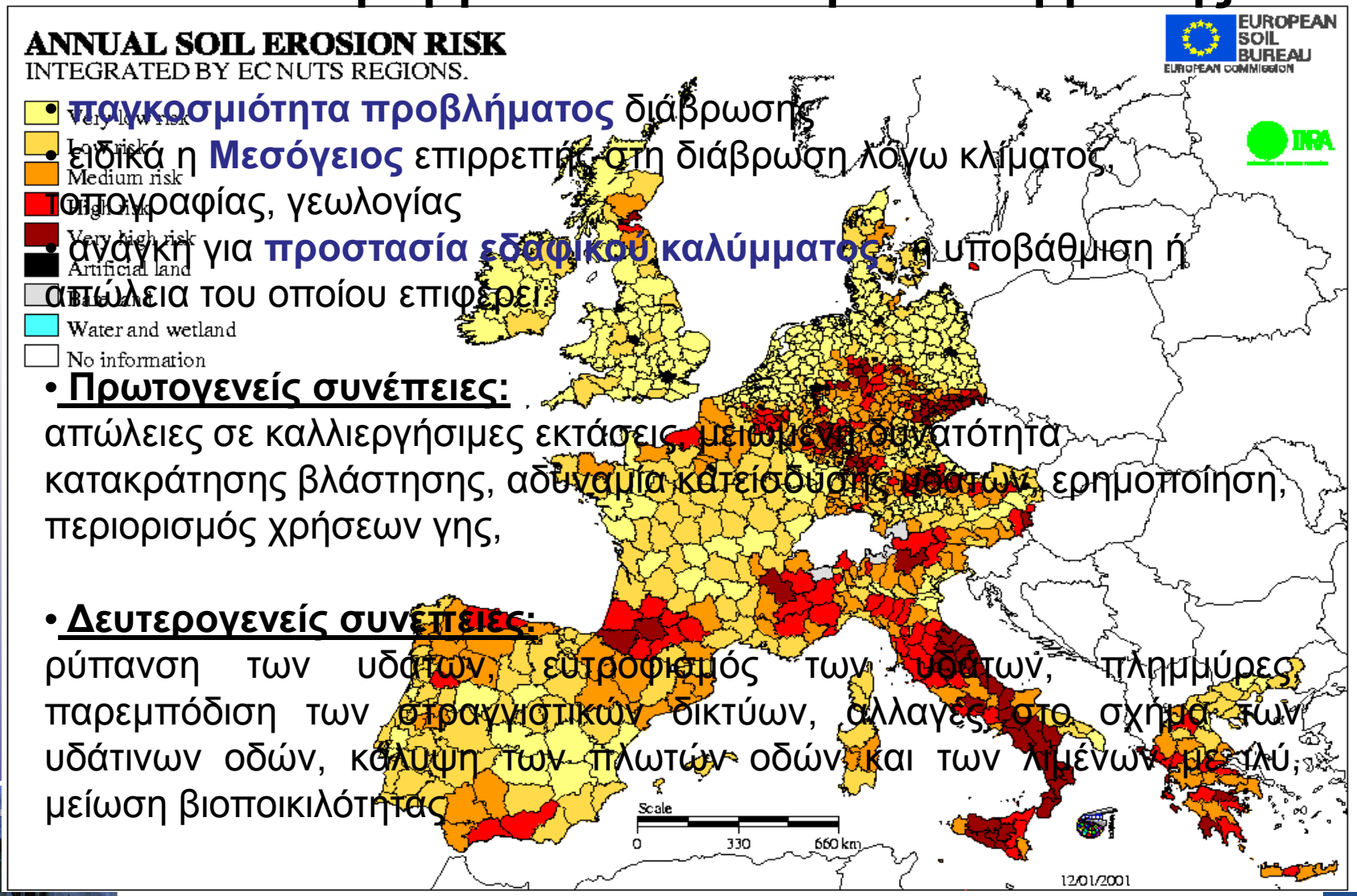
Spring 2013

14/04-27/04

Πρόγραμμα δια βίου μάθηση

ΙΔΡΥΜΑ ΚΡΑΤΙΚΩΝ ΥΠΟΤΡΟΦΙΩΝ ΙΚΥ

Η ανάγκη για ένα IP σε θέματα διάβρωσης



- **παγκοσμιότητα προβλήματος** διάβρωσης
- ειδικά η **Μεσόγειος** επιρρεπής στη διάβρωση λόγω κλίματος, τοπογραφίας, γεωλογίας
- ανάγκη για **προστασία εδαφικού καλύμματος**, η υποβάθμιση ή απώλεια του οποίου επιφέρει:

- **Πρωτογενείς συνέπειες:**
απώλειες σε καλλιεργήσιμες εκτάσεις, μειωμένη δυνατότητα κατακράτησης βλάστησης, αδυναμία κατείσδυσης υδάτων, ερημοποίηση, περιορισμός χρήσεων γης,

- **Δευτερογενείς συνέπειες:**
ρύπανση των υδάτων, ευτροφισμός των υδάτων, πλημμύρες, παρεμπόδιση των στραγγιστικών δικτύων, αλλαγές στο σχήμα των υδάτινων οδών, κάλυψη των πλωτών οδών και των λιμένων με ιλύ, μείωση βιοποικιλότητας

σύνθετη, ασύμφορη ή/και αδύνατη η διαδικασία **αποκατάστασης** μιας έντονα υποβαθμισμένης περιοχής ⟶ η **πρόληψη**

Ανάγκη για ένα **Ενιαίο Πλαίσιο Διαχείρισης της Διάβρωσης** σε Πανευρωπαϊκό Επίπεδο

Η πολυπλοκότητα του προβλήματος επιβάλλει τη **συνεργασία** **εδαφολόγων, βιολόγων, γεωλόγων, γεωχημικών, μαθηματικών, οικονομολόγων κ.α.** για την ολόπλευρη και αποτελεσματική **αντιμετώπιση** του φυσικού φαινομένου της διάβρωσης

Απαραίτητη η εκπαίδευση των νέων επιστημόνων και η ενημέρωση του κοινωνικού συνόλου

Runoff erosion Erasmus IP

14/04/2013-27/04/2013

Runoff erosion Erasmus IP

Bragança Polytechnic Institute
Environment and Natural Resources

Szent Istvan University
Nature Conservation and Landscape Ecology

National & Kapodistrian University of Athens
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1st circular

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This IP project is supported and funded by the National Agency of Lifelong Learning Programme Erasmus Greek State Scholarships Foundation I.K.Y.

Information & applications: **runofferosion.geol.uoa.gr**

Intensive Programme

Athens, Greece
Spring 2013
14/04-27/04

http://runofferosion.geol.uoa.gr/2013/

Πρόγραμμα δια βίου μάθηση

ΙΔΡΥΜΑ ΚΡΑΤΙΚΩΝ ΥΠΟΤΡΟΦΙΩΝ ΙΚΥ

Runoff erosion
Erasmus IP

5 Εταίροι

National and Kapodistrian University of Athens– Niki EVELPIDOU, Barbara ANTONIOU, Ariadni ARGYRAKI, Eleana KARKANI/ **GREECE**

University of Santiago de Compostela - Agustin MERINO/ **SPAIN**

Instituto Politecnico de Braganca - Tomas DE FIGUEIREDO, Felícia FONSECA/ **PORTUGAL**

Szent Istvan Egyetem - Csaba CENTERI/ **HUNGARY**

Departement de Geographie-Universite Paris Est Creteil - Stephane CORDIER/ **FRANCE**

Συμμετείχαν επίσης: Aristotle University of Thessaloniki - Eleni ABRAHAM, Zoi PARISSI, Apostolos KYRIAZOPOULOS
Harokopio University - Kosmas PAVLOPOULOS

UPEC
Université Paris Est Créteil (UPEC)
Géographie

USC
University of Santiago de Compostela
Soil Science and Agricultural Chemistry

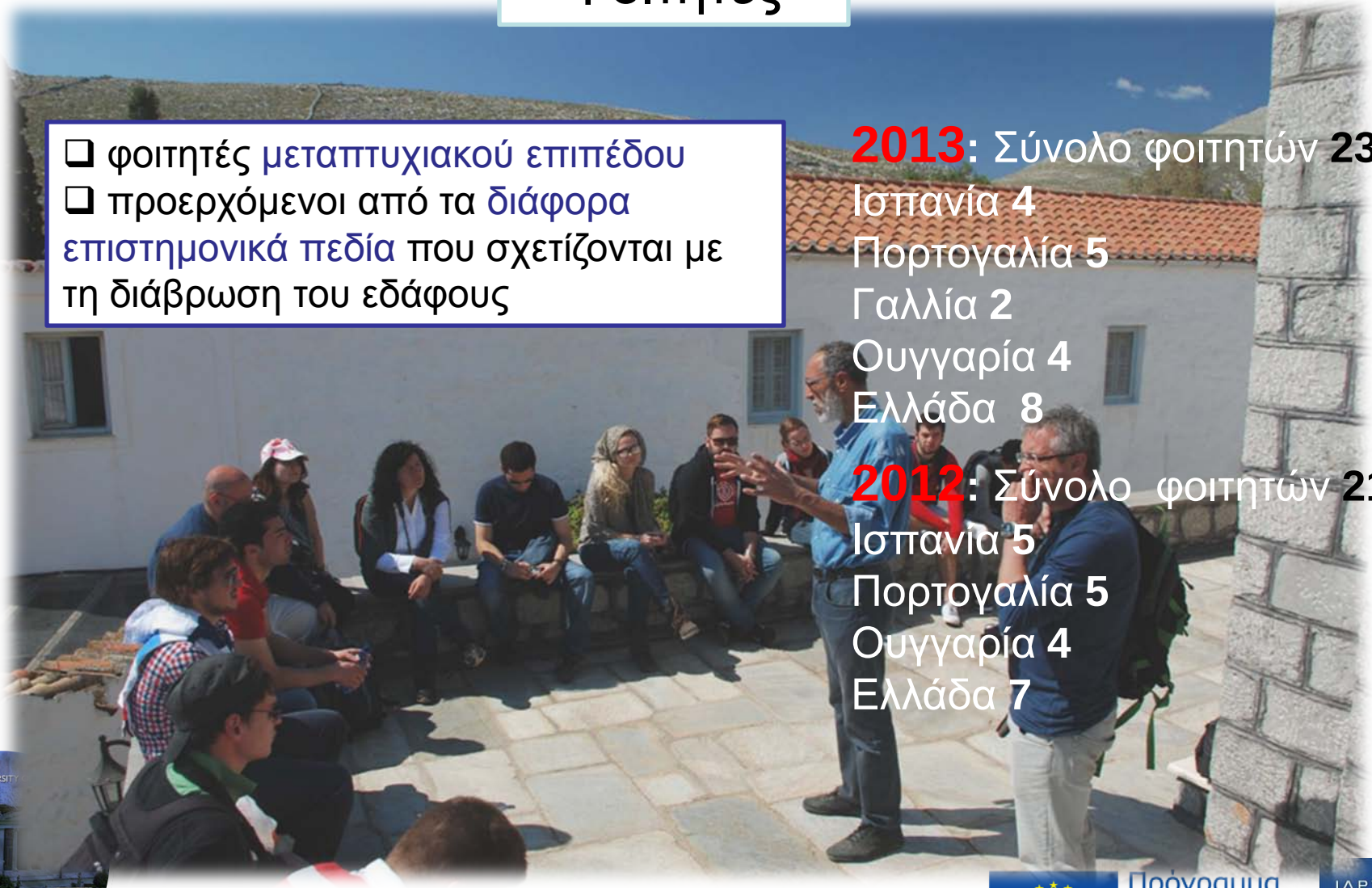
Szent Istvan Egyetem
Nature Conservation and Landscape Ecology

ipb
Bragança Polytechnic Institute
Environment and Natural Resources

Πρόγραμμα δια βίου μάθηση

ΙΔΡΥΜΑ ΚΡΑΤΙΚΩΝ ΥΠΟΤΡΟΦΙΩΝ
ΙΚΥ

Φοιτητές



- φοιτητές μεταπτυχιακού επιπέδου
- προερχόμενοι από τα διάφορα επιστημονικά πεδία που σχετίζονται με τη διάβρωση του εδάφους

2013: Σύνολο φοιτητών **23**
Ισπανία **4**
Πορτογαλία **5**
Γαλλία **2**
Ουγγαρία **4**
Ελλάδα **8**

2012: Σύνολο φοιτητών **21**
Ισπανία **5**
Πορτογαλία **5**
Ουγγαρία **4**
Ελλάδα **7**

Από την ιδέα στην πράξη

ΣΤΑΔΙΟ 1ο

- Επιλογή συνεργατών
- Πρόσκληση συνεργασίας
- Καθορισμός γενικού πλαισίου
- Καταμερισμός εκπαιδευτικών εργασιών
- Υποβολή πρότασης
- Έγκριση

ΣΤΑΔΙΟ 2ο

Κρατώντας σε εγρήγορση τους εταίρους:

- Ανταλλαγή e-mails
- Πραγματοποίηση τηλεδιασκέψεων
- Πραγματοποίηση συναντήσεων
- Υπενθύμιση προθεσμιών/ υποχρεώσεων
- Σαφείς οδηγίες για οργάνωση φυσικού αντικειμένου

ΣΤΑΔΙΟ 3ο

- Ανάπτυξη **ιστοσελίδας** http://runofferosion.geol.uoa.gr/2013/
- Ανάπτυξη **εκπαιδευτικής πλατφόρμας** http://runofferosion.geol.uoa.gr/eclass/
- **Επιλογή φοιτητών** μεταπτυχιακού επιπέδου
- **Pre-training** school εκπαιδευτικές **δραστηριότητες**

Διεξαγωγή training school

- Συλλογή απαραίτητων παραστατικών και αποδόσεις
- Υποβολή τελικής έκθεσης

Θέματα που μελετήθηκαν

Διεργασίες διάβρωσης / Φυσικά και Ανθρωπογενή Αίτια

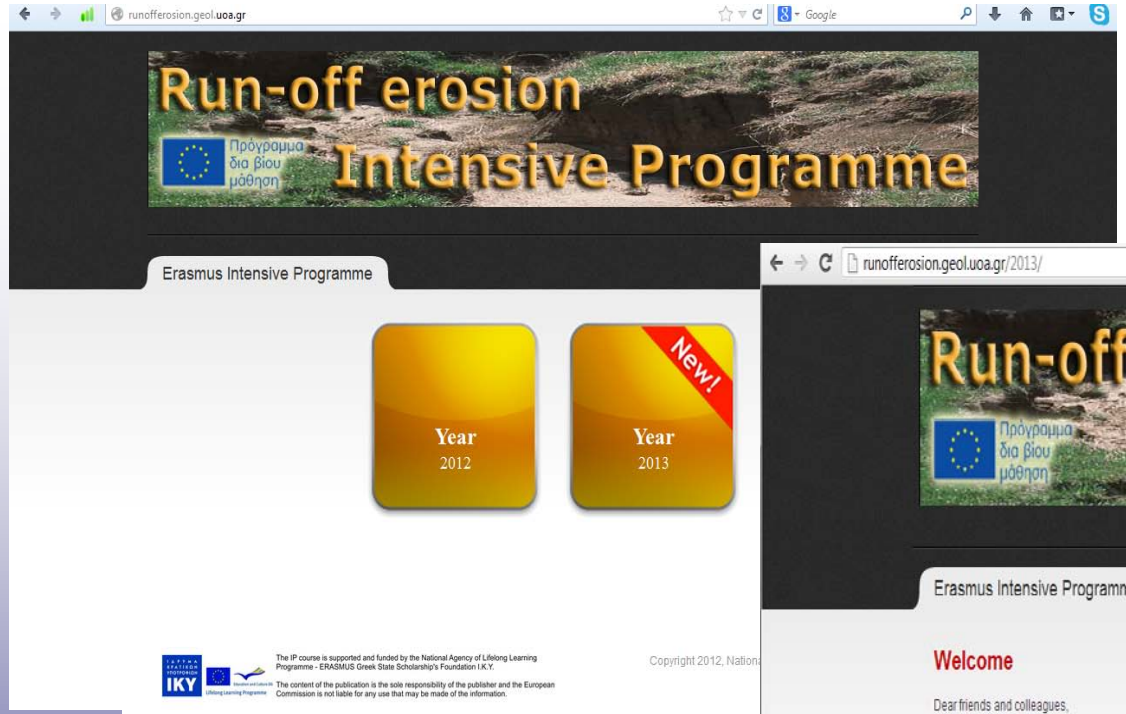
Επιπτώσεις διάβρωσης από επιφανειακή απορροή

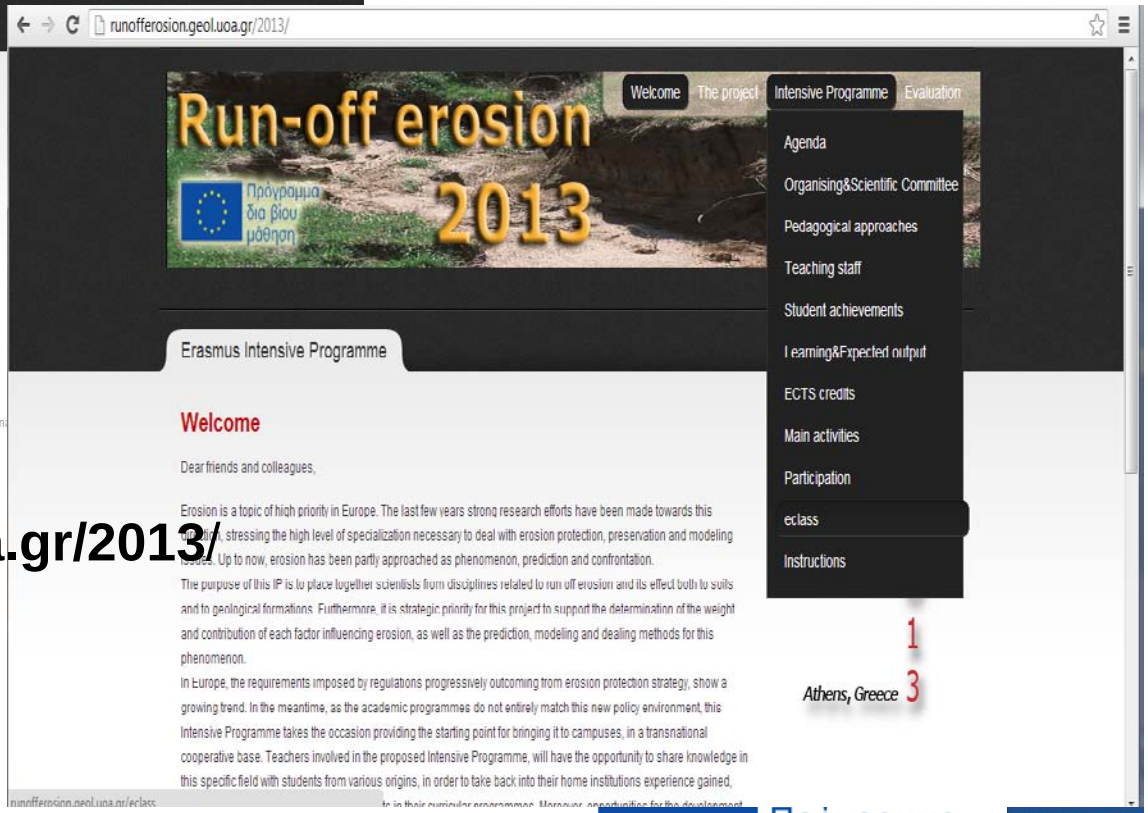
Μέτρηση παραμέτρων διάβρωσης στο πεδίο, στο εργαστήριο/ Ανάπτυξη μοντέλων

Γεωχρονολόγηση ιζημάτων διάβρωσης/ Υπολογισμός έντασης,ρυθμού φαινομένου

Μελέτη case studies/ Προστασία εδάφους- Μέτρα αντιμετώπισης

Ιστοσελίδα

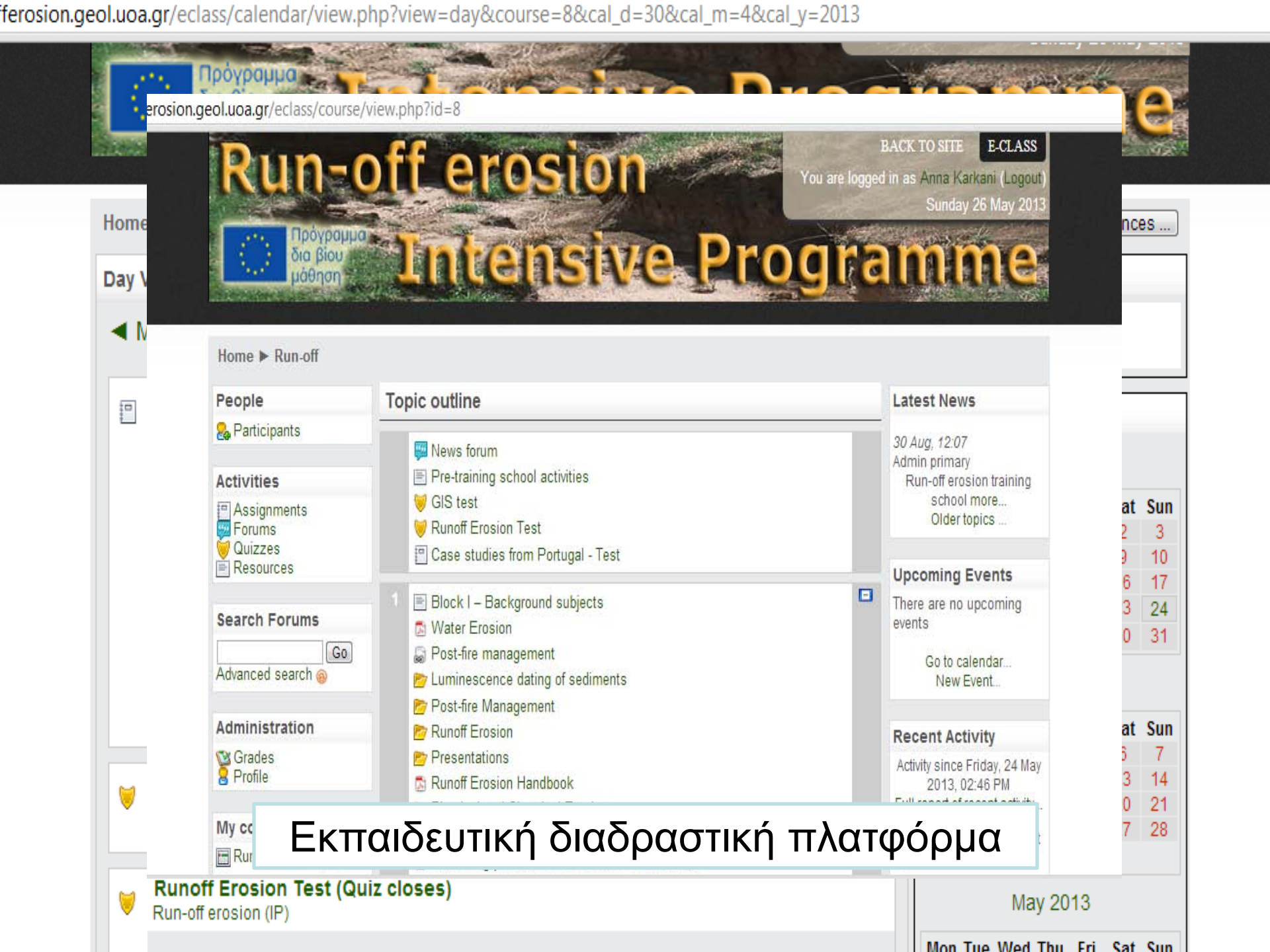




http://runofferosion.geol.uoa.gr/2013/

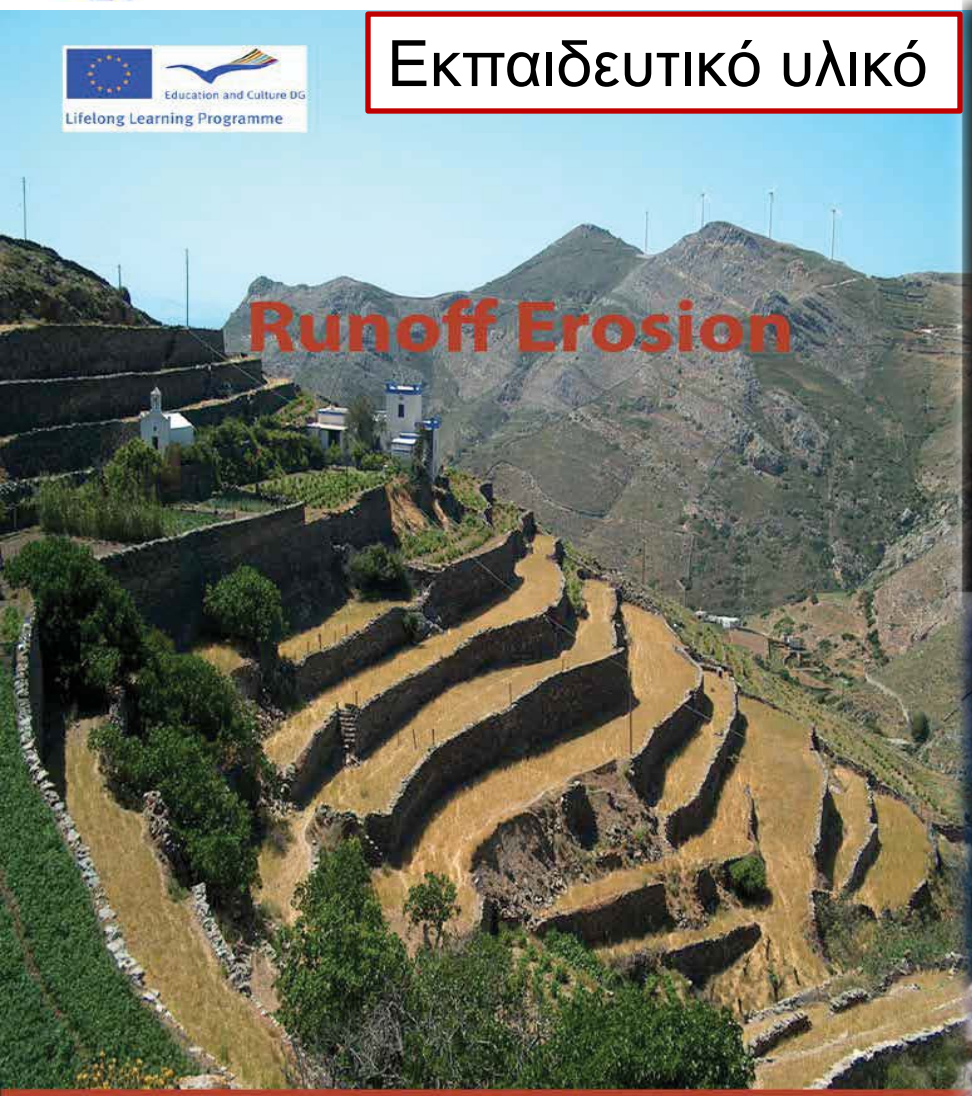
Πρόγραμμα δια βίου μάθηση

ΙΔΡΥΜΑ ΚΡΑΤΙΚΩΝ ΥΠΟΤΡΟΦΙΩΝ IKY


ferosion.geol.uoa.gr/eclass/calendar/view.php?view=day&course=8&cal_d=30&cal_m=4&cal_y=2013
erosion.geol.uoa.gr/eclass/course/view.php?id=8
Run-off erosion
Intensive Programme
BACK TO SITE
E-CLASS
You are logged in as Anna Karkani (Logout)
Sunday 26 May 2013
Home ▶ Run-off
People
Participants
Activities
Assignments
Forums
Quizzes
Resources
Search Forums
Go
Advanced search
Administration
Grades
Profile
Topic outline
News forum
Pre-training school activities
GIS test
Runoff Erosion Test
Case studies from Portugal - Test
Block I – Background subjects
Water Erosion
Post-fire management
Luminescence dating of sediments
Post-fire Management
Runoff Erosion
Presentations
Runoff Erosion Handbook
Latest News
30 Aug, 12:07
Admin primary
Run-off erosion training school more...
Older topics ...
Upcoming Events
There are no upcoming events
Go to calendar...
New Event...
Recent Activity
Activity since Friday, 24 May 2013, 02:46 PM
Runoff Erosion Test (Quiz closes)
Run-off erosion (IP)
May 2013
Εκπαιδευτική διαδραστική πλατφόρμα

Runoff erosion
Erasmus IP

Εκπαιδευτικό υλικό



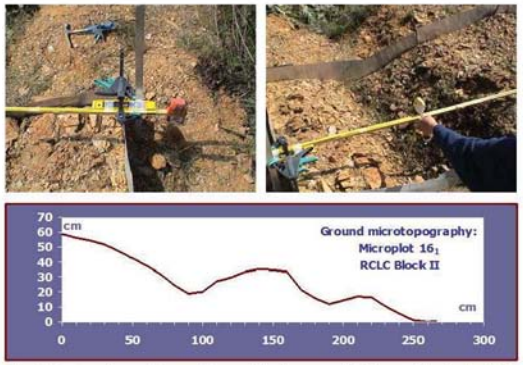


Fig. 3.13: Assessing surface roughness with a home-made device and the longitudinal surface profile of a micro-plot (Lamas de Podence, Macedo de Cavaleiros).

The procedures and instruments described above do not allow a very much detailed representation of soil micro-topography, as shortening distance between point measurements rises the number of measurements so as they become practically unfeasible. Besides, shortening distances is limited by instrumental capabilities. Laser profilemeters overcome these limitations and a provide non-contact measurements (van Wesemael et al., 1994; van Wesemael et al., 1996). They are sophisticated equipment, commonly placed in lab to work on simulated surfaces, but models exist to work in the field. Also models exist that allow working to output 3D results. The equipment consists in a frame supporting a laser source running over it at constant velocity by means of a motorized system. The laser beam is oriented to the soil surface and according to programmed operation, yet limited by equipment capabilities, measurements can be taken at very short distances along a line (0.1mm). Data is stored during runs and later transferred to perform data treatment and from which indexes may be derived. Due to the highly detailed data provided, complex approaches to deriving indexes are possible, as it is the case of using fractal analysis (van Wesemael et al., 1996).

E-book

EDITORS
N. Evelpidou, St. Cordier, A. Merino, T. Figuireido, C. Centeri

In agricultural areas, ephemeral streams develop due to common cultivation practices and, they usually evolve due to material transport from the terrestrial areas to adjacent ephemeral streams. Ephemeral streams are forced by surface macrotopography to regain their previous location after the aggregation, due to agricultural activities. Their name -ephemeral -is also owed to this periodic sediment re-enrichment and reshape from erosion. Over the years, these channels are gradually merged, while, in some cases, they remain engraved with vertical lateral walls (Fig. 1.9).

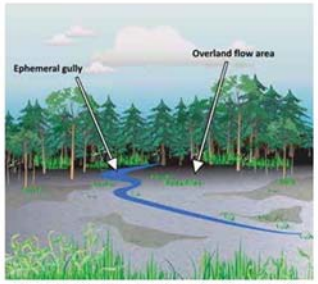


Fig. 1.9: Blending of ephemeral gully areas with overland flow areas.

Cultivations result to the development of a superficial zone in the area of the ephemeral stream which is more vulnerable to erosion than the non-cultivated soil. Flow leads to deep erosion of the ephemeral stream and gradually in lateral erosion, resulting to a wide, shallow channel of great width-depth ratio.

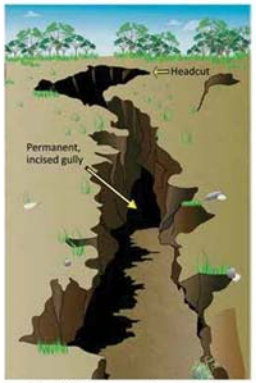


Fig. 1.10: Permanent incised gully.

1.2.4 Permanent, incised gully erosion

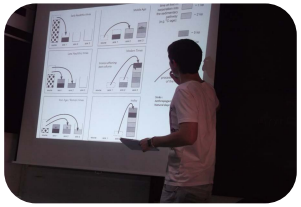
Permanent, incised gullies are observed in both natural and disturbed soils (Fig. 1.10). In agricultural soils, these gullies are defined as very deep channels (Foster, 1985). Changes in land use are commonly responsible for the development of gullies. Permanent, incised gullies are usually juvenile and develop in a short period of time. Depending on the flow occurring within them, these permanent gullies are, often,

Πρόγραμμα δια βίου μάθηση
ΙΔΡΥΜΑ ΚΡΑΤΙΚΩΝ ΥΠΟΤΡΟΦΙΩΝ
ΙΚΥ

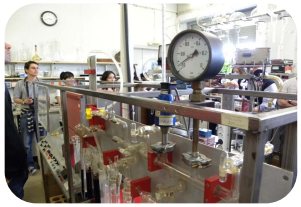
η σημαντικότητα της εργασίας υπαίθρου

Runoff erosion
Erasmus IP

Ενεργός συμμετοχή φοιτητών

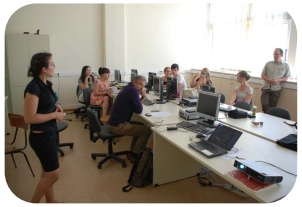


Παρουσιάσεις



Εργαστηριακές αναλύσεις

Μετρήσεις



Διπλωματική εργασία

Λοιπές πολιτιστικές εκδηλώσεις στα πλαίσια του IP

Μουσείο Ορυκτολογίας και Πετρολογίας

Βυζαντινός ναός

Μουσείο Παλαιοντολογίας και Γεωλογίας

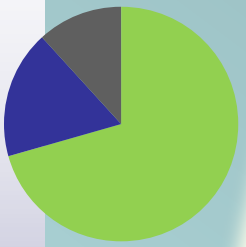
Πρόγραμμα δια βίου μάθηση

ΙΔΡΥΜΑ ΚΡΑΤΙΚΩΝ ΥΠΟΤΡΟΦΙΩΝ
ΙΚΥ

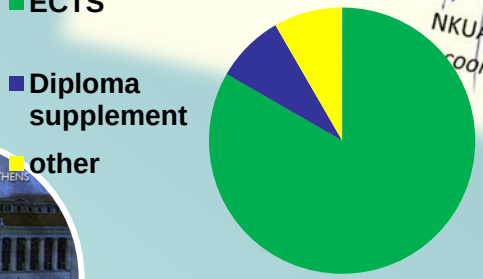
Runoff erosion Erasmus IP

Βεβαίωση συμμετοχής φοιτητών

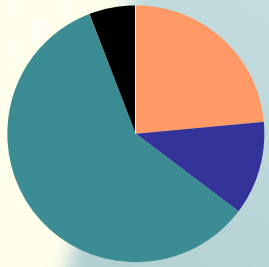
Will you gain recognition for your IP by your home institution?



If yes, how will it be recognised?



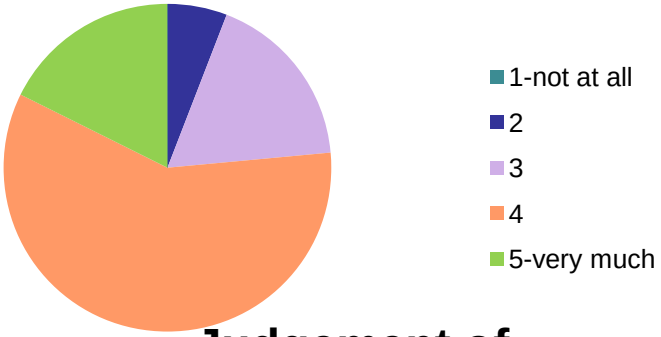
Did you encounter any problems concerning recognition of your IP?



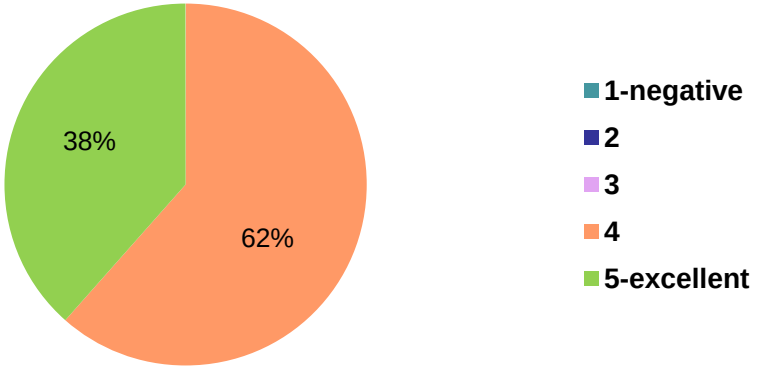
Πρόγραμμα δια βίου μάθηση

ΙΔΡΥΜΑ ΚΡΑΤΙΚΩΝ ΥΠΟΤΡΟΦΙΩΝ ΙΚΥ

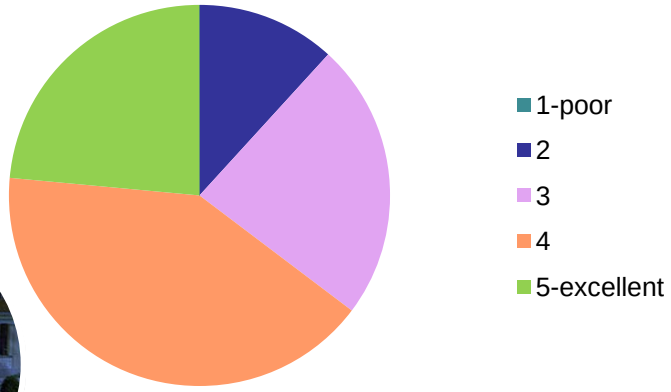
Do you think participation in the IP will help you in your further studies/career?



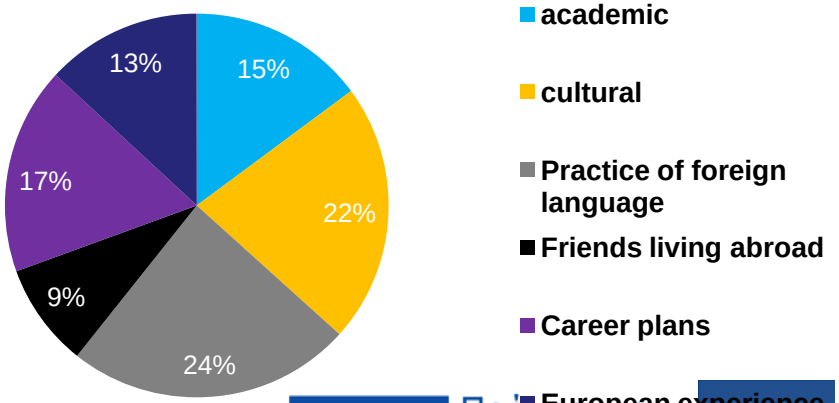
Overall evaluation of the IP



Judgement of academic/learning outcomes of the IP



Which were the factors which motivated you to participate?



Εμπειρία σε θέματα φυσικού, οικονομικού αντικειμένου και οργάνωσης

SWOT

STRENGTHS

- Δημιουργία δικτύου συνεργασίας μεταξύ των Εταίρων
- Εκπαιδευτική πλατφόρμα
- Εργασία υπαίθρου
- Εργαστηριακές αναλύσεις
- Μοντελοποίηση διάβρωσης
- Case studies/ Μέθοδοι αντιμετώπισης
- Εκπόνηση διπλωματικής εργασίας

WEAKNESSES

- Περιθώριο περαιτέρω εμβάθυνσης σε θέματα πρόληψης και αντιμετώπισης
- Περιθώριο βελτίωσης οργάνωσης σε όλα τα επίπεδα
- Πολλές ώρες διδασκαλίας εντός της τάξης σύμφωνα με σχόλια φοιτητών

Internal factors

OPPORTUNITIES

- Περαιτέρω ανάπτυξη του δικτύου Εταίρων
- Σύνδεση IP με αγορά εργασίας

THREATS

- Οικονομική κρίση/Χρηματοδότηση
- Μεγάλος διαχειριστικός όγκος δουλειάς που δεν σχετίζεται άμεσα με το επιστημονικό έργο
- Χρονοβόρες γραφειοκρατικές διαδικασίες

External factors

Ευχαριστούμε θερμά το **Ι.Κ.Υ** και ιδιαίτερα την κυρία Μαυρογιώργου καθώς και το γραφείο ERASMUS του **Ε.Κ.Π.Α**. χωρίς τη σύμπραξη των οποίων δεν θα είχαν πραγματοποιηθεί επιτυχώς τα *IP RUNOFF EROSION 2012 και 2013* αλλά και το επερχόμενο του *2014.*