



AgroStrat <http://www.agrostrat.gr>

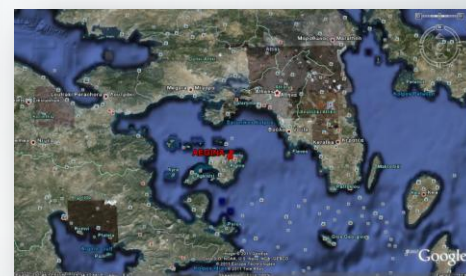
Sustainable strategies for the improvement of seriously degraded agricultural areas: The example of *Pistachia vera* L.

1/10/2012-30/9/2016

Budget : 1,026,509 €



LIFE11 ENV/GR/951

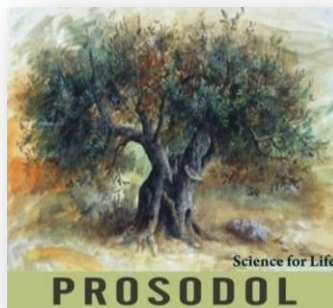


Prosodol <http://www.prosodol.gr>

Strategies to improve and protect soil quality from the disposal of Olive Oil Mills Wastes in the Mediterranean

1/1/2009-31/12/2012

Budget : 1,628,911 €



LIFE07 ENV/GR/280



Beneficiaries



Soil Science Institute of Athens-ELGO DEMETER

Coordinator



Technical University of Crete



Institute of Mediterranean Studies-FORTH



The Problems



Organic matter %	Polyphenols, mg/kg	Phosphorus mg/kg	Nitrogen, %	Potassium, mg/kg	NO ₃ ⁻ , mg/kg	PO ₄ ³⁻ , mg/kg	Cl ⁻ mg/kg	Fe, mg/kg	Mn, mg/kg	Zn, mg/kg	Cu, mg/kg	Pb, mg/kg	Cr, mg/kg
65-75	1600	238	2,8	6850	1200	405	92	2430	48	315	56	110	13



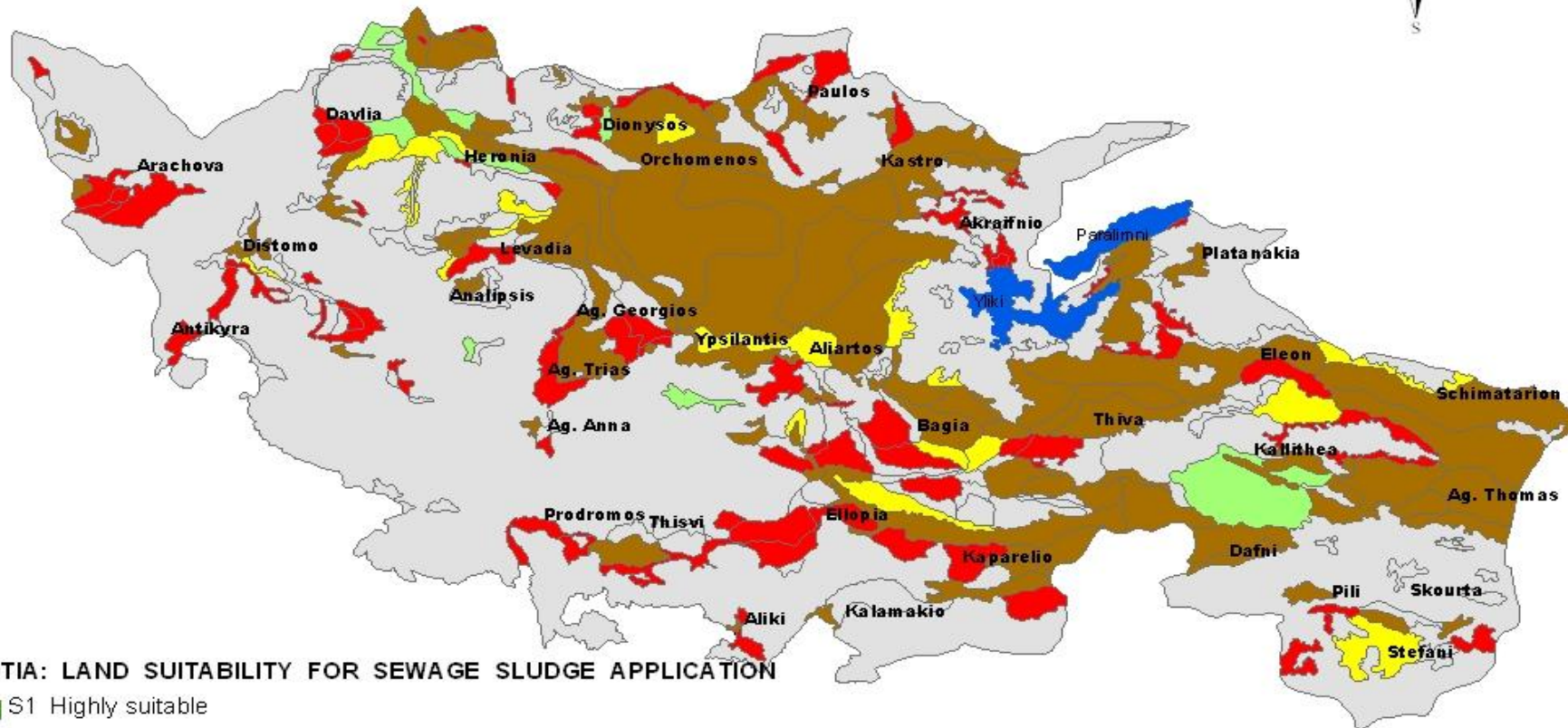
Prosodol

So... we aimed



1. Huge amounts of OMW are disposed without control
2. OMW are rich in polyphenols, have low acidity and high content in many inorganics
3. Serious soil degradation
4. There is a legislative frameworks in some countries BUT the propose general rules for reuse/disposal on soil
5. There are treatment methods but they are too expensive-not affordable by small family mills

1. Assess soil and water quality
2. Identify soil indicators
3. Develop monitoring tools for soil and water
4. Develop soil remediation methodologies
5. Develop OMW pre-treatment methods to be applied in field
6. Composting of OMW
7. Identify conditions for safe use of OMW for tree irrigation
8. Legislative proposal for the EC and Mediterranean countries.



VIOTIA: LAND SUITABILITY FOR SEWAGE SLUDGE APPLICATION

- S1 Highly suitable
- S2 Moderately suitable
- S3 Marginally suitable
- N1 Currently not suitable
- N2 Permanently not suitable
- Non Arable
- Settlements
- Lakes



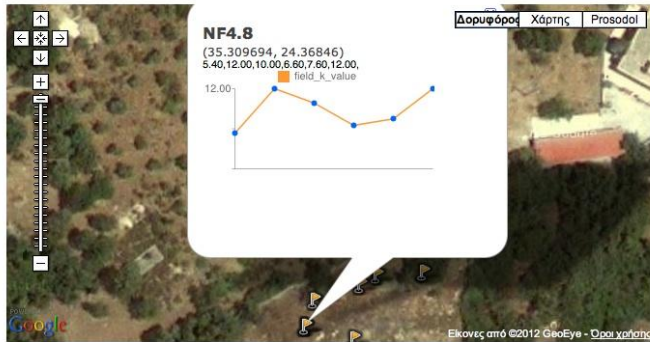


We succeeded to.....

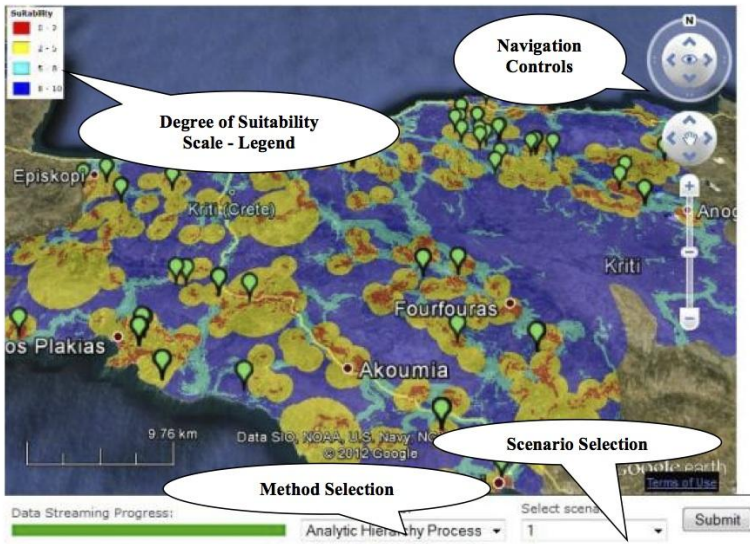
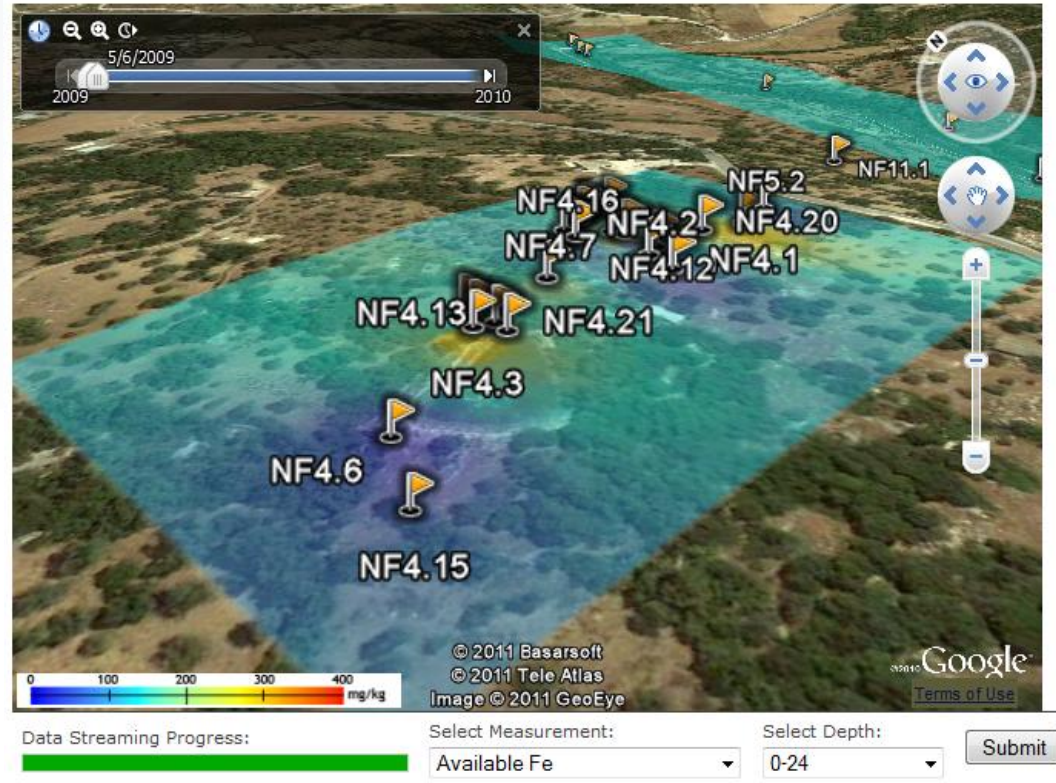
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1. Identify 8 soil indicators (pH, OM, EC, polyphenols, N, avail. P, exch. K, avail. Fe)
2. Develop soil/water monitoring tool (for the authorities and individuals)

Στρατηγικές για τη βελτίωση και την προστασία της ποιότητας των εδαφών από τη διάθεση αποβλήτων ελαιολιπιδίων στις Μεσογειακές χώρες.



Νέα
ΗΜΕΡΙΔΑ του έργου PROSODOL στην Αθήνα
 Το έργο LIFE "Strategies to improve and protect soil quality from the disposal of olive oil mills"



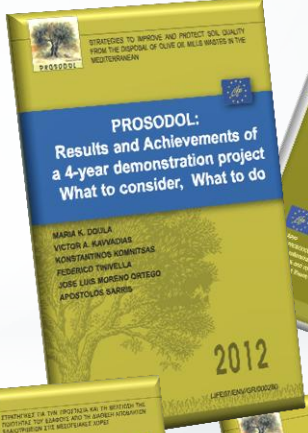
Risk assessment 3D web map application interface through the website of PROSODOL



We succeeded to.....

Prosodol

- 3. Develop and demonstrate two soil remediation methodologies : Bioremediation and addition of clinoptilolite on soil
- 4. Develop a low cost OMW pre-treatment method that can be applied in field
- 5. Identify that no actual risk is existed when use OMW doses proposed by the Italian law (...more pre-conditions are needed regarding soil properties..)
- 6. Show to mill owners how to compost OMW in their fields
- 7. Propose specific measures, tools and actions that could be integrated into the legislative framework of the European Member States**

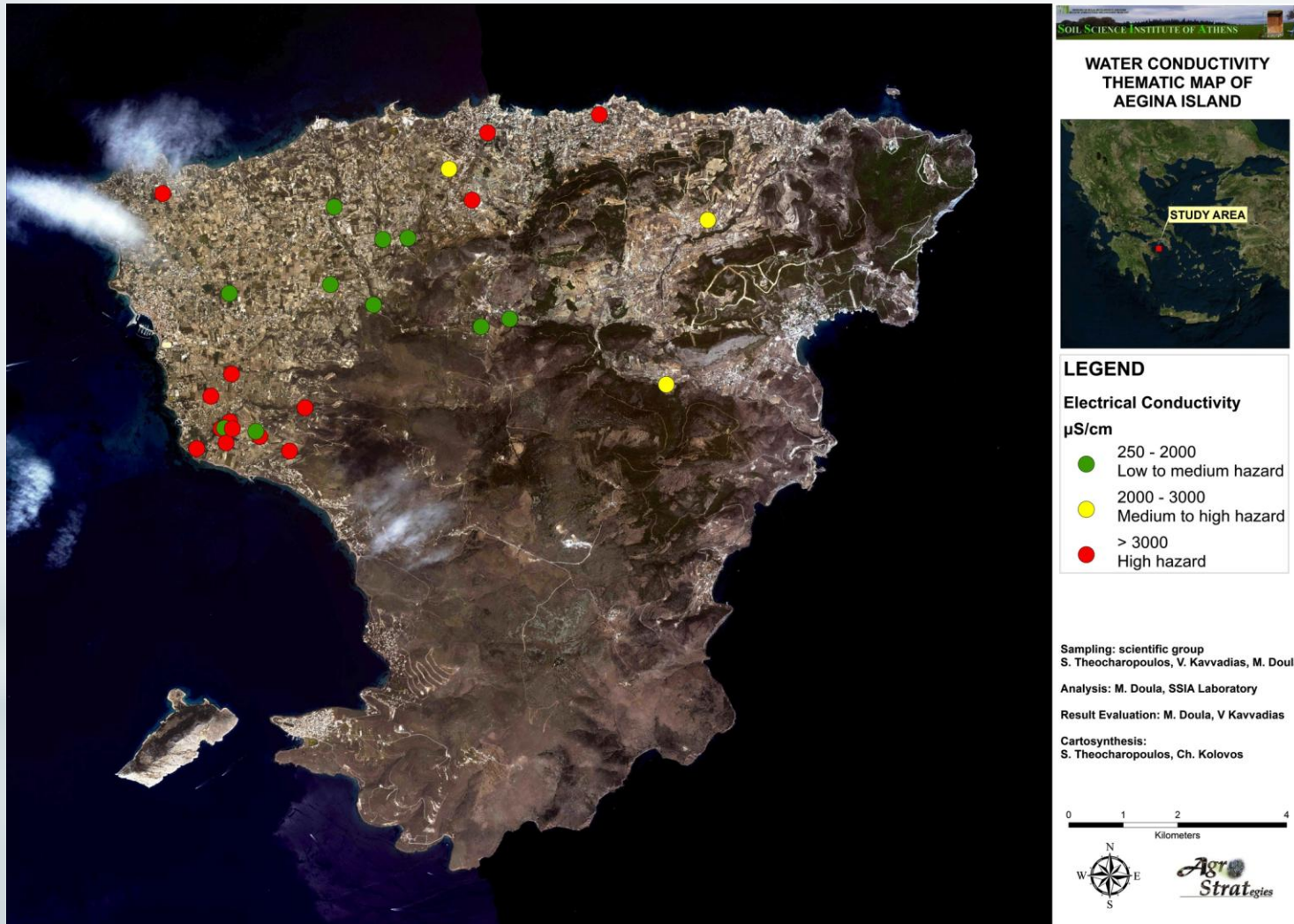


We are working to succeed...



AgroStrat- some first results regarding current status

1. A major problem is irrigation water quality





WATER CHLORIDE LEVELS THEMATIC MAP OF AEGINA ISLAND



STUDY AREA

LEGEND

Chloride

mg/l

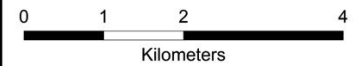
- <70
Very low hazard
- 70 - 140
Low to medium hazard
- 140 - 350
Medium to high hazard
- >350
High hazard

Sampling: scientific group
S. Theocharopoulos, V. Kavvadias, M. Doula

Analysis: M. Doula, SSIA Laboratory

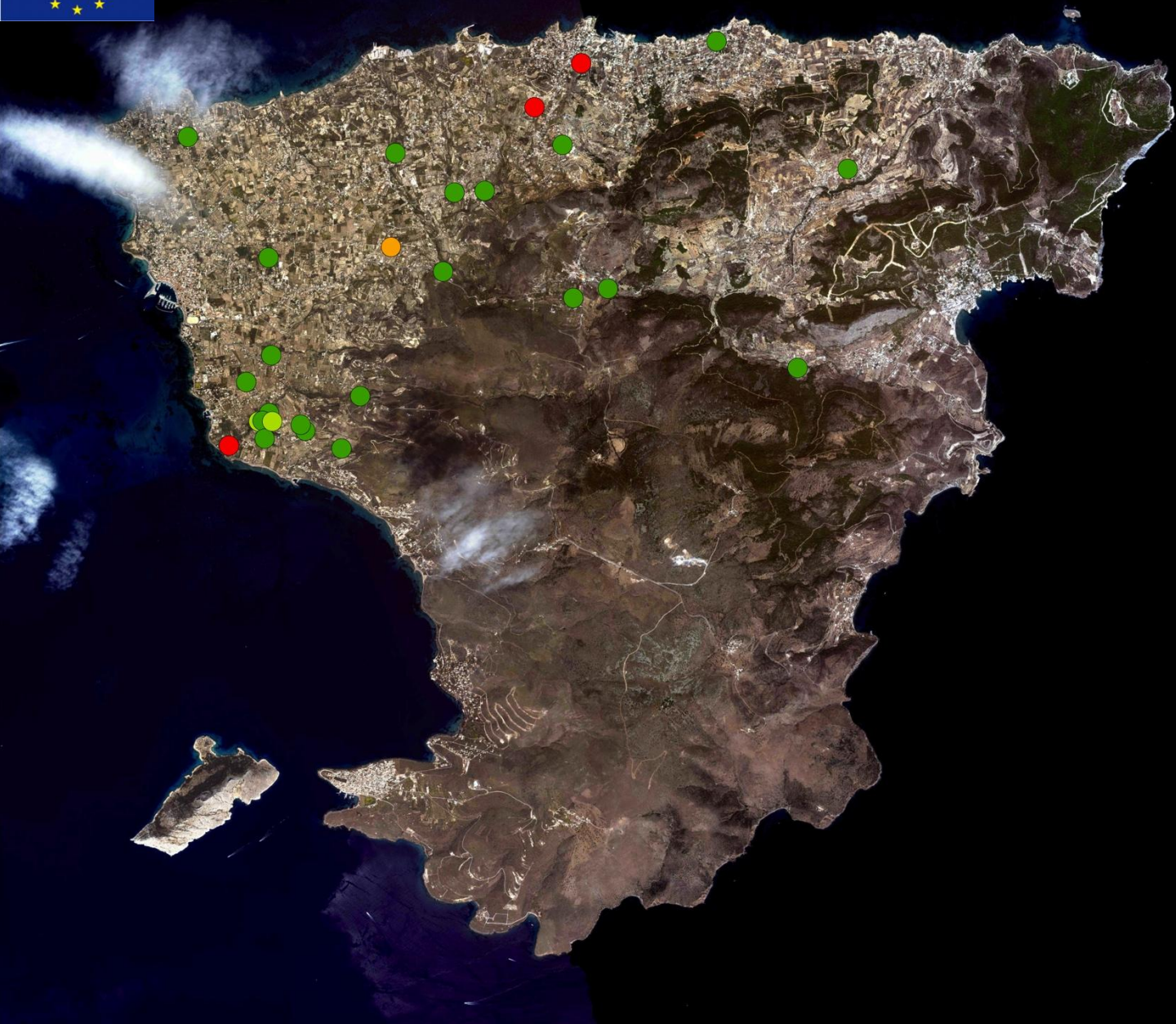
Result Evaluation: M. Doula, V Kavvadias

Cartosynthesis:
S. Theocharopoulos, Ch. Kolovos





SAR HAZARD OF IRRIGATION WATER THEMATIC MAP OF AEGINA ISLAND



LEGEND

SAR

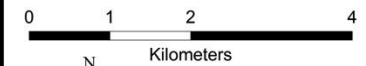
- 1-10
Very low hazard
- 10-18
Low to medium hazard
- 18 - 26
Medium to high hazard
- >26
High hazard

Sampling: scientific group
S. Theocharopoulos, V. Kavvadias, M. Doula

Analysis: M. Doula, SSIA Laboratory

Result Evaluation: M. Doula, V Kavvadias

Cartosynthesis:
S. Theocharopoulos, Ch. Kolovos





WATER NITRATES CONCENTRATION THEMATIC MAP OF AEGINA ISLAND



LEGEND

NO₃
mg/l

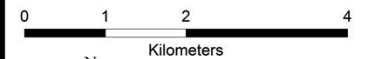
- <50 Low risk
- >50 High Risk

Sampling: scientific group
S. Theocharopoulos, V. Kavvadias, M. Doula

Analysis: M. Doula, SSIA Laboratory

Result Evaluation: M. Doula, V Kavvadias

Cartosynthesis:
S. Theocharopoulos, Ch. Kolovos





30/08/2013 09:01



AgroStrat- some first results regarding current status

And we are going on.....

We have supporters : **the farmers**



And small and innocent friends.....





On behalf of Prosodol and AgroStrat beneficiaries

Thank you

Dr. Maria Doula
Soil Science Institute of Athens
Hellenic Agricultural Organization DEMETER



<http://www.agrostrat.gr>

<http://www.prosodol.gr>

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