



OUR WARMEST WISHES FOR A SAFE & FRUITFUL 2022!

EDITED BY NEO TEAM

This issue covers the period May - November 2021. During this period, NEO team has been active in writing and submitting project proposals, with great success. NEO will participate in two new EU projects, one focusing on research and innovation and the other on education. This will strengthen NEO's capacity for collaboration with international networks

Other activities developed at NEO during this semester include upgrading of environmental monitoring facilities, new research publications, workshops with stakeholders and study visits.

Additionally, we were pleased to welcome the new Swedish ambassador to Greece, Mr. Johan Borgstam.

Happy Reading!

TOPICS INSIDE:

FIELD COURSES &
INTERNSHIPS

FIELDWORK
CAMPAIGNS

WORKING TOGETHER
WITH OUR
STAKEHOLDERS

NEW EU PROJECTS

NEW PUBLICATIONS



FIELD COURSES & INTERNSHIPS

Värmdö Gymnasium



The class 19NAD from the NaSa-programme at Värmdö Gymnasium visited NEO in October for one week. This was the eighth year that a group of students from Värmdö Gymnasium visited NEO. The group participated in several excursions and fieldwork activities in the area. Among others, they learned about the olive harvesting process, developed field measurements in the Gialova lagoon, and visited the archaeological site of Palaiokastro. Moreover, they had the opportunity to interview some local people about their relations with the #Natura2000 areas such as Gialova lagoon.



Internships



During summer, NEO hosted six interns from the American College of Greece (ACG), and one intern from Stockholm University (SU). Overall, the students provided valuable support and assistance on data collection and monitoring, addressing the following specific topics:

1. Investigation of the connection between water levels in Gialova Lagoon and wells in the surrounding area, under the Gialova project (intern from SU)
2. Assessment of tourism pressure in a Natura2000 area (2 interns from ACG)
3. Evaluation of chameleons's community in their natural habitats (2 interns from ACG)
4. Assessment of vegetation cover and changes in Natura 2000 areas, (2 interns from ACG).



FIELDWORK CAMPAIGNS

GIALOVA project

Under the GIALOVA project, NEO scientists work together with colleagues from Greek institutions, environmental managers, local authorities and foundations to study and co-design management suggestions on how to achieve sustainable fishing, nature conservation and eco-tourism development in the years to come. The project is financially supported by Yialova Fish (YF) and it was officially launched in November 2020.

During this semester, NEO researchers updated the network of water stations inside the wetland, installed new sensors to monitor groundwater level at the surrounding area, and analysed nutrients in water samples from the lagoon on a monthly basis. Together with the Hellenic Centre for Marine Research (HCMR) they collected sediment samples (March and October) for the determination of the benthic macrofauna. The team from the University of Ioannina (Uoi) focused its efforts to better understand the status of the fish while a collaborating ornithologist visited the area for several times during the breeding/nesting period of waterbirds (April - June).



Tree sampling on Mt. Smolikas

A group of dendroclimatologists from the Johannes Gutenberg University Mainz, in cooperation with NEO, conducted an excursion to Mount Smolikas in the Pindos Mountains in Northern Greece. This is a rare Mediterranean location where past climatic conditions can be studied with high resolution. German scientists visited Mt. Smolikas in September to collect new wood samples and update previously established tree-ring records. During the field campaign, which was led by Prof. Frank Keppler, more than 50 trees were sampled and will now be processed in the two German laboratories for measuring stable isotopes and anatomical features of the wood.



WORKING TOGETHER WITH OUR STAKEHOLDERS

Joining forces for the Integrated Management of Gialova wetland & surrounding area

Under the umbrella of the GIALOVA project, NEO organised a meeting with colleagues actively involved in specify the area. The aim of the meeting was to bring together local stakeholders (e.g. academia, NGOs, business, foundations) to meet and discuss potential next steps and project ideas for the Integrated Management of Gialova Lagoon wetland and surrounding area.

The participants have agreed to enhance their communication efforts to increase awareness within the society and among policy makers and key stakeholders. To that end, a series of informal café-NEO events will be organised in the area (Pylos-Nestor municipality) during the coming months.



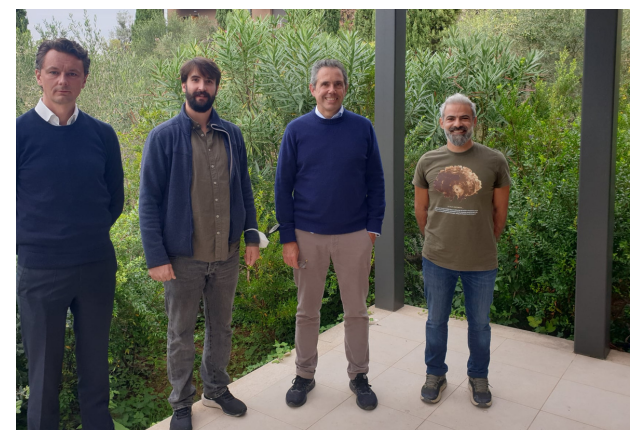
Contemporary Challenges of Climate Change

A group of professors from the National Technical University of Athens, the University of Thessaly and from the High school of Ilion visited NEO and organized a workshop about climate change. The discussed topics focused on the impacts of extreme weather events on the environment and the health, and about how kids and teenagers perceive climate change.



Meeting with the New Swedish Ambassador at NEO

The new Ambassador of Sweden in Athens, H.E. Mr Johan Borgstam visited NEO in September. The visit was an excellent opportunity to present NEO's activities and vision, and to discuss synergies and future joint actions with the Embassy.



Archaeometry lab

A research group formed by members of the Laboratory of Archaeometry, University of the Peloponnese and the Archaeological Ephorate of Messenia, Ministry of Culture and Sports, where hosted at NEO in July for their meeting under the newly Pylos Geoarchaeological Program - GEAPP.

GEAPP Research Program will operate towards the archaeological and cultural environment of the area of Pylos for the coming 5 years (2021-2025).



NEW EU PROJECTS

SALAM-MED

SUSTAINABLE APPROACHES TO LAND AND WATER MANAGEMENT IN MEDITERRANEAN DRYLANDS

PRIMA FOUNDATION

Topic:

Water management

Duration:

36 months

NEO partner:

Academy of Athens

SALAM-MED builds upon an interdisciplinary network of research organisations, NGOs, SMEs and international organizations, with long-standing collaborative activities across the Mediterranean (MED). The project will invest in social learning processes in six living labs (LL) located in 'hotspots' for land degradation (LD) to address the ecological and social heterogeneity of the MED drylands. The objective of the SALAM-MED approach is to develop coherent nature-based and socio-economic strategies to improve water management and ecosystem hydrology while preventing LD and recovering degraded land. For the Greek case study (Messinia) the idea is to focus on how to improve watersheds' hydrology and soil fertility by combining new nature-based technologies with modelling approaches.

GEO-VT

GEOMORPHOLOGICAL VIRTUAL FIELDTRIPS: TRAINING NEW GENERATIONS ON GEOMORPHOLOGY, GEOHAZARDS & GEOHERITAGE THROUGH VIRTUAL REALITY TECHNOLOGIES

ERASMUS +

Topic:

Cooperation partnerships in higher education

Duration:

24 months

NEO partner:

Stockholm University

During times of increased COVID-19 related social distancing, innovation and exploitation of online platforms and digital infrastructures is the key to maintaining successful pedagogical strategies. Geomorphological Virtual Fieldtrips (GeoVT) project proposes a uniform and integrated teaching guideline that promotes distance education, by utilizing the most recent trends of technologies in education. Virtual reality field trips, e-lectures, e-books, and many other tools and activities will serve the needs of higher education tutors to design and deliver geomorphology, geohazard and geoheritage courses using the Information Communication Technologies (ICT).



NEW PUBLICATIONS

Peer reviewed journal publications

1. Mitsos D., Kantarelou V., Palamara E., Karydas A.G., Zacharias N., **Gerasopoulos E.**, 2022. Characterization of black crust on archaeological marble from the Library of Hadrian in Athens and inferences about contributing pollution sources. *Journal of Cultural Heritage*, 53, 236-243. <https://doi.org/10.1016/j.culher.2021.12.003>.
2. **Ferreira, C.S.S., Seifollahi-Aghmiuni, S., Destouni, G., Ghajarnia, N., Kalantari, Z.**, 2022. Soil degradation in the European Mediterranean region: Processes, status and consequences. *Science of the Total Environment*. 150106. <https://doi.org/10.1016/j.scitotenv.2021.150106>.
3. Ciampa, F., **Seifollahi-Aghmiuni, S., Kalantari, Z., Ferreira, C.S.S.**, 2021. Flood Mitigation in Mediterranean Coastal Regions: Problems, Solutions, and Stakeholder Involvement. *Sustainability*, 131, 474. <https://doi.org/10.3390/su131810474>.
4. Nacher, M.E., **Ferreira, C.S.S.**, Jones, M., **Kalantari, Z.**, 2021. Application of the Adaptive Cycle and Panarchy in La Marjaleria Social-Ecological System: Reflections for Operability. *Land*, 10, 980. <https://doi.org/10.3390/land10090980>.
5. Pezzagno, M., Frigione, B.M., **Ferreira, C.S.S.**, 2021. Reading Urban Green Morphology to Enhance Urban Resilience: A Case Study of Six Southern European Cities. *Sustainability*, 13, 9163. <https://doi.org/10.3390/su13169163>.
6. Evans, D., Janes-Bassett, V., Borrelli, P., Chenu, C., **Ferreira, C.S.S.**, Griffiths, R., **Kalantari, Z.**, Keesstra, S., Lal, R., Panagos, P., Robinson, D., **Seifollahi-Aghmiuni, S.**, Smith, P., Steenhuis, T., Thomas, A., Visser, S., 2021. Sustainable futures over the next decade are rooted in soil science. *European Journal of Soil Science*, 1-16. DOI: 10.1111/ejss.13145.
7. Skoulikidis, N.T.; Nikolaidis, N.P.; Panagopoulos, A.; Fischer-Kowalski, M.; Zogaris, S.; Petridis, P.; Pisinaras, V.; Efstathiou, D.; Petanidou, T.; **Maneas, G.**; et al. The LTER-Greece Environmental Observatory Network: Design and Initial Achievements. *Water* 2021, 13, 2971. <https://doi.org/10.3390/w13212971>.
8. Tiller RG, **Destouni G**, Golumbeanu M, **Kalantari Z**, Kastanidi E, Lazar L, Lescot J-M, **Maneas G**, Martínez-López J, Notebaert B, **Seifollahi-Aghmiuni S**, Timofte F, de Vente J, Vernier F and de Kok J-L (2021) Understanding Stakeholder Synergies Through System Dynamics: Integrating Multi-Sectoral Stakeholder Narratives Into Quantitative Environmental Models. *Front. Sustain.* 2:701180. <https://doi:10.3389/frsus.2021.701180>.

Peer reviewed book chapters

1. **Ferreira, C.S.S., Kalantari, Z., Seifollahi-Aghmiuni, S.**, Ghajarnia, N., Rahmati, O., Solomun, M.K., 2021. Rainfall-runoff-erosion processes in urban areas. In "Precipitation: Earth surface responses and processes", Rodrigo-Comino, J. (ed.). Elsevier, chapter 21, 481-498 pp. <https://doi.org/10.1016/B978-0-12-822699-5.00018-5>.