

NAVARINO ENVIRONMENTAL OBSERVATORY

NEO Management

Day, 12 November 2018

NEO NEA #30 (July-September 2018)

NEO stands for Navarino Environmental Observatory. But NEO in Greek (νέο) means news as well and NEA is its plural. So, this is our news!

Foreword

The summer and first part of the autumn has been a hectic period at NEO. An important activity was the three stakeholder workshops that were held as part of the recently launched H2020 programme COASTAL. The Messenia is one of six case study areas within the EU and the programme aims to improve the rural-coastal synergies in strategic business and policy decision making and collaboration between coastal and rural actors. The workshops were organized to engage local and regional business entrepreneurs, administrations, stakeholders, and scientific experts in a multi-actor process for knowledge exchange. The results will be fed into other work packages of the programme.

NEO has also hosted field courses by students from Sweden and Germany. We were also pleased to welcome the Swedish ambassador to Greece, Ms. Charlotte Sammelin.

Happy Reading!

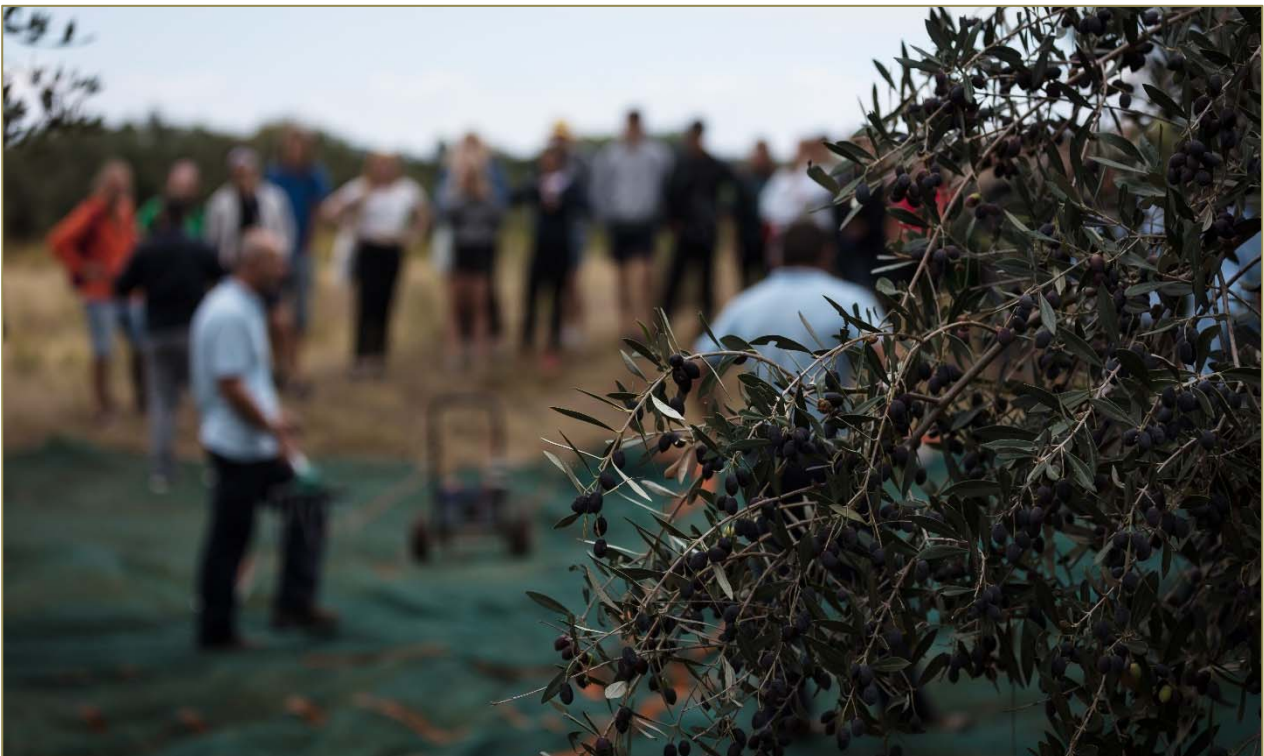


Figure 1: Olive harvesting at Messinia (photo: Paul Strehlenert)

Activities

Research

- **COASTAL EU project**
Sectoral workshops

In July and September, the first 3 sectoral workshops with representatives from agriculture, olive oil production industry and fishing sectors took place at NEO premises. The workshops were co-organised by the local COASTAL partners with the aim to identify the different perceptions of stakeholders' groups regarding land-sea interactions. The meetings were facilitated by Giorgos Maneas and representatives from the COASTAL partners were also present to help in the discussions. The results from all the workshops (3 more are pending) will be used to better understand how different sectors perceive local land-sea interactions, before the first Multi-Actor workshop which will bring together actors from the different sectors.

The participants were actively engaged in the whole process and expressed their willingness to be further involved in the COASTAL project. Moreover, they raised the fact that such meetings are very rare and such initiatives should continue in the future.

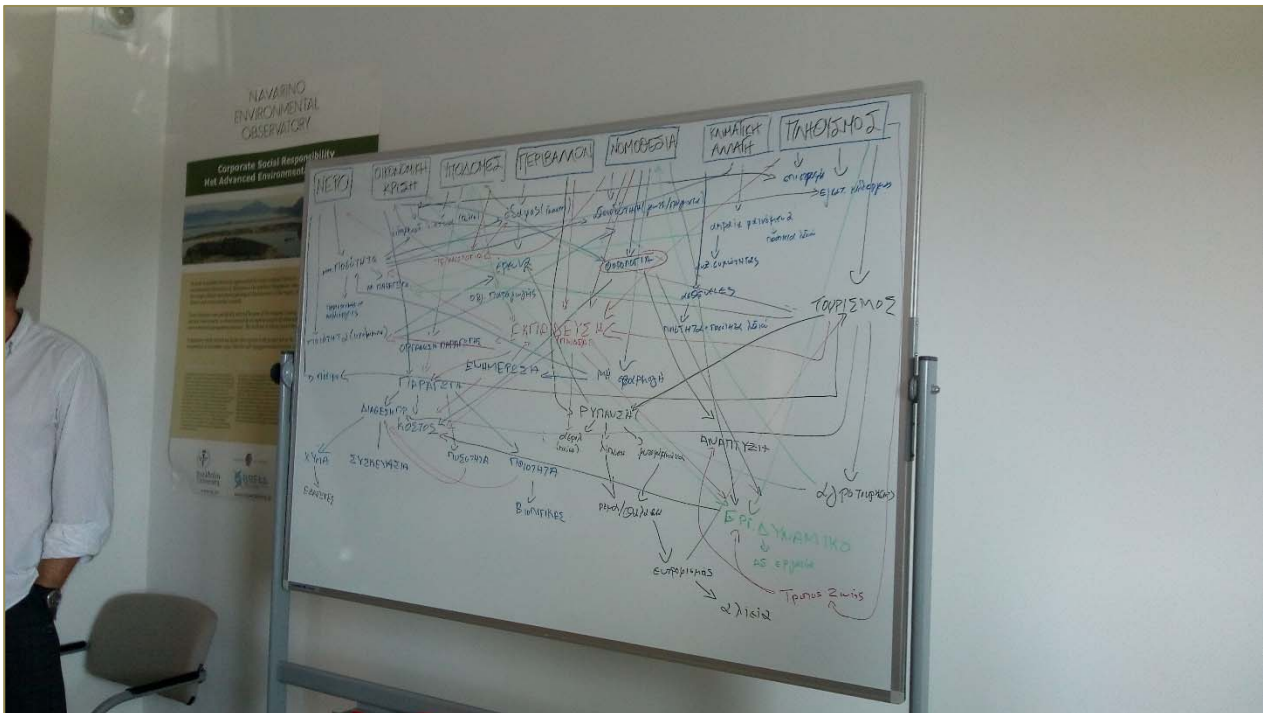


Figure 2: A mind mapping of interactions based on discussions with farmers and agronomists.

- **Atmospheric station at Methoni**
Methoni, (5-10 July)

Researchers from Stockholm University (Radovan Krejci and Peter Tunved) and the National Observatory of Athens (Evangelos Gerasopoulos and Iasonas Stavroulas) met at NEO in early July to conduct a full-scale maintenance at the NEO atmospheric station at Methoni and work on a research article. In late September, Zorbas, a Medi-cane (Mediterranean hurricane) with winds reaching up to 120 kilometres per hour passed over the station at Methoni. The wind power was strong enough to move the 2 tones iso-box at Methoni for more than 2 meters, causing several minor damages at the station. The iso-box is at present back to place and fully operational.



Figure 3: The iso-box at Methoni after the strike of the medicane Zorbas.

- ***Environmental monitoring***
Gialova lagoon
Bird monitoring, Water Quality Monitoring (July – September 2018)

Bird monitoring in the area was continued during this period on a scheduled monthly basis. The focus during this period was mainly the monitoring of nesting species and their juveniles, as well as species indicating the start of the autumn migration period.

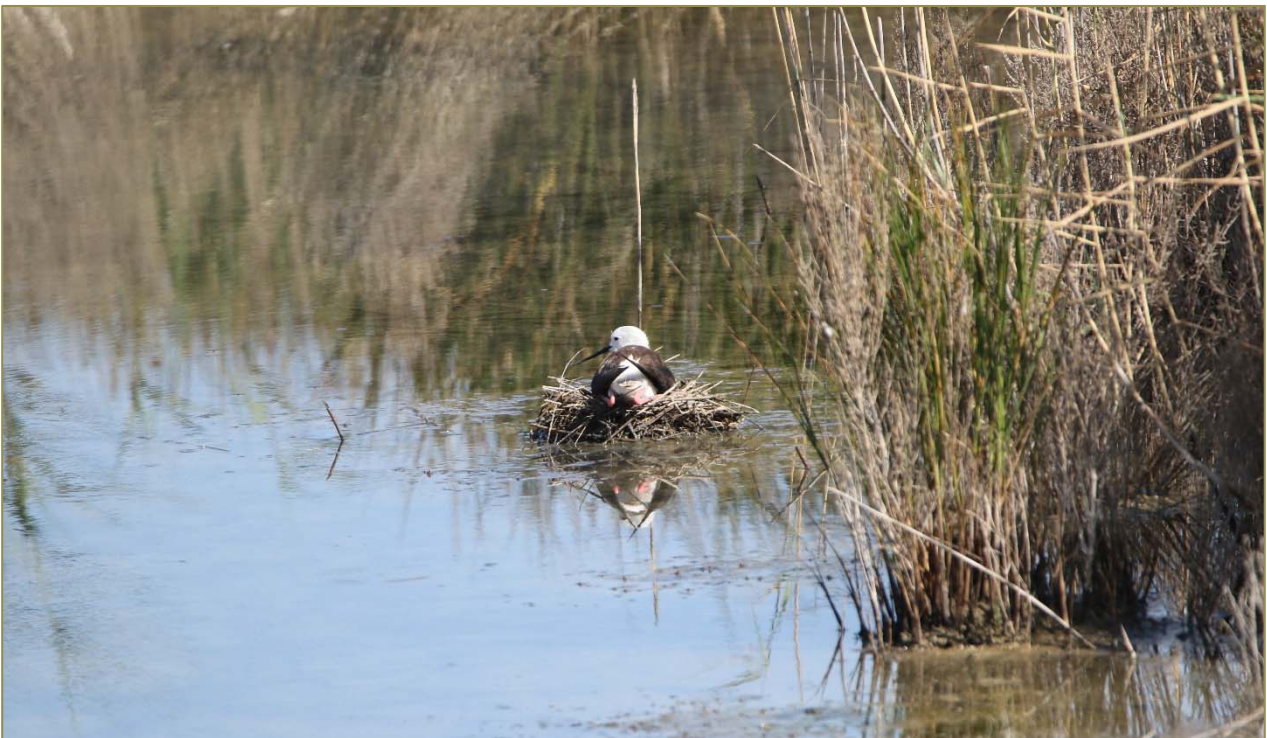


Figure 4: A nest of Black-winged Stilt (*Himantopus himantopus*) in the Gialova Lagoon wetland. (photo: Dimitris Bousbouras).

Water quality monitoring was continued daily. In addition, Giorgos continued to interview local elderlies as Key Informants to better understand how the past human interventions have affected the hydrology and the land scape of the wetland.

Related Internships

Angeliki Kaplani, a master student following the “Environmental Management and Physical Planning” Master course at Stockholm University, have spent almost two months at NEO working on Ecosystem Services and pressures at Voidokilia bay as part of her internship. Georgia Tsikini, a bachelor student at the Polytechnic University of Chania, Greece also spent 3 weeks at NEO as part of her internship.

Research publications (NEO researchers in bold)

- *Peer reviewed journals*

NEO-related publications

S. Solomos, A. Bougiatioti, O. Soupiona, A. Papayannis, M. Mylonaki, C. Papanikolaou, A. Argyrouli, A. Nenes, 2018. Effects of regional and local atmospheric dynamics on the aerosol and CCN load over Athens, Atmospheric Environment, 197, 53-65. <https://doi.org/10.1016/j.atmosenv.2018.10.025>

Orth R, **Destouni G**, Drought reduces blue-water fluxes more strongly than green-water fluxes in Europe, Nature Communications, 9, 3602, 2018, <https://www.nature.com/articles/s41467-018-06013-7>

Destouni G, Jarsjö J, 2018. Zones of untreatable water pollution call for better appreciation of mitigation limits and opportunities. WIREs Water, e1312; DOI: 10.1002/wat2.1312, <https://onlinelibrary.wiley.com/doi/epdf/10.1002/wat2.1312>

Goldenberg R, Kalantari Z, **Destouni G**. Increased access to nearby green–blue areas associated with greater metropolitan population wellbeing. Land Degradation and Development, 1–10, 2018 (online). <https://doi.org/10.1002/ldr.3083>, <https://onlinelibrary.wiley.com/doi/epdf/10.1002/ldr.3083>

Pan H, Deal B, **Destouni G**, Zhang Y, Kalantari Z. Sociohydrology modeling for complex urban environments in support of integrated land and water resource management practices. Land Degradation and Development, 1–14. 2018 (online). <https://doi.org/10.1002/ldr.3106>, <https://onlinelibrary.wiley.com/doi/epdf/10.1002/ldr.3106>

Engström R, Howells M, Mörtberg U, **Destouni G**, Multi-functionality of nature based and other urban sustainability solutions and their nexus: comparisons for New York City, Land Degradation and Development, 2018 (online). <https://doi.org/10.1002/ldr.3113>, <https://onlinelibrary.wiley.com/doi/full/10.1002/ldr.3113>

Quin A, **Destouni G**. Large-scale comparison of flow-variability dampening by lakes and wetlands in the landscape. Land Degradation and Development, 1–11, 2018 (online). <https://doi.org/10.1002/ldr.3101>

Thorslund J, Cohen MJ, Jawitz JW, **Destouni G**, Creed IF, Rains MC, Badiou P, Jarsjö J, Solute evidence for hydrological connectivity of geographically isolated wetlands, Land Degradation and Development, 1–11, 2018 (in press). <https://doi.org/10.1002/ldr.3145>, <https://onlinelibrary.wiley.com/doi/abs/10.1002/ldr.3145>

Education

Field Courses @ NEO

- “Climate, climate change impacts, Greece”
BSc and MSc course, Justus-Liebig University of Giessen, Germany (September 5 - 8)

The milestone excursion of the project-course “Climate, Climate Change Impacts: Greece” established in Geography studies curriculum of the Justus-Liebig-University of Giessen took place at NEO for the sixth year in a row. BSc and MSc students of the Department of Geography and the Master Studies “Mensch - Klima - PaläoUmwelt” visited NEO also with the support of the German Academic Exchange Service program PROMOS.



Figure 5: A group photo on top of Paleokastro hill. (photo: Elena Xoplaki).

The group visited many sites in the area including Gialova lagoon, Paleokastro and Methoni under the guidance of Mr. Giorgos Maneas. The students had the opportunity to learn and then to identify themselves in the interdisciplinary group discussions the challenges and opportunities the area is facing and pointed to the need for science informed policy under the already observed and even more under the future projected climate change conditions. The project course is aiming at providing interdisciplinary knowledge on the climate of Greece and the Eastern Mediterranean, volcanism and impacts on climate and societies, the Mediterranean Sea circulation, palaeoproxies, climate reconstruction and methodologies, impacts of climate variability and change on ecosystems, hydrology and water resources, atmospheric monitoring, archaeology, plant eco-physiology. The project consists of three interrelated parts, theoretical, methodological and the field excursion. The students prepare a scientific report combining knowledge acquired from the theory and methods and knowledge obtained during the excursion.

- **“Värmdö Gymnasium”**
Students’ course, Värmdö Gymnasium, Stockholm (September 23-29)

The class 18NAD from the NaSa-programme at Värmdö Gymnasium visited NEO in September. This was the sixth consecutive year that a student group from Värmdö Gymnasium visit NEO. The trip was highly appreciated by the students and very successful in its objectives. During excursions to different parts of the region, the focus was on studying the geography of Greece and the Mediterranean Sea, Greek history, and religion. In addition, as every year, the group focused on the Natura 2000 protected area around Gialova Lagoon. The area brings amazing potential for studying nature preservation from a local and European perspective. Parallels were drawn to similar Natura 2000-protected areas in Sweden, so that the students better understand the rules and regulations surrounding nature conservation. The view of the local population, and local commercial interests was also discussed.



Figure 6: Students from Värmdö Gymnasium in Gialova Lagoon wetland (photo: Paul Strehlenert).

This year the students worked through an excursion compendium, and afterwards they wrote an abbreviated management plan for the Natura 2000-area surrounding Gialova Lagoon. The objective for the writing of the management plan is the basic understanding of how the document is structured and what is relevant to include in it. Also, understanding the different considerations with regards to implementing and following the plan. The focus of the plan was the protection of the lagoon, so only the habitats adjacent to the lagoon was included. Soil science is a priority topic for the NaSa-programme at Värmdö Gymnasium. For the second time, Visual Soil analysis (VSA) was performed in Greece, at an olive orchard. The group had previously performed VSA at a Swedish crop field, and the comparison was very interesting. Even though the soil properties are significantly different in many ways, the VSA-method is relevant, and the grading of the soil can make for very interesting discussions.



Figure 7: Students from Värmdö Gymnasium in Gialova Lagoon wetland (photo: Paul Strehlenert).

Dissemination

- *The 2nd Sustainability Summit for South-East Europe and the Mediterranean Athens, October 1-2*

Johan Kuylenstierna and Giorgos Maneas attended the Second Sustainability Summit for South-East Europe and the Mediterranean on 1-2 October. The summit was organized by the Economist under the auspices of H.E. the President of the Hellenic Republic, Mr. Prokopios Pavlopoulos. The Summit covered topics related to environmental and sustainable development challenges, governance, sustainable tourism, biodiversity, energy, climate change, circular economy, smart cities, shipping and sustainable finance. Thanks to the Swedish ambassador to Greece, Johan was invited to make a presentation under the session “Sustainability and Governance: Synergies for Public and Private Institutions to be prepared for the Challenge”. He focused on two topics that involve innovative private-public partnerships and collaboration, the Swedish Climate Policy Framework and the NEO collaboration. The SDG Centre for Public Law and Governance was also launched at the British Ambassador’s residence in conjunction with the Summit and both Giorgos and Johan were invited to attend. The conference offered excellent opportunities to meet with key actors, both from the region and from various international institutions.



Figure 8: From left to right, Mr Spyros Kouvelis, director of the SDG Centre for Public Law and Governance, Mrs Charlotte Sammelin, Swedish Ambassador in Greece and Johan Kuylenstierna, NEO director.

Visits @ NEO premises

- *The Swedish Ambassador in Greece September 18*

Swedish Ambassador in Greece, Charlotte Sammelin, visited NEO and met with NEO station manager Giorgos Maneas. The program included a visit to the NEO station at Costa Navarino in Messinia, where Giorgos presented NEO activities, and a visit to Gialova lagoon wetland.

NEO management

The NEO Steering Committee was held in Athens in September. Among others, the SC adopted a new indicative strategy for NEO.

Upcoming

EU projects - COASTAL

- 3 sectoral workshops will be held at NEO premises, co-organized by the Greek Multi-Actor Lab.
- A sampling campaign at sea, lagoon and hinterland organized by HCMR in collaboration with NEO will take place in October-November.

Research

- Bird-monitoring in the Gialova lagoon area will continue monthly.
- Mapping of drills and wells as a first step for the better understanding of underground water resources in the Gialova lagoon area. Part of a master thesis to be realized in collaboration with Polytechnic School of Athens.

Education

- A group of students from the upper secondary school, Hersby Gymnasium, will visit NEO.
- PhD students following the TDR (Trans-Disciplinary Research) course at the Department of Physical Geography, Stockholm University will visit NEO for fieldwork.

Outreach

- A café-NEO event will take place in Patras in collaboration with the Laboratory of Atmospheric Physics, Department of Physics, University of Patras.