

# NAVARINO ENVIRONMENTAL OBSERVATORY

NEO Management

Friday, 21 February 2020

## NEO NEA #34 (October 2019 - January 2020)

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!

You can now follow us on Twitter ([@navarinoNEO](https://twitter.com/navarinoNEO)) and on Instagram ([navarinoneo](https://www.instagram.com/navarinoneo)):

### Foreword

Activities at NEO this autumn includes upgrading of environmental monitoring capacities, new research publications and study visits. But let me take this opportunity to also give you some news about changes in the NEO management.

It is my pleasure to introduce the new Director of NEO, Dr. Zahra Kalantari. Zahra is Associate Professor in Land and Water Resources Engineering, and Research Area Leader of Bolin Centre for Climate Research, Department of Physical Geography, Stockholm University. Zahra has an extensive international career and has already been involved with NEO related research activities. She will considerably strengthen NEOs international research networks and bring opportunities to expand the existing partnerships.

This means that this will be my final foreword in NEONEA. It has been a pleasure to serve as the Director since May 2018, during the transition phase from the 2<sup>nd</sup> to the 3<sup>rd</sup> partnership agreement between Academy of Athens, Stockholm University and Temes SA. With this agreement now in place, NEO has clear opportunities to further develop as a research station, and a hub for international networks of research collaboration. I am pleased to continue my engagement with NEO, as the new chair of the Steering Committee.

Happy Reading!



**Figure 1:** Farmers in Messinia using ash instead of fertilizers in olive trees.

## Activities

### Research

- **Instrumentation and Maintenance**

#### *NEO Atmospheric station*

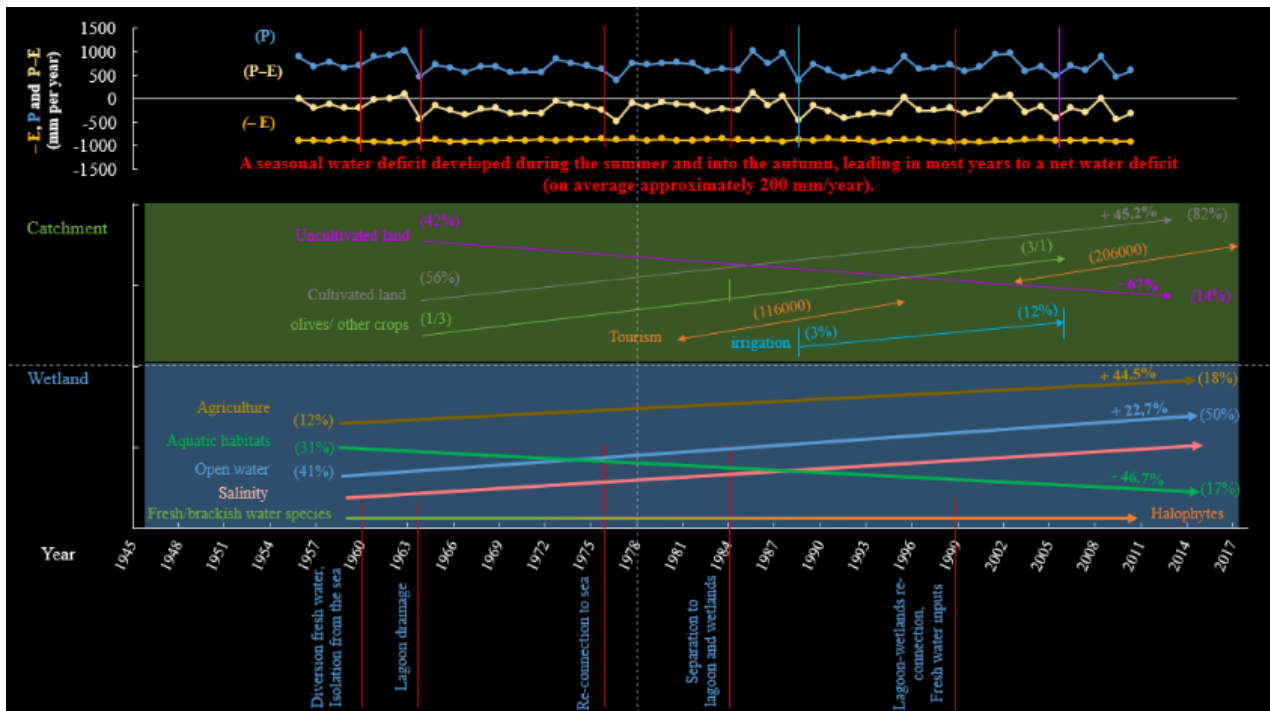
Researchers from the Academy of Athens and the National Observatory of Athens visited NEO atmospheric station at Methoni in order to maintain and calibrate the O<sub>3</sub> and CO analyzers and to install the aethelometer. A new high-tech application (watchdog) which help us to check and control the voltage for all the instruments that are working in the station, has been installed. More specifically, it is connected to the distribution board and it measures the voltage of each phase, it records all the values and also measures temperature and humidity inside the Isobox.



**Figure 2:** Watchdog screen.

- **Environmental monitoring & management of the Gialova Lagoon**

On November 25<sup>th</sup>, Giorgos Maneas had his half time seminar at the Department of Physical Geography, Stockholm University. During the seminar entitled “Co-adaptive management of wetland ecosystem services in the Gialova Lagoon. Part 1: Water, habitats and birds”, Giorgos presented results from published and ongoing research related to land-use changes, anthropogenic pressures, hydrology, birds’ conservation and management needs.



**Figure 3:** A graph presented during Giorgos half-time seminar showing changes in the wetland and the surrounding catchment area during the last 70 years (Maneas et al., 2019).

### Research publications (NEO researchers in bold, presenters underlined>)

Ilias Fountoulakis, Henri Diémoz, Anna-Maria Siani, Gudrun Laschewski, Gianluca Filippa, Antti Arola, Alkiviadis F. Bais, Hugo De Backer, Kaisa Lakkala, Ann R. Webb, Veerle De Bock, Tomi Karppinen, Katerina Garane, John Kapsomenakis, Maria-Elissavet Koukouli and **Christos S. Zerefos**, 2020. Solar UV Irradiance in a Changing Climate: Trends in Europe and the Significance of Spectral Monitoring in Italy, *Environments*, 7(1), <https://www.mdpi.com/2076-3298/7/1/1/htm>

Kostas Eleftheratos, **Christos S. Zerefos**, Dimitris S. Balis, Maria-Elissavet Koukouli, John Kapsomenakis, Diego G. Loyola, Pieter Valks, Melanie Coldewey-Egbers, Christophe Lerot, Stacey M. Frith, Amund S. Haslerud, Ivar S. A. Isaksen, and Seppo Hassinen, 2019. The use of QBO, ENSO, and NAO perturbations in the evaluation of GOME-2 MetOp A total ozone measurements, *Atmospheric Measurement Techniques*, 12, 987-1011, <https://www.atmos-meas-tech.net/12/987/2019/>

### Education

- **“Värmdö Gymnasium”**

#### **Students’ course, Värmdö Gymnasium, Stockholm (12-20 October)**

The class 17NAD from the NaSa-programme at Värmdö Gymnasium visited NEO in October. This was the seventh consecutive year that a student group from Värmdö Gymnasium visit NEO.

This year the trip was made by train and boat, and even though it took almost seven days for the traveling, all the student enjoyed it and they gave very positive feedback. The students tried to lead with good example, but making the transition from traveling by air, to traveling by land and sea, was not an easy decision. The added costs and time made them hesitate to take the leap, but this year the pupils demanded to travel in a way that was more attune their values and sustainable development. However, they are very proud that they went through with it, and it was a wonderful experience. Their ambition is to continue traveling this way in the future.



**Figure 4:** Students are participating at olives harvesting.

At NEO, the program was packed with excursions, primarily to the Natura 2000 protected area around Gialova Lagoon. The main objective for the whole trip was to further understand the dynamics of nature conservation. The students looked at the rules and regulations surrounding Natura 2000 and they tried to answer why it is important to protect that kind of areas. A very interesting part that they studied was the relation between local community and businesses and the study area. Most of them are directly or indirectly affected by restrictions and sometimes possibilities that comes with the Natura 2000 status. This year they really benefitted from the research of NEO manager Giorgos Maneas, and his recently published work which added new insight and context.

The main academic product was for the students to write or record a journalistic report. They worked in small groups and did research about a topic of their own choice, for instance turtle-protection, bird-protection, or beach-protection. Their task was to balance the views of scientists and scientific research, with interviews and viewpoints locals and local stakeholders.

Finally, they studied the geography of Greece and the Mediterranean Sea, Greek history, and religion. They visited many spectacular natural sites like Polylimnio, and important cultural sites such as the palace of Nestor.



**Figure 5:** A group of students are visiting the Gialova lagoon. (photo: Paul Strehlenert)

- ***“Sivitanidios Public School of Trades & Vocations”***  
**Students’ course, Sivitanidios Public School of Trades & Vocations, Athens (24-27 January)**

Sivitanidios Public School of Trades and Vocations and ANIMA, a Non-Governmental Organization for the protection of the wild life, have been collaborating under the auspices of the Captain Vasilis and Carmen Constantakopoulos Foundation. The main purpose of this collaboration is the environmental education of the students and for this reason a small group of students and some members of ANIMA visited NEO during January. On the way to NEO the whole team visited also the Stofylia National Park where they informed from the managing body about the area. The next days they visited the Natura Hall at Costa Navarino, the Palace of Nestor, the Wildlife Care and Protection Center at Gargalianoi and the Environmental Education Center of Kalamata. During their excursion they released two hawks back to the wild, one at Stofylia and the other to Messinia!



**Figure 6:** Sivitanidios students and ANIMA members are visiting the Natura Hall at Costa Navarino.

## Dissemination

- ***“NEO seminar at SU”***  
**November 25**

NEO management (Johan and Giorgos) gave an update on the latest “NEO developments” in terms of the continuation of NEO, what have we learned so far, and how can we contribute to the local/ regional sustainable development of the NEO greater area.

- ***“Environmental Studies”***  
**American College of Greece (October 4-6)**

During fall of 2019 a research group of 20 American College of Greece students were accommodated at the NEO facilities under a collaborative scope of research projects centred on key aspects of ecosystems management and monitoring.

- ***“LTER-Greece Workshop at NEO”***  
**Greek Long-Term Ecological Research Network (January 14-16)**

The Greek Long-term Ecosystem Research Network (LTER-Greece) is a collaborative network of scientists and their stakeholders engaged in long-term, site-based ecological, social and economic research in Greece. It is on the brink of a national network, member of the European Long-Term Ecosystem Research Network (LTER-Europe) and of the International Long-Term Ecological Research Network (ILTER). The mission of LTER-Greece is to deliver to the scientific community, policy makers, and society in general, sound scientific information and predictive understanding of ecological and socio-economic processes and to inform solutions to current and future environmental problems at local, national, European and global scales. The vision of LTER-Greece is to improve the quality of life of all citizens through the application of long-term, large-scale research to the preservation and sustainable use of ecosystems.

NEO is one of the partners of the Greek Long-Term Ecological Research Network, and during the period 14-16 of January a workshop, focusing on the future steps of this collaboration, was hosted at NEO.



**Figure 7:** LTER-Greece members are identifying their future goals.

## NEO management

The NEO Steering committee meeting took place in Athens in January.

## *Upcoming*

### Education

- Bachelor students from the Department of Physical Geography, Stockholm University will visit NEO in March.
- Master students from the master programme *Cultural Heritage Materials and Technologies* of the University of Peloponnese will visit NEO in April.

### Workshops

- AdaptNET Workshop on Climate change and Agriculture will be hosted at NEO.