

# NAVARINO ENVIRONMENTAL OBSERVATORY

NEO Management

Thursday, 10 May 2018

## **NEO NEA #28 (January - March 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!

### **Activities**

#### **Research**

- ***Environmental monitoring of Gialova Lagoon***

- **Bird monitoring, Water Quality Monitoring, Remote sensing (January – March)**

A second year of bird-monitoring in Gialova lagoon, was initiated in January 2018. The focus is to fill in missing gaps of birds' species and gain a better understanding of their habitats and their behaviour in order to produce a data base which will be used for scientific and popular publications. The January census also covered the Mid-Winter Count (MWC) for the area (MWC is used to estimate the winter populations of birds and are conducted in the same weekend all around Greece).

The long-term monitoring of basic water parameters (temperature/conductivity/depth) as well as meteorological conditions (temperature, wind speed/direction, relative humidity, precipitation and solar radiation) in the area was continued on a daily basis (data logged at 5-minute resolution). The old loggers were replaced by new ones which enable data transmission and remote access. The spectro-radiometers, installed in summer 2017, continued to measure the amount of radiation reflected from the water surface and upper water column at specific wavelengths aiming to couple fluctuations in water leaving radiance to changes in the water quality of the lagoon, particularly fluctuations in chlorophyll and suspended organic matter.

An extra monitoring by boat, took place in Gialova Lagoon in January in order to cover the whole wetland and take samples for nutrients analysis. Extra samples for nutrients analysis, measurement of water parameters (temperature/conductivity/depth) and flow in nearby streams took place also in January. This work is in collaboration with the Hellenic Centre of Marine Research (HCMR) and is linked to the COASTAL proposal.

### **Related master thesis**

Master students David Myers and Kim Lundmark visited NEO station and stayed for 2 (January – March) and 0,5 months (mid-March) respectively. David's work focused on estimating differences in biodiversity between organic and conventional olive farming in the NEO greater area by using sound recordings. Kim's

focus was in understanding the hydrological conditions in the complicated Gialova lagoon wetland based on available data (temperature/conductivity/depth) and data collection during his fieldwork at the area

## Publications

**Boyd, M. and Holmgren, K.** 2018: Speleothems from Alepotrypa Cave: towards climate reconstruction. In Papathanasiou, A. et al. (eds.): Neolithic Alepotrypa Cave in the Mani, Greece. Oxbow Books, pp. 400-406.

Emmanouilidis, A., **Katrantsiotis, C., Norström, E.,** Risberg, J., Kylander, M., Sheik, T.A., Iliopoulos, G., Avramidis, P., 2018. Middle to late Holocene palaeoenvironmental study of Gialova Lagoon, SW Peloponnese, Greece. Quaternary International 476, 46-62.

**Finne, M. and Weiberg, E.** 2018: Climate Change and Ancient Societies. Facing up to the Challenge of Chronological Control. In Ekblom, A. (eds): The Resilience of Heritage: Cultivating a Future of the Past. Essays in Honour of Professor Paul J.J. Sinclair. Uppsala: Uppsala University. Pp. 5-23

**Norström, E., Katrantsiotis, C, Finné, M.,** Risberg, J., Smittenberg, R., Bjursäter, S. 2018. Biomarker hydrogen isotope composition ( $\delta D$ ) as proxy for Holocene hydro-climatic change and seismic activity in SW Peloponnese, Greece. Journal of Quaternary Science, DOI: 10.1002/jqs.3036.

## Education

### *Field Courses @ NEO*

- ***Meaningful Engagement Trip***

#### **American College of Greece (Deree), Athens (March 10-11)**

A group of 35 students and teachers visited NEO for 2 days as part of the Meaningful Engagement Trip organized by the American College in Greece (Deree). At NEO station, the group was introduced to Gialova Lagoon area and the research implemented by NEO researchers. In the field, the group followed Giorgos Maneas, Kim Lundmark (a master student focusing his studies in Gialova Lagoon water management) and Dimitris Bousbouras (an ornithologist working together with Giorgos) in field activities focusing on water measurements and birds' monitoring and counts.



**Figure 1:** A group picture in front of the “Nature trail” in Gialova Lagoon.

In addition, the whole team re-opened the “Nature trail” at the wetland and added botanical signs to make it accessible again. This voluntary work was highly appreciated by the Pylos-Nestor municipality since the path is one of the basic eco-touristic infrastructure in the area.

- *“Nynäshamns Gymnasium”*

**Students’ course, *Nynäshamns Gymnasium*, Stockholm (March 12-16)**

Students from Nynäshamns gymnasium, Sweden, had the opportunity to visit NEO to conduct excursions and fieldwork. The students studied geology and geomorphology as well as the water chemistry in the Gialova area. Field measurement of salinity, pH, and temperature were conducted to increase the understanding of the unique environment in the lagoon.



**Figure 2:** Students and teachers from Nynäshamns Gymnasium during field excursion (photo: Nynäshamns Gymnasium)

## Outreach

### *Events*

- “Never let a crisis go to waste”  
*Science and Business for a Sustainable Life,*

Professor Georgia Destouni, gave a well appreciated talk about NEO, at an event in Stockholm organised by The Hellenic Foundation of the Nordic Countries.

- *New NEO webpage*

A new NEO webpage is now online and linked to all NEO domains:

[www.navarinoneo.se](http://www.navarinoneo.se)

[www.navarinoneo.gr](http://www.navarinoneo.gr)

[www.navarinoneo.com](http://www.navarinoneo.com)

### *Upcoming*

#### Research

- Radovan Krejci will visit NEO in order to conduct regular maintenance at the NEO atmospheric laboratory at Methoni.
- Birds and nutrients monitoring in Gialova lagoon as well as water sampling from several streams in the NEO area will continue on a monthly basis.

#### Education

- The MSc course “Cultural Heritage Materials and Technology” will visit NEO.
- The MSc course “Plant systematics” will visit NEO in May.
- A 5-day educational workshop will be held jointly in the ACG (American College in Greece) campus in Aghia Paraskevi (2-Days) and in NEO station (3- Days) focusing on *Biodiversity, Soil and Water Quality and Environmental management*.
- The 2<sup>nd</sup> HAAR Summer school will be held at NEO in June. For more information: <http://hellenic-aerosol.org/post.php?howMany=5&id=p15&l=en>

#### Events

- Two café-NEO meetings will be held in Kalamata in April 16 and in May 7.
- The Climate Science and Quaternary research group annual meeting will be held at NEO in April.
- The COASTAL kick-off meeting will take place in Brussels in June.
- Assessing Long Term Environmental Impacts: The role of observatory science. The case of Navarino Environmental Observatory (NEO), Messinia, Greece. To be presented at the 7th European Bioremediation Conference & 11th ISEB Conference, Chania, Greece, June 25 – 28, 2018.

#### NEO management

- The new NEO Director, Professor Johan Kuylenstierna, will take over on May 15.