



3<sup>rd</sup> Science for the Environment Conference  
Aarhus Denmark 1-2 October 2015

## ASSESSMENT OF THE SPRING 2015 PLANKTON BLOOMS IN IZMIT BAY (THE MARMARA SEA)

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### ABSTRACT

A serial plankton blooms which were observed between March 19 and May 3, 2015 in Izmit Bay (the Marmara Sea, Turkey) are presented. The samplings were carried out on April 12, April 30 and May 3, 2015 from three stations i.e., Ulaşlı, Sekapark, and Karamürsel, respectively in Izmit Bay (Fig. 1). Nitrite, Nitrate, Ammonia, Silica and Orthophosphate concentrations were analyzed spectrophotometrically. Physicochemical conditions in the water column were measured by CTD probe. Plankton quantifying were done via Nageotte counting chamber using inverted and light microscopes. *Prorocentrum micans* was the dominant species in all samples. *Achnantes brevipes*, *Ceratulina pelagica*, *Dictyocha speculum*, *Melosira* sp., and *Navicula* sp. were also found in samples with their rare concentrations. The amount of *Prorocentrum micans* increased 47,608,727 individual per liter on May 3, 2015 in Karamürsel station accompanied with elevated levels of Chlorophyll-a (i.e. 461 µg/L) and orthophosphate (i.e. 113 mg/L). The sample was also abounding in dead amphipoda species (i.e.168 individual per liter). Almost all dead amphipods had been covered by the mucilage layer. This case represents harmful effects of the bloom in Izmit Bay ecosystem. Based on the nutrient analysis, it is thought that, increased nitrogen and phosphorus levels triggered excessive plankton abundance while sufficient amount of silica was already present in the bay. During the period, layered formation of the bay disappeared and this disappearance may contribute nutrient level increases in the water column regarding to sediment resuspension under the effects of currents and lateral advections. Therefore, it is thought that, under specific meteorological and oceanographic conditions, both anthropogenic and sediment originated nutrient levels increase and these conditions cause algal bloom in Izmit Bay.



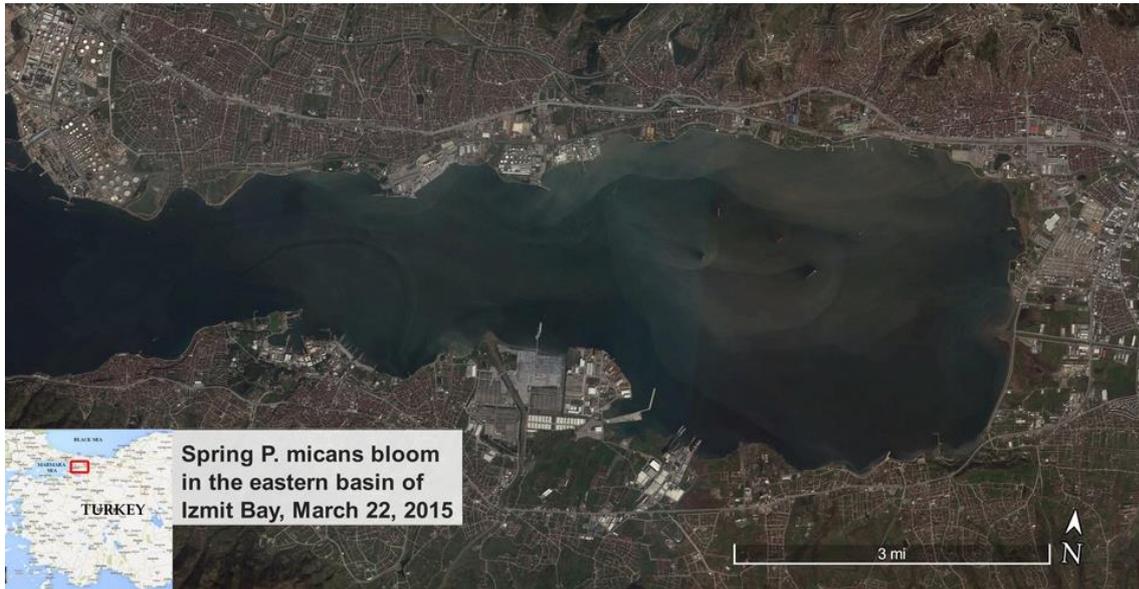
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Attached figure



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