Differences between a blooming and a non-blooming year in organic matter composition of Lake Baikal

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Lake Baikal is one of the largest lakes and with a maximum water depth of ~1640 m also the deepest in the world. It is comparable to an ocean also since, due to efficient vertical mixing, oxygen concentrations are high throughout the water column. Additionally, large under-ice blooms of the diatom Aulacoseira baicalensis (formerly Melosira) occur. Those “Melosira years” are noteworthy both for the intensity of the diatom blooms, in which total under-ice production can be a majority of total annual production, and for the enigmatic regularity of their occurrence every 3–4 yr [1]. We have investigated sequential trap samples from March 2007 to March 2008 which was a blooming year and from March 2008 to March 2009 which was a non-blooming year. We have quantified different lipids as markers for terrestrial input which is minor in Lake Baikal folowing earlier results [2]. Additonally, we have quantified and measured hydrogen and carbon isotopes on several sterols indicative for autochthonous algal input.

[1] Katz *et al.* (2015) L&O **60**, 1950-1964. [2] Schubert *et al.* (2013) Mineral. Mag., **77**, 2166.