



## **Geocatastrophic sediments (sapropels) - most important evidence for the FLOOD**

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The deepsea organogenic-mineral (sapropelic, diatomic and coccolithophoridic) sediments (DSOMS) of the Black Sea are built mainly of nanosized materials, which can find application in the modern nanotechnologies and new materials. The Black Sea DSOMS are currently in a peat stage of their development. Because of the anoxic environment in which the sediments deposit, they do not pass the stage of complete decay and in semi-decayed state they are conserved in the hydrogen sulfide zone. Considering the fact that the sapropelic, diatomic and coccolithophoridic layers penetrate within each other and represent a comparatively homogeneous mixture, they will be discussed as complex organogenic mineral raw material, in which the sapropels occupy about 80% of the total volume. DSOMS are valuable not only for their organic matter but also for their carbonate component and the amorphous silicates. The mineral and organic parts contain micro-components such as: calcium, magnesium, iron, aluminum, manganese and some others; more than 20 micro-elements, which are contained in concentrations exceeding many times those in soils, thus being an important stimulant for the plants growth (Table 1). DSOMS are used as a complex fertilizer or as a component together with other mineral stimulants - perlite, zeolite. The sediments excel them in agro-technical properties. Sediments can be used directly in the soil in natural state without additional processing of the raw material. Other important advantages are: - Unlimited supplies of raw material in the water area, which is located at depths of 200 to 2200 m. The content of the organic matter increases with the increase of depth. - The possible exploitation of the raw material will not have negative consequences on the marine environment. The industrial supplies are located at great depth within the hydrogen sulfide zone, in which life does not exist. The exploitation will have an ecologically positive effect that will influence, though slowly, the level of the hydrogen sulfide zone. - The dying flora and fauna of the Black Sea serve as

an initial substance for DSOMS. As a result of the activities of the anoxic bacteria, the dying flora and fauna pass the transformation process of animal and plant plankton and benthos and form biolithic-mineral substance with peculiar physic-mechanical and biogeochemical properties.