



## **The formation of the Bay of Sozopol, Black Sea , Bulgaria**

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Around the Bay of Sozopol there are still Upper Cretaceous volcanic rocks with their trachytic pillow-lava, as on Sozopol, the islands of Kirik, Sveti Ivan and Sveti Peter, as well as some undersea ones. The sandy beaches have been recently formed by NE-winds. The geomorphology and bathymetry of the Bay of Sozopol was studied with satellite photographs, measurement by means of Sedigraph SES 96, GPS-Garmin-168 Sounder, Scuba-RADAR (500 MHz antenna), as well as sediment analysis of drilling cores. Age determination was performed by  $^{14}\text{C}_{org}$  Accelerator Mass Spectrometry of wood at the VERA Laboratory of the Vienna University. According to our measurements, the Bay of Sozopol was not covered by water during the last glacial maximum. The reconstruction of the Bay of Sozopol from the bathymetric map in accordance with the increase in sea level in the last 7500 years is presented in nine 500 year sections. The paleomaps have been reconstructed from bathymetric measurements, from - 20 m to 0 m, in accordance with the rise of the sea level (Preisinger et al., 2004). Climatic periods (cold/warm) caused by  $352 \pm 11$  year sun-spot cycles are indicated (Preisinger and Aslanian, 2003). Periodic changes in the humidity (humid/arid) are probably caused by Dansgaard/Oeschger cycles. Through the slow but steady increase of the sea level, the coast lines constantly changed so that in the course of history, the foundation of the settlements along the Black Sea coast reflected the geomorphological conditions. Human presence is also indicated through events occurring in the last 7500 years.

### References

Preisinger, A. and Aslanian S., 2003. The Black Sea during the last 20000 years, Sea Level, Salinity, Climate.- The Geological Society of America, Annual Meeting

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