GEOMORPHOLOGICAL AND ARCHAEOLOGICAL EVIDENCES OF CO-SEISMIC SUBSIDENCE ON THE NORTHEASTERN ADRIATIC COASTS

With the aim to study the last 2 ka sea level change, Pirazzoli (1980), Fouache et al. (2000), Antonioli et al. (2003), Benac et al. (2004) have done geomorphological, archaeological and sismotectonic researches along the coast of Duino (Ts), southern Istria, up to Rijeka Bay (Croatia). Along the limestone coast, the quoted Authors revealed the quasi-continuous occurrence of a submerged tidal notch at a depth between -0.6 e -1.8 m. In addition, roman age archeological markers are under 0.5 m depth and often over 1 m depth. In light of new geomorphological and archaeological observations we support the idea of possible and extend to a larger area the early interpretation of Benac et al. (2004), who relate the subsidence of the notch to a the A.D. 361 seismic event.

Considering that:

1. the submerged tidal notcheshows a concavity with the same amplitude of the local tide;
2. the present day tidal notch is lacking or poorly developed, indicating its very young inception;
3. the depth of the submerged tidal notche is different at different localities;
4. due to the rapid sea level rise (Lambeck al., 2004), we can exclude the formation of tidal notches earlier than 2 ka BP;
5. the Lambeck et al., 2004 model (correction for eustasy etc.) predict for the NE Adriatic coastpaleo sea-levels between –0.5 e –0.75 m at the time slice of 2 ka BP.

We suggest that:

2. the presently submerged tidal notch should have been carved during the last 1.5 k yrs;
1. in the study area tectonic subsidence may be related to cosismic events;
4. in light of the spatial distribution of subsidence, and the differential displacement of the notches, more than a single causative sismic event may be inferred;
3. due to the lack of the MIS 5.5 markers (125 Ka) along the whole coastal stretch, this activity begun 125 ka BP or before;
Fig. 1 - Brioni (Croatia) a Roman age building presently deeper than 1 m belove Present sea level.

Fig. 2 - Rovinj (Croatia) a submerged tidal notch.
REFERENCES


