



Wind-wave climate driven morphodynamic features of sandy-gravel beaches at south-eastern Adriatic coast

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Beaches found along Dinaric karst areas in south-eastern Adriatic coast are mainly a product of long-term natural processes in the past. Due to the intensive human impact in coastal zones in this area, especially during last two decades, through the built infrastructure developments and increase of demands for coastal areas arising from tourism as a main economical branch, beaches are shown to be under threat.

During the period 2004-2010, a monitoring programme of beach morphodynamic features has been established for four independent beaches, located along the coast of Monte Negro. During the monitoring period, each beach has been monitored for change in shape and profile at selected cross-sections. Beaches covered by the monitoring programme have been selected based on their geographic location, grain features and their exposure towards specific incoming wave direction.

Based on the available wind characteristics at three meteorological stations located along the coast of the area of interest, the influence of the wind-wave climate on coastal morphodynamic features has been analysed. Independently of grain size distribution found along the beaches and the amount of nourishment material which stems from the gravity basin, significant impact of wind-generated waves to beach morphological features for some periods during the monitoring program was identified. Long-term sea level oscillations are shown to have a minor to negligible effect on beach shape in this area.