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## Impact generated tsunamis on the continental shelf

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In the late Jurassic, about 142 m.y.a., an asteroid with diameter approximately 1.5 km impacted in the 400 to 600 m deep paleo-Barents Sea. Soot in core samples indicate that the water was completely blown away from the impact region for some time.

Numerical simulations of the impact and the following tsunami propagation is presented. After an initial stage of violent motion and wave breaking two strongly nonlinaer wave systems emerge, from the impact displacement of water and from the resurge into the generated crater, respectively. Both systems evolves into undular bores that split into solitary wave like crest with amplitudes up to 200m. Evolution of undular bores at such depths are probably unique to tsunamis generated by large impactors. In shoaling waters the waves break in 200 m depth, say. The wave propagation is computed with dispersive long wave equations, potential theory and optical methods.