Press Release



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Why the seafloor starts moving

Kiel marine scientists find possible cause of landslides off Northwest Africa

13 February 2018 / Kiel. When the seabed loses its stability and starts to move, it often happens in much larger dimensions than landslides ashore - and at slopes with very low gradients. At the same time, discplacement of large amounts of sediment under water scan cause devastating tsunamis. However, why and when submarine landslides develop is hardly understood. Marine scientists from GEOMAR Helmholtz Centre for Ocean Research Kiel have now published possible causes based on observations on submarine landslides off the coast of northwest Africa in the international journal *Geology*.

8150 years ago, a 10-20 meter high tsunami overran northern Europe. The Shetland Islands and the coast of Norway were hit particularly hard. The cause of the tsunami was the Storegga landslide, 300-2000 meters below sea level. Submarine landslides are often much larger than landslides onshore. The Storegga landslide affected an area larger than Scotland and the material today covers hundreds of kilometers on the seabed. Searching for the causes of such landslides is much more difficult underwater than on land due to their inaccessibility.

A group of scientists from Kiel and Bremen have now discovered a potential cause of landslides off the coast of Mauritania and published the results in the international research journal *Geology*. They combined results from drilling with seismic data and were able to show that a certain stratification of the seafloor was responsible for at least one slide in this region.

"Submarine landslides happen on very shallow slopes, often with gradients as low as 1 or 1.5 Itz Center for Ocean Research Kiel. The slope in the Storegga slide area, for examplmtesearc-4(oa)3(r)-3(32)-199(sha)3(l)-5(l)5(o The outcome of this study may therefore help to identify areas, which are prone to landslides

Reference:

Urlaub, M., J. Geersen, S. Krastel, T. Schwenk (2018): Diatom ooze: Crucial for the generation of submarine megaslides? *Geology*, <u>https://doi.org/10.1130/G39892.1</u> Links:

www.geomar.de GEOMAR Helmholtz Centre for Ocean Research Kiel

Images:

At www.geomar.de/n5737-e