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Development of a new British Geologcial Survey(BGS) Map Series: Seabed Geomorphology

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BGS scientists are developing a new offshore map series, Seabed Geomorphology (1:50k), to join the existing 1:250k 'Sea Bed Sediments', 'Quaternary Geology', and 'Solid Geology' map series. The increasing availability of extensive high-resolution swath bathymetry data (e.g. MCA's Civil Hydrography Programme) provides an unprecedented opportunity to characterize the processes which formed, and actively govern the physical seabed environment. Mapping seabed geomorphology is an effective means to describe individual, or groups of features whose form and other physical attributes (e.g. symmetry) may be used to distinguish feature origin. Swath bathymetry also provides added and renewed value to other data types (e.g. grab samples, legacy seismic data). In such cases the geomorphic evidence may be expanded to make inferences on the evolution of seabed features as well as their association with the underlying geology and other environmental variables/events over multiple timescales. Classifying seabed geomorphology is not particularly innovative or groundbreaking. Terrestrial geomorphology is of course a well established field of science, and within the marine environment for example, mapping submarine glacial landforms has probably become the most reliable method to reconstruct the extent and dynamics of past ice-sheets. What is novel here, and we believe useful/necessary for a survey organization, is to standardise the geomorphological classification scheme such that it is applicable to multiple and diverse environments. The classification scheme should be sufficiently detailed and interpretive to be informative, but not so detailed that we over-interpret or become mired in disputed feature designations or definitions. We plan to present the maps at 1:50k scale with the intention that these maps will be 'enabling' resources for research, educational, commercial, and policy purposes, much like the existing 1:250k map series. We welcome feedback on the structure and content of the proposed classification scheme, as well as the anticipated value to respective user communities.