



SASMAP

COLLABORATIVE RESEARCH PROJECT



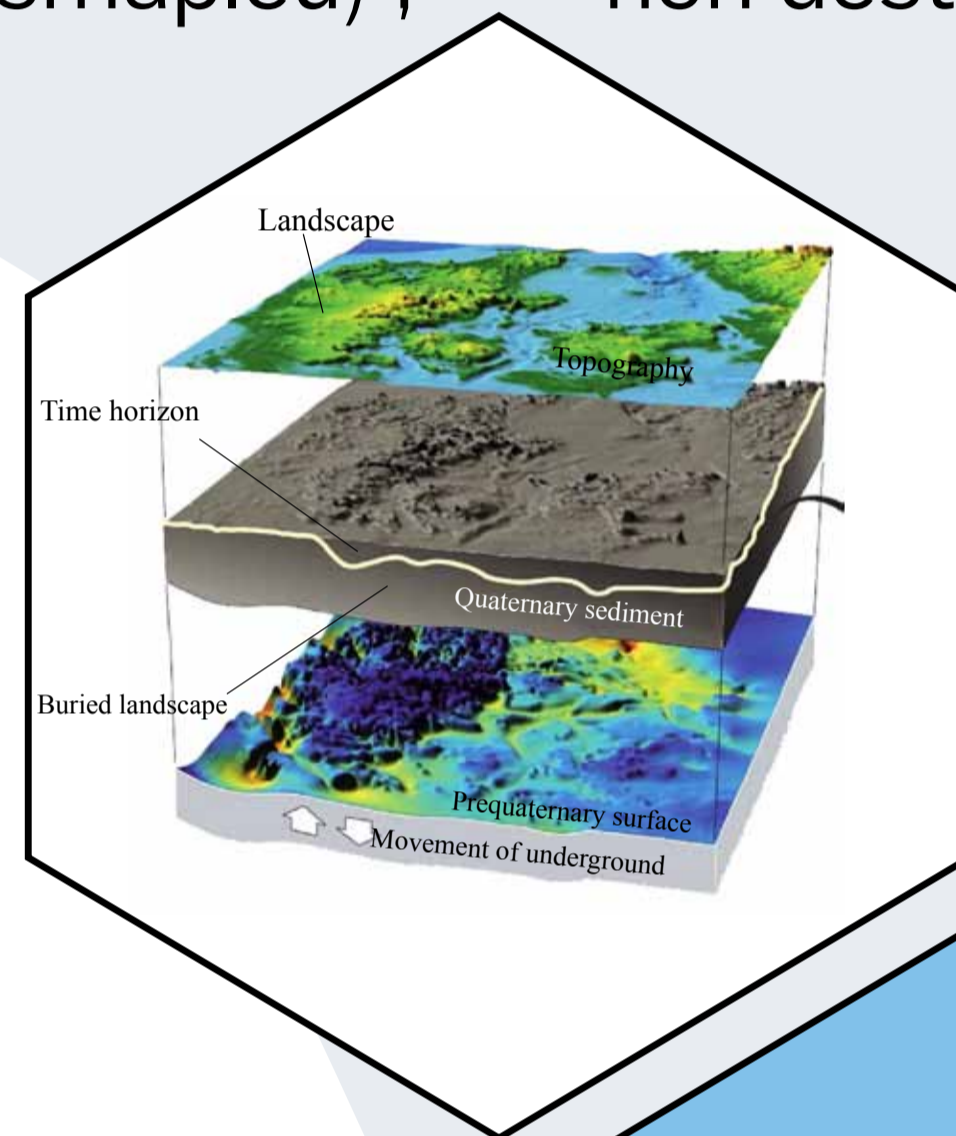
Development of tools and techniques to Survey, Assess, Stabilise, Monitor And Preserve underwater archaeological sites: SASMAP

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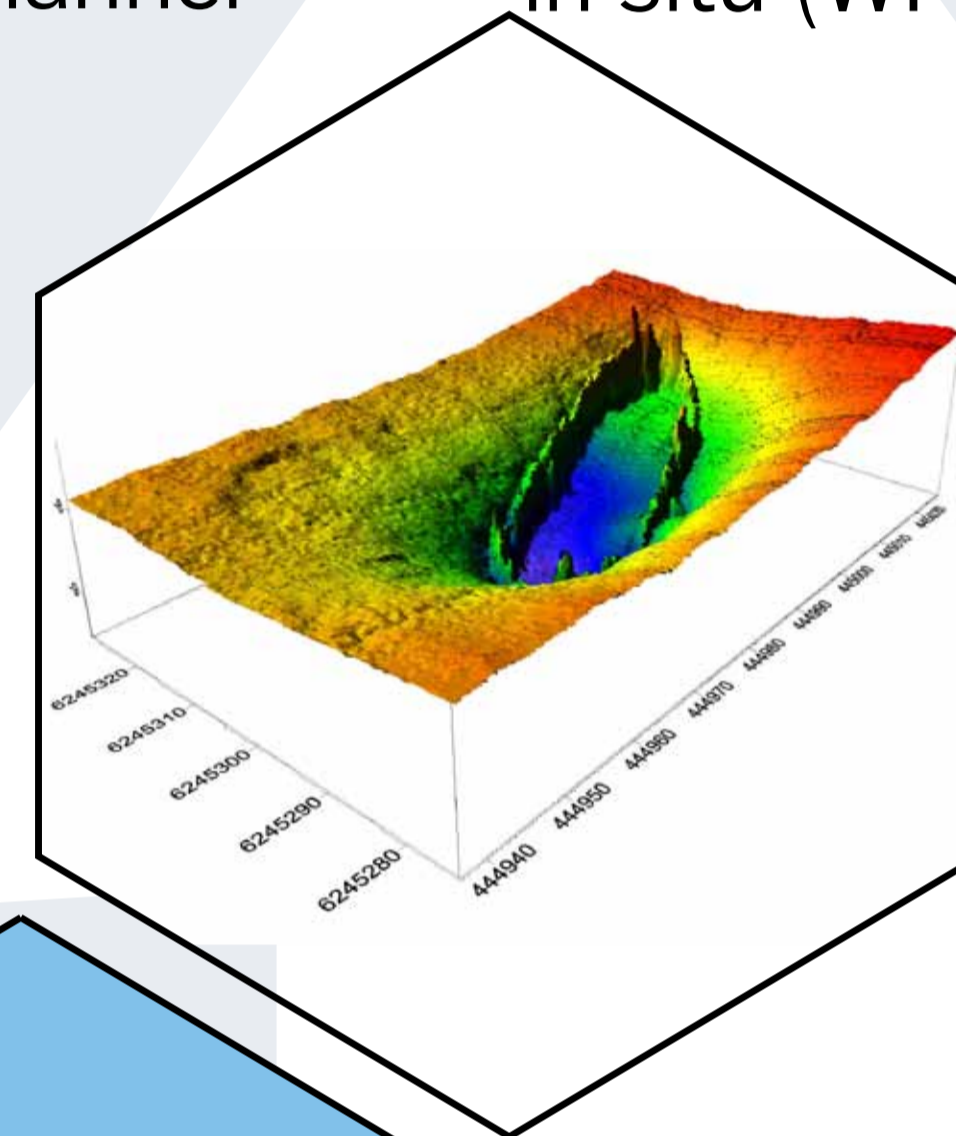
The seas of Europe contain the remains of many thousands of shipwrecks and submerged prehistoric settlement sites and landscapes. Under current European legislation (The Treaty of Valletta, 1992), the potential effects of subsea development on the underwater cultural heritage (for example the placing of cables, pipelines, offshore wind mill parks), must be assessed in advance of any such developments. The SASMAP project (<http://www.sasmap.eu>),

sponsored by the European Commission's Seventh Framework Program, started in September 2012 and runs for the next three years. The 11 partners of SASMAP will take holistic- and process- based approaches to investigate underwater environments and the archaeological sites contained therein. The aim is to develop the techniques and methods currently used to assess and protect the underwater cultural heritage in as non destructive and not intrusive manner

as possible. The project's themes are split into down scaling and up scaling. Remote sensing and geological modelling techniques will be used to assess the potential location of sites (WPs 1 & 2) – downscaling. How sites should thereafter be assessed and managed is treated in an up scaling approach by assessing the site environment and its effects on archaeological materials (WPs 3 & 4), and raising or preserving sites in situ (WPs 5 & 6).



Reconstruction of the Holocene landscape in Denmark based on geological models. Image: GEUS



3D Multibeam sonar image of the wreck of the Saint George. Remote sensing techniques can be used to locate, assess and monitor underwater archaeological sites. Image: Coastal Directorate DK, Nationalmuseet

Geological models for regional evaluation of probability of locating archaeological sites and their preservation (WP1)
Marine geological investigations are essential to develop a model describing the palaeogeographical and depositional environments in the selected study area.

Development of tools for surveying and monitoring coastal and underwater archaeological sites (WP2)
Mapping and monitoring of an archaeological site is a prerequisite for determining its location, its extent and for assessment of its physical stability.

In situ stabilization of underwater archaeological sites (WP6)
Sites which are preserved in situ threatened by the effects of underwater currents which can cause sediment to be removed from sites, leading to their exposure.

Dissemination & Management (WP7&8)

Assessing the burial environment and deterioration of organic archaeological materials (WP3)
Buried waterlogged environments provide unique conditions for organic materials such as wood, bone, antler, textile, skin and plant remains to be preserved for millennia, partly due to the low oxygen level.

Tools and techniques to raise waterlogged organic archaeological artefacts (WP5)
Due to their fragility, organic archaeological materials from underwater sites can be challenging to excavate, support, raise and transport to conservation facilities.

Assessment of the state of preservation of waterlogged archaeological wood (WP4)
Waterlogged wood is one of the most frequently encountered materials on underwater archaeological sites, and knowledge of its state of preservation whilst still in situ determines whether it can be raised and subsequently conserved.

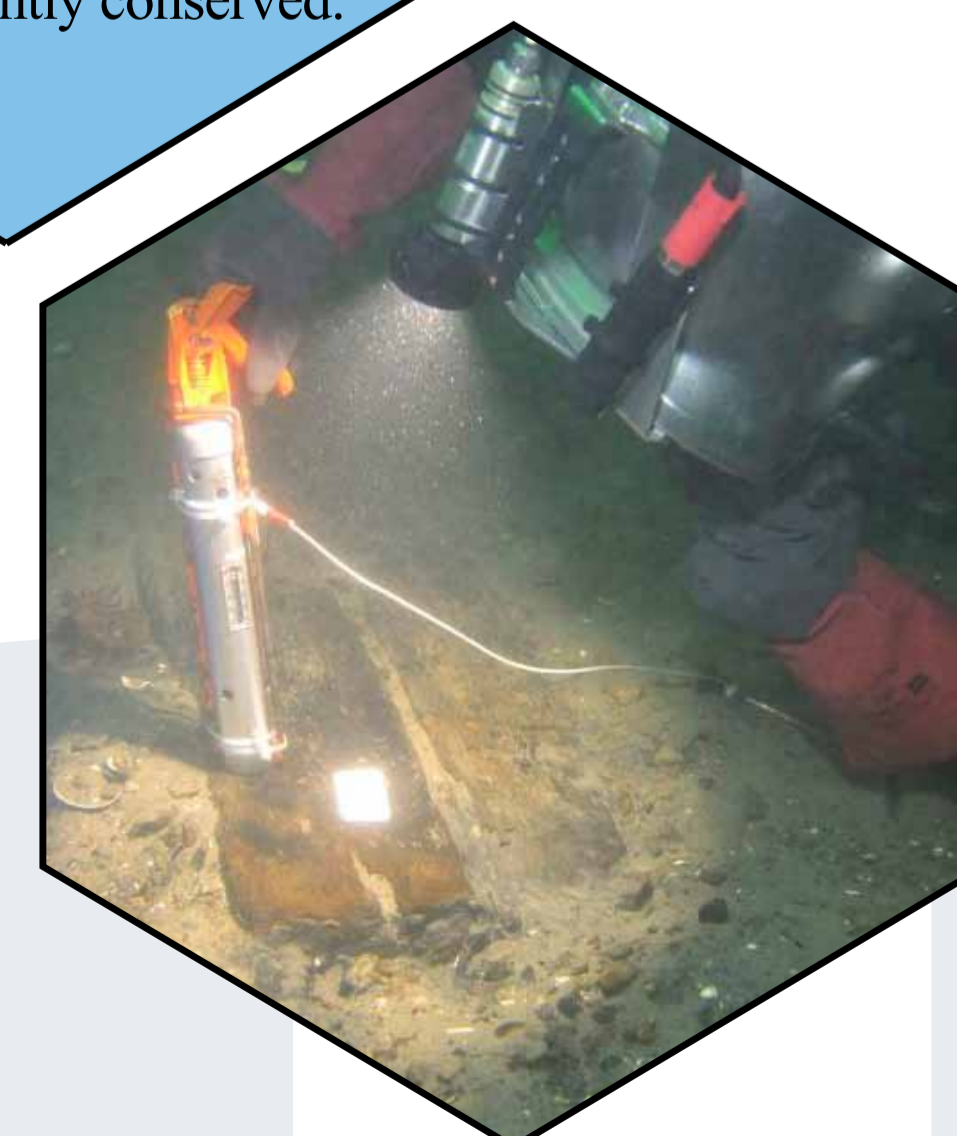
Artificial seagrass used to prevent scour (sediment erosion) around sub sea installations (pipelines, cables). Image: Seabed Scour Controls



Diver using a micro sensor to measure environmental parameters underwater. Image: Unisense



Divers stabilising and securing fragile artefacts prior to raising them to the surface. Image: Istituto Superiore for Conservation and Restoration



Diver non-destructively assessing the state of preservation of wood underwater. Image: Viking Ship Museum, Roskilde