

Discovering Europe's Submerged Prehistoric Landscapes



Key Research Themes

- Areas of the European continental shelf which are most significant from an archaeological perspective in terms of human evolution and expansion, and where the remains are most likely to survive.
- Burial processes of known sites during inundation and submergence so as to improve methods of predicting and understanding site survival and discovery.
- Origin of human coastal adaptations, seafaring, and use of coastal resources.
- Spread of farming along the Mediterranean coast.
- Early occupation and de-population of the British Isles, refugia in the Channel and North Sea.
- Palaeolithic re-population of recently deglaciated coastal zones of northern Europe.
- Mesolithic and Palaeolithic non-lithic material culture, which only survives in permanently waterlogged sediments.
- Domestication of animals, hunting patterns and migration of food species as evidenced by palaeontological remains on the seabed.
- Early occupation of Mediterranean islands such as Crete and Cyprus.
- Palaeoeconomy and palaeodiet in the Palaeolithic and Mesolithic periods.
- DNA of human and animal bones from the seabed.
- Human adaptation to climate change and rising sea level.
- Implications of low sea level geography and landscape for contacts between Europe, the Middle East, and North Africa.



Submerged prehistoric landscapes contain unparalleled information on early human populations and environmental change that is not preserved on land and is currently not well studied or integrated within research and management programs. Researchers from 19 different countries working within archaeology, geology and the palaeoenvironment have come together to develop initiatives which will improve knowledge on the location, preservation, investigation, interpretation and management of evidence of prehistoric human activity and associated landscapes. Already more than 3,000 prehistoric occupation sites are known on the European continental shelf, ranging in age from 5,000 – 80,000 years old and in depth from the shore line to 145 metres. Prehistoric archaeological materials have been found off the coasts of almost every European coastal state.

This work will develop new interdisciplinary and international research

Current Knowledge

- Coastal environments are a primary focus for human settlement and social development, but sea level has been low for most of human existence. Therefore most evidence for the early colonisation and deep history of Europe is now submerged.
- Early ancestors of modern humans known as 'hominins' originated in Africa, and after 2 million years ago evolved and spread across Europe and Asia in successive waves.
- Routes of migration involved crossing straits and channels which are now deep water, but were dry land or shallow marshes during the Ice Ages.
- The oldest evidence of hominins outside Africa is at Dmanisi in Georgia, close to the Black Sea coast, 1.8 million years ago and in southern Spain 1.3 million years ago.
- The earliest known hominin occupation north of the Alps is at Pakefield on the Norfolk coast of England, 700,000 years ago.
- The last Neanderthals lived in Gibraltar 28,000 years ago in caves by the sea.

Contacts

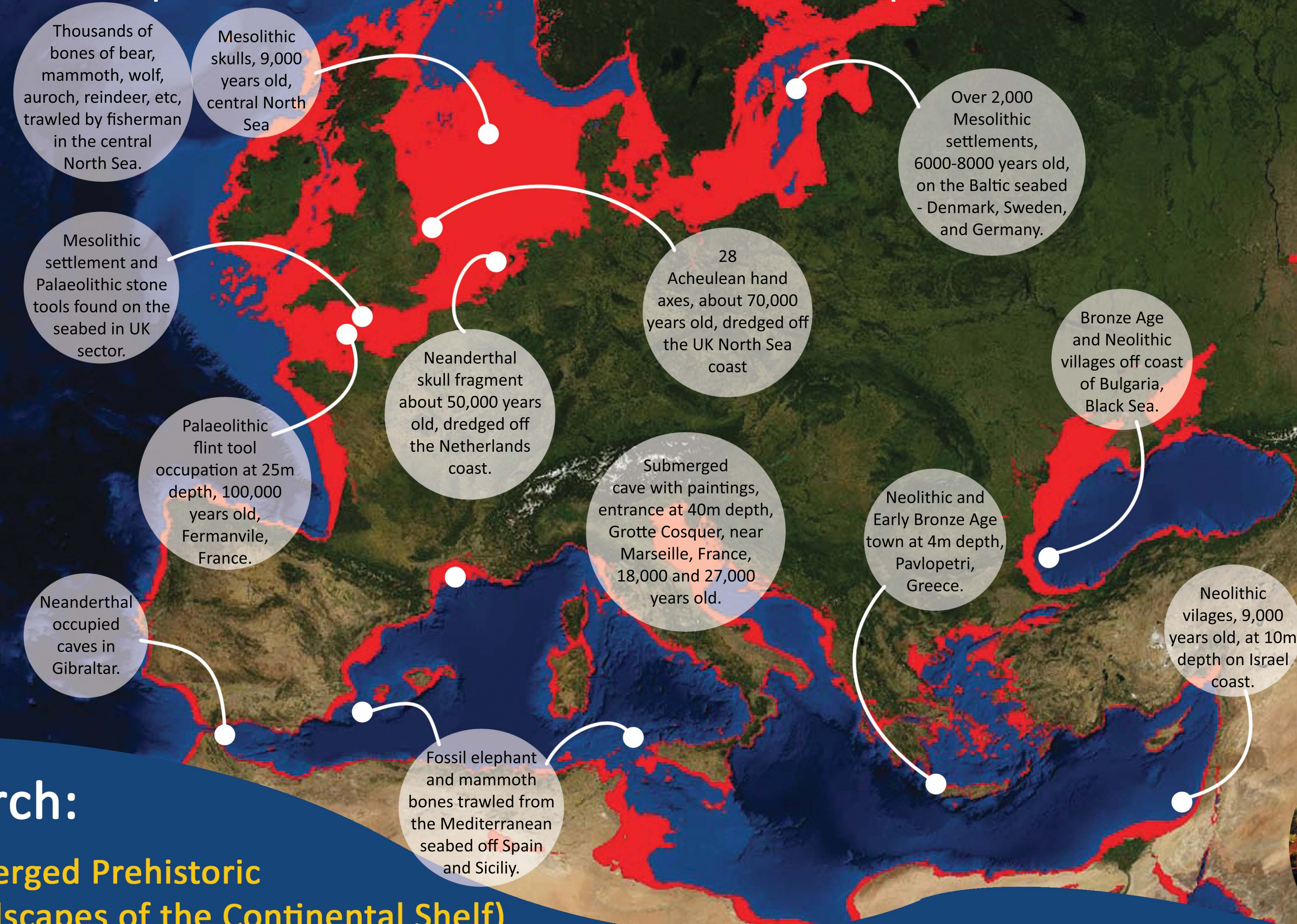
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Scientific Background

Known prehistoric settlement sites and landscapes on the seabed



Current Research:

Project Deukalion is an initiative of the European research community seeking support from the Framework Programme. A Planning Group was set up in July 2008, with 16 experts from 8 countries covering many disciplines. The Planning Group secured support as a 4-year ESF/RTD COST (Cooperation in Science and Technology) Action to develop the infrastructure required – COST Action TD0902, known as SPLASHCOS.

Aims of the Deukalion Project:

- Map the 40 per cent of the European land mass that has been drowned by the 135m rise of sea level since the Ice Age
- Exploit and integrate new technology and data developed in Europe to conduct seabed archaeology
- Raise public awareness, avoid damage to cultural heritage and add efficiency to offshore operations



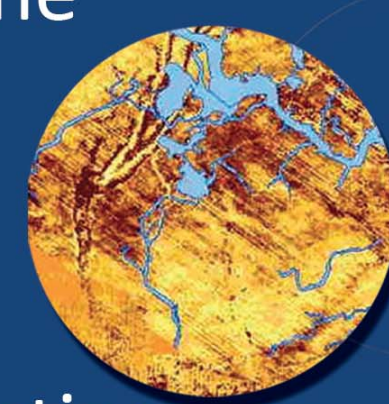
Current Research:

SPLASHCOS (Submerged Prehistoric Archaeology and Landscapes of the Continental Shelf)

is a four-year research network funded by the European Commission from 2009 to 2013 (<http://www.splashcos.org/>). Its aim is to bring together archaeologists, marine geophysicists, environmental scientists, heritage agencies, and commercial and industrial organisations interested in researching, managing and preserving the archives of archaeological and palaeoclimatic information locked up in the drowned prehistoric landscapes of the European continental shelf, and to disseminate that knowledge to a wider public.

Aims of the SPLASHCOS Project:

- Audit and categorise the current state of knowledge on the existence, location, and chronological range of Stone Age archaeological finds on the European continental shelf.
- Evaluate conditions for the survival, visibility and discovery of archaeological materials in different types of geological and oceanographic conditions and in different marine sectors of the European shelf.
- Create an infrastructure of knowledge about the types of information available or needed from the natural sciences about the environmental and topographic character of the terrestrial landscape when sea level was lower than the present.



- Identify centres of expertise, laboratories, skills, equipment, technical support, and training opportunities, and to facilitate inter-institutional, interdisciplinary and international collaboration in planning the large-scale research programmes necessary to undertake exploration, especially at depths in the 50 -130m range, which are likely to make really significant advances in knowledge.
- Encourage and develop cooperation and collaboration with commercial and industrial organisations in sharing and monitoring of data and to explore wider outreach activities
- Evaluate the potential significance of such data in illuminating key developments in the early history of human settlement and society in Europe before the establishment of modern sea level about 6000 years ago, with recommendations for future projects.
- Focus this longer term perspective on present and future problems of sea-level change and social impact

Deukalion and SPLASHCOS bring together researchers from 19 countries including 43 agencies and universities.

