

The overall theme for GeoHab 2025 is *Habitat Mapping in a time of Climate Change*. We welcome contributions related to the mapping of marine and coastal habitats, from tropical to polar environments and from the beach to the abyss, using acoustic or optical remote sensing methods, or any other approaches. Planned session topics include (but are not restricted to) those listed below.

Climate change effects on marine habitats

This session will include studies related to habitat mapping focusing on the effects of climate change. This theme is of particular significance for GeoHab 2025 given Florida's vulnerability to the effects of climate change. Presentations may cover any aspect of climate change but with a focus on benthic habitats. Topics may include species migration or adaptation, technologies used for mapping and measuring environmental changes, and government actions applied to address climate change impacts.

Coastal and shallow-water habitats

This session will include all studies related to habitat mapping in coastal and shallow water without a specific focus on any one of the other themes. Besides presentations on coastal and shallow-water habitat mapping that span many themes, this session will have a particular focus on linking methodologies from terrestrial remote sensing (including satellite remote sensing, unoccupied aerial vehicles (drones), lidar, and others) to shallow water environments.

Habitat mapping for marine restoration

This session will focus on the use of habitat mapping to support marine ecosystem restoration efforts. Presentations may explore methodologies for mapping degraded habitats, identifying restoration targets, and monitoring recovery processes. Contributions are encouraged from studies employing remote sensing techniques to aid restoration projects in diverse environments. Topics may include case studies of successful restoration, innovative mapping technologies, and interdisciplinary approaches integrating ecological and geospatial data. This session aims to highlight the critical role of habitat mapping in reversing marine ecosystem degradation.

Management and communication

This session will include presentations on the use of habitat maps and science communication for marine spatial planning and management. Presentations may cover aspects of the ecosystem-based approach applied to marine spatial planning aimed at maintaining benthic ecosystem integrity and ensuring the sustainable use of its goods and services such as has been adopted in many countries. Topics may include the shift to green energy, and spatial planning related to various industries, among others.

New approaches and technologies

This session will focus on methodological studies highlighting new technologies and improved approaches across the entire habitat mapping workflow from data acquisition to map production and dissemination. Topics may include but are not limited to, innovations in field survey methods, machine learning and/or artificial intelligence, or other methods advancing data processing and analysis and the production and dissemination of seabed

habitat maps or key contributing datasets. This session will also provide a forum for updates from methods-related working groups and related initiatives of particular importance to the GeoHab community (*e.g.*, acoustic backscatter, machine learning, geomorphometry, photogrammetry).

Other human impacts on marine habitats

This session will include studies related to habitat mapping focusing on human effects that are not directly related to climate change. Presentations may cover any aspect of human impacts but with a focus on benthic habitats. Topics may include technologies used for mapping and measuring environmental changes and government actions applied to address human impacts. Papers may focus on one or more human impacts including fishing, shipping, seabed mining, and dredging, among others.

Participatory mapping and citizen science

This session will include all studies related to the involvement of non-traditional scientists in the scientific process of mapping marine habitats. Presentations may cover aspects of partnerships supporting discovery, learning, and action, data collection protocols for citizen scientists, or the contribution of traditional ecological knowledge, indigenous knowledge, or local ecological knowledge to habitat mapping projects.

Polar and sub-polar environments

This session will include all studies related to habitat mapping in polar and sub-polar environments without a specific focus on any one of the other themes. Presentations may cover such topics as challenges and adaptation of technologies for habitat mapping in polar settings, glacial-marine environments, polar-specific benthos, and mapping polar benthic habitats for conservation and management purposes.

Shelf and deep-sea habitats

This session will include all studies related to habitat mapping on the shelf and in the deep sea without a specific focus on any one of the other themes. Presentations in this session will often cover a range of topics including deep-water methods, technological advances, and discussion of specific shelf and deep-sea habitats, as well as how their distribution and specific characteristics may play an important role at broader scales. Talks may include updates on national or regional initiatives for habitat mapping on the shelf and in the deep-sea which may be linked to conservation and management.

Urban seas systems

This session will focus on the use of habitat maps to address the particular issues facing coastal waterways impacted by human activities in heavily developed areas. In such “urban seas”, cumulative human impacts have caused significant changes to benthic ecosystems which places them in a particular context because these ecosystems are used by large human populations living in close proximity. Topics may include studies of changes in benthic habitats, protection measures adopted, different human uses of the environment, anthropogenic disturbances including shipping, and the future of benthic ecosystems in urban seas.

