

Representing environments and ecosystems with ontological approaches presents unique challenges, but provides the semantics required by multiple disciplines to describe the systems within which entities may be embedded. As every material entity, regardless of its scale, can be part of an environmental system, an environment ontology will thrive if it can draw upon classes, relations, and design patterns from multiple, actively developed domain ontologies to populate its hierarchies without creating redundancy. Naturally, such an ontology is charged with integrating its native and imported classes in such a way to represent the properties of various forms of environmental system.

The Environment Ontology (ENVO; www.environmentontology.org) has been contending with the domain of environmental semantics for almost a decade and has grown within the framework of the Open Biomedical and Biological Ontologies (OBO) Foundry and Library. ENVO's native content is diverse, but focused on the entities of physical geography; ecological entities such as biomes, habitats, and ecoregions; as well as the environmental materials of which they are composed. As such, ENVO allows the description of environments at several levels of spatial resolution and with emphasis on different aspects of an entity's surroundings. The ontology imports content from ontologies representing anatomical, chemical, and population-based entities to promote interoperability and leverage existing resources. Frequent user interaction and broad adoption by academics, international agencies, and publishers is driving forward ENVO's development and the recent use of text-mining approaches has presented new avenues for development. Further, ENVO has become an incubator for nascent domain ontologies which may become domain ontologies in their own right. We welcome interaction and collaboration from all interested.