

Global Ecological Land Units – The GEOSS Approach

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Abstract - Ecosystems are universally understood as systems of biotic communities interacting with themselves and with their abiotic environment. Ecosystems can be conceptualized as a vertical integration of living and non-living components, and can be mapped as a spatial combination of their primary structural attributes. As a Task within the GEOSS (Global Earth Observation System of Systems) intergovernmental protocol, the United States Geological Survey, in collaboration with ESRI, is mapping standardized terrestrial ecological land units (ELUs) at a 250 m base resolution for the planet. The ELUs are mapped as unique spatial combinations of global bioclimate, landforms, lithology, and land cover. 63,360 unique combinations of the four input layers were produced, and a subsequent aggregation and cartographic representation of the ELUs is underway and will be completed by the end of 2014. This presentation describes the ecosystem development process, and presents results to date, which include several new continental ecosystem maps including Africa, the Americas, Australia, etc. Plans for sharing the data are discussed.

