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IUCN Volcano Thematic Study: A Taxonomic Approach to Volcanic Area Classification

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With growing recognition of the need to preserve the world's volcanic geodiversity, there are increasing numbers of applications nominating sites for the World Heritage Program. World Heritage sites must demonstrate **outstanding universal value**: significance so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. The World Heritage List is not a venue to collect a large number of sites representing very specific values. But how broad or narrow should be the values of the nominated property? In our revision of the Volcano Thematic Study for the IUCN, we have taken a taxonomic approach to distinguishing the values of volcanic sites.

Classification systems are communication tools: the nature of the communication determines the type of classification. Classification for the Volcano Thematic Study must support communication between scientists and non-specialists and address scientific values, heritage values, and geographic diversity. We determined that landform-type classification systems were too narrow for our purposes, and that genetic systems were too broad. Plate tectonic setting, however, provides an organizing principle that is readily understood, easy to communicate on maps and graphics, and neither too broad nor too narrow. Our taxonomy augments plate tectonic setting to include heritage value, scientific significance, biophysical attributes, and regional representation. The classification system supports the gap analysis, and identifies landscapes that are underrepresented on the World Heritage List.

The classification system also illustrates that the Global Geopark Network and the Man in the Biosphere program offer a broader palette for preserving volcanic geodiversity. Global Geoparks and Biosphere Reserves offer additional opportunities to expand the protection of a broad range of the geodiversity within the volcanic theme. Geoparks are well-suited for sites of scientific and cultural importance, while Biosphere Reserves emphasize that volcanic geodiversity can support globally-significant biodiversity.