Submitted Abstract

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Abstract

The challenges of observing and recording environmental (and other) conditions in mountain landscapes are well established and widely understood. In remote and rugged terrain, demands on human and technical resources, logistical and safety-related expenses, and the risk of damage to equipment, are high. It is therefore considerably more costly to generate datasets in such settings than in most lowland contexts, and data-gathering activities are therefore relatively sparse. This runs counter to the need for greater density of observations in mountainous terrain, to cover the range of conditions arising from the influences of high amplitudes and frequencies of variation in topography and land-surface characteristics. It follows that all such datasets, and particularly those with longer periods of record, have correspondingly high value to researchers and public agencies.

However, the costs incurred by 'primary producers' in mountain-observation ecosystems are often disconnected from the value of resultant datasets to 'top predators'. There are generally few incentives to the former for taking the additional steps involved in publishing and sharing the data they gather. Even where agencies require this as a condition of funding, there may not be a stipulation to conform (for example) to the FAIR / CARE / OCAP principles, which usually imposes additional overheads for implementation and ongoing maintenance: this may negatively affect the discoverability and interoperability of data-products.

Our presentation will present some possible solutions to these challenges, based on reducing the burden for data-generators of publishing and sharing data and metadata. We suggest that this may be achieved by developing systems which simplify and streamline the associated workflows, thereby diminishing associated overheads, whilst improving consumers' options for discovering and accessing data. An overarching goal is to implement innovative approaches to accommodating data from a broad range of topics, disciplines and traditions, including representation of relevant aspects of Traditional Knowledge. We will consider options for ensuring the consistency and credibility of data-products provided by different types of contributor at global scales, through the adoption of standards and development of agreed best practices in each stage of the chain of observational evidence, potentially spanning technical training, operations, data-management and publication protocols. We also aim to encourage discussion of how progress might be made towards a more equitable coverage of the financial aspects of these endeavours, by suggesting possible models for sharing costs between producers and consumers.