



## **The (Mis)understanding of Quality in Climate Services Delivery**

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Two main challenges can be identified regarding quality and quality assurance (QA) in climate service provision. The traditional challenge is to manage the inherent (technical) quality of climate services. This relates to the properties of the mediated data and other information, i.e. statistical properties, spatial and temporal scale, tractability of the origins and post-processing of provided data and other information. To a significant extent the QA for these aspects can be managed by means of internal processes, based on systematic monitoring and reporting, and consequent application and maintenance of meta-data per dataset.

The other challenge, to optimize fitness of the climate service for particular types of users / uses, can only be managed by interacting with users. The two challenges are not entirely disconnected. The way the inherent quality is communicated to potential users may affect their evaluation of fitness. Furthermore, some technical properties, such as spatial and temporal resolution, may have prominent significance in the notion of fitness for potential users, e.g. if connectivity to other data and information is important.

If uncertainty could be eradicated and no trade-offs would be involved, an ideal QA would quickly emerge. Yet, uncertainty and trade-offs cannot be avoided, and hence the consequences of these uncertainties and of measures to handle these have to be well understood.

In economic literature these kind of uncertainties are handled through the concept of information asymmetry (between providers and users), and transaction cost. If the realization of a transaction, including search, selection, and acquisition, is not costless, it means there is an upper limit in terms of affordable additional information acquisition prior to product acquisition and hence not all uncertainty can be eradicated. This also means that such (unavoidable) quality uncertainties are closely related to an explicit or implicit notion on what is the minimal justifiable ratio of expected benefits and costs of climate services and what is the willingness to take risks that the minimum cost-benefit ratio is not achieved.

In the EU-MACS project (<http://eu-macs.eu/#>) consequences of supply side oriented quality notions were assessed in terms of the consequences for the above mentioned market failures. Both consequences and remedies are discussed in the presentation. By means of a quantitative exercise we also illustrate the importance of attempts to extend the QA indicators so as to enable inclusion of key user data sets with which climate data are planned to be merged.