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What makes a climate service useful?

A climate service is useful if a user can identify benefits that can be appropriated, and which are expected to be larger than the costs of acquisition and use of the climate service, while users' benefits should not go at the expense of third parties.

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We understand 'climate services' (hereafter CS) as the transformation of climate related data, often together with other information, into customized information products, offered as such or visualized or embedded in consultancy and/or education (condensed version of EC Roadmap definition – EC 2015). This means that CS can entail quite different things, such as seasonal vs. adaptation oriented CS or qualitative guidelines vs. visualized model output.

Despite wide spread referencing to the Roadmap definition, actual development and provision of CS is very often still mainly driven by science & technology push rather than demand pull (Lourenço et al., 2016).

In the FMI led EU-MACS study factors that impede the uptake of CS in various sectors were assessed (Hoa et al., 2018). Among others CS are hitherto predominantly developed by public expert organisations, which by their very nature are less inclined to ponder their position in the CS value chain (Fig. 1), while their strengths and resources tend to emphasize the upstream part.

Public CS developers and providers should ponder their position in the value chain as well as those of other providers. The more downstream in the value chain the higher the (potential) value added of a CS gets, but also the more diverse the required expertise and input information tends to be. In turn this means that CS provision increasingly needs to be supported by proper business models, in order to have viable and societal beneficial CS. During the market and business model analysis the end-users' benefit generation process and its functionality preconditions should get clear. By then one should know what constitutes a useful CS – at least for that user. This clarification process should also enable the provider - in cooperation with the user - to provide an estimate of the amount of value the CS can create for the user.

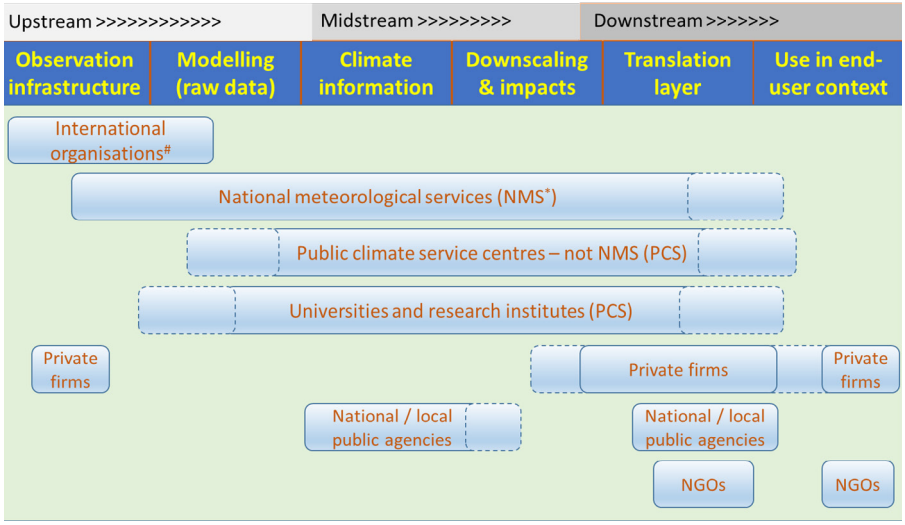

FIG 1: Value chain segments in climate service provision and typical positions of actors (source: Cortekar et al., 2017)

Another point of attention is standardization of terms and product categories, which supports quality control and comparison. Where relevant, quality assurance should extend to non-climate data when moving along the value chain, and be clearly communicated.

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