



Putting social-economic benefits of weather services into context – challenges of aggregation and linking to NHMS' resource allocation

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Appraisal of economic benefits of weather services is usually forced to use average figures per user group. In some cases there is information for various years and/or for several agents such that in a standard Cost-Loss model a relation between the volume of weather services and the volume of avoided damage cost may be established. However, such derived net benefit elasticities with respect to weather service volume are for most sectors quite misleading, as – apart from a few sectors such as civil aviation – there are quite some information decay stages between forecast and eventual user benefit. These information decay stages add uncertainty to the benefit generation on top of the challenges generated by the forecast uncertainty as such. This information decay can be depicted and assessed in the framework of Weather Service Chain Analysis (WSCA), a kind of application of linked survival functions.

If elaborated Cost-Loss assessment is used in combination with WSCA, there is more prospect for adequate functional specification of the relation between the volume of weather services and the volume of the intended beneficial effect(s). In that case some kind of shadow price or incremental value can be assessed at different levels of service provision. In that case there are better opportunities to go beyond qualitative indications regarding weather service development and actually link improvement efforts to net benefits in a sector.

However, there remain several snags. The initial effects in the target sector can spill over to other sectors and thereby cause the eventual social-economic benefit to be larger (or smaller) than the sectoral one. Furthermore, the above mentioned WSCA application identifies benefit potential based on comparative statics. By linking the WSCA to a sector level value chain approach a dynamic improvement process could be instigated both in the sector(s) and the NHMS, based on co-development.