Strengthening Hydro-Meteorological services towards end-users adaptation to climate change

Facing climate change and generating sustainable economies is the greatest challenge facing today's society. The new economy, with renewable energy sources, the implementation of circular economy processes and education towards responsible consumption are presented as the main sources of change. Policies geared towards sustainability increasingly imply the encouragement of soft measures against investment in large gray infrastructures. Within these measures, the development of hydrometeorological services has a high potential to generate benefits. Exploring the economic value of hydro-climate-meteorological services is a major challenge associated with the new orientation of the economy. Here we present a conceptual framework for the modernization of these services and the economic evaluation of their potential benefits. The water, meteorology, and climate information value chain shows that value, in socio-economic terms, is the ultimate outcome of the process that starts with observation of weather, water, and climate through prudent decision-making (WMO, 2015). Once information is created by an agency, it warrants communication and dissemination through appropriate channels and formats which can easily be obtained, understood, and used in stakeholders' decision-making process to improve societal outcomes. The value of accurate, timely and relevant hydrological, meteorological, and climate information, forecasts, and warnings produce important effects on end-users' decision making process and allow to generate beneficial outcomes at the whole process. Mitigation and adaptation to climate change would greatly benefit from having quality hydromet services oriented to end-users. Therefore, promoting climate change policies that aim to develop such services would be an important step towards a new sustainable economy.