

## MED-GOLD methodological framework

A user-driven **common methodological framework** (Figure 1) is adopted to co-develop the MED-GOLD pilot services (for the three main crops of interest). This framework will exploit the knowledge generated under previous initiatives (EU FP7 projects CLIM-RUN and EUPORIAS). In particular, we will follow the climate services protocol initially drafted in CLIM-RUN<sup>1</sup> and add further improvements taking into account more recent initiatives on climate services (EUPORIAS, C3S SECTEUR and all the SISs). The methodological framework is composed of by four steps:

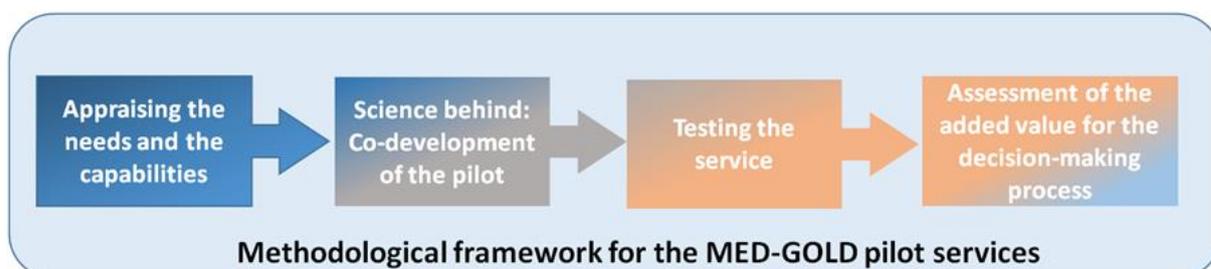


Figure 1. The common methodological framework adopted in MED-GOLD for the development of sector specific climate services.

### Step 1: Appraising needs and critical decisions for the specific case

A preliminary analysis of each pilot will be conducted, starting from the specific needs of the industrial partners of MED-GOLD and the assessment of vulnerability and opportunities for each specific MED-GOLD pilot service. Particular attention will be devoted to key decision-making processes that underlie each case, to better identify how and when the outcomes of the pilot services to be developed can better support and inform those decisions.

### Step 2: Co-developing the specific service tools

This step encompasses the production of information and tailoring to the users' needs. The methodological issues for each of the MED-GOLD pilot services will be addressed, collecting the various data required, analysing the climate data of interest from available data stores (e.g. CDS, EURO-SIP, CMIP6) through the ICT platform, with an assessment of the quality of the observational data available along with the skills of climate predictions/projections required for the variables of interest. The pilot services will benefit from the existence of seasonal climate predictions and long-term climate change projections, which allow to anticipate information related to easy or severe years in terms of disease control and related to suitability for establishing a culture in climate change scenario. The co-design of the pilots started as early as during the project proposal preparation, when a preliminary appraisal user's needs and critical decisions was carried out through a series of physical and virtual meetings involving both user and suppliers.

### Step 3: Testing the specific service tools

In this step, a quantification of the effectiveness of the service will be evaluated by analysing its potential added-value in support of critical decisions during the last decades, with particular attention to critical years for the sectors involved. For the climate service focusing on long-term climate change projections, the evaluation will be based on the producers' expert judgement with regard to the fit for purpose of the service provided and how that addresses their information requirements regarding future risks in farming activities

### Step 4: Assessment of the added value for the decision-making process

The potential (economic and/or non-economic) value and benefit of climate services to help support and inform decision-making processes will be performed in this final stage of the pilot services development. The value of a climate service to the end-user is dependent on a range of factors (e.g. fit for purpose of the service developed within the user's organizational context, the timeliness of the service provided, the ability of the user to act upon the new tool, the benefits of using the new tool to support the decisions at hand) (Bruno Soares et al., forthcoming). As such, a range of methodological approaches will be adopted to assess the value of the climate services developed which can range from the more quantitative methods such as decision-based theory models to the more qualitative and participatory methods although, as these are not mutually exclusive, this

<sup>1</sup> [http://www.climrun.eu/news\\_data/254/d1.1.pdf](http://www.climrun.eu/news_data/254/d1.1.pdf)

type of assessments tends to include aspects that are both qualitative and quantitative in nature (Bruno Soares et al., forthcoming; Clements et al., 2013).