In this article, we discuss the advisory capacity of climate science for political, economical and societal decisions. To provide options, open up perspectives and to enhance the understanding for the dynamics of climate is a task we name climate service. After a general discussion, experiences of providing this service on a regional and local scale during the last few years are reviewed. Key components of this regional climate service is the establishment of a regional climate office, the coordination of regional IPCC-like assessment reports on knowledge about regional and local climate change, and the integration of detailed homogeneous data sets describing regional changing weather statistics (i.e., climate) in past decades and in perspectives for the next several decades.