

Sustainable decisions and provision of climate services to the agriculture and water sectors of southeastern South America

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An emerging approach to research is gaining ground with the aim to produce usable knowledge, able to support adaptation decisions, provide straightforward estimates of uncertainty, and meet the needs of climate-sensitive sectors. An approach that implies collaboration among researchers, stakeholders and outreach specialists, gathered to develop not only a scientific contribution, but to offer a renewed appreciation of the relationships between knowledge, nature and society. Two main senses of the concept of co-production refer the relationships between science and society, human and natural systems, triggered by these new trends. One focusing on the articulation of talents, perspectives and values needed to produce new types of knowledge, the other on the intertwined transformations of identities, institutions, languages and discourses that characterize the workings of science and technology within society. As a hallmark of changes in progress not only at the level of discourse, we are witnesses of the intense discussion at international and national levels about the need to establish “climate services.” What is there in this new name? What is a climate service? The U.S. National Research Council’s Board on Atmospheric Sciences and Climate has defined climate services as “the timely production and delivery of useful climate data, information, and knowledge to decision makers” (National Research Council, 2001). Similarly, the U.N. World Meteorological Organization (WMO) has developed the Global Framework for Climate Services (GFCS) that promotes the use of relevant science-based climate information and prediction. The central goal of the GFCS is to enable society to manage better the risks and opportunities arising from climate variability and change, especially as they concern those who are most vulnerable to climate-related hazards. “Regional Climate Centers” (RCCs) are important components of WMO’s GFCS design. RCCs are centers of excellence that create regional climate products in support of regional and national climate activities. Therefore, they help support provision of climate information services by National Meteorological and Hydrological Services (NMHSs). In order to be designated as an RCC, a candidate center must be able to perform a certain number of mandatory and additional highly recommended functions. The WMO’s Regional Association III (South America) has proposed to establish a Regional Climate Center for southern South America (RCC-SSA). This paper presents the aims of a Collaborative Research Network (IAI-CRN3035) and the experience of strong interaction of its members with the RCC-SSA. Towards the effective provision and societal use of climate services the CRN-3035 project is pursuing four main specific objectives: (1) production, interpretation, assessment, and synthesis of diagnostic and forecast climate information on multiple time scales; (2) “tailoring”, communication, and dissemination of that information; (3) “translation” of climate information into plausible impacts and outcomes (including ranges of uncertainty or credibility of these estimates) of viable adaptive actions in agricultural production and water management; (4) exploration of the institutional structures needed to support the provision of climate services. A close partnership and continuous interaction with the RCC-SSA is a major design feature of research collaboration, meant to significantly enhance the chances of a robust coproduction of knowledge on climate.