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Satellite climate and biophysical data for warning purposes for European agriculture

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The contribution of space satellite-derived data for warning purposes in agriculture due to climate variability and change is discussed in the presentation. Climate variability and change is a global issue, which must be addressed with global models and global data are needed as input to these models. Earth observation from space has a unique capacity to provide such global data sets continuously and consistently not only on this level, but also on the national and local levels and the use of alert and warning systems must be based on such data. Some of the climate and biophysical variables essential for understanding and monitoring the climate system and the impact on agriculture can be efficiently observed from space since this technology enables their systematic, global and homogeneous measurement. Climate and agriculture research is generally based on data collected for other purposes, primarily for weather prediction. To make these data useful for climate impact and warning studies, it is usually necessary to analyze and process the basic observational raw data and integrate into models. In the frame of COST Action 734, satellite data records, e.g. series of observations over time that measures variables believed to be associated with climate variation and change, were surveyed among European countries, based on a specific questionnaire. The analysis and the presentation in Tables of the data records which have been developed from operational satellite observations, presents the status of satellite climate and biophysical data for warning purposes for agriculture, in Europe. Among European countries there is a great unhomogeneity concerning climate

and biophysical data received from satellite sensors or collected as satellite-derived ready products. Some of them are currently collecting satellite data for years and these data records could be useful for models for climate change impact studies. The main variables that are collected in operational or experimental way are land surface temperature and NDVI. Some examples of satellite images, as referred in the answers of the questionnaire are also presented.