

Regional input to joint European space weather service

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The basis for elaborating within COST 724 Action ‘Developing the scientific basis for monitoring, modeling and predicting Space Weather’ European space weather service, is rich by many national and international activities which provide instruments and tools for global as well as regional monitoring and modeling. COST 724 stimulates, coordinates and supports Europe’s goals of development and global cooperation by providing standards for timely and high quality information and knowledge in space weather. Existing local capabilities are taken into account to develop synergies and avoid duplication. The enhancement of environment monitoring networks and associated instruments technology yields mutual advantages for European service and regional services specialized for local users needs. It structurally increases the integration of limited-area services, generates a platform employing the same approach to each task differing mostly in input and output data. In doing so it also provides complementary description of the environmental state within issued information. A general scheme of regional services concept within COST 724 activity can be the processing chain from measurements through algorithms to operational knowledge. It provides the platform for interaction among the local end users, who define what kind of information they need, system providers, who elaborate tools necessary to obtain required information, and local service providers, who do the actual processing of data and tailor it to specific user’s needs. Such initiative creates a unique possibility for small national services to consolidated design of a product required not only for their own activity, but also for the global European service. An example for regional service operating at limited-area is one developed in Space Research Centre of the Polish Academy of Sciences that provides among different products the forecast for the governmental and commercial communications-HF radio signal. The work is carried out using actually existing stretched sources of needed input data. Future use of the products of one of the European initiatives, DIAS (Digital upper Atmosphere Server) that collects digital data on the state of the upper atmosphere, will simplify the work and increase its accuracy. While an access to the pan-European service yields the enrichment of needed data, the local services do not only use it as a data source

but also supply their own information. It creates also a platform for sharing such tools as algorithms or models and jointly developed advanced technologies. Operation of pan-European space weather service is justified by expected real mutual benefits to limited-area and European services.