

Press release

Satellite flow forecasting system implemented in the Yellow River

Zhengzhou, 20090304 – A Sino-Dutch project to implement a satellite based drought monitoring and flow forecasting system in the Yellow River basin was successfully completed. The system is the first one in the world and is considered an important innovation in the water sector. It was developed by EARS and UNESCO-IHE from Delft, the Netherlands in cooperation with the Hydrological Bureau of the Yellow River Conservancy Commission.

The basis of the drought monitoring and flow forecasting system is the climate monitoring system developed by EARS. This “Energy and Water Balance Monitoring System” (EWBMS) uses the Chinese FengYun-2 satellite to measure the temperature and reflection of clouds and the earth surface and to process this information to daily maps of precipitation, radiation and evaporation. UNESCO-IHE developed a dedicated hydrological model that uses these data to simulate and forecast the river flow. Also drought maps of China, and crop yield forecasts can be produced with the EWBMS.

March 4 the final evaluation seminar was held in Zhengzhou, in the presence of representatives from both governments and many water experts. During this meeting the work done and results obtained were presented and discussed. Project leader and EARS director Andries Rosema introduced the satellite monitoring technique and explained how the system had to be adapted to perform well in the Upper Reach, where it is very cold and very high. He also presented the results of the advanced instrumentation used there to validate the system. Raymond Venneker of UNESCO-IHE explained the development of the “Large Scale Hydrological Model” (LSHM) and discussed the quality of the simulated river discharges at several parts of the basin. Problems had to be overcome but the final results of the system are remarkably good and exceed expectations.

A commission of independent high-level experts asked questions, withdrew for discussion and reflection, and finally signed a positive declaration for this, as it was called by the experts, world leading technology. This is an important step to further application in China and elsewhere in the world. New projects are already in preparation in the Yangtze in China and the Niger river in Africa. For the Yangtze basin it is also the intention to provide data supporting the large scale water translocation from this river to the dry and often drought hit agricultural areas in the north of China, the so-called “South to North Water Diversion”.

With the successful completion of this project, EARS makes a new step towards the international recognition and use of its innovative remote sensing technology. Only recently Dutch Minister of Development Cooperation Koenders visited EARS to award the Millennium Project *Food Early Solutions for Africa (FESA)*. In this project a drought insurance system that reaches every farmer in Africa is developed on the basis of the same technology.

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