

DRAGON IN SUPPORT TO HARMONIZING EUROPEAN AND CHINESE MARINE MONITORING FOR ENVIRONMENT AND SECURITY SYSTEM (DRAGONESS)

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The DRAGONESS objectives were targeted to: • assess current Chinese and European services and information products arising from integrated use of networks of remote sensing; • identify service and/or data gaps and barriers, such as for instance restrictive data dissemination, availability and reuse policies; • assess activities to disseminate and implement routine provision of information products and services derived or customized from existing development and operational activities; • stimulate exchange and initiation of new partnership in Earth Observation science and technology in support to global marine environmental monitoring by bringing together scientists from Europe and China. The DRAGONESS project executed in collaboration with the ES-MOST DRAGON program has significantly strengthened the collaborative ties between scientists from the two continents. This is an essential element in the process towards a more comprehensive formalization of European-Chinese networking including execution of joint research and application projects, attracting students to marine sciences, establishing student and young scientists fellowships and creating program for exchange of visiting scientists. Over the duration of the Dragoness project, we have gradually established a fairly comprehensive overview and inventory, and the following key issues can be highlighted: • Like Europe, with its GMES system, China is currently working to put in place its own relatively impressive integrated Earth observation (EO) system. Since 1990, it has put 30 EO satellite sensors into orbit, and it plans to bolster this array, by 2025, with a further 12 HY-n satellites, 12 FY-n series meteorological satellites and 9 disaster monitoring satellites. The technical performance of the satellites and sensors are roughly similar to the satellites and sensors launched by NASA, ESA, JAXA etc. • While data from Chinese satellite platforms and sensors are to some extent available for research and development, restrictions still apply for near-real-time access. Among 12 in-orbit sensors, only the service for products of ocean color parameters and SST are available, and only L1 data of microwave sensor and hyperspectral sensor can be achieved. This is in clear contrast to the current evolution in Europe towards open and free data access. • Although China has achieved good results in many ocean data assimilation experiments, improvement is needed in operational assimilation through enhancing the level of near-real-time data distribution and sharing. • The use of web servers for the dissemination of information and services in China is gradually becoming more common, but for the most part only graphical information is available for downloading. • Marine data integration, sharing and distribution must be standardized and the data sharing policy must be updated to enhance the development of data analysis and visualization tools, and to improve the operation of data query and download services. In the 2015-2020 time perspective it is imperative that the ability to incorporate data from Chinese EO satellites becomes feasible as we move towards the full operational stage of GMES and GEOSS. This will clearly benefit both European and Chinese citizens through improved and comprehensive marine monitoring and forecasting. At the termination of Dragon 2 and the onset of DRAGON 3 it is therefore tempting to consider and propose the formalization of a bilateral Euro-Sino program on marine monitoring for environment and security that is capitalizing on exchange of data, tools and methods.