

The Pioneer Project

Hans von Storch and the PIONEER consortium

Institute of Hydrophysics, GKSS Research Centre, PO Box, 21502 Geesthacht, Germany

Ph: + 49 4152 87 1831, Fax: * 49 4152 87 2832, e-mail: storch@gkss.de

Abstract submitted to

4th Symposium on Integrated Observing Systems, 9-14 January 2000, Long Beach, California

The sustainable management of the coastal zone requires an efficient monitoring system, which combines "intelligent" observation strategies with dynamical models. The European project PIONEER sets up analysis systems for routine day-to-day monitoring, analysis and short-term prediction of nutrient distributions in the Odra and Ebro estuaries in Europe. The project integrates presently available technology and methodology in data management, geostatistical and dynamical data assimilation and numerical modelling in co-operation between scientific institutions, management authorities and commercial companies. Point observations together with a "best guess" are processed in a data assimilation scheme. Three schemes of increasing complexity are explored: simple spatial interpolation, geostatistics and dynamical data assimilation. As a by-product, estimates of the predictability of the estuarine ecosystems on time scales of days and weeks are obtained.