

Continental-Oceanic Material and Non-Material Interaction: Investigating Methodologies for Heterogenous Dataset Integration

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This research aims to develop a methodology that allows to correlate the human perception of watersheds' change with oceanic water quality change due to run off from a hydrographic system. This will be done through correlating heterogenous datasets from natural and social sciences between 2003-2019 with a focus on the case study of Yuragawa watershed. This investigation will discuss research pathways that potentially allow to relate Chlorophyll-a variation at river mouth with the results from the text mining analysis of articles which mention the Yuragawa River from newspapers' database. This research responds to recent trends addressing complex systems, such as the European FuturICT Project, that emphasizes the relevance of combining heterogenous datasets, of both quantitative and qualitative data, from natural and social sciences. This is a preliminary study that aims at investigating the possible threads of correlation between two types of datasets that are rarely analysed together. While text mining has been increasingly used to investigate social behavior prediction, chlorophyll-a data has been mainly used in natural sciences as a bio-chemical description of water nutrients. The relevance of using newspaper text mining data to analyze environmental change is that this type of data allows to combine cognitive and emotional perception of human everyday life needs to the analysis of natural changes.

Keywords: Yuragawa Watershed, Continental-Oceanic Interaction, Heterogenous Data