



Project Number: *CRN2076 Addendum HUMAN DIMENSION*

Project Name:

Climate change, oceanographic variability and the artisanal fisheries in the SW Atlantic: a human dimension approach

Supported by: *IAI-SGP*

Developed by: *CEEMA/FURG/Brazil, DOC/FURG/Brazil and FERU/FC/UBC/Canada*

Summary

Global environmental changes and climate variability are themes of current discussion in the world scenario. Fishery is an activity strongly affected by these climatic changes. For example, in case of interannual scales changes like El Niño (ENSO), fish population can be affected with a shift in the distribution of migratory species. These effects will result directly in the reproduction and recruitment of fish reflecting in its life cycle; changes in the atmosphere, such as wind, for example, may impact phytoplankton bloom that may result in fall in biological productivity, fishing productivity and loss of biodiversity. As a consequence, in terms of human dimension, these impacts will affect the industrial productivity, the generation of employment and of income in the fisheries sector, producing strong impact on society.

Thus, fishery alterations by climatic changes will impact on the economy of a sector that already depends on overexploited resources. Among the expected impacts, the effects on subsistence and small scale fisheries can be devastating since these fisheries lack mobility and technological alternatives, and are frequently most dependent on coastal resources and marine stocks. These stocks commonly reproduce in freshwater or require low estuarine salinity waters to develop, and are susceptible to changes in precipitation levels due to climatic changes. These impacts affect directly the fisheries communities, the fisherfolks, and the local/regional society in terms of social and economic aspects.

The climate change and oceanographic variability in the SW Atlantic is the subject reported by cooperative research networks such as the case of the CRN2076 initiative. The Patos Lagoon is an important ecosystem located in this region and also studied by CRN2076 (SACC) project. Concerned with the understanding of fisheries alterations by climatic changes and its impacts on fisherfolks, fisheries communities, and regional/local society, this proposal aims to study the effect of climate and environmental variability on the artisanal fisheries in the SW Atlantic. The proposed research will be developed in conjunction with CRN II 2076 (SACC), and will constitute a contribution to the Inter-American Institution Science Agenda IAI-SA aimed to promote human dimension research on coupled human-biophysical systems. The case study of this proposal is designed to understand the effects of oceanic environmental variability on shrimp fisheries in the Patos Lagoon - RS, Brazil, and its impacts on artisanal fisheries with a human dimension approach. This activity involves approximately 52.500 people. This understanding - will allow us to focus on the impacts of climate changes on shrimp production in the estuarine area of Patos Lagoon and its effects on fisherfolks.

Period: From November 2007 to October 2009