

FROM SCIENTIFIC MODELS TO COMPANION MODELLING: ENGAGING A DIALOGUE WITH LOCAL ACTORS IN AN AMAZONIAN FLOODPLAIN ABOUT BIODIVERSITY MANAGEMENT AT A TERRITORIAL LEVEL

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The Amazonian floodplain is among the most productive and diversified ecosystems in the world. The moving littoral enables a rapid nutrient recycling, explaining the large productivity and biodiversity of the system. Attracted by such favourable conditions for agricultural activities and fishing, populations have settled in the floodplains and developed complementary activities to cope with important variations in their environment, between the flood season and the dry season. However, in the past decades, the rhythm of these floodplains has changed, obliging the actors to deal with great uncertainty.

Based on several years of hydrological and biogeochemical studies to understand the reasons of these environmental changes, the “life scientists” of our team invited the “social scientists” with the following question: Can the results about the dynamics of these floodplains help local populations better anticipate the future fluctuations of the river and adapt their activities to be less vulnerable to such change? To address this, we first chose to turn the perspective around: what were the preoccupations and strategies of local populations and what did they expect from scientists? The challenge was to enable the perceptions and knowledge of local populations to dialogue with scientific knowledge. Based on a Companion Modelling approach, we engaged a participatory process to collectively discuss the current situation and possible future scenarios. Using a role-playing game as an interface for this dialogue, we have progressively built a model to integrate both the knowledge of the local actors regarding their practices and possible environmental impacts and the knowledge of the scientists on environmental dynamics. This has obliged researchers to learn to work together and simplify their knowledge, and requires finding common points of interest with local populations, translating “biodiversity” into concrete issues that have a meaning for local actors.