

EXPERIMENTAL MODEL USING POLAR EXPEDITIONERS TEAMS FOR THE STUDY OF BIOMETEOROLOGICAL ADAPTATION IN A CHANGING CLIMATE

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Human beings are exposure to climate change through changing weather patterns (for example, more intensive and frequent extreme events (IPCC, 2007). We propose an experimental model using polar expeditioners teams to study biometeorological adaptation in a changing climate. The polar expeditioners teams represent a platform for research and data collection of human body *spontaneous* adaptation to extreme polar environment, which is used to enhance our capacity to develop an innovative multinational and multidisciplinary Polar Health Surveillance System (TTAAPP-IPY 2007/2008, ID 181). The model proposed by us opens new horizons for the development of adaptation science because it allows assessment of response capacity successively to various climatic environments. The crossing of opposite climate areas, from a geographical hemisphere to another, from one continent to another, by air, water and on land, within a relatively short time, and the exposure to ultraviolet radiation, magnetic field, hurricanes, daily extreme temperature oscillations in summer (sunburn-frost) and winter of polar environments, is an extreme biometeorological challenge for the expeditioners teams. Our model applies knowledge of this lesson to support the future human health in a global changing climate. Physiological, psychological, immune, viral, hormonal, and behavior changes assessed on our model (SANTAR07, SCAR/IASC IPY OSC 2008, ATCM 2009, IPY OSC 2010) suggested a line of action for public health institutions to mitigate the adverse effects of climate change. SCAR XXXI/OSC 2010 is an important opportunity to integrate our research model in a broader international partnership to stimulate *anticipatory* adaptability to climate change on the Earth.