Climate Change in the Polar Regions

John Turner and Gareth J. Marshall

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The book describes environmental changes discovered in recent decades, such as the Antarctic ozone hole, the reduction of the Arctic sea ice area, and atmospheric warming on the Antarctic Peninsula. The changes have caused an enormous increase of interest in the climatic changes in polar regions within the last few years. A reader is informed about climatic models used for prediction of cliamte characteristics in polar regions. Recent experience tells that there will be far greater warming in polar regions in the next century than any other region on Earth if greenhouse gases emissions will continue to rise. The book is organized in 8 chapters. The first chapter is devoted to the environment of the Arctic and Antarctic regions and considers the role of the polar regions in the global climate system. The subsequent chapter deals with the data and the models that allow to predict past and present polar climates. In the next chapter, the mechanisms which are necessary for the variability and changes in the high latitude climates are reported and explained. The emphasis is given to the differences in climate between both polar regions. The most interesting part of the chapter is, in our opinion, the effect of extra-polar climate variability on polar regions. If a reader is interested in the history of climate changes in Arctic and Antarctic regions, it is described in subsequent chapters. They deal with the periods of Pleistocene and Holocene. At the end of the book, there are the chapters that describe the aspects of the evolution of the polar climate over the next 100 years. Different climate models and scenarios as reported in the Intergovernmental Panel on Climate Change (IPCC) are used for the predictions of future climate. The approach used in the book is highly cross-disciplinary and has close links between the atmosphere, ocean and ice at high latitudes. Each of the chapters provides essential information for readers. The book can be very useful for researchers and advanced students of polar science, meteorology, climatology, oceanography, and glaciology.

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Map of Northern Part of James Ross Island/Isla James Ross – Parte Norte

Czech Geological Survey. 2009. James Ross Island - Northern Part. Topographic map 1 : 25 000. First edition. Praha, Czech Geological Survey. ISBN 978-80-7075-734-5.

The topographic map entitled “James Ross Island - Northern Part/Isla James Ross – Parte Norte” was published in October 2009. It was compiled by the authors from the Czech Geological Survey and Geodis Brno and printed by VKÚ Harmanec, Slovak Republic. Beside the main map field (scale 1: 25 000), the map composition contains two side maps focused on broad localization and identification of source images. Map legend consists of fourteen logically ordered items. Only two symbols from the list of

symbols are some problematic: using white colour with blue hatching for inundation areas and grey colour for icebergs could - in case of less experienced map users - lead to commutation of these two. Content of the map represents topographic situation of northern part of James Ross Island (surroundings of the Johann Gregor Mendel station). Excellent feature of the map is especially the representation of contour lines with 10-meter interval supplemented with 5–meter auxiliary contour lines. Quality of these contour lines was proved by on-site geological mapping using enlarged map to scale 1:10 000. An important part of the map is presentation of geographic names. Because it is not possible to use the „*cuius regio*, *eius nomen*" principle, the authors appropriately decided to produce a completely bilingual map in English and Spanish. In conclusion, it can be said, that this unique and high-quality map has the potential to contribute to good reputation of Czech experts in the international scientific community.

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