

VISUALIZING THE INTELLECTUAL STRUCTURE OF ANTARCTIC SCIENCE: A GLOBAL PERSPECTIVE

Prabir G. Dastidar

Department of Ocean Development (DOD), New Delhi, India

Introduction:

Antarctica is a continent of peace and science. Freedom of scientific investigation and free exchange of information is the hallmark of the Antarctic Treaty System (ATS). ATS is unique, may be a model for the future socio-political system of the world. In this paper attempt has been made to visualize the intellectual structure of Antarctic Science that got evolved over a period of 25 years (1980-2004).

Methods:

Science Citation Index (SCI)[®] CD-Rom version was title-searched with 'Antarc*' keyword retrieved about 10942 research articles which formed the basis for the analysis.

Results:

Analysis of the intellectual capital of this unique continent has unfolded important knowledge clusters- of countries, of organizations, citations, of scientists and explorers. The interest in Antarctic Science is on the rise, over the years. To encourage collaboration in Antarctic Science, year 1991 to year 2000 was marked as the 'decade of international scientific research' by the signatories of the Antarctic Treaty System (ATS). There is a noticeable rise of collaborations in Antarctic Science. ATS may serve as a model in the global system of science. Network structure of the production units are analyzed to understand their collaboration dynamics.

Discussion:

USA, UK, Australia, Germany are the most productive countries in terms of scientific output. USA and UK alone contributes 40.5% of the global output. British Antarctic Survey was found to be the most productive organization in Antarctic Science. USA is the most productive country and also most networked in terms of undertaking collaborative projects. Thrust areas and emergent research fronts will be discussed; most-influential papers, most-prolific scientists, most cited journals will be identified and distribution profile will be characterised. Bioprospecting has emerged as an important area of research in Antarctic Science. Germany and Japan have filed maximum number of patents.