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***10 Years of Integrating Climate and Ecosystems Dynamics (ICED) in the Southern Ocean: Development, highlights and future directions***

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The Integrating Climate and Ecosystems Dynamics in the Southern Ocean programme (ICED) is an international multidisciplinary programme launched in response to the increasing need to develop integrated circumpolar analyses of Southern Ocean climate and ecosystem dynamics. ICED was developed in conjunction with the Scientific Committee on Oceanic Research (SCOR) and the International Geosphere-Biosphere Programme (IGBP), is a regional programme of Future Earth's Integrated Marine Biosphere Research (IMBeR, formerly IGBP's IMBER programme), and is co-sponsored by the Scientific Committee on Antarctic Research (SCAR). ICED is focused on understanding and predicting the responses of Southern Ocean ecosystems to natural climate and human driven change, and potential feedbacks as part of the Earth system. Understanding the climate interactions in this globally important ocean, the implications for ecosystem dynamics, and the impacts on biogeochemical cycles is crucial for developing conservation and sustainable management approaches and evaluating the role of Southern Ocean ecosystems in the Earth System. ICED aims to coordinate and foster this research using an international multidisciplinary approach and contribute to global environmental change research programmes to generate sustainable ocean governance. Here we provide a history of the programme prior to its adoption by SCOR and IGBP in 2008, and a summary of scientific highlights and contributions to global change programmes over the ensuing decade. Perspectives on the recent transition of ICED under the auspices of SCOR and Future Earth and future scientific approaches and directions are also provided to ensure this programme continues to address globally relevant challenges in the coming years.