

# Pacific Arctic Group Synthesis Activities

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# In progress: DSR ARAON Cruise Special Issue 2014

## Past CHINARE DSR II 2012

# DEEP-SEA RESEARCH PART II

Topical Studies in Oceanography

Special Issue: Biogeochemical Studies from the Chinese National Arctic Research Expeditions (CHINAREs)

Guest Editors: Wei-Jun Cai (Managing Editor), Laodong Guo, Liqi Chen, Jacqueline M. Grebmeier, and Haisheng Zhang

Volumes 81–84, 2012

### CONTENTS

#### Introduction

W.-J. Cai, L. Guo, J.M. Grebmeier, L. Chen and H. Zhang

1 Biogeochemical studies from the Chinese National Arctic Research Expeditions (CHINAREs)

#### Special Issue Articles

H.M. Joo, S.H. Lee, S.W. Jung, H.-U. Dahms and J.H. Lee

3 Latitudinal variation of phytoplankton communities in the western Arctic Ocean

S.H. Lee, H.M. Joo, Z. Liu, J. Chen and J. He

18 Phytoplankton productivity in newly opened waters of the Western Arctic Ocean

M. Jin, C. Deal, S.H. Lee, S. Elliott, E. Hunke, M. Maltrud and N. Jeffery

28 Investigation of Arctic sea ice and ocean primary production for the period 1992–2007 using a 3-D global ice–ocean ecosystem model

J. He, F. Zhang, L. Lin, Y. Ma and J. Chen

36 Bacterioplankton and picophytoplankton abundance, biomass, and distribution in the Western Canada Basin during summer 2008

Z. Gao, L. Chen, H. Sun, B. Chen and W.-J. Cai

46 Distributions and air–sea fluxes of carbon dioxide in the Western Arctic Ocean

M. Chen, Q. Ma, L. Guo, Y. Qiu, Y. Li and W. Yang

53 Importance of lateral transport processes to  $^{210}\text{Pb}$  budget in the eastern Chukchi Sea during summer 2003

W. Yu, J. He, Y. Li, W. Lin and L. Chen

63 Particulate organic carbon export fluxes and validation of steady state model of  $^{234}\text{Th}$  export in the Chukchi Sea

(Continued on inside back cover)

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# DEEP-SEA RESEARCH

Editor:  
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# PART II

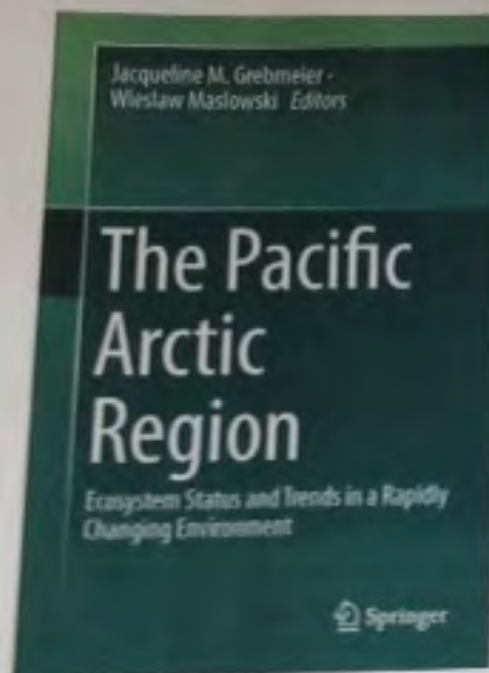
Guest Editors

**Wei-Jun Cai**  
**Laodong Guo**  
**Liqi Chen**  
**Jacqueline M. Grebmeier**  
**Haisheng Zhang**


Biogeochemical studies from the Chinese National Arctic Research Expeditions (CHINAREs)



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J.M. Grebmeier, W. Maslowski (Eds.)

**The Pacific Arctic Region**

Ecosystem Status and Trends in a Rapidly Changing Environment

- ▶ A one-stop resource volume for a better understanding of the key processes influencing the status and trend in the ecosystem of the Pacific Arctic Region (PAR)
- ▶ Highlights key scientific findings focused on the Pacific Arctic marine environment and includes a summary of gaps and future research directions
- ▶ Looks at model outputs to evaluate and forecast possible future change in the Arctic

The Pacific Arctic region is experiencing rapid sea ice retreat, seawater warming, ocean acidification and biological response. Physical and biogeochemical modeling indicates the potential for step-function changes to the overall marine ecosystem. This synthesis book was coordinated within the Pacific Arctic Group, a network of international partners working in the Pacific Arctic. Chapter topics range from atmospheric and physical sciences to chemical processing and biological response to changing environmental conditions. Physical and biogeochemical modeling results highlight the need for data collection and interdisciplinary modeling activities to track and forecast the changing ecosystem of the Pacific Arctic with climate change.

**Title Book: THE PACIFIC ARCTIC REGION: ECOSYSTEM STATUS AND TRENDS IN A RAPIDLY CHANGING ENVIRONMENT**

**Publisher: Springer, publ. date spring 2014 (galley proofs in hand)**

**Ch. 1 Introduction** (Guest editors: Grebmeier, J.M. and W. Maslowski); dedication to Marty Bergmann

**Ch. 2 Recent and Future Change in the Meteorology of the Pacific Arctic** (Overland, J.E., J. Wang, R.S. Pickart, and M. Wang)

**Ch. 3 Recent Variability in Sea Ice Cover, Age, and Thickness in the Pacific Arctic Region** (Karen E. Frey, James A. Maslanik, Jaclyn Clement Kinney, Wieslaw Maslowski)

**Ch. 4 Model-Data Fusion Studies of Pacific Arctic Climate and Ice-Ocean Processes** (Wang, J., H. Eicken, Y. Yu, X. Bai, J. Zhang, H. Hu, D-R Wang, M. Ikeda, K. Mizobata, and J. Overland)

**Ch. 5 Physical oceanography, hydrography, and shelf-basin exchange processes** (Williams, B. et al.)

**Ch. 6 The large scale ocean circulation and physical processes controlling Pacific-Arctic interaction** (W. Maslowski, W., J. Clement Kinney, S.R. Okkonen, R. Osinski, G. Panteleev)

**Ch. 7 On the Flow Through Bering Strait: A Synthesis of Model Results and Observations** (Clement Kinney, J., W. Maslowski, Y. Aksenov, B. de Cuevas, J. Jakacki A. Nguyen, R. Osinski, M. Steele, R.A. Woodgate, and J. Zhang)

**Ch. 8 Carbon Fluxes Across Boundaries in the Pacific Sector of the Arctic Ocean in a Changing Environment** (Cai, W.J., N.R. Bates, L. Guo, L.G. Anderson, J.T. Mathis, R. Wanninkhof, D.A. Hansell, L. Chen, I.P. Semiletov)

**Ch. 9 Carbon Biogeochemistry of the Western Arctic: Primary Production, Carbon Export and the Controls on Ocean Acidification** (Mathis, J.T., J.M. Grebmeier, D.A. Hansell, R.R. Hopcroft, D.L. Kirchman, S.H. Lee, S.B. Moran, N.R. Bates, S. VanLaningham, J.N. Cross, W-J. Cai)

**Ch. 10 Biodiversity & Biogeography of Lower Trophic Systems in the Pacific Sector** (Nelson, R.J., C. Ashjian, B. Bluhm, K. Conlan, R. Gradinger, J. Grebmeier, V. Hill, R. Hopcroft, B. Hunt, H. Joo, D. Kirchman, K. Kosobokova, S. Lee, W. Li, C. Lovejoy, M. Poulin, E. Sherr, K. Young)

**Ch. 11 Marine Fishes, Birds and Mammals as Sentinels of Ecosystem Variability and Reorganization in the Pacific Arctic Region** (Moore, S.E., E. Logerwell, L. Eisner, E. Farley, L. Harwood, K. Kuletz, J. Lovvorn, J. Murphy, L. Quakenbush)

**Ch. 12 Progress and Challenges In Biogeochemical Modeling Of The Pacific Arctic Region** (Deal, C.J., N. Steiner, J. Christian, J. Clement Kinney, K. Denman, S. Elliott, G. Gibson, M. Jin, D. Lavoie, S. Lee, W. Lee, W. Maslowski, J. Wang, E. Watanabe)

Any plans for future synthesis activities? Discussion amongst participants