

APPENDIX F. BOOK REVIEWS

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A very positive aspect of the Fourth International Symposium is that spatial analyses for aquaculture development and management are receiving increasing attention relative to fisheries. Another aspect of the aquaculture contributions is that they are broad in the kinds of applications presented. In terms of ecosystems they range from inland waters to marine waters. With regard to the latter, and in line with the perceived need to increase food production from the sea, GIS is being applied to determine the present and future limits of offshore mariculture development. More generally, applications range in scale from relatively small sub-national areas to global. Issues, too, have been widely addressed. They include site selection, estimating aquaculture potential, socio-economics, permitting development, and stock enhancement (aquaculture-based fisheries) along with decision-making. For the Fifth Symposium a larger participation of GIS related aquaculture would be consistent with the increasing importance of aquaculture in overall fisheries production and economics.

HSUEH-JUNG LU

ASSOCIATE PROFESSOR, NATIONAL TAIWAN OCEAN UNIVERSITY
GENERAL SECRETARY, TAIWAN OCEAN CONSERVATION ASSOCIATION

Confucius said “Without thinking, learning will be confused. Without learning, thinking will be dubious”. The International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences provides a great opportunity every three years for fishery and aquatic GIS researchers all over the world to think with learning and to learn with thinking. The publication of the Book delivers the essential knowledge of the Fourth Symposium to researchers, managers and students working in or interested in this field; and of course, they will experience less confused and dubious process if they have more thinking when reading this Book.

BRENT WOOD

*GIS/DATABASE CONSULTANT
DEEPWATER FISHERIES GROUP
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Fish populations do not follow political boundaries. They move and fluctuate in space and time. GIS and spatial analyses are critical for the understanding and management of such populations and the ecosystems of which they are a part, in contexts ranging from local, through regional to global. These books (the Proceedings), and the Symposia where they originated, provide a broad international summary of the tools and approaches which individuals, organisations and nations are using to investigate a wide range of fisheries and aquatic issues. The ongoing nature of this series ensures that the approaches and systems described are current, often state-of-the-art, making the latest book especially relevant and useful in this rapidly evolving field.

MIKIO NAGANOBU

*INTERNATIONAL RESEARCH COORDINATOR
FISHERIES RESEARCH AGENCY (JAPAN)*

Obviously, GIS culture has traveled around the world. GIS in the field of fisheries management and research is also rapidly growing and spreading for various applied scenes. However, fisheries subjects are not so simple usually. So the actual usage of Fisheries GIS is exhibited in various aspects. The researchers working in the field of fisheries management and research need specific knowledge for their concrete awareness of the problems. In this connection, I believe this Book actively provides useful knowledge, technologies and hints for various objectives in Fishery and Aquatic Sciences.

ANA CORBINEAU

*MARINE BIOLOGIST, IRD
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In general, spatial scales appear to be one of the most important factors to take into account when analyzing fisheries data. However, geographical locations can change by time. GIS and Spatial Analyses are essential tools for understanding and establishing limits of areas that are affected by time. During the 4th International GIS Symposium, worldwide researchers could highlight through their results the relevance of this powerful tool in fisheries research. The proceedings of the Symposium add considerably to the research and demonstrate that they must be continued in future meetings.

CARLOS PINTO

DATA SYSTEMS ANALYST

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA (ICES)

Geographical information systems (GIS) are becoming increasingly popular, not only for science but also in our everyday life. Examples of that are photos (Picasa, Panoramio), information (Wikipedia, Google maps) and navigation (Navicat, TomTom, Ovi Maps and others). With the ever-growing number of on-line applications and portals containing geo-referenced data, one could say that we are entering a geo-referenced era. Geo-referenced data are generated and accessed from our computer, mobile phone, camera, and so on. This improves the ways that we analyse, learn and solve our problems. This series of Symposia has made a serious effort to find and highlight works of excellence in fisheries and aquaculture. The last symposium, in particular, has disseminated invaluable work on the ecosystem level. This book provides a comprehensive and up-to-date overview of the most modern approaches in GIS and spatial analysis for fisheries and aquatic sciences. I would recommend it to professionals, scientists and managers who want to study the management of fisheries, aquaculture and ecosystems from a spatial analysis point of view.

RODRIGO RANDOW DE FREITAS

PHD STUDENT

ESTAÇÃO MARINHA DE AQUACULTURA (EMA)

UNIVERSIDADE FEDERAL DO RIO GRANDE (BRAZIL)

This book presents a significant collection of papers representing the work in many different areas of aquaculture, fisheries and GIS. This corroborates once more with the assertion that the GIS techniques and tools available (free of charge or not) are extremely effective in aiding the decision making process and planning of several coastal uses (sometimes conflicting ones). Thus, probably the greatest contribution of all these studies is evident in the flexibility to incorporate additions of a variety of technical contribution to several areas of knowledge. So, this book is an important resource. Good job!

MATTEO MURENU

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Since the first applications in aquatic sciences (mid 1980s) through the present, a significant increase in fisheries GIS publications documented the evolution of methods and the relevance of spatial analysis for understanding process and managing of natural resources in aquatic systems. The Fishery-Aquatic GIS Research Group has been invaluable in information sharing, exchanging ideas and disseminating advances in geotechnology in the last decade. The proceedings from the Fourth International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences published in this Book also continue in this direction by providing the latest viewpoints of fishery GIS scientists (from 22 different countries). Using GIS/SA as keystones, the variety of peer-reviewed papers help the readers to broaden out from marine to inland habitats, to expand from descriptive to predictive extent, to range from pattern to process-study approaches, as well as show useful examples for MPA rather than coastal or offshore and distant waters fisheries management. The series of Symposia Proceedings is very helpful, and will be the desk reference for anyone, from student to senior GIS scientists, who deal with ecological and fishery management issues.

NAOKI TOJO

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DEPARTMENT OF OVERSEAS FISHERIES CONSULTING ACTIVITIES
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our understandings in the world; but water and aquatic fauna and flora, which are often our fishing targets, exist beyond the borders. We have faced the questions 'where', 'when', and 'how much', regarding our interested subjects or targets of fisheries, often beyond our present understandings that are based on the set borders. GIS has been a great tool that is able to visualize the spatio-temporal information of these subjects and targets, and then provide a common platform for understandings by specific stakeholders. Since the first International symposium on GIS in fisheries sciences in 1999, this series of fisheries GIS symposia have provided the visions of future understandings in the vast world of fisheries sciences with the proceedings as the messages to the world readers. As I read this series of books, I can feel evolution of the procedure to know the borderless aquatic world and the exciting messages for future fisheries sciences. This most recent book is the newest practical message for the current and future fisheries science.

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One of the main themes of this Fourth International Symposium is the tendency towards the Ecosystem Approach to Aquaculture (EAA) and the Ecosystem Approach to Fisheries (EAF), both of which will become increasingly important over the next decade. This book illustrates that many of the cutting-edge GIS applications presented for fisheries and aquaculture have many issues in common (e.g. data, models, training, experience, etc.), therefore, synergies between fisheries and aquaculture must be strengthened for the development of EA strategies. There is still little concentration on economic and social factors relating to spatial aspects of fisheries or aquaculture; however, with EAA and EAF now looming large this is likely to change. The examples presented in this book illustrate the many benefits that GIS can bring to aquaculture and fisheries sustainable-management processes, from simple mapping to sophisticated modeling. Therefore, the principal task for the future is to determine the most opportune ways to utilize these spatial tools for implementing ecosystem approaches. An enabling environment is, therefore, crucial and it is essential to match potential requirements and current capacities (human resources, infrastructure, finances) at the national and/or regional level so that capacity building activities can be initiated.