

## **Preface to the special issue: Impacts of the earthquake and subsequent tsunami on the marine ecosystems of the Tohoku coastal areas**

The Great East Japan Earthquake with a moment magnitude of 9.0 struck off the Sanriku coast on March 11, 2011. The earthquake generated a tsunami that caused serious damage to the nation's fishing industry, primarily in the seven prefectures from Hokkaido to Chiba along the Pacific coast. To clarify the impacts of the earthquake and subsequent tsunami on the marine ecosystems of the Tohoku coastal areas, fisheries and oceanographic researches have been intensively conducted in highlighting the restoration process of the ecosystems. These impacts should be investigated widely by the surveys on the direct effects of huge disturbance and terrible amounts of debris and the indirect effects which occurred through environmental change and ecosystem succession. Tohoku Ecosystem-Associated Marine Sciences (TEAMS), subsidized by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) started up in January 2012 on the purposes to contribute to the recovery of the fisheries industry by comprehending the impact of this catastrophe on the marine ecosystem and the mechanisms. Many researchers have joined this project and did field surveys, then have found a lot of results.

Six years have passed since the terrible disaster. The total landings at wholesale fishery markets in the major landing areas in Iwate, Miyagi and Fukushima between February 2015 and January 2016 marked 74% in terms of volume and 93% in terms of value of the level before the earthquake (Fisheries Agency, Japan), depending on the marine bio-production in the Sanriku coast. On this point of recovering way of the fisheries, we will report a part of our achievements of the surveys conducted in the TEAMS project in this Special Issue. We hope that these papers may provide valuable contribution to understand such huge impacts on the marine ecosystem and the recovery processes of the coastal life.

Editors,

S. Katayama, K. Fujikura and T. Kawamura