

## Preface

The 2011 off the Pacific Coast of Tohoku Earthquake (hereafter, the 2011 Tohoku earthquake) has affected public perceptions and national plans of earthquake research. We think that the importance of estimating the magnitude and the way of occurrence of earthquakes that could be generated in the future has been reaffirmed in every social place from the standpoint of earthquake disaster mitigation. To estimate properly, it is important to classify past earthquakes as accurately as possible. In the new “basic disaster management plan” of Central Disaster Management Council published in this September, it is said that countermeasures should be promoted, based on the assumption of the future greatest earthquake by considering every possibility in light of scientific knowledge. Further, it is also said that, past earthquakes should be investigated precisely and as far into the past as possible through studies of geology, geomorphology and analyses of ancient documents. A study of the AD 869 Jogan earthquake, which was performed by our research center, was a typical example of close collaboration among geological and geophysical researchers. This kind of the collaborative research was unintentionally proved by the 2011 great Tohoku earthquake to be effective for the estimations. In these situations, the Active Fault and Earthquake Research Center will be reformed at the beginning of the 2014 fiscal year. We are now discussing the future of the earthquake research of the Geological Survey of Japan to contribute to disaster mitigation more.

The present volume contains 8 reports based mainly on activities of the AFERC in 2011. Among them, the following studies are supported by external funds contracted by MEXT (the Ministry of Education, Culture, Sports, Science and Technology-Japan) for paleoearthquake and related studies on 4 fault zones: the Hakodate-Heiya-Seien Fault Zone (northern Japan), the Atera Fault Zone (central Japan), Urazoko-Yanagaseyama Fault Zone (central Japan), the Goumura Fault Zone (southwest Japan). Other surveys and research, that is, an urgent survey of tsunami deposits of the 2011 Tohoku earthquake, a study of stress measurements at shallow depths, and an analysis of subsurface structure in Tokyo area were supported by internal funds of AIST.

We welcome comments from readers on the contents of this report, and the ways to publicize the results of our surveys and research. Finally, we would like to express our sincere gratitude to land owners, local communities and municipality that allowed us to work on private properties.

Yukinobu Okamura

Director, Active Fault and Earthquake Research Center

Yasuto Kuwahara

Deputy Director, Active Fault and Earthquake Research Center

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