

## Summary

This report presents the results of the research project “Survey of moderate repeating earthquakes in Japan,” which was conducted by Seismology and Volcanology Research Department of MRI, Seismology and Volcanology Department, Meteorological College, Sapporo Regional Headquarters, Sendai Regional Headquarters, Osaka Regional Headquarters, Fukuoka Regional Headquarters, and Okinawa Regional Headquarters, in FY 2011 and 2012. Chapter 1 reviews the previous research on repeating earthquakes and describes the survey methods. Chapter 2 presents repeating earthquakes detected with seismic wave coherency of digital strong motion data. Seventy-two groups were identified as possible repeating earthquakes. Chapter 3 presents the result of a repeating-earthquake survey based on the seismic catalog. Candidates for repeating earthquakes were selected based on the periodic occurrence of events. Four new groups of repeating earthquakes were found. Chapter 4 presents the results of earthquake-forecast tests of repeating earthquakes. Occurrences of repeating earthquakes in one-year periods were forecast beforehand and were assessed after the periods. Chapter 5 consists of reports of regional surveys of repeating earthquakes. Section 5.1 presents a report by Sapporo Regional Headquarters on repeating earthquakes in southern Tokachi, off Kushiro, and off Urakawa. Ten recurrences since 1954 were seen for a group off Kushiro. Section 5.2 presents a report by Sendai Regional Headquarters on the earthquakes around the Pacific plate boundary off Tohoku district. Earthquakes off Taneichi, Kesen’numa, Souma, Haramachi, and Iwaki were recognized as magnitude 6 class repeating earthquakes. Section 5.3 is a report by Osaka Regional Headquarters about the earthquakes in Kinki, Chugoku, and Shikoku districts; no candidate repeating earthquakes were found in these areas. Section 5.4 presents the results from Fukuoka Regional Headquarters on repeating earthquakes beneath the Hyuganada Sea. Some groups of earthquakes were identified as repeating earthquakes. Section 5.5 is a report by Okinawa Regional Headquarters on repeating earthquakes near Okinawa Main Island. Groups of magnitude 3 to 5 class repeating earthquakes were recognized.