

1. Introduction

At 20:39 UTC 1 April (07:39 2 April local time), 2007, an earthquake ($M_w = 8.1$) occurred off the Solomon Islands (8.460 S, 157.044 E). The earthquake generated a large tsunami on various islands in the Solomon Islands and Papua New Guinea. In total 52 people were killed by the earthquake and tsunami.

Just after the earthquake and tsunami occurred, Japanese tsunami researchers started to collect information about the tsunami height and damage in the islands located close to the epicenter. However it was quite difficult to get reliable information even on the tsunami size and human damage. They also tried to contact to the National Disaster Council (NDC) of the Solomon Islands and the local office of JICA, but the people in these organizations were of course extremely busy for that time and we understand that a post-tsunami survey had no priority over the relief activities.

Thus, we set our main purpose of the survey as to provide information on the earthquake and tsunami to the National Disaster Council of the Solomon Islands, who was responsible for the disaster management at that time. It is important not only for scientists but also local disaster managing organizations to have a consistent and reliable image of the tsunami based on field examination. We continued to contact them and also to exchange information with the other related organizations and tsunami researchers in other countries.

The first Japanese team (PARI Team) under Takashi Tomita, Port and Airport Research Institute, left for the field on April 9 and conducted their field survey April 11-14 in and around Ghizo Island. The second team (ITST) under Yuichi Nishimura, Hokkaido University, was organized with six Japanese and one US tsunami researchers. They left Japan on April 11 and arrived at Ghizo on April 13. They met the PARI Team on April 14 in Ghizo and had short discussion. They stayed in Ghizo until April 19, and then moved to Honiara. On April 20, they visited the NDC office and gave all information they had through the survey to Mr. Loti Yates, director of the NDC. The third team (JAEE Team) under Hideo Matsutomi, Akita University, left Japan on April 18 and met with the ITST in Honiara on April 19.

The three teams kept contact with tsunami researchers in Japan almost every night by using portable satellite phone. In these regular contacts, they reported on their safety, status of the affected people and towns, and major results of the day and survey plan of the next day. The main results were sent out on mailing lists so that all national tsunami researchers could share the information.

The fourth team (HU-JAXA Team) under Yuichi Nishimura, Hokkaido University, made a tsunami and deformation survey in July, 2007. The main purpose of the team was to collect more data on the eastern islands such as Rendova where no measurements had been taken in

April. It was also a good opportunity to examine how the tsunami deposits changed or were re-deposited in the three months since they were deposited.

This report includes survey results obtained by four teams whose members and schedules are listed in Table 1.1. The teams measured the local tsunami flow heights, maximum runups and inundation distances, examined damage on the buildings, described surface evidence for tsunami erosion and deposition processes, and interviewed eyewitnesses about the earthquake and tsunami behavior. In total the above four teams measured 146 tsunami heights and runups and took 54 coastal uplift/deformation measurements.

Table 1.1 Four post tsunami survey teams: members and schedule.

Team	Member	Schedule
PARI Team	Takashi Tomita (PARI) Taro Arikawa (PARI) Daisuke Tatsumi (PARI) * Kazuhiko Honda (PARI) * Hiroshi Higashino (PARI) * Kazuya Watanabe (PARI)	April 10: Arrival at Honiara - Meeting at NDC April 11: Munda - Meeting at NDC and Japanese Embassey - Survey in Munda April 12-14: Gizo - Survey in Gizo and the other islands April 15: Honiara - Meeting at NDC April 16: Departure from Honiara
International Tsunami Survey Team	Yuichi Nishimura (Hokkaido Univ.) Yuichiro Tanioka (Hokkaido Univ.) Yugo Nakamura (Hokkaido Univ.) Yoshinobu Tsuji (Tokyo Univ.) Yuichi Namegaya (AIST) Masahiko Murata (ADRC) Steve Woodward (Kent State Univ.) * Kenji Satake (Tokyo Univ.) * Fumihiko Imamura (Tohoku Univ.)	April 12: Arrival at Honiara - Meeting at NDC and Japanese Embassey April 13-18: Gizo - Survey in Gizo and the other islands April 19-20: Honiara - Meeting at NDC and UNDP April 21: Departure from Honiara
JAEE Team	Hideo Matsutomi (Akita Univ.) Koji Fujima (National Defense Academy) Yoshinori Shigihara (National Defense Academy) * Shun-ichi Koshimura (Tohoku Univ.)	April 19: Arrival at Honiara - Meeting at NDC April 20-24: Gizo - Survey in Gizo and the other islands April 25: Honiara April 26: Departure from Honiara
HU-JAXA Team	Yuichi Nishimura (Hokkaido Univ.) Yosuke Miyagi (JAXA)	July 24: Arrival at Gizo July 24-30: Gizo - Survey in Gizo and the other islands July 31: Departure from Honiara

Members with * mark had supported the survey teams in Japan.