

## Geological structure around Offshore Yonaguni-Jima Island

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Geological Survey of Japan (GSJ), AIST conducted the marine geological survey cruise around the Yonaguni-Jima, the southern Ryukyu Islands using R/V Hakurei (Japan Oil, Gas and Metals National Corporation) in August 2019. The features of our survey are that survey lines are set at high density in order to capture the geological structure around the Yonaguni-Jima Island in detail. This cruise deployed high-resolution Multi-Channel Seismic (MCS) reflection survey, Multi-Beam Echo Sounder (MBES) swath bathymetry survey, sub-bottom profiler survey, gravity observation, and magnetic field observation. Based on the latest results of the 2019 survey cruise, this presentation aims to show the geological structures and to discuss the tectonics around offshore Yonaguni-Jima Island based on the latest results of the 2019 survey cruise.

Around the Yonaguni-Jima Island, the feature features a concavo-convex morphology. While it shows a steep north-dipping slope in offshore northern Ishigaki-Jima Island. In the slope region, several lineaments have developed and trends in NW-SE or WNW-ESE direction are developed. Several remarkable unconformities are recognized in the sedimentary sequence around the Yonaguni-Jima Island, separating the Okinawa Trough and the sedimentary sequence in the slope region into four units. Normal faults are well developed and are characterized by seafloor lineaments. Developments of normal faults suggest the involvement of the extensional stress associated with the back-arc lifting of the Okinawa Trough. At northern offshore Yonaguni-Jima Island, several E-W trending ridges direction are developed in the slope region. The internal structure of these ridges is characterized by a steep northwest-dipping reflector. In addition, southeast-dipping normal faults are distributed at the southern margin of these ridges. We conclude that the formation of these ridges is likely to be controlled by these activities of southeast-dipping normal faults structures.

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