Data Distribution of JAMSTEC Cabled Seafloor Observatories

Riyo Otsuka[1], Shigehiko morita[2], Hiroko Sugioka[2], # Kenji Hirata[2], Ryoichi Iwase[2], Kyohiko Mitsuzawa[3], Hitoshi Mikada[2], Kiyoshi Suyehiro[2]

[1] MWJ, [2] JAMSTEC, [3] DSR, JAMSTEC

www.jamstec.go.jp

Japan Marine Science and Technology Center (JAMSTEC) is operating three cabled seafloor observatories in Japan. Currently, we are providing seismological and oceanographic data for two operational observatories via the Internet.

The first observatory was deployed at 1,174 m water depth off Hatsushima Island near the Sagami Trough, central part of Japan, in September 1993. The observatory has an ocean-bottom seismometer (OBS), a hydrophone, heat flow probes, a current meter, a CTD sensor, and a color video camera with underwater lights. This observatory is a prototype to test the technical feasibility of the various components. As such, the data from this observatory are not provided to public at present.

The second and third deployments are operational observatories, developed from first, prototype observatory. The second observatory is installed off Cape Muroto near the Nankai Trough, southwest Japan, in March 1997. Three OBSs, two ocean-bottom pressure gauges (PGs), and a cable-end multi-sensor station were deployed between 1,400 m and 3,500 m water depth on the continental shelf. The third observatory was deployed on the continental shelf southeast of Hokkaido Island, the northern most Island in Japan, between 2,100 m and 3,800 m water depth in July 1999. This observatory consists of three OBSs, two PGs, and a cable-end station as well as two branching units for connecting any new sensor using ROVs or submersibles.

All Internet users, in both academic and public domains, can access our web-site (http://www.jamstec.go.jp/scdc/top_e.html) and download real-time data from OBSs, PGs, hydrophones (HYDs) within the OBS cylinders, current meter (CM), acoustic Doppler current profiler (ADCP), heat flows (HF), and CTD during the last two months and video camera images. The OBS data, high-gain (flat in frequency ranges between 0.05 Hz and 40 Hz) and low-gain data (between DC and 40 Hz), and hydrophone (between 1 Hz and 40 Hz) data that users can download are continuously sampled at 100 Hz. The PG data, that is ocean-bottom pressure data already converted from the raw data, are also recorded continuously, but sampled at 1 Hz. The resolution of PGs is 2 Hz/m, resulting in approximately 3 mm in sea level change when the final re-sampling speed is set at 1 sec. Users can specify a favorite data format to download the observed data that the users are interested in to his/her own computer. In the present web system, the WIN format (http://eoc.eri.u-tokyo.ac.jp/WIN/index.html) or SEED format can be selected. Then, users can specify how to compress the observed data; tar, compress, lha, gzip, or no compression is selectable. See details visiting our web site.