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Large-scale gravity collapse of the Boso TTT-triple junction hanging wall: ROV study results

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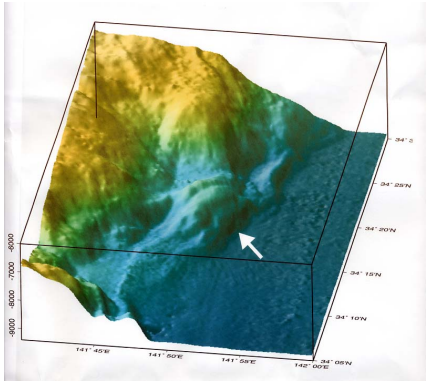
A TTT-triple junction is unstable unless the direction parallels one of the trenches. Boso example is the only case for TTT but displays very systematic history of gravity collapse, continuing for a long time but remarkable in recent years. The junction must have been far SE off than at present, and has been eroded and retarded to NW by gravity collapse due to the instability of the triangle area, probably as a consequence of the NW-ward change of movement of the Philippine Sea plate along the oblique subduction of the Sagami trough. One of the direct lines of evidence is the finding of middle Miocene fossil-bearing mudstone from the large-scale gravity slide deposits just on the junction. Submersible observation and collection of the samples made sense for explanation that the Miocene to present zonal structure of accretionary prisms and related sedimentary basin deposits is now largely collapsed in various scales, particularly on the NW side hanging wall of the junction. NE-trending normal faults in the surface might be the products of horizontal stretching on the North American plate side. Change of the submarine canyons from NW-SE to N-S is also the results of this instability. The paleoseismology, paleotsunamology and field observation in the Boso-Miura Peninsulas are also supporting these stories. Some of them may be related to the total subduction activity simultaneously linked earthquakes from the Nankai trough to Sagami trough.



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