

Miocene clockwise rotation of Southwest Japan: a review

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Southwest Japan and Northeast Japan rotated clockwise and counterclockwise, respectively, during Miocene major opening of Japan Sea backarc basins. A kinematic model proposed in the middle of the 1980's suggests that the differential rotation of the two island arc slivers occurred simultaneously, within only ~1–2 million years, at ~15 Ma, and this view still exerts a strong influence on the geotectonic study of the Japanese islands. I will review paleomagnetic and geochronological data published for Southwest Japan during the last quarter century and try to revise the timing and amount of the clockwise rotation. An important conclusion is that the clockwise rotation occurred between 18 and 16 Ma. The amount of the rotation relative to the tectonically stable part of the Asian continent is estimated to be $41.7 \pm 5.4^\circ$, which is based on the assumption that the main part of Southwest Japan rotated as an essentially rigid block.

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