

## Geomorphology and kinematics of the Kuwana anticline: evidence for active wedge thrusting in central Japan

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We present structural models constrained by tectonic geomorphology and seismic data to define the kinematic evolution and geometry of Kuwana anticline, an active fault-related fold. Our models constrain the rate of slip on underlying blind thrusts, which comprise the northern portion of the Nobi-Ise active fault zone. Fluvial terraces folded across the east-dipping forelimb, and west-dipping backlimb of Kuwana anticline suggest it grows above a stacked sequence of wedge thrusts. Numerous secondary, bedding-parallel thrusts also deform the terraces and are interpreted to form by flexural slip folding that acts to consume slip on the primary blind thrusts. Late Holocene fold scarps formed in the floodplain of the Ibi River east of Kuwana anticline mark the projected location of the east-vergent wedge thrust tip at the surface and indicate the structure has accommodated recent blind thrust earthquakes. The minimum slip rate on the deepest blind thrust is estimated as 2.2-3.1 mm/yr.