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Quaternary Fault and Fold Database of the United States

As of January 12, 2017, the USGS maintains a limited number of metadata fields that characterize the Quaternary faults and folds of the United States. For the most up-to-date information, please refer to the interactive fault map.

Santa Ynez fault zone, Pacifico section (Class A) No. 87a

Last Review Date: 2000-08-01

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Synopsis	**General:** Other than the basic geologic map location from Dibblee (1950 #5977; 1966 #5978) and a few other local studies, very little is known about most of this fault zone. Paleoseismic studies have been done in only two localities--the Alegria Canyon site along the Santa Ynez, South Branch section [87c] and the Rancho San Marcos site near the assigned section boundary between the Santa Ynez, Western section [87b] and Santa Ynez, Eastern sections [87d]. Although the latter study site, demonstrating Holocene displacement, is tentatively placed in the Santa Ynez, Eastern section [87d], the majority of this section (especially in Ventura County) is very poorly studied with respect to recency of activity. The South Branch is a little better known as a result of investigations in the late 1970's and early 1980's for a proposed Liquefied Natural Gas (LNG) facility (Envicom, 1978 #5981; Yerkes and others, 1980 #5993; Rice and others, 1981

	#5986) as well as an earlier study cited by Hart (1978 #5983). **Sections:** This fault has 4 sections.
Name comments	**General:** **Section:** Informal section name taken from Pacifico fault; includes Gaviotito and Bulito faults. Section extends from the coast near Jalama Creek eastward to its intersection with the Santa Ynez, South Branch section [87c] near Highway 101. **Fault ID:** Refers to numbers 301 (Pacifico fault), 320 (Santa Ynez fault) and 321 (Santa Ynez fault, south branch) of Jennings (1994 #2878) and number 44 (Santa Ynez fault) of Ziony and Yerkes (1985 #5931).
County(s) and State(s)	SANTA BARBARA COUNTY, CALIFORNIA
Physiographic province(s)	PACIFIC BORDER
Reliability of location	Poor Compiled at 1:750,000 scale. *Comments:* Location digitized from 1:750,000 map of Jennings (1994 #2878).
Geologic setting	Santa Ynez fault, an east-west structure along the north side of the Santa Ynez and Topatopa Ranges, is largely responsible for the uplift of these ranges (Dibblee, 1982 #5980). The fault has several kilometers of vertical displacement but also a strong, but unknown sinistral component (Dibblee, 1982 #5980); fault (along with Santa Ynez River fault) is modeled to accommodate clockwise rotation of the Transverse Ranges (Hornafius and others, 1986 #5922).
Length (km)	This section is 22 km of a total fault length of 148 km.
Average strike	N87°E (for section) versus N83°E (for whole fault)
Sense of movement	Reverse *Comments:* Dibblee (1950 #5977) describes south side up with a suggestion of sinistral slip component.
Dip Direction	S

	Comments: Dibblee (1950 #5977) indicates the fault dips steeply to the south.
Paleoseismology studies	
Geomorphic expression	Sag ponds reported along part of fault (Roubanis, 1963 #5987).
Age of faulted surficial deposits	Tertiary and Cretaceous bedrock (Dibblee, 1950 #5977).
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* There is no published evidence for Quaternary displacement on this fault except for the report by Roubanis (1963 #5987) of sag ponds along the fault. Jennings (1994 #2878) classifies the fault as questionably late Quaternary, but his evidence for this classification is unclear. Ziony and others (1974 #581) indicate late Cenozoic but not late Quaternary displacement. Quaternary activity otherwise inferred by presumed association with the main trace of the Santa Ynez fault.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No evidence that slip steps over to this fault from the North Branch of the Santa Ynez fault, other than reported geomorphic features.
Date and Compiler(s)	2000 Jerome A. Treiman, California Geological Survey
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