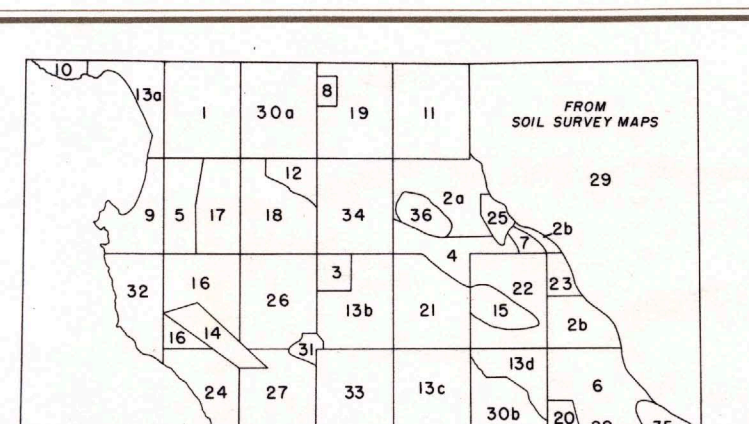
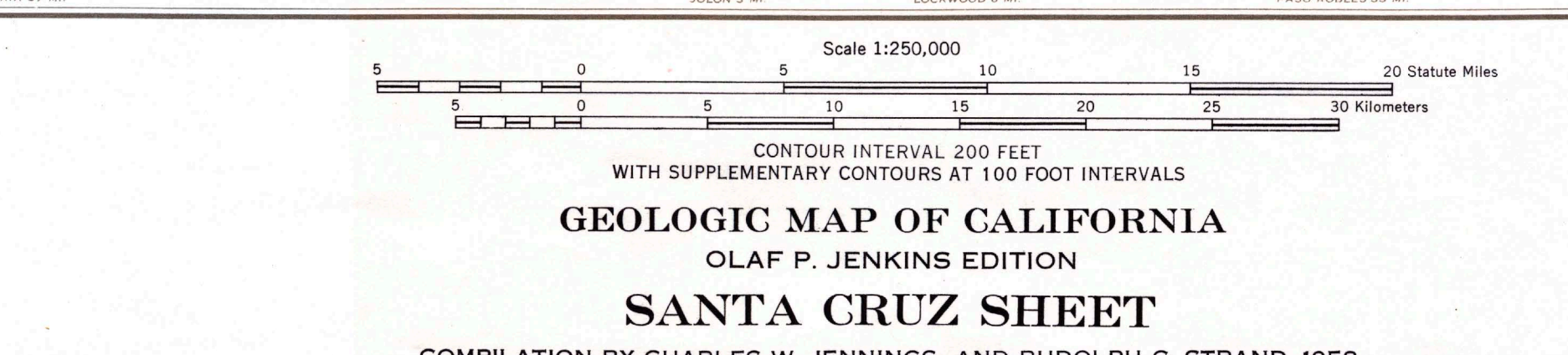
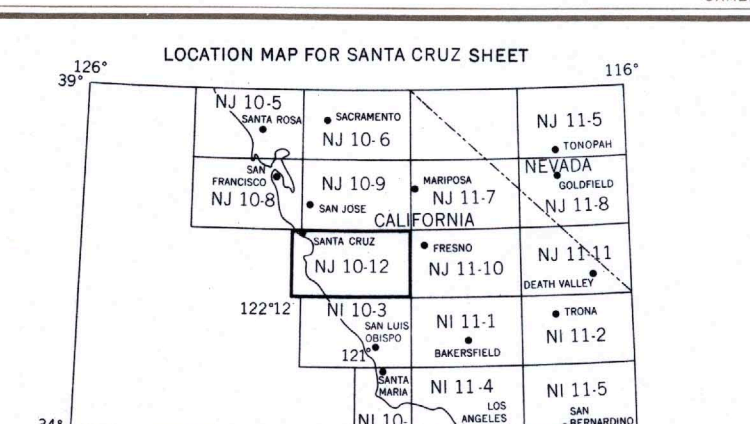
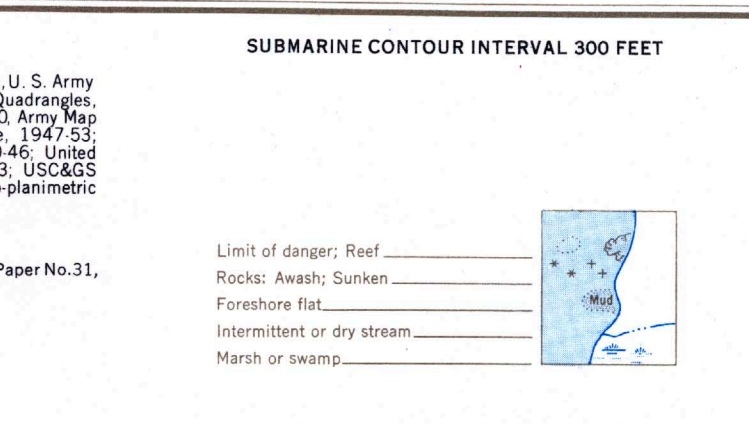


EXPLANATION		IGNEOUS AND META-IGNEOUS ROCKS	
QUATERNARY	Qd Sand dunes	Qv Recent volcanic: Qv ¹ -rhyolite; Qv ² -andesite; Qv ³ -basalt; Qv ⁴ -pyroclastic rocks	
	Qal Alluvium		
	Qsc Stream channel deposits		
	Qf Fan deposits		
	Qb Basin deposits		
	Qst Salt deposits		
	Ql Quaternary lake deposits		
	Qg Glacial deposits		
	Qrt River terrace deposits		
PLIOCENE	Qp ¹ Pliocene marine and marine terrace deposits	Qp ¹ Pliocene volcanic: Qp ¹ -rhyolite; Qp ¹ -andesite; Qp ¹ -basalt; Qp ¹ -pyroclastic rocks	
	Qp ² Pliocene nonmarine		
	Qp ³ Plio-Pliocene nonmarine		Quaternary and Pliocene cinder cones
	Qp ⁴ Undivided Pliocene nonmarine		
	Qp ⁵ Upper Pliocene nonmarine		
	Qp ⁶ Upper Pliocene marine	Qp ⁶ Pliocene volcanic: Qp ⁶ -rhyolite; Qp ⁶ -andesite; Qp ⁶ -basalt; Qp ⁶ -pyroclastic rocks	
	Qp ⁷ Middle and/or lower Pliocene nonmarine		
	Qp ⁸ Middle and/or lower Pliocene marine		
MIOCENE	Qm ¹ Undivided Miocene nonmarine		
	Qm ² Upper Miocene nonmarine		
	Qm ³ Upper Miocene marine	Qm ³ Miocene volcanic: Qm ³ -rhyolite; Qm ³ -andesite; Qm ³ -basalt; Qm ³ -pyroclastic rocks	
	Qm ⁴ Middle Miocene nonmarine		
	Qm ⁵ Middle Miocene marine		
	Qm ⁶ Lower Miocene marine		
OLIGOCENE	Qo ¹ Oligocene nonmarine	Qo ¹ Oligocene volcanic rocks	
	Qo ² Oligocene marine		
Eocene	Qe ¹ Eocene nonmarine	Qe ¹ Eocene volcanic rocks	
	Qe ² Eocene marine		
PALEOCENE	Qp ⁹ Paleocene nonmarine		
	Qp ¹⁰ Paleocene marine		
CENOZOIC	Qc ¹ Cenozoic nonmarine	Qc ¹ Cenozoic volcanic: Qc ¹ -rhyolite; Qc ¹ -andesite; Qc ¹ -basalt; Qc ¹ -pyroclastic rocks	
	Qc ² Tertiary nonmarine		
	Qc ³ Tertiary lake deposits	Qc ³ Tertiary intrusive rocks	
	Qc ⁴ Tertiary auriferous gravels	Qc ⁴ Tertiary volcanic: Qc ⁴ -rhyolite; Qc ⁴ -andesite; Qc ⁴ -basalt; Qc ⁴ -pyroclastic rocks	
CRETACEOUS	Qcr ¹ Undivided Cretaceous marine		
	Qcr ² Upper Cretaceous marine	Qcr ² Franciscan volcanic and meta-volcanic rocks	
	Qcr ³ Lower Cretaceous marine	Qcr ³ Mesozoic granitic rocks	
	Qcr ⁴ Knoxville formation	Qcr ⁴ Mesozoic basic intrusive rocks	
	Qcr ⁵ Upper Jurassic marine	Qcr ⁵ Mesozoic ultrabasic intrusive rocks	
	Qcr ⁶ Middle and/or Lower Jurassic marine	Qcr ⁶ Jura-Trias meta-volcanic rocks	
	Qcr ⁷ Triassic marine		
TRIASSIC	Qtr ¹ Pre-Cretaceous metamorphic rocks (ls = limestone)	Qtr ¹ Pre-Cretaceous meta-volcanic rocks	
	Qtr ² Pre-Cretaceous meta-sedimentary rocks	Qtr ² Pre-Cretaceous granitic and metamorphic rocks	
	Qtr ³ Paleozoic marine (ls = limestone)	Qtr ³ Paleozoic meta-volcanic rocks	
PERMIAN	Qp ¹¹ Permian marine	Qp ¹¹ Permian meta-volcanic rocks	
UNDIVIDED CARBONIFEROUS	Qc ⁵ Undivided Carboniferous marine	Qc ⁵ Carboniferous meta-volcanic rocks	
PENNSYLVANIAN	Qp ¹² Pennsylvanian marine		
MISSISSIPPIAN	Qm ⁷ Mississippian marine		
DEVONIAN	Qd ¹ Devonian marine	Qd ¹ Devonian meta-volcanic rocks	
SILURIAN	Qs ¹ Silurian marine	Qs ¹ Undivided Pre-Devonian meta-volcanic rocks	
ORDOVICIAN	Qo ¹ Ordovician marine		
CAMBRIAN	Qc ⁶ Cambrian marine		
	Qc ⁷ Cambrian - Precambrian marine		
PRECAMBRIAN	Qp ¹³ Undivided Precambrian metamorphic rocks (gs = gneiss, sc = schist)	Qp ¹³ Undivided Precambrian granitic rocks	
	Qp ¹⁴ Later Precambrian sedimentary and metamorphic rocks		
	Qp ¹⁵ Earlier Precambrian metamorphic rocks		

TOPOGRAPHIC BASE MAP
Prepared by the Army Map Service (GUSA), Corps of Engineers, U. S. Army Washington, D. C. Compiled in 1959 from United States Quadrangles, 1:24,000 and 1:31,680; USGS, 1922-50 California, 1:25,000 Army Map Service, 1948-53; California, 1:50,000 Army Map Service, 1947-53; United States Quadrangles, 1:62,500 USGS and CE, 1947-48; United States Quadrangles, 1:125,000 USGS, Sheet Province, 1913; USCGS Charts 5302, 5402, 5401. Planimetric detail revised by photogrammetric methods. Control by USGS and CE. Map field checked, 1956.

Land net prepared by U. S. Geological Survey, 1958

Submarine contours adapted from Shepard and Emery Special Paper No. 31, Geol. Soc. America



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*Modified by T. W. Dibblee, Jr.

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