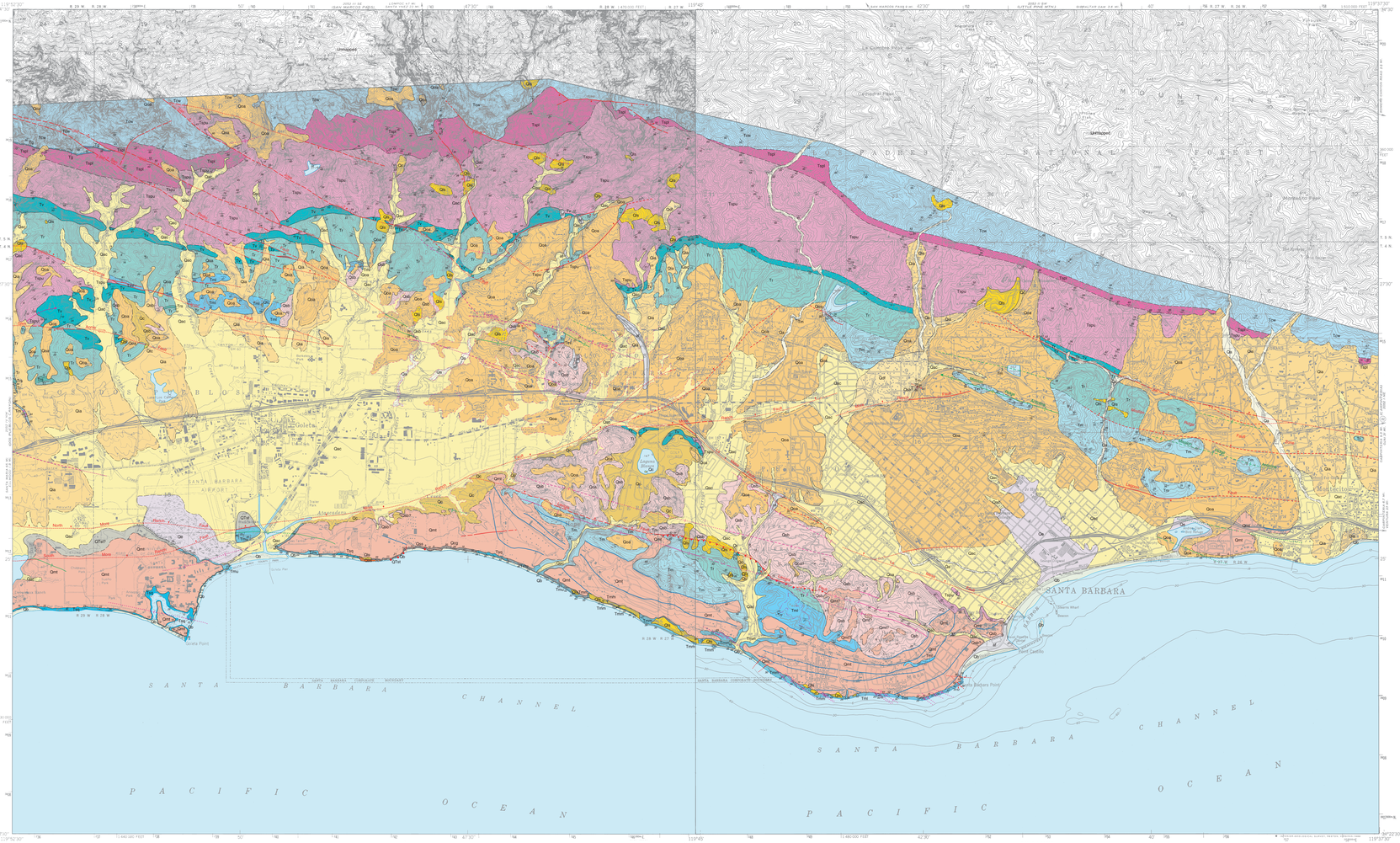
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN FILE REPORT 02-136
Version 1.1
Pamphlet accompanies map



Base from U.S. Geological Survey, 1950 and 1952, photorevised 1988

Polyconic projection, 1927 North American Datum
10,000-foot grid ticks: California Coordinate System, zone 5
1000-meter Universal Transverse Mercator grid, zone 11

Geology was mapped 1999-2001.
Digital Cartography by Theodore R. Brandt.
This map has not been edited or reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic code.

PRELIMINARY GEOLOGIC MAP OF THE SANTA BARBARA COASTAL PLAIN AREA, SANTA BARBARA COUNTY, CALIFORNIA

By

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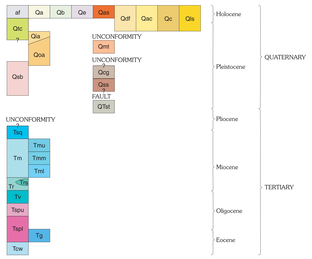
Larry D. Gurrola, Amy J. Selting, and Theodore R. Brandt

2003

CORRELATION OF MAP UNITS



LIST OF MAP UNITS

af **Artificial fill (Holocene)**

Qa **Active channel alluvium (Holocene)**

Qb **Beach deposits (Holocene)**

Qe **Estuarine deposits (Holocene)**

Qasf **Asphalt deposits (Holocene)**

Qaf **Debris flow deposits (Holocene and/or upper Pleistocene)**

Qlac **Alluvium and colluvium (Holocene and upper Pleistocene)**

Qc **Colluvium (Holocene and upper Pleistocene)**

Qls **Landslide deposits (Holocene and upper Pleistocene)**

Qtc **Travertine and/or caliche deposits (Holocene? and Pleistocene?)**

Qia **Intermediate alluvial deposits (upper Pleistocene)**

Qmt **Marine terrace deposits (upper Pleistocene)**

Qoa **Older alluvial deposits (upper and middle Pleistocene)**

Qsb **Santa Barbara Formation (middle Pleistocene)**

Unnamed sedimentary rocks east of Goleta Pier (Pleistocene and Pliocene?)

Qcg **Conglomeratic unit (middle Pleistocene?)**

Qss **Sandstone unit (middle Pleistocene?)**

QTsf **Siltstone unit (lower Pleistocene and/or upper Pliocene)**

Tbq **Sisquoc Formation (Pliocene? and upper Miocene)**

Tm **Monterey Formation (Miocene)**

Tmu **Upper diatomaceous unit (upper Miocene)**

Tmm **Middle shale unit (upper and middle Miocene)**

Tml **Lower calcareous unit (middle and lower Miocene)**

Tr **Rincon Shale (lower Miocene)**

Tis **Siliceous shale interval (lower Miocene)**

Tv **Vaqueros Formation (upper Oligocene)**

Sespe Formation (upper Oligocene and upper Eocene?)

Tspu **Upper sandstone and mudstone unit (upper Oligocene)**

Tspl **Lower conglomerate and sandstone unit (upper Oligocene and upper Eocene?)**

Tg **Gaviota Formation (upper Eocene)**

Tow **Coldwater Sandstone (upper and/or middle Eocene)**

Contact—Long dashed where approximately located; short-dashed where inferred; dotted where concealed; tic shows direction and angle of dip

Contact—Inferred from 1928 air photos

Beveled surface border

Marine terrace shore line angle—Dashed where approximately located

Fault—Long-dashed where approximately located; short dashed where inferred; dotted where concealed; queried where uncertain; ball and bar on apparent downthrown side; pair of opposing arrows show sense of strike-slip component of movement, queried where uncertain; tic shows direction and angle of dip; arrow shows trend and plunge of slickenside striae

Fault—Inferred from 1928 air photos; dashed where inferred; dotted where concealed; ball and bar on apparent downthrown side

Thrust fault—Long dashed where approximately located; short dashed where inferred; dotted where concealed

Fault-line scarp—Inferred from 3 m digital elevation model

Fold and warp axial traces—Long-dashed where approximately located; short-dashed where inferred; dotted where concealed

Anticline

Upwarp axis

Syncline

Downwarp axis

Inclined joint—Showing strike and dip

Horizontal bedding

Inclined bedding—Showing strike and dip

Vertical bedding—Showing strike

Overturned bedding—Sowing strike and dip

Inclined bedding—Showing approximate strike and direction of dip

Qsa—Asphalt deposits

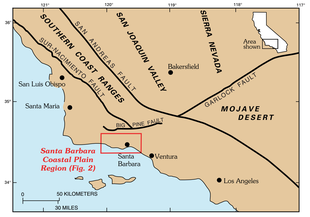


Figure 1. Generalized index map of the southwestern part of California showing the location of the Santa Barbara coastal plain region and nearby major tectonic faults.

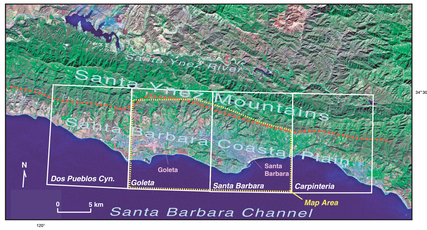
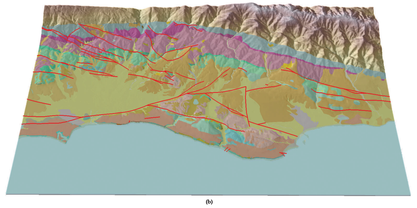


Figure 2. Landsat 7 image of Santa Barbara coastal plain region showing location of map area and component 7.5' quadrangles. Approximate northern boundary of Santa Barbara fold-fault belt is shown by dashed red line.

(a)



(b)

Figure 3. (a) Digital Elevation Model (DEM) (30 m resolution) shaded-relief image of Santa Barbara coastal plain area as viewed from the south and illuminated from northwest. **(b)** Mapped geology draped over DEM shown in (a) with faults shown in red; concealed and exposed faults are not distinguished.

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This map was produced on request, directly from digital files, on an electronic plotter

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