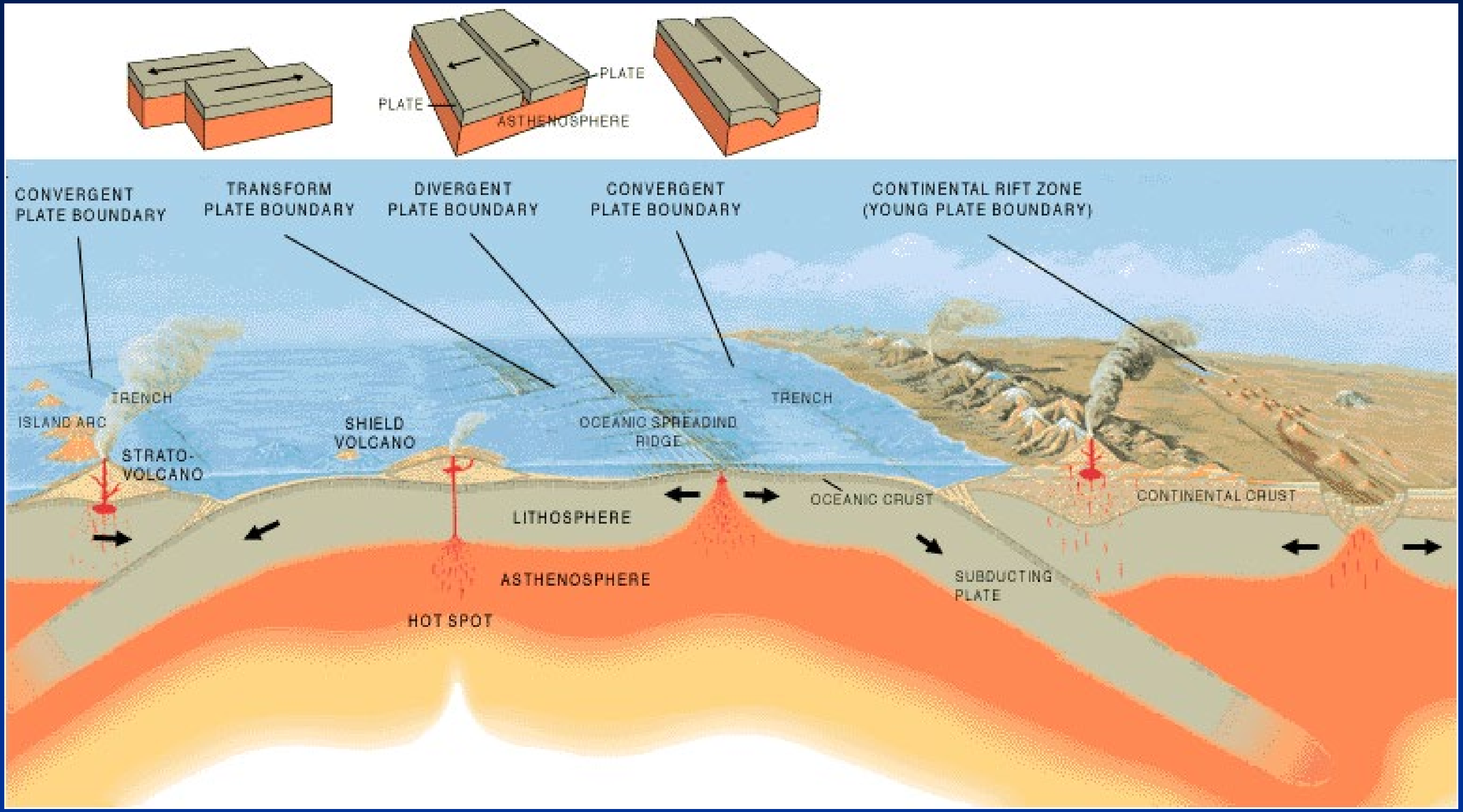
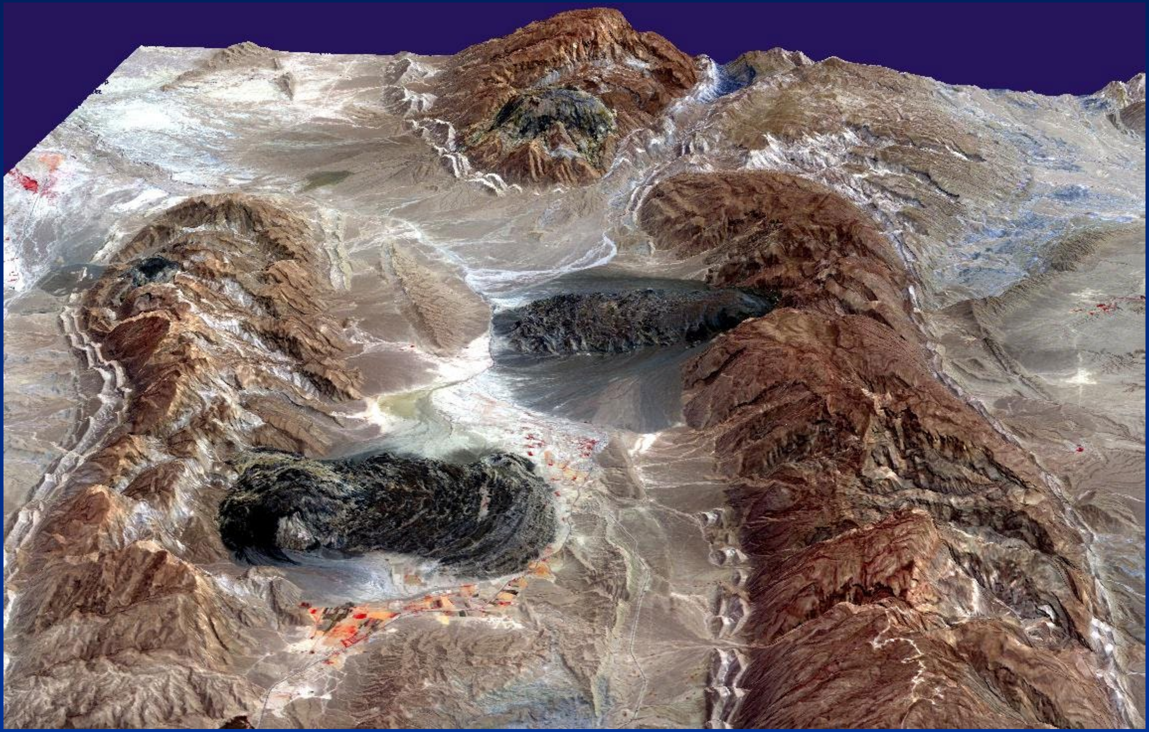
Tettonica a zolle, il sistema e i tipi di margini di placche

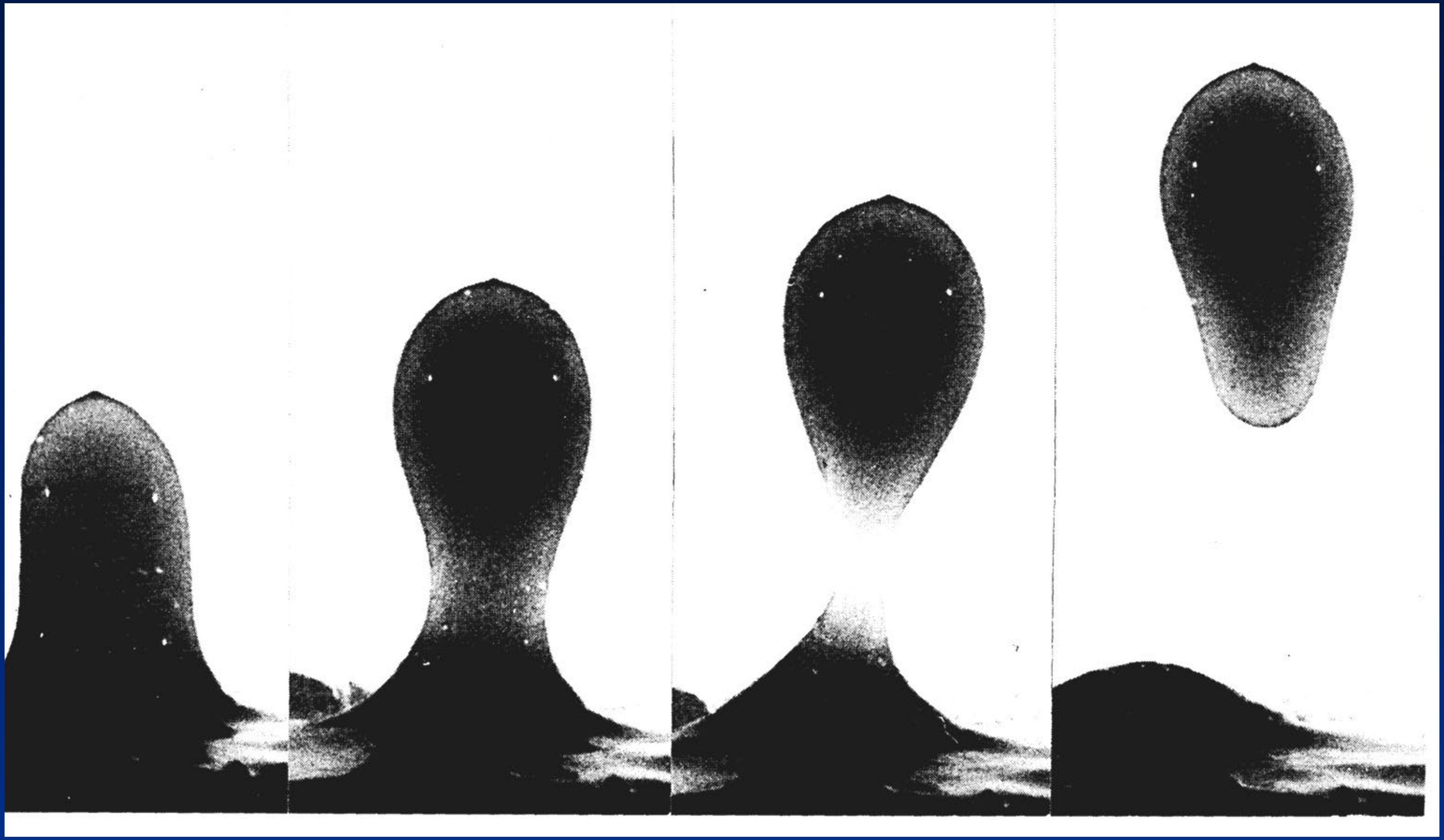


Da “The dinamic Earth” in USGS Web Site

Tettonica diapirica



Salt glacier da diapiri salini
Da Earth observatory NASA
Immagine da NASA/GSFC/MITI/ERSDAC/JAROS, and U.S./Japan ASTER Science Team



Da Price & Cosgrove, 1990

Si innesca per differenziale di carico quando si attua inversione di densità in profondità. Esempio di risalita di gocce meno dense del liquido chiaro.

Tettonica diapirica

Salgemma = diapirismo o halocinesi, legata alla densità e alla mobilità del salgemma.

Gesso = diapirismo reale?, legato alla densità, ma mobilità del gesso è limitata (roccia fragile, sino a quando non si trasforma in anidrite), con sensibile influenza della sovrappressione dei fluidi interstiziali.

Fango = "pseudodiapirismo" governato da sovrappressione dei fluidi interstiziali.


Image © 2011 GeoEye
Image © 2011 DigitalGlobe
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2011 Cnes/Spot Image
27°17'24.43" N 54°38'29.65" E elev 1661 ft
©2010 Google
Eye alt 154.27 mi


Image © 2011 GeoEye
Image © 2011 DigitalGlobe
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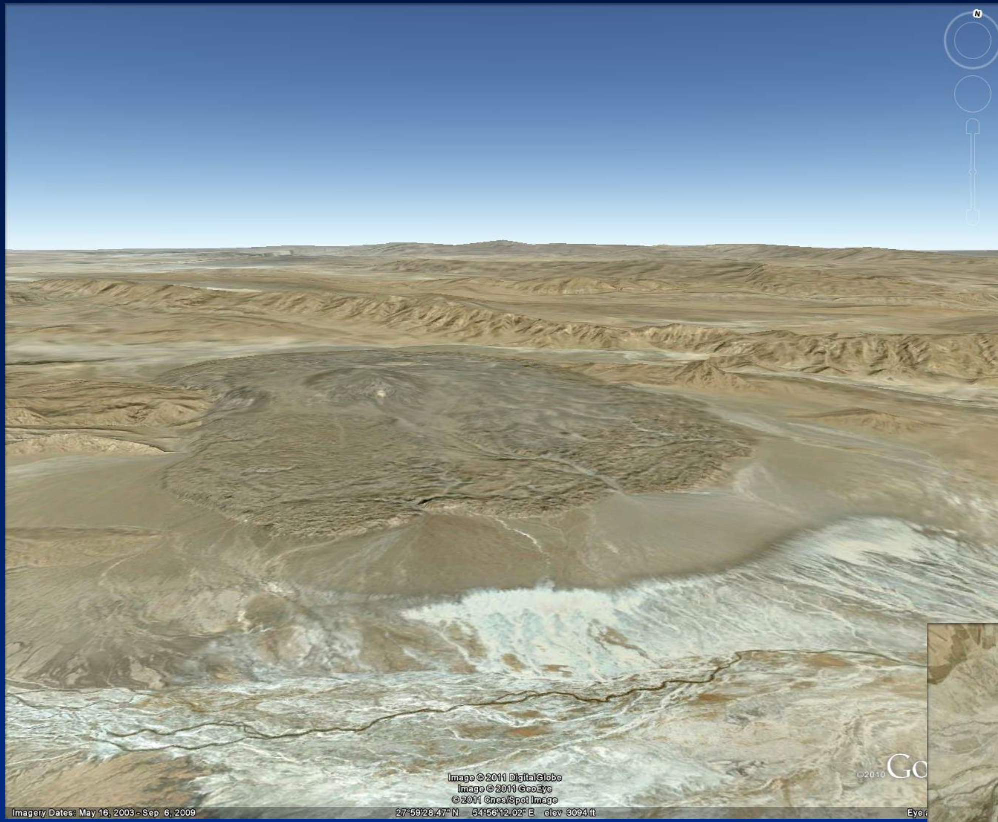
©2010 Google
Imagery Dates: Mar 13, 2006 - Sep 6, 2009
27°56'19.95" N 54°54'22.85" E elev 2309 ft
Eye alt 26.96 mi
N


N
Image © 2011 DigitalGlobe
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Imagery Dates: May 16, 2003 - Sep 6, 2009
27°59'28.47" N 54°56'12.02" E elev 3094 ft


N
Image © 2011 DigitalGlobe
Image © 2011 GeoEye
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Google
Imagery Dates: Mar 13, 2006 - Sep 6, 2009
28°00'00.95" N 54°54'35.91" E elev 4281 ft
Eye alt 10.84 mi

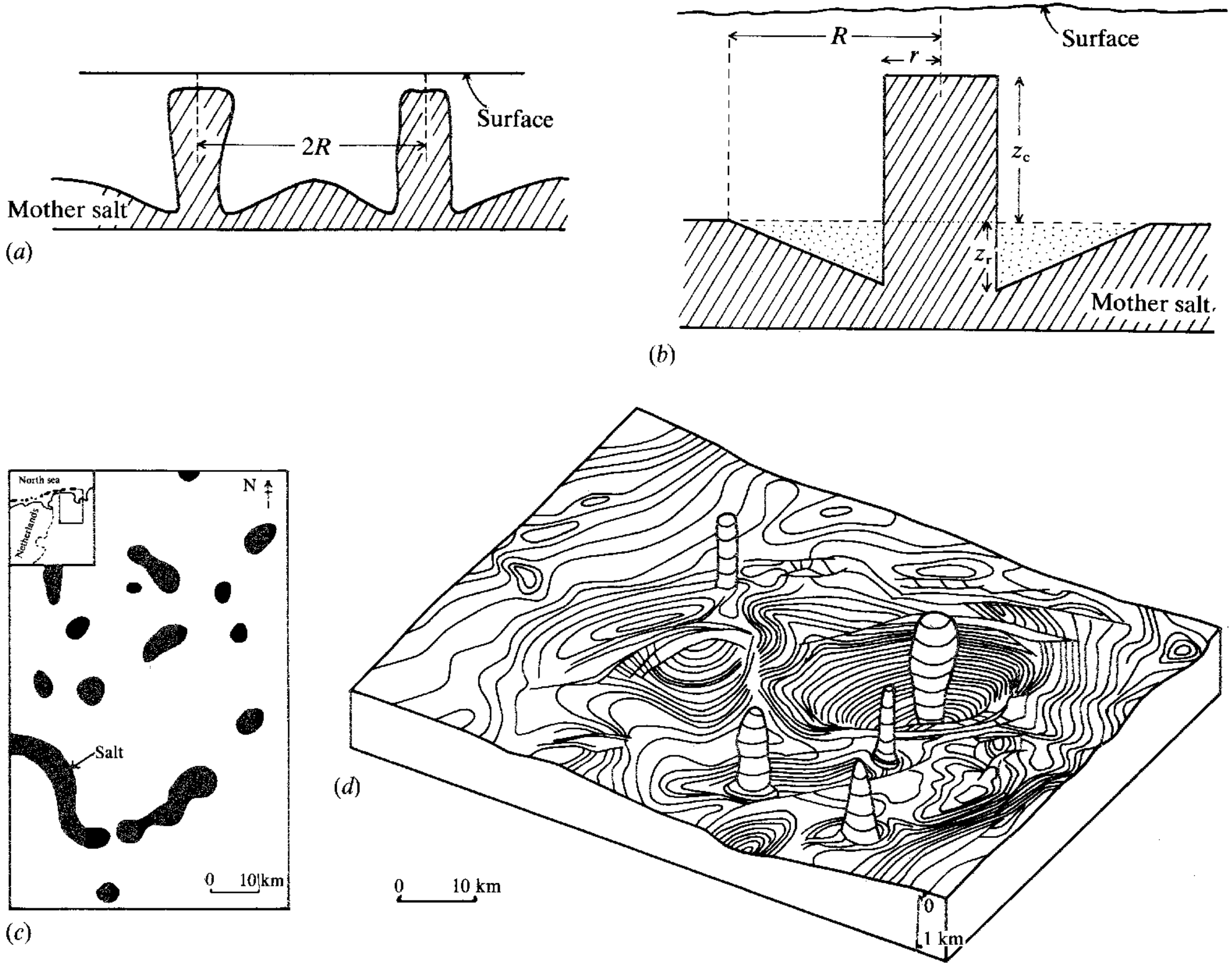
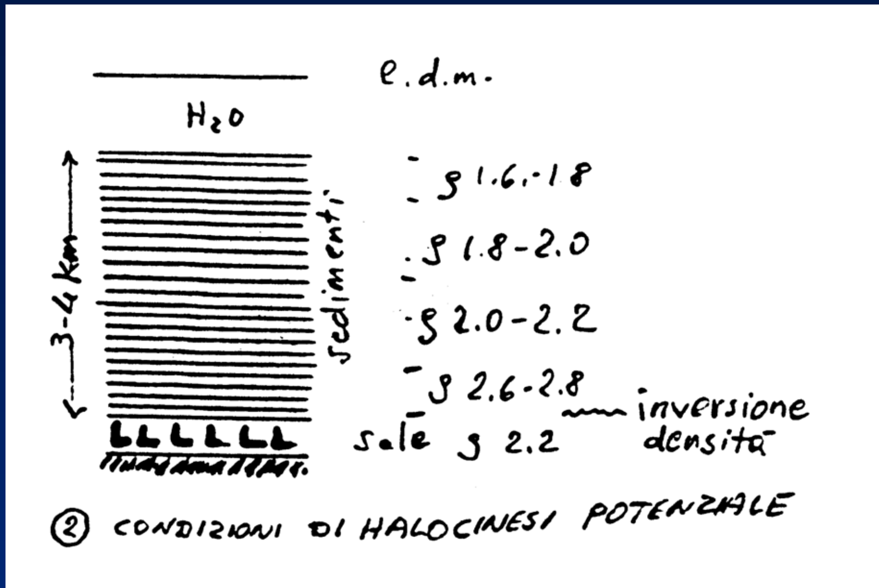
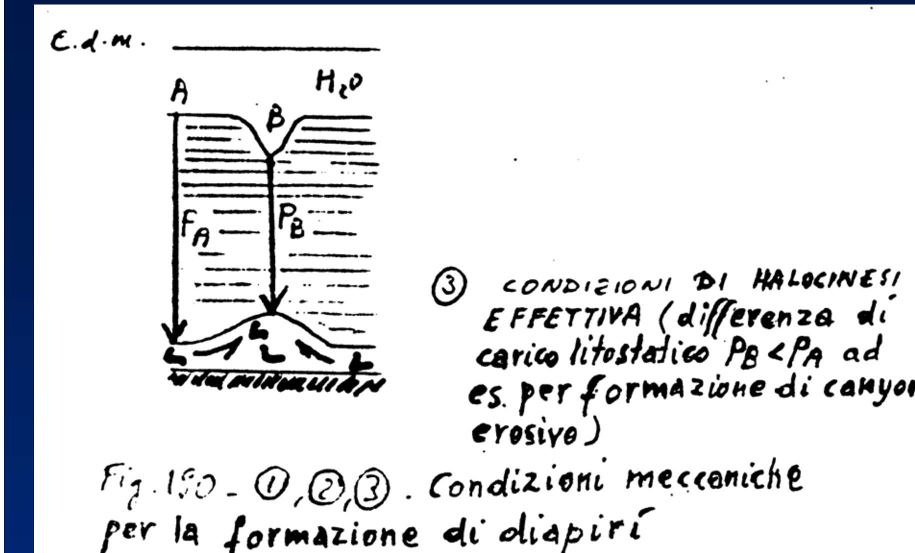


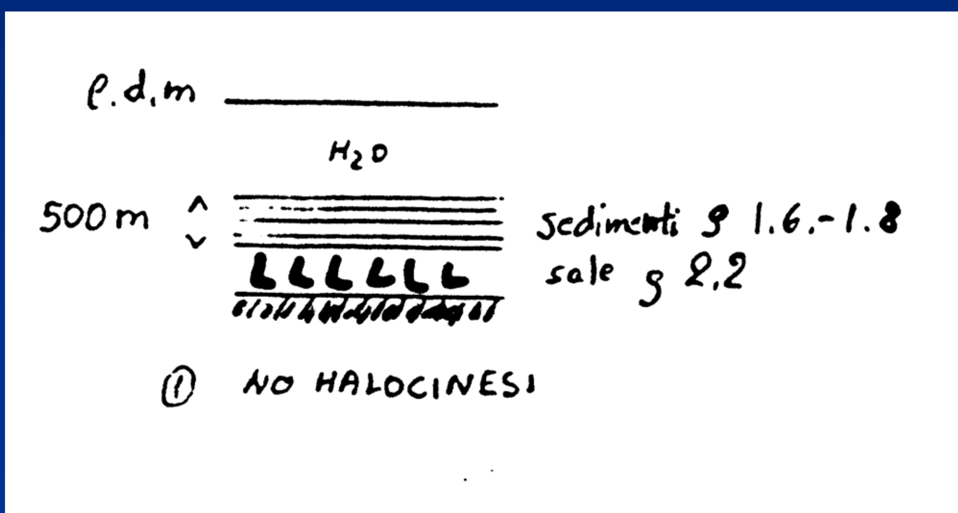
Fig. 4.13. (*a*) Schematic representation of section through two adjacent, bollard-type plugs. (*b*) Simplified geometry of salt layer and plug. (*c*) Distribution of Salt Domes in a small area of N. Germany. (After Turcotte & Schubert, 1982.) (*d*) Block diagram of salt plugs piercing the top of the Woodbine whose structure contours are shown. (After Jackson & Seni, 1983.)

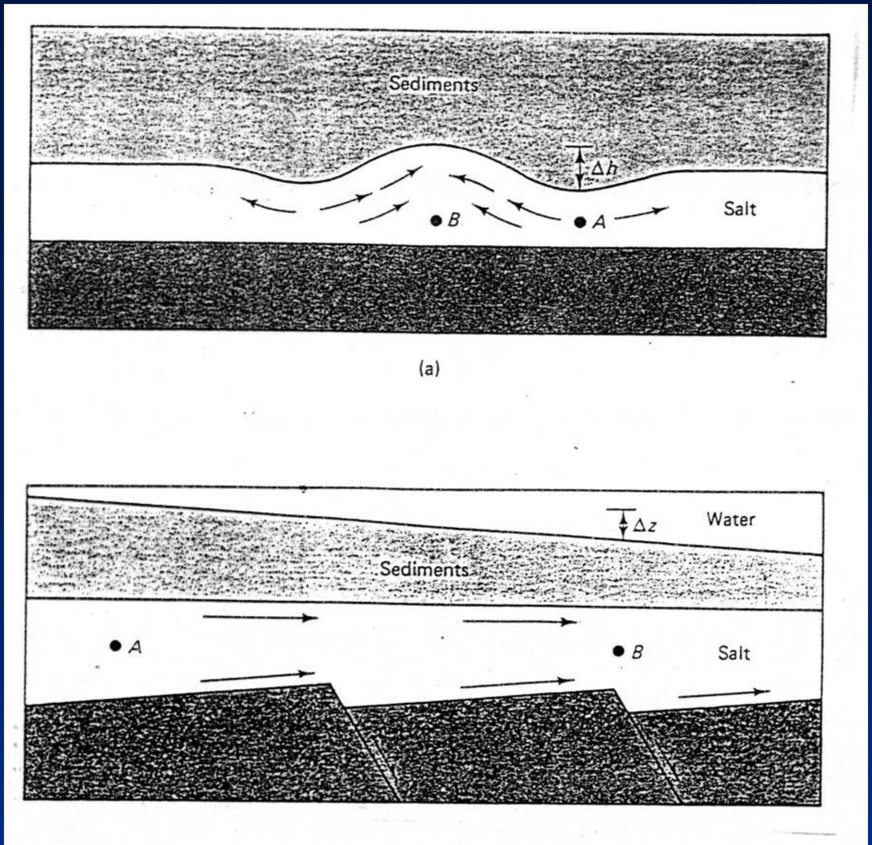
Da Price & Cosgrove, 1990





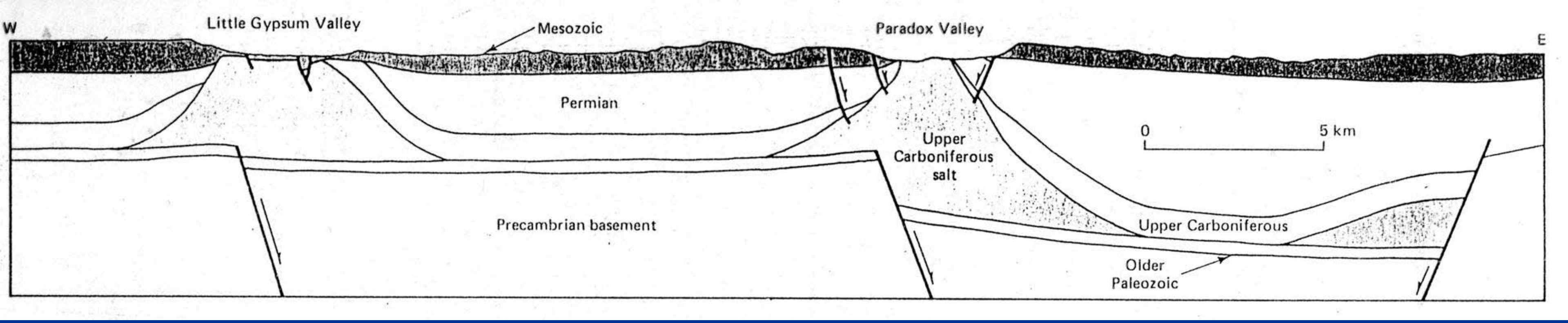
Da Selli L., appunti dalle lezioni di Geologia Strutturale





Da Suppe, 1985

Migrazione del sale vero le zone con meno carico litostatico



Da Suppe, 1985

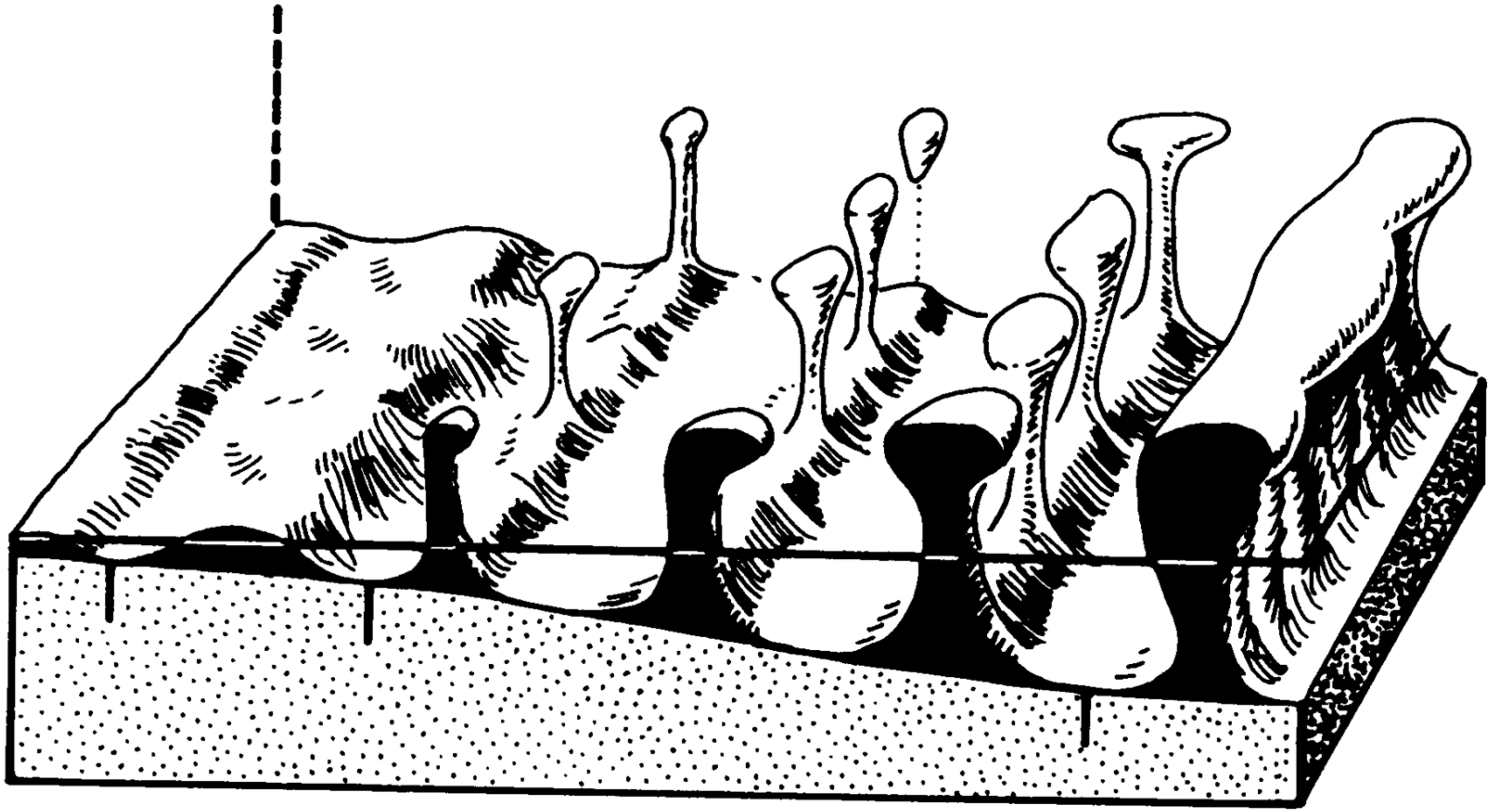
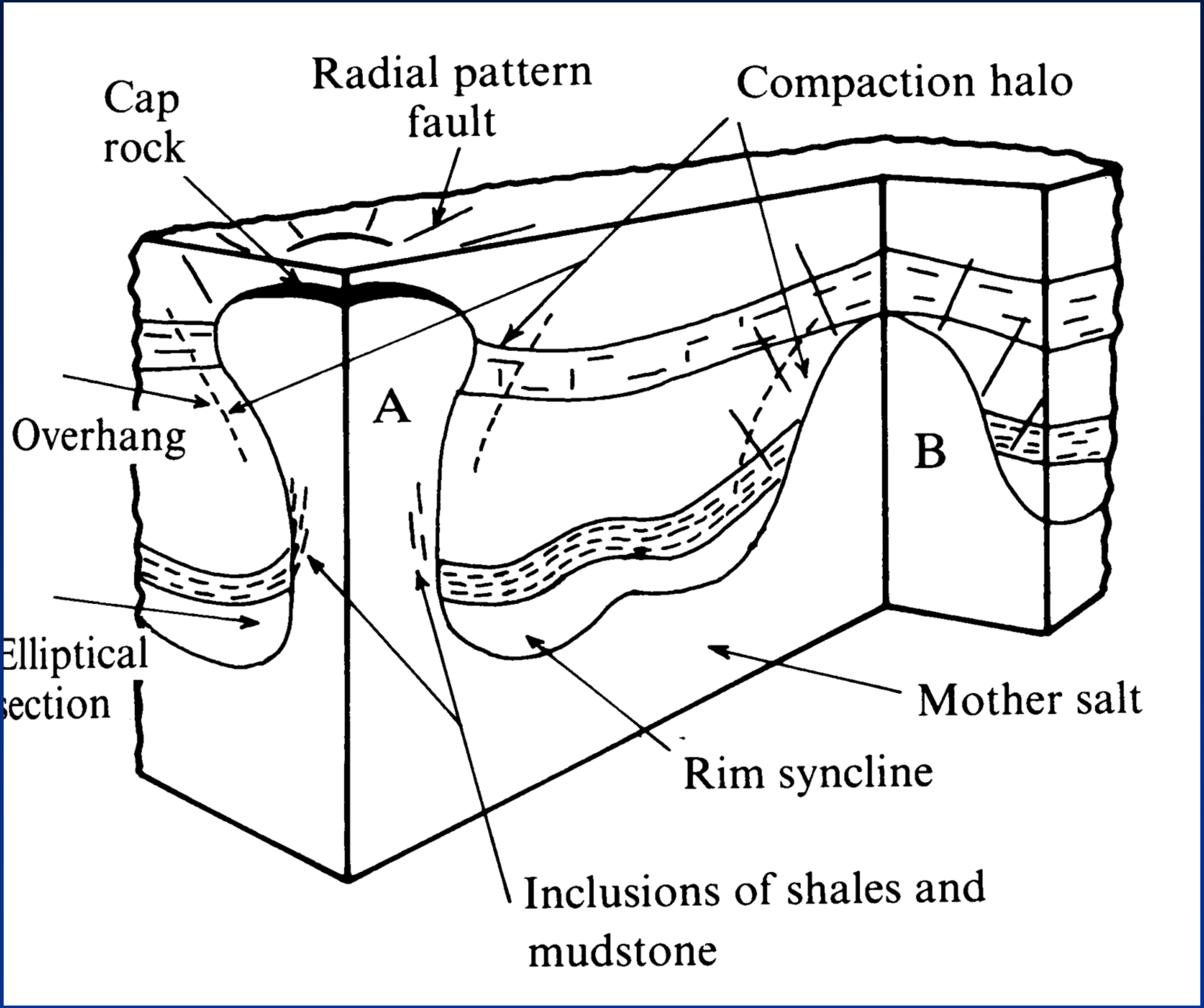


Fig. 4.7. General morphology of salt pillows, walls and domes. (After Trusheim, 1960.)

Da Price & Cosgrove, 1990

Densità del salgemma 2,16
gesso 2,3



Da Price & Cosgrove, 1990

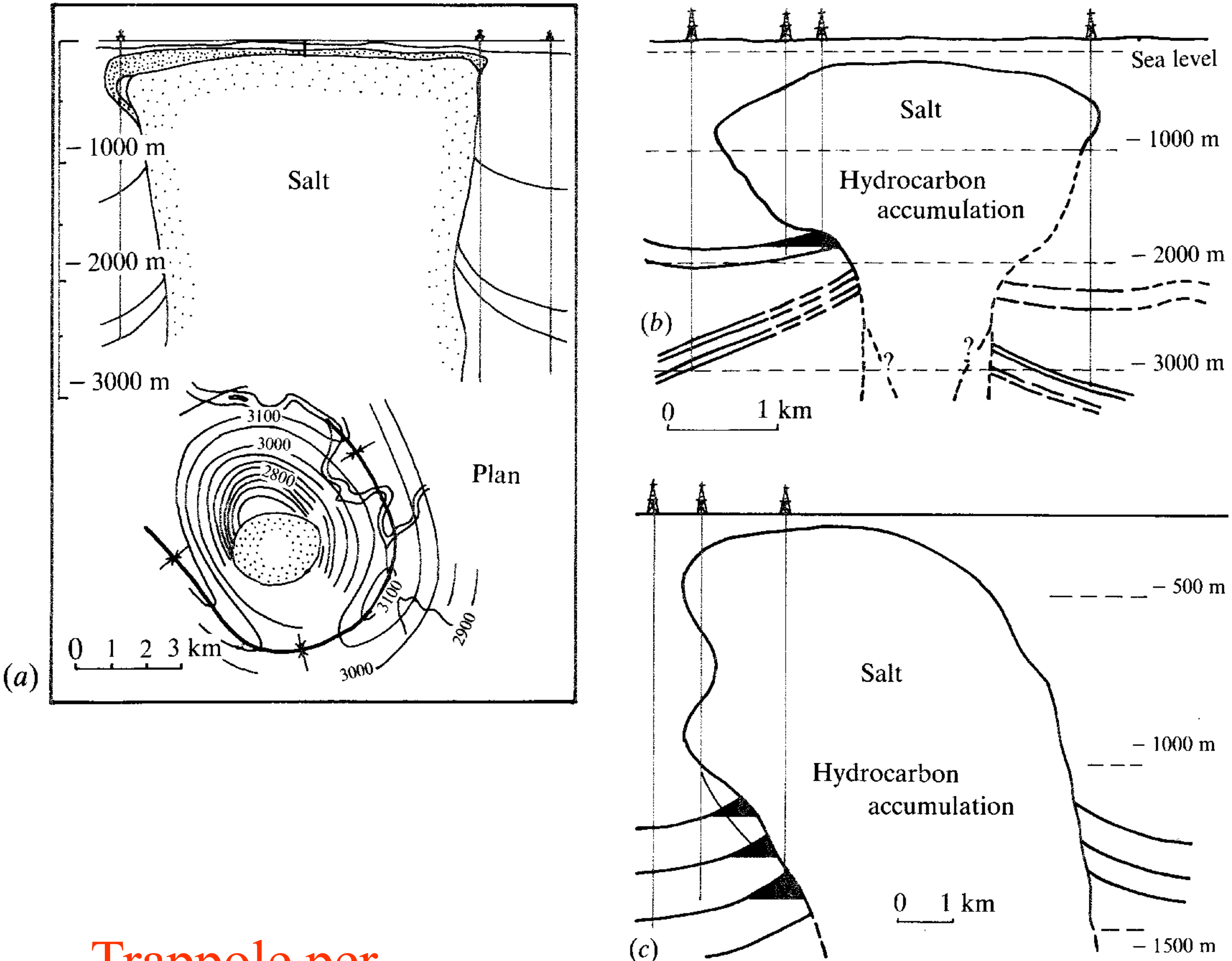


Fig. 4.8. Profiles indicating morphology of a variety of real salt domes or plugs (*a*) Zanapa Dome, Mexico. (*b*) Bethel Dome, Texas, U.S.A. (*c*) Cote-blanche Dome, Louisiana, U.S.A. ((*b*) and (*c*) after Halbouty, 1967).

Trappole per idrocarburi

Da Price & Cosgrove, 1990

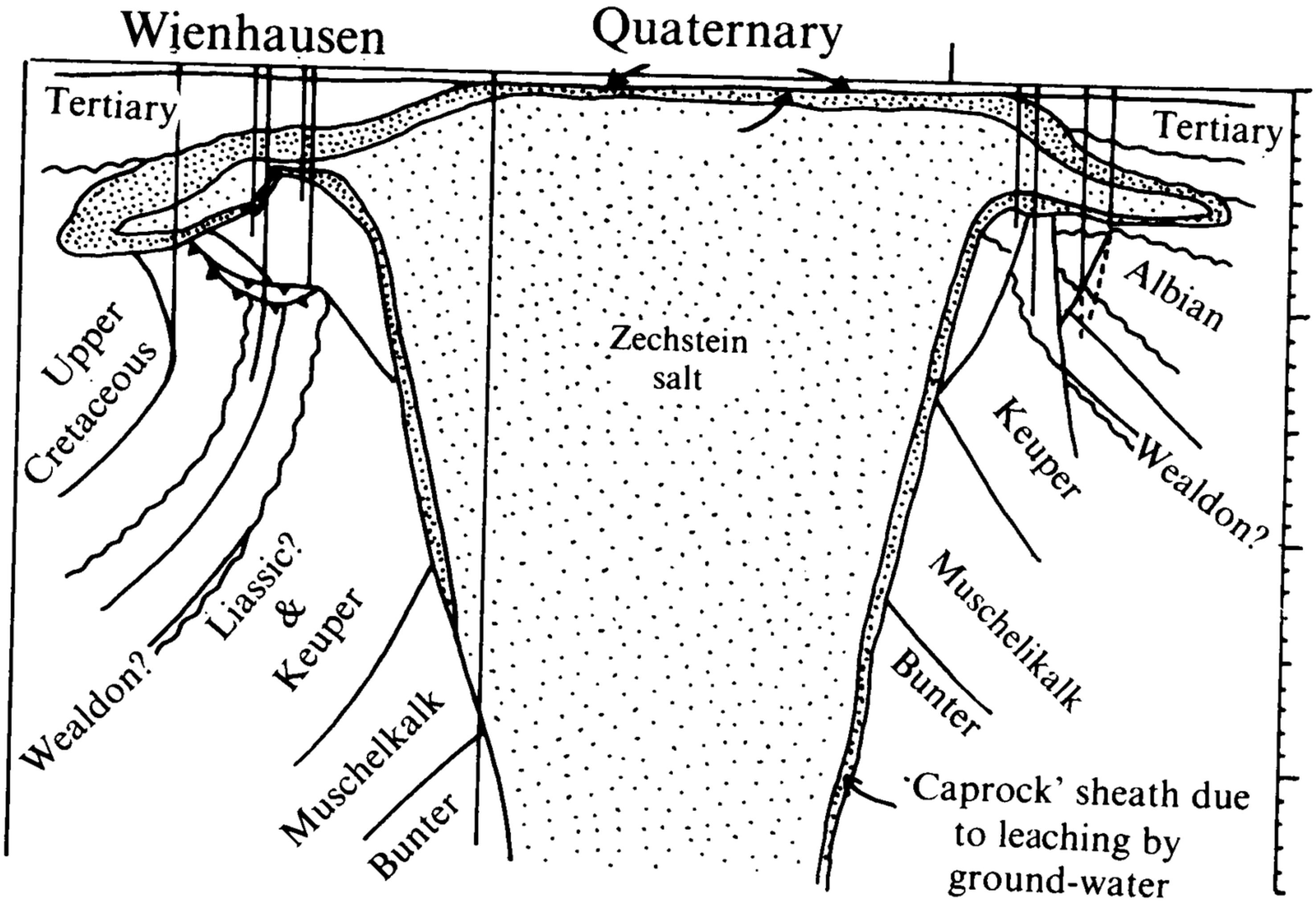


Fig. 4.25. Section through the Wienhausen Salt Plug, N.W. Germany. (From Gussow, 1968; after Schott, 1956.)

Da Price & Cosgrove, 1990

. 4.10. Sketch of vertically plunging folds revealed in the gal-
es of a salt mine. (After Balk, 1953.)

Da Price & Cosgrove, 1990

Image © 2011 DigitalGlobe
Image © 2011 GeoEye
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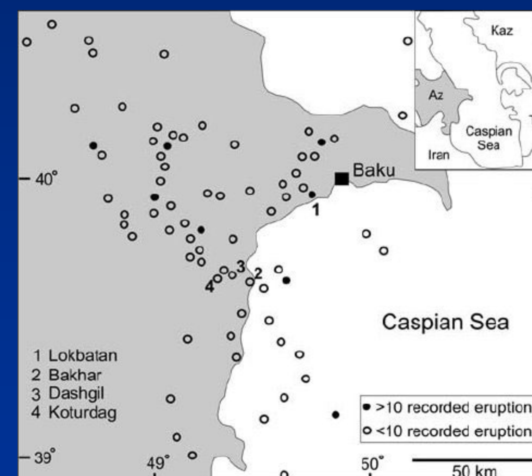
Google
Imagery Dates: Mar 13, 2006 - Sep 6, 2009
28°00'00.95" N 54°54'35.91" E elev 4281 ft
Eye alt 10.84 mi

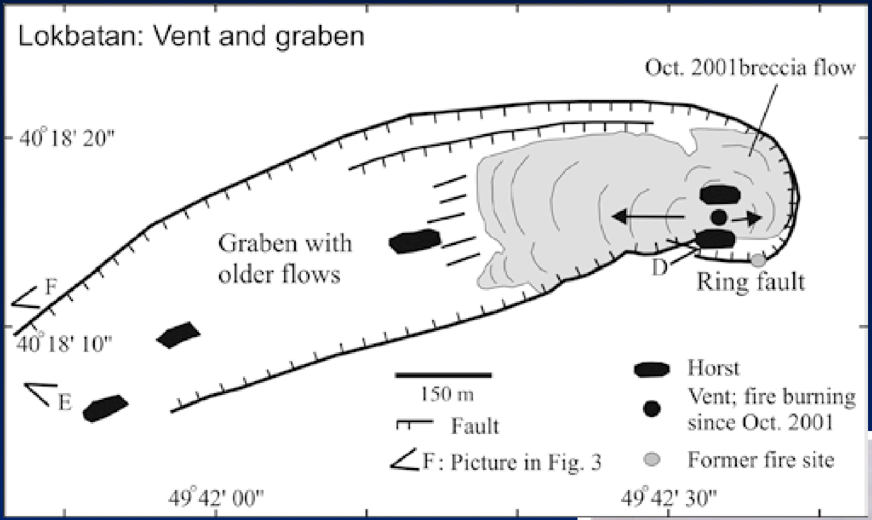
Vulcani e diapiri di fango, grifoni, salse

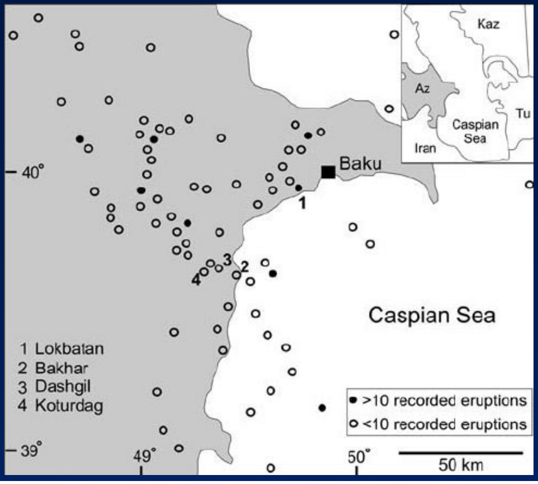
Toragai mud volcano, Azerbeijan (500 m high)

Da Phil Hardy, BBC, 2001

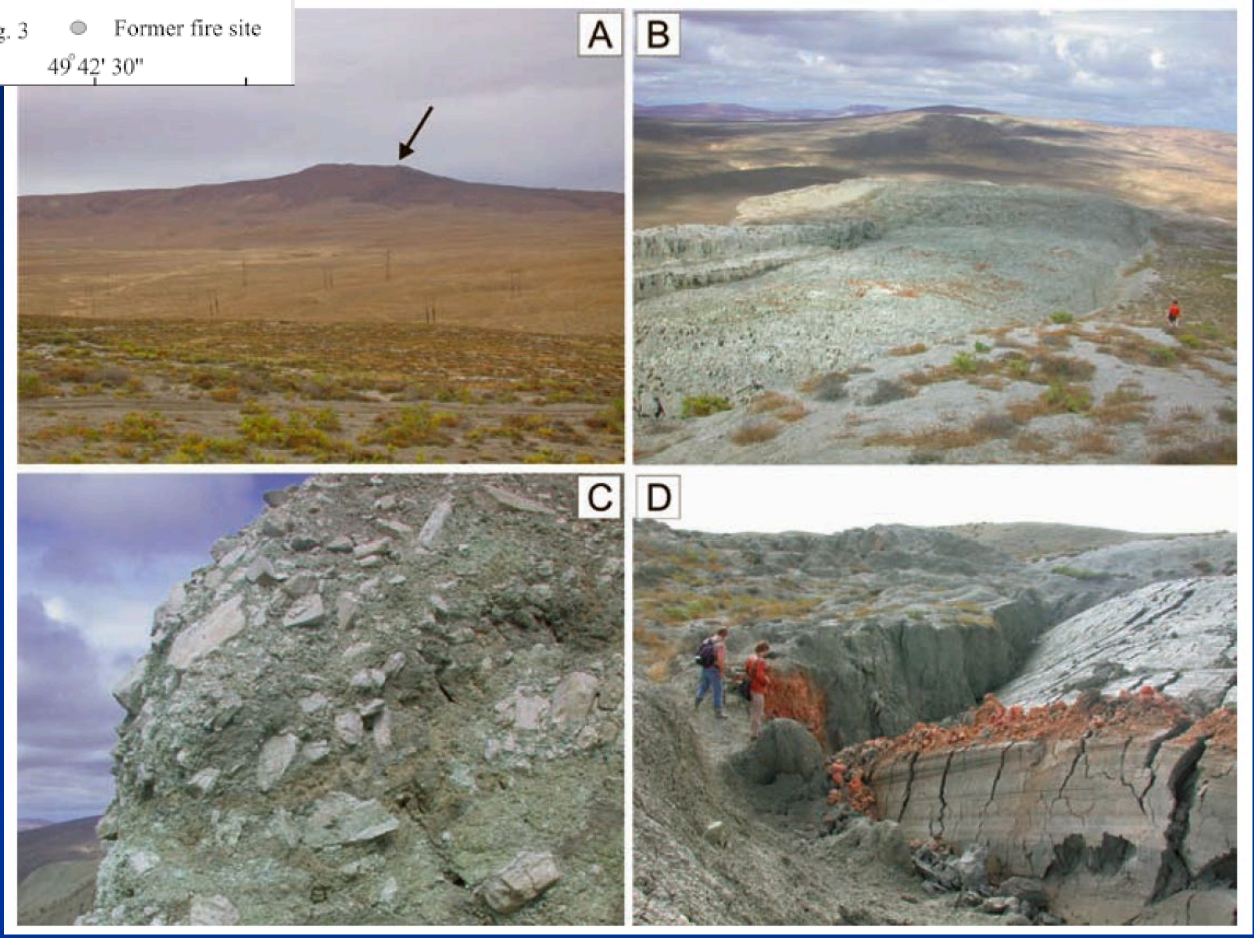


Qobustan National Park, Azerbaijan



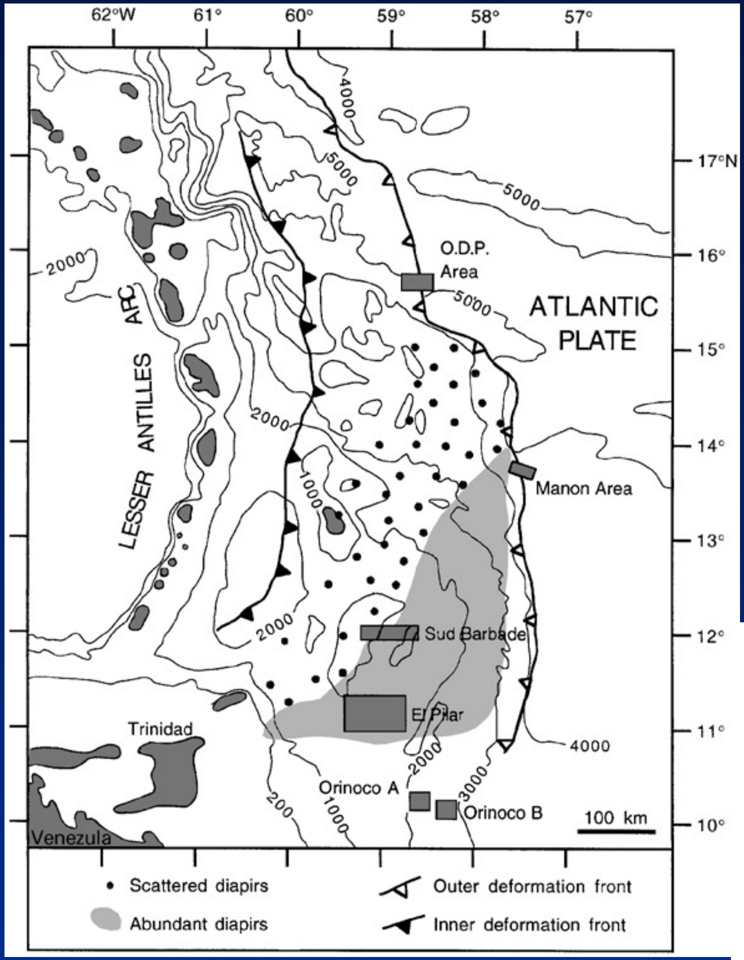


Da Planke et al., 2003

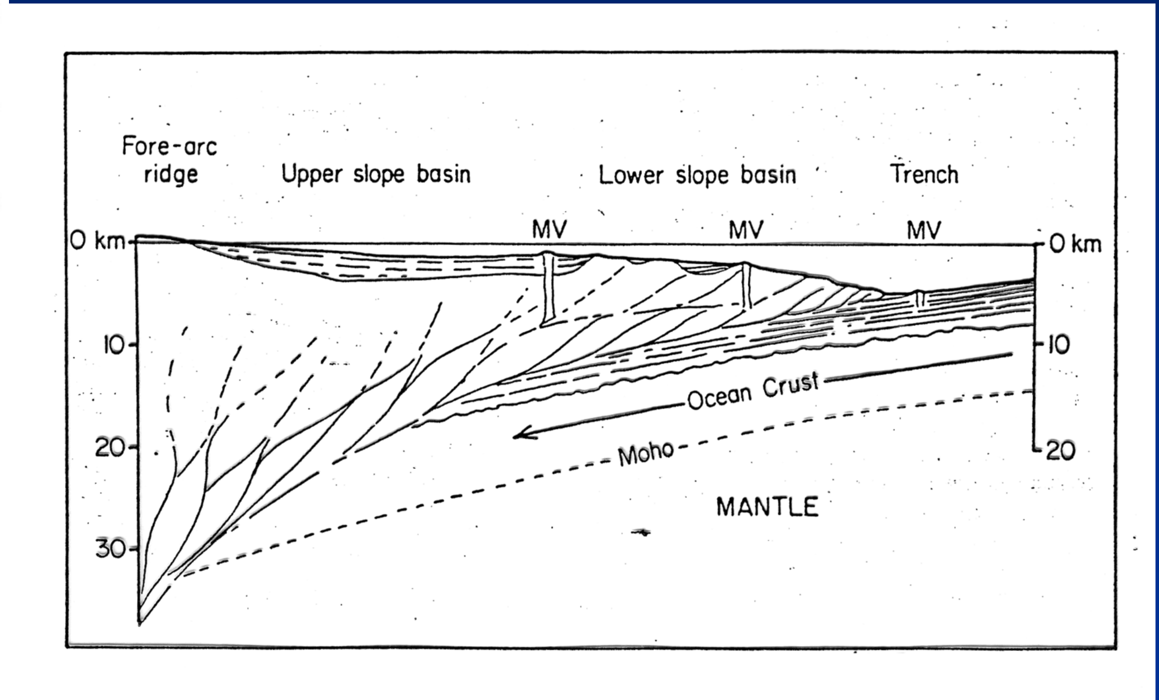


Qobustan National Park, Azerbaijan

Vulcani di fango nel prisma di accrezione, Barbados

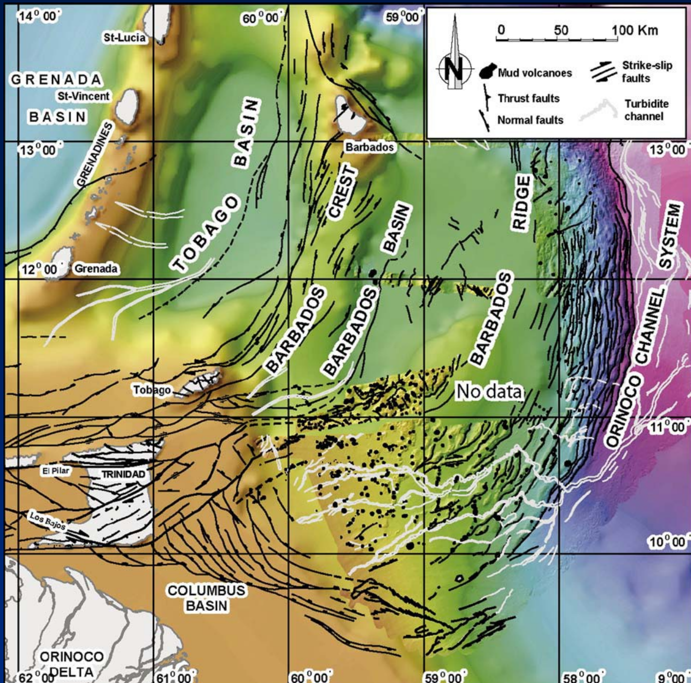


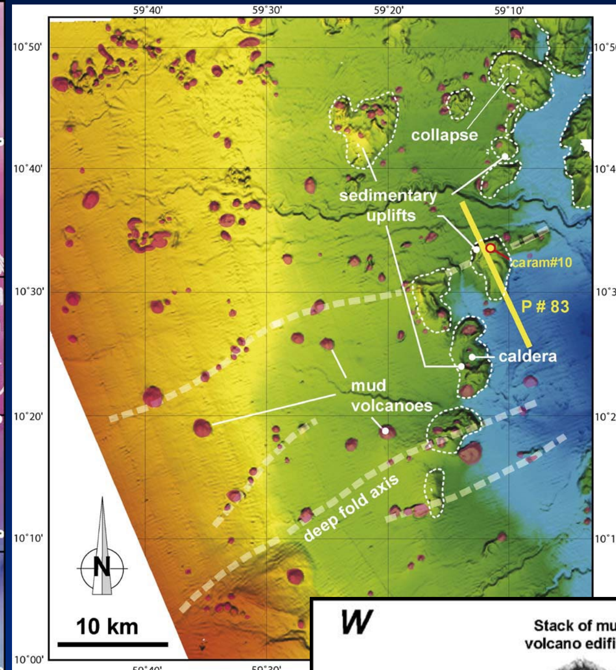
Da Aloisi et al., 2002

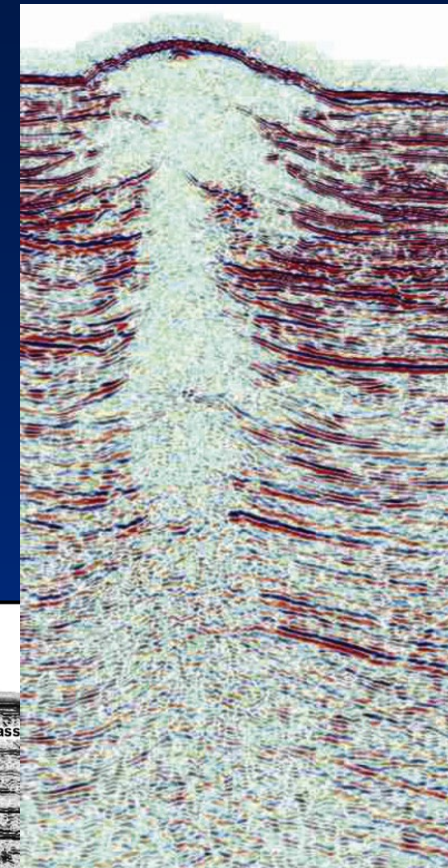


Da Barber & Brown, 1988

Vulcani di fango nel prisma di accrezione, Barbados







Da Wood, 2012

Da Deville, 2009

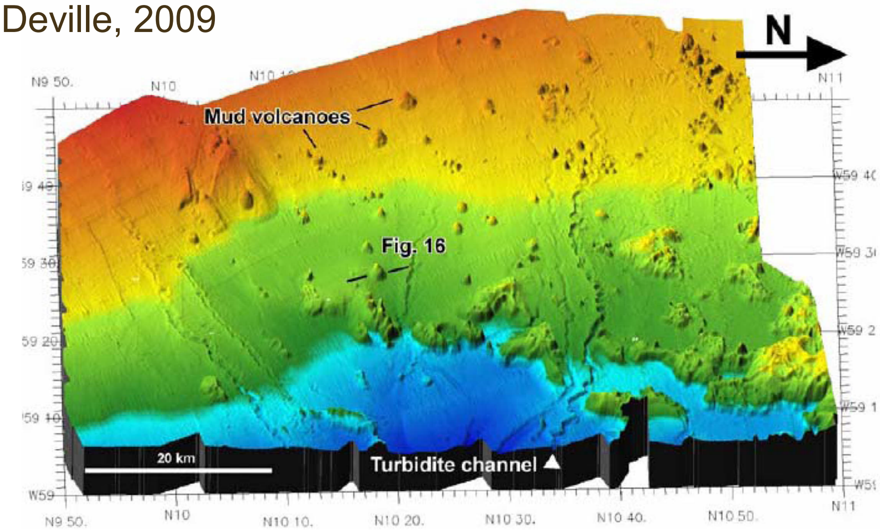
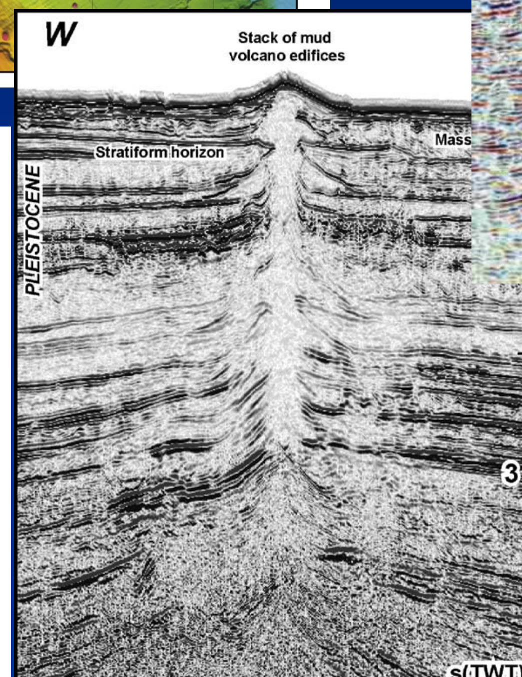
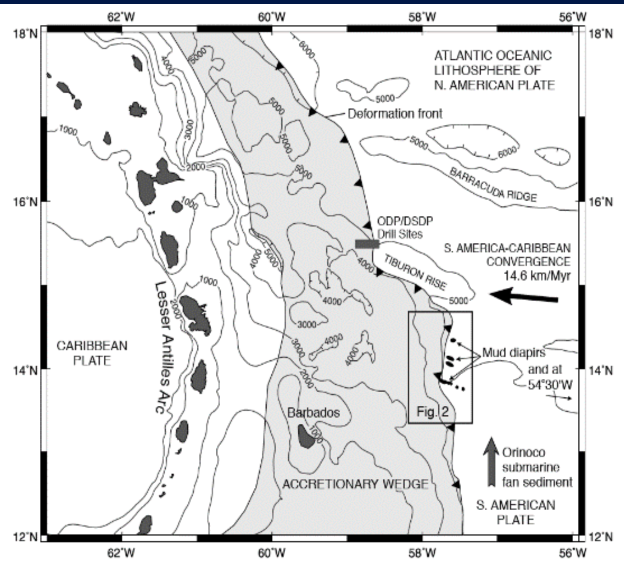


Figure 2. Field of mud volcanoes in the eastern continental slope of the offshore of Trinidad.

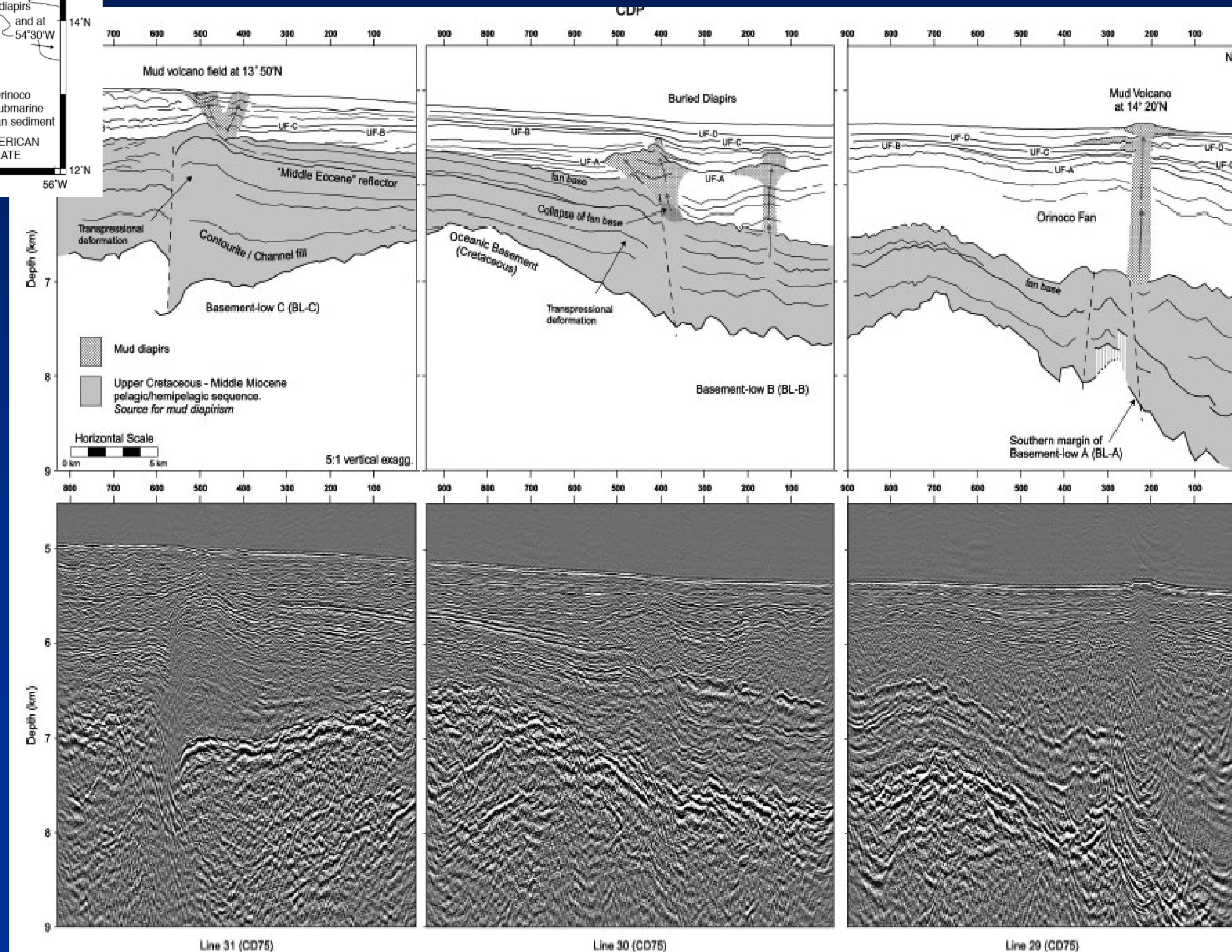


Da Deville et al. 2007

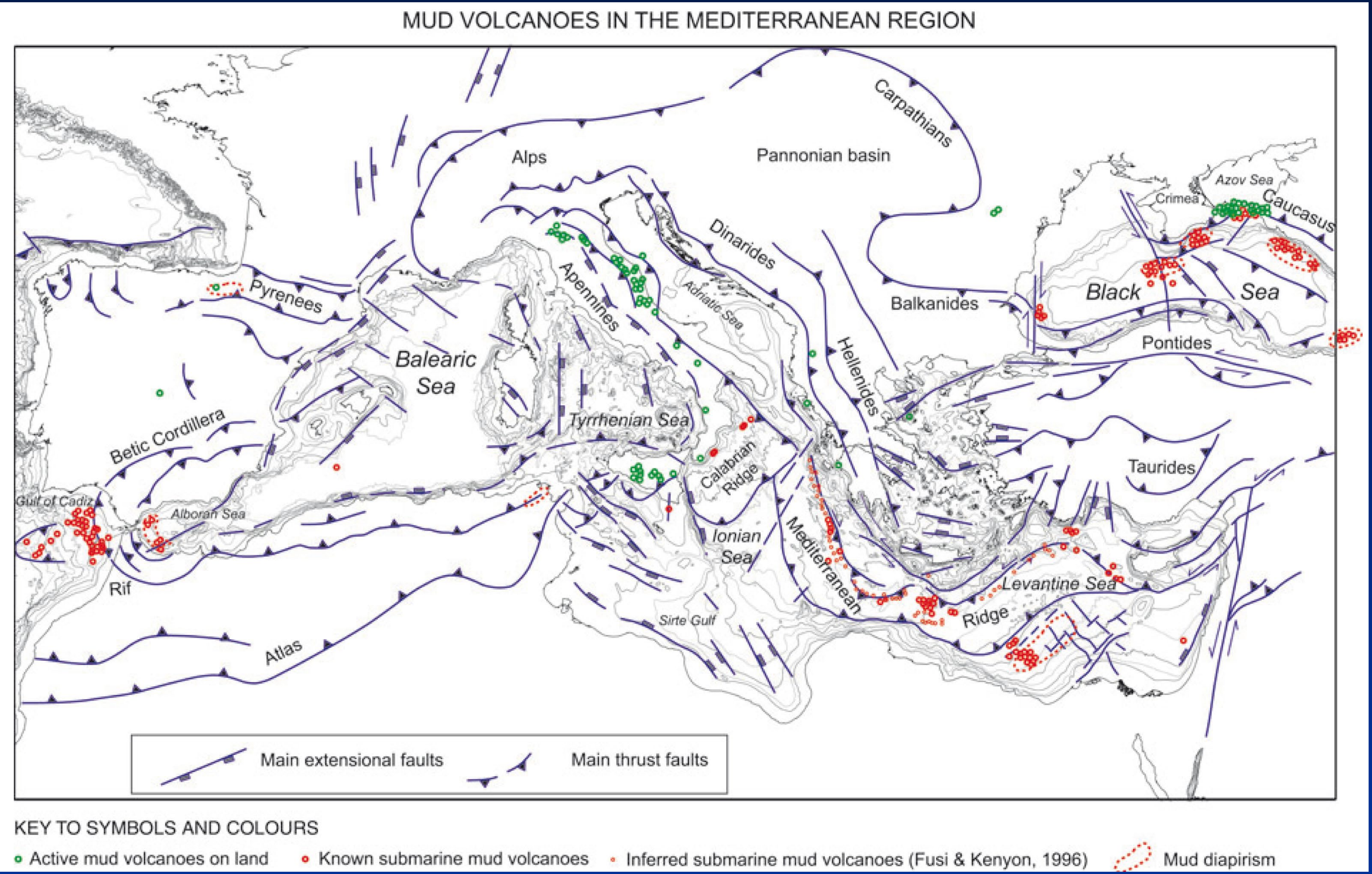


Diapiri di fango in avanfossa, Barbados

Sumner & Westbrook, 2001. Marine and Petroleum Geology, 18, 591-613.

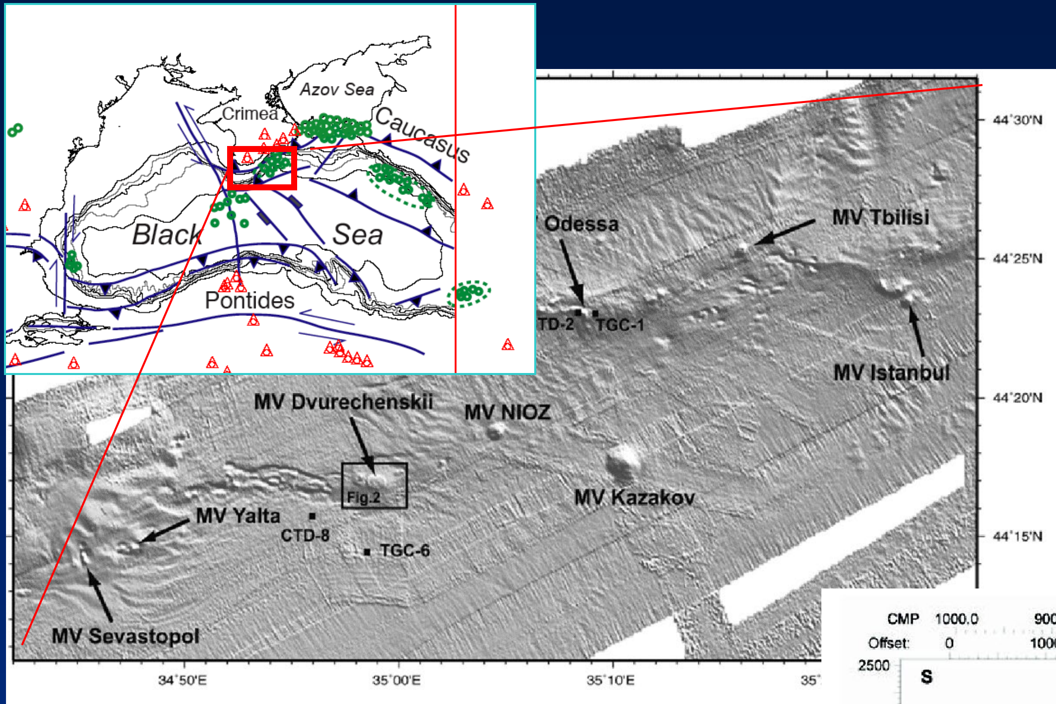


Diapiri e vulcani di fango

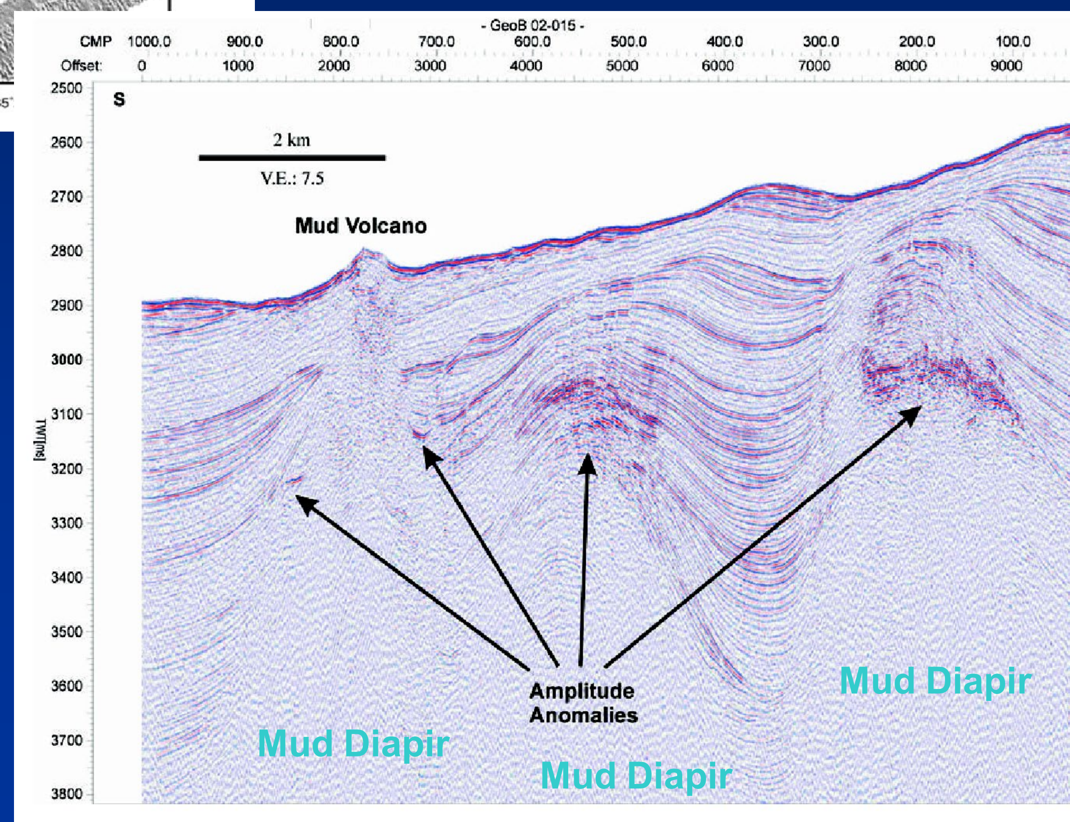


Da Camerlenghi & Pini, 2009

BLACK SEA MUD VOLCANOES

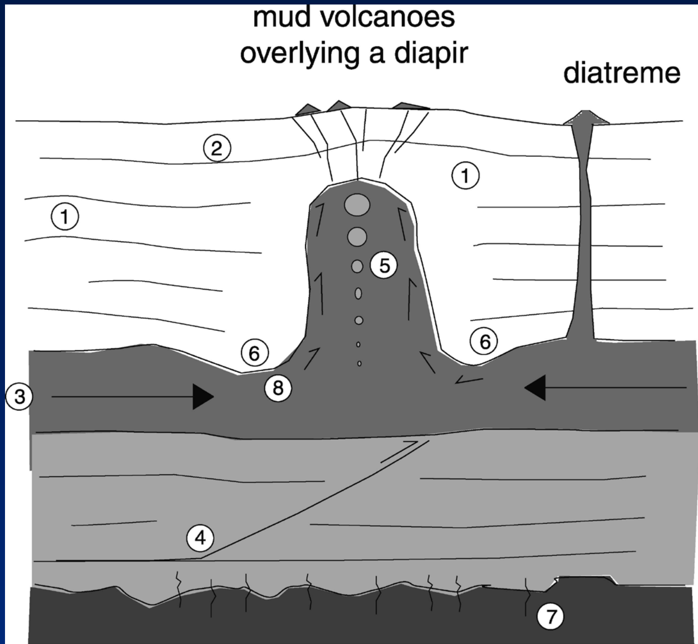


Da Bohrmann et al., 2003



Da Krastel et al., 2003

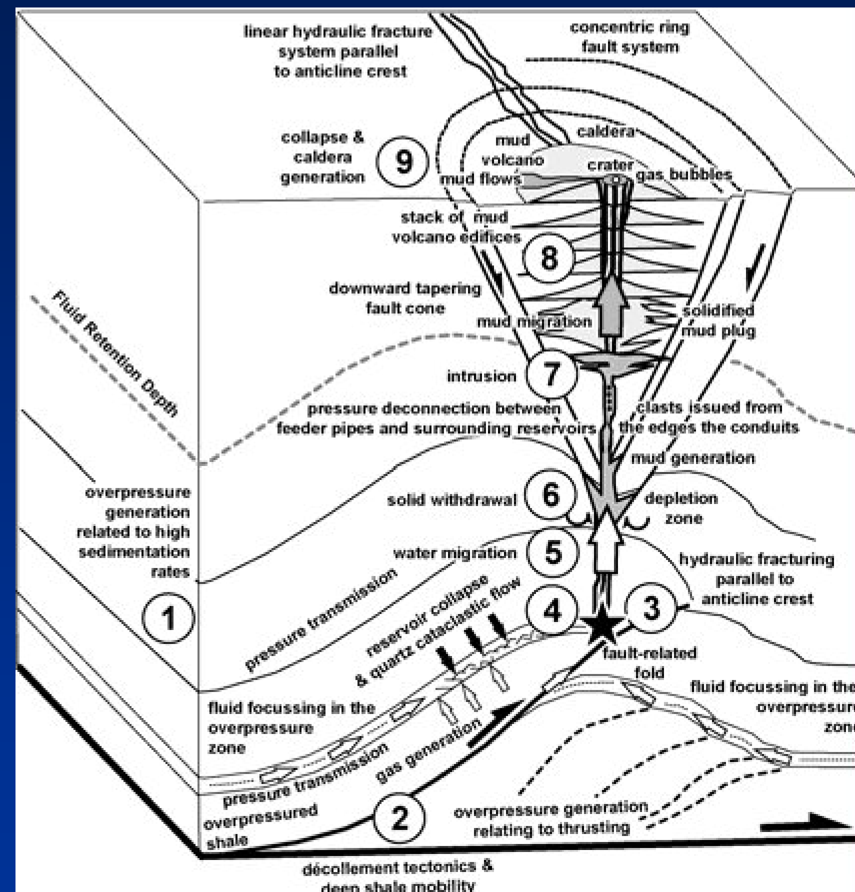
Courtesy of A. Camerlenghi



fluid sources for overpressuring and mud extrusion:

(1) pore fluid expulsion from compaction
(2) biogenic methane from degradation of organic matter
(3) lateral fluid flux through stratigraphic horizons or fault zones
(4) fluid migration along deep seated thrusts
(5) thermogenic methane and higher hydrocarbons
(6) fluids from mineral dehydration (opal, smectite)
(7) hydrothermal fluids, alteration of crustal rock
(8) fluid expulsion from internal deformation within the diapiric intrusion

Da Kopf, 2002



Da Deville, 2009

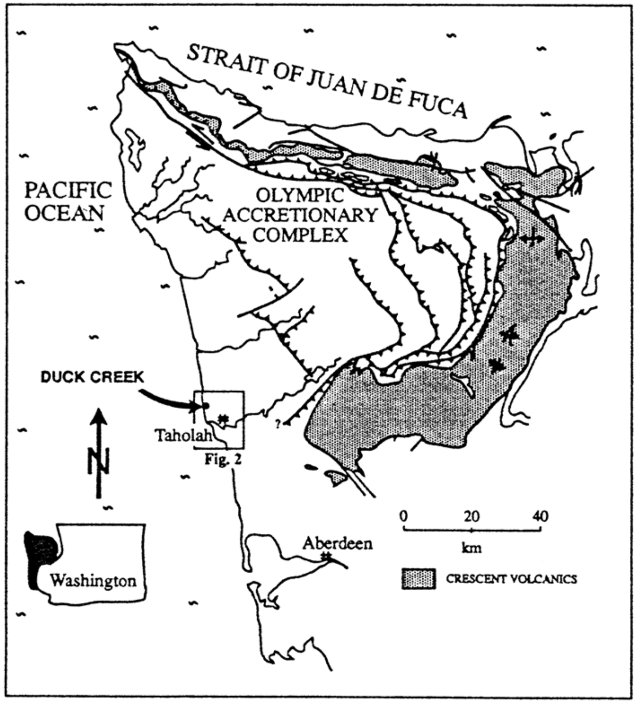
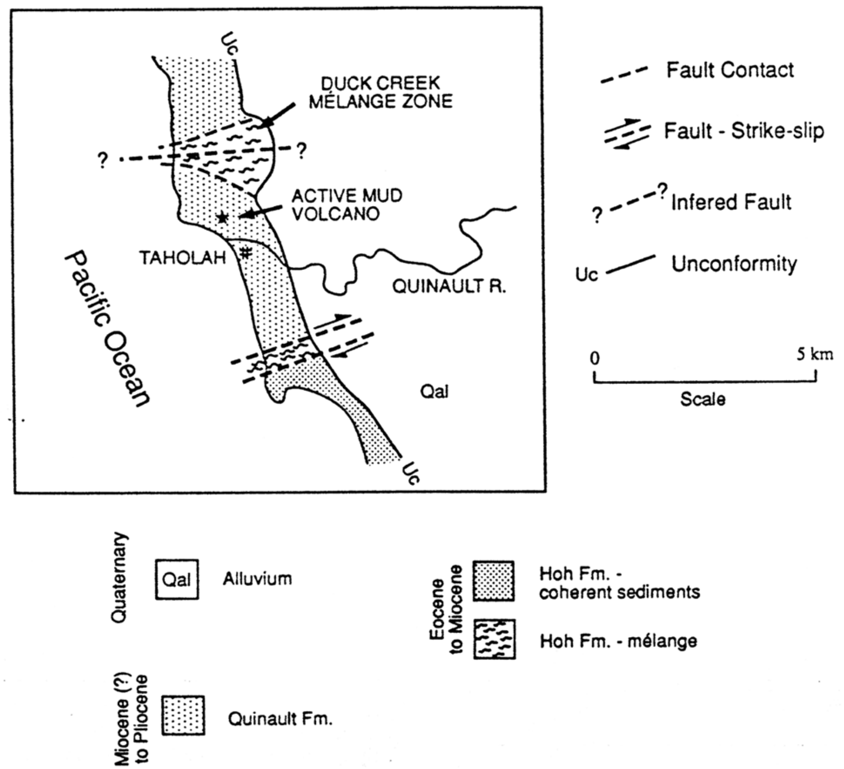


Fig. 1. Location of the Olympic Peninsula, Washington, U.S.A. The Duck Creek mélange is located on the coast of the Peninsula approximately 10 km north of Taholah, near the southern limit of the exposed Olympic accretionary complex (after Tabor & Cady 1978, Snavley & Kvenvolden 1988).



Brown & Orange, 1993

Duck Creek mélange: un diapiro di fango

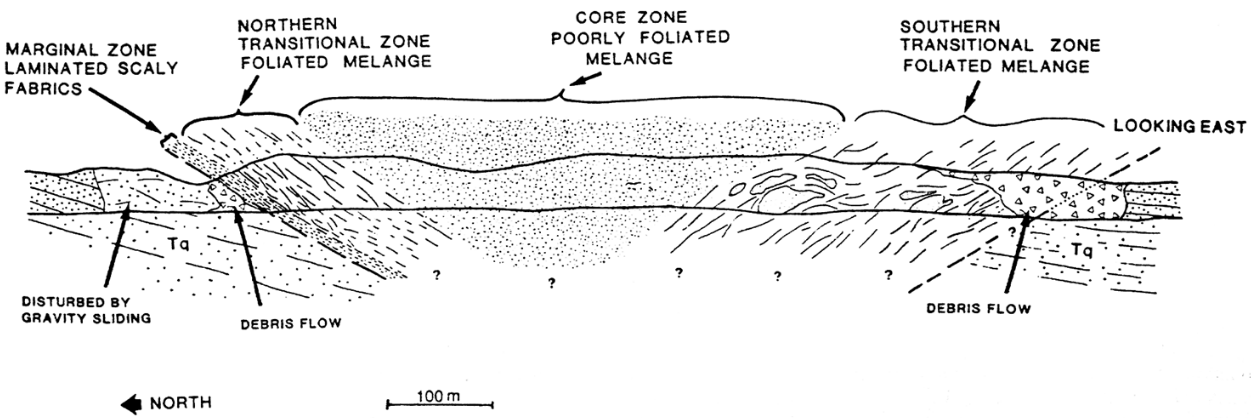
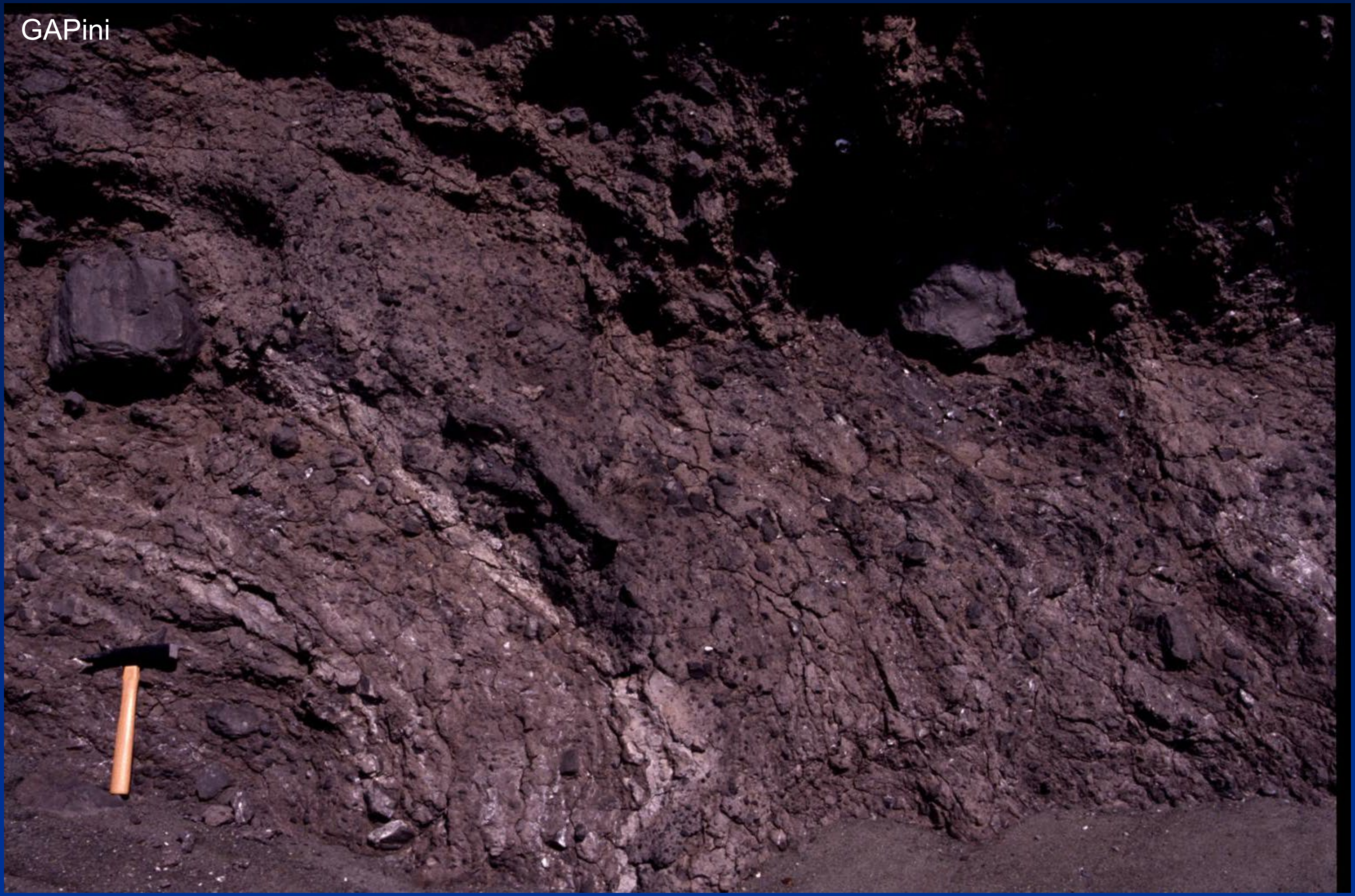


Fig. 4. Cross-section though the Duck Creek mélange, view is to the east. With the exception of the slumped contacts, the mélange has near 100% exposure along the steep 20 m sea cliffs. These steep exposures have the advantage of corresponding to a cross-section of the mélange.


GAPini


GAPini


GAPini


GAPini


GAPini