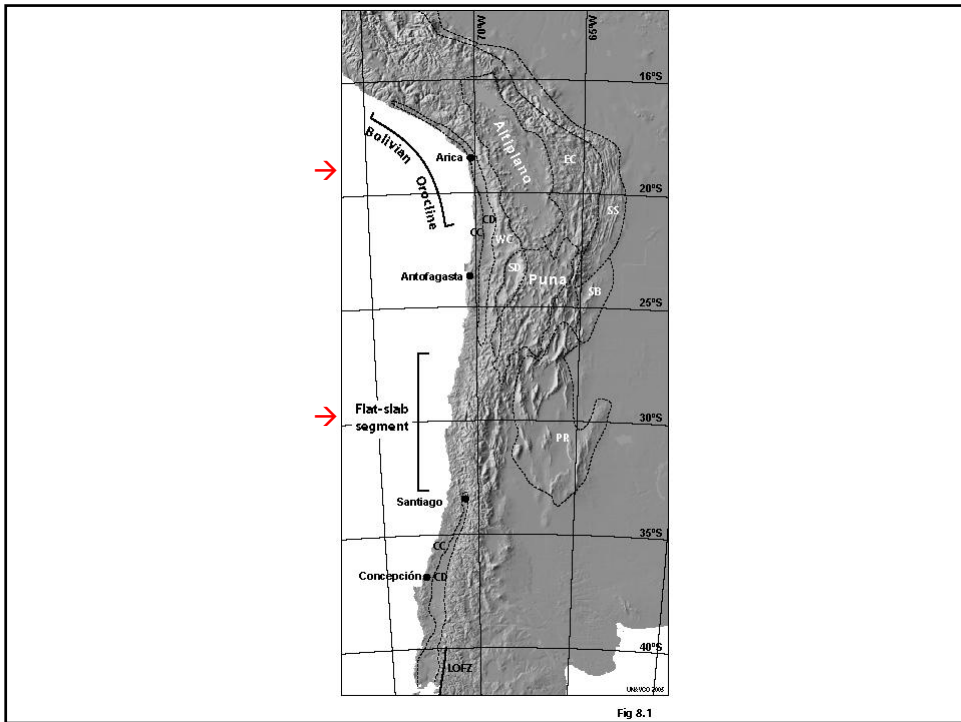


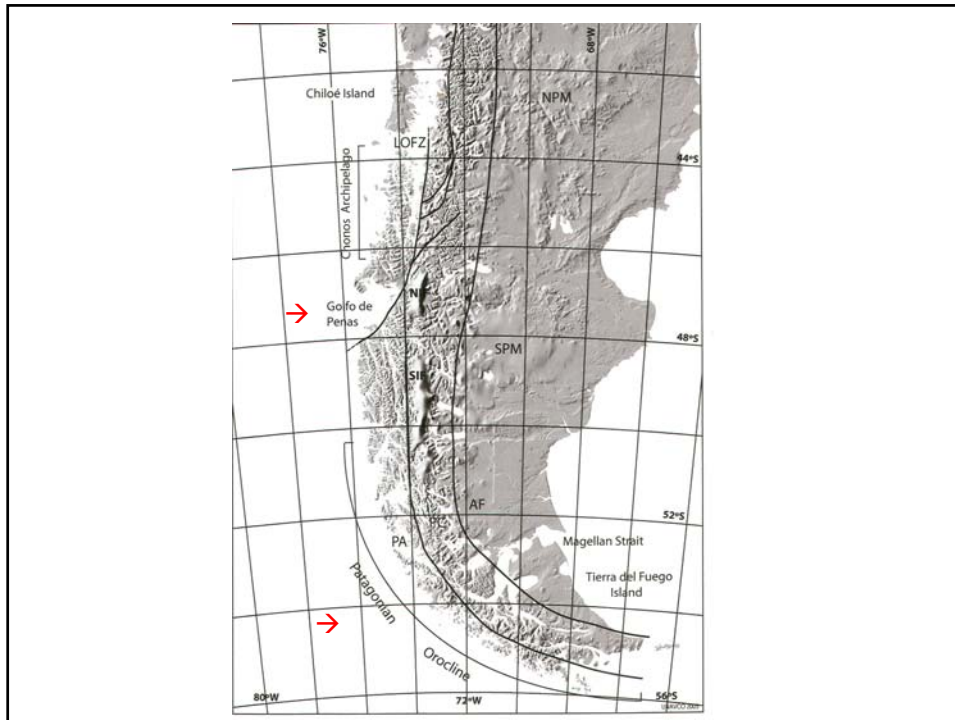
CICLO ANDINO

Tercera Etapa

Primera Parte

- Se inició a continuación de la Fase Incaica, en el Eoceno Medio (~42 Ma).
- Concluye...





Contexto geodinámico

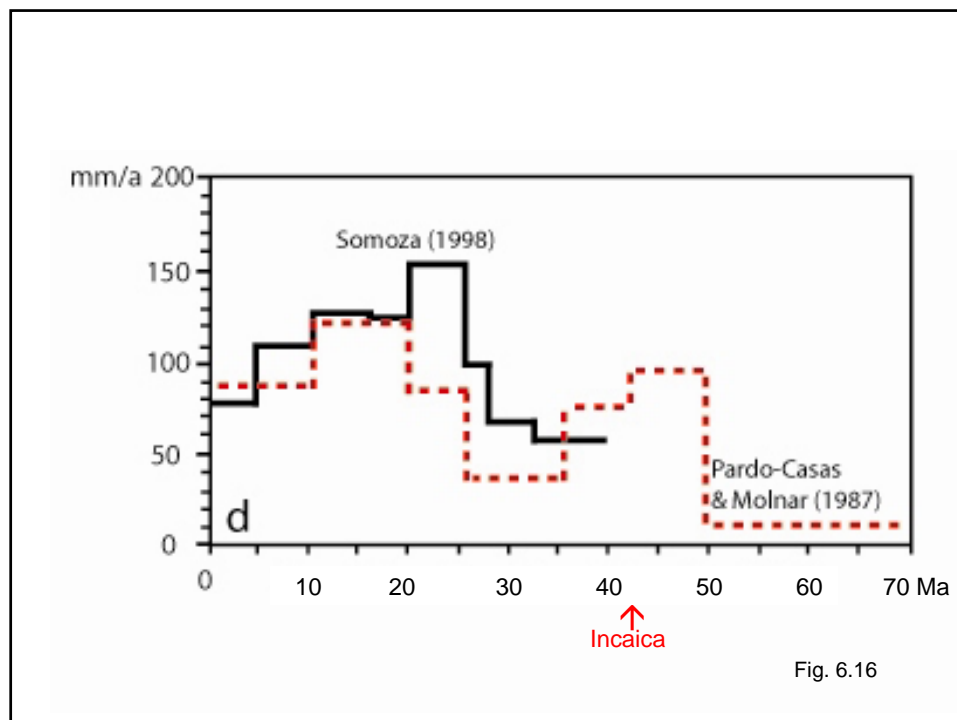
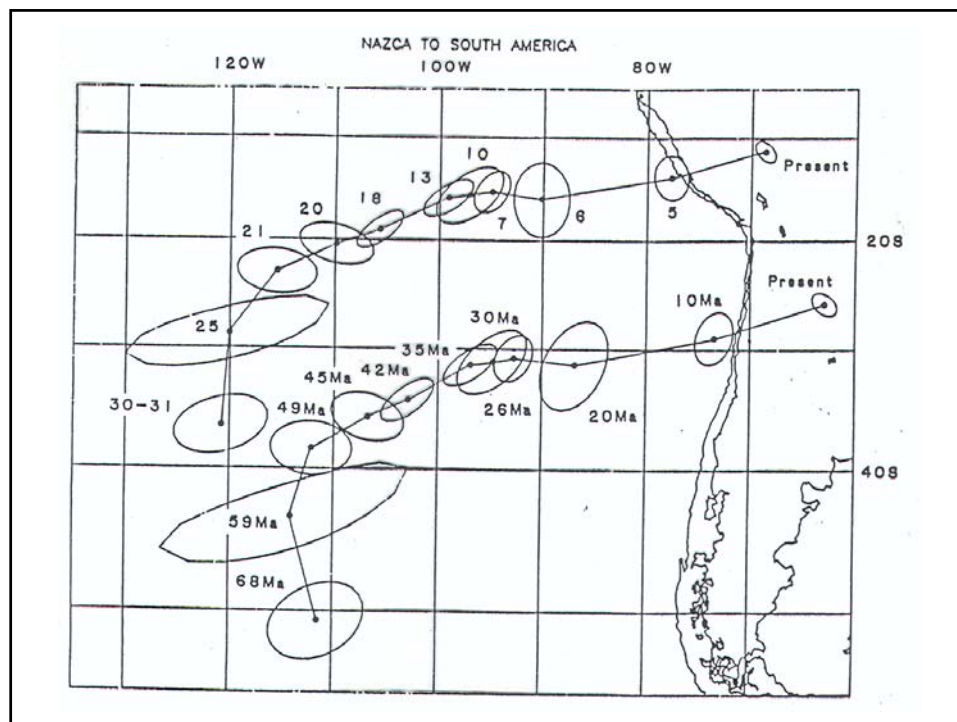
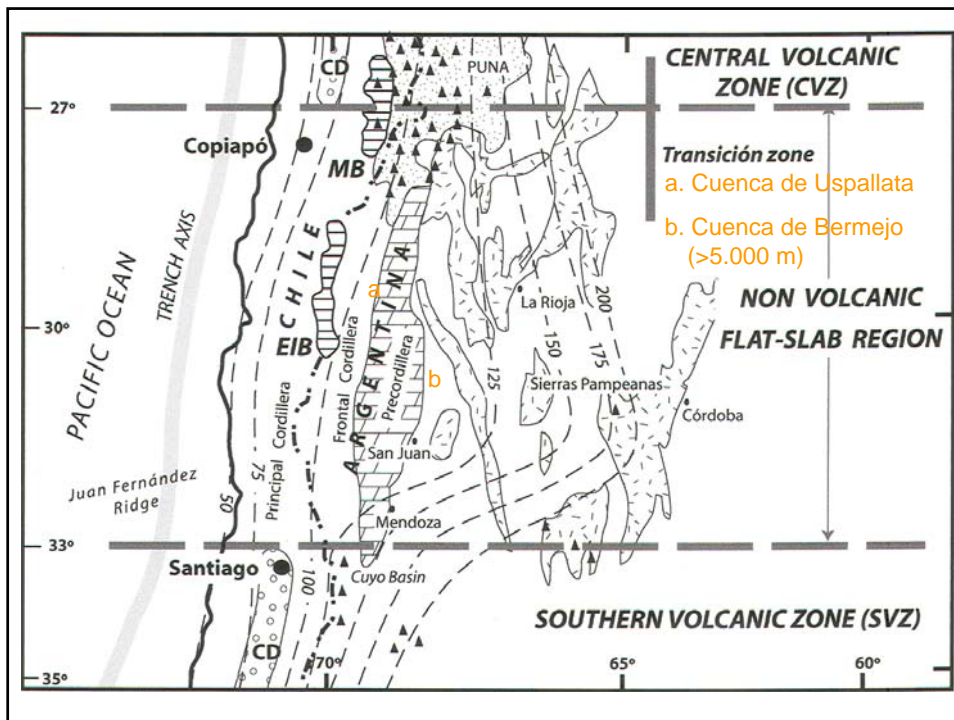
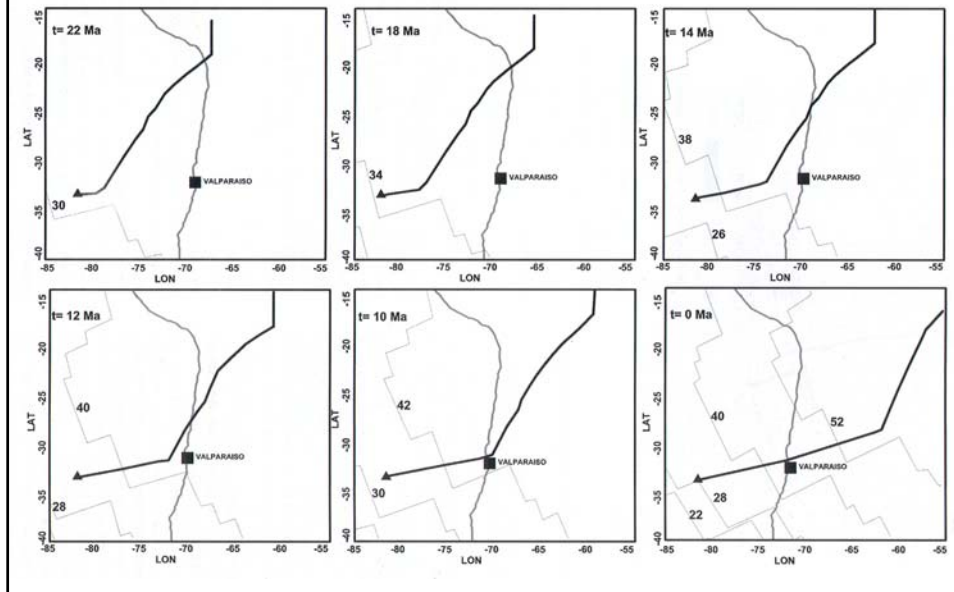
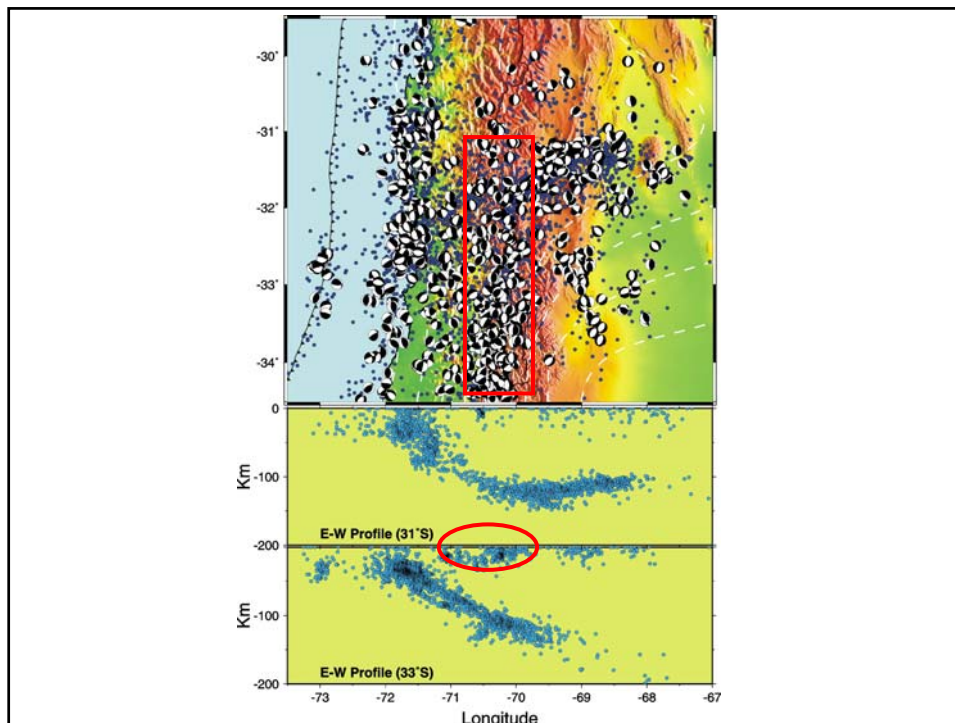


Fig. 6.16

Punto caliente y dorsal de Juan Fernández:





Eventos determinantes para y durante la evolución de la Tercera Etapa 1:

Tectónica y Geomorfología

- Se produjo el alzamiento andino
- Se individualizaron las unidades morfoestructurales
- Se configuró el relieve actual

Eventos determinantes para y durante la evolución de la Tercera Etapa 2:

Magmatismo y Metalogénesis

- Se inició el Volcanismo Andino Joven
- Se formaron los yacimientos gigantes de pórfidos
- Se formaron los yacimientos epitermales

Eventos determinantes para y durante la evolución de la Tercera Etapa 3:

Paleogeografía y Fauna

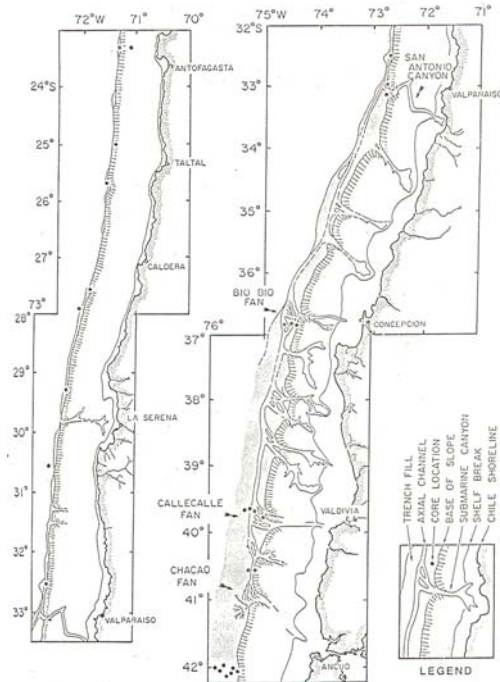
- Se produjo una fuerte caída del nivel del mar en el Oligoceno con una etapa de clima frío
- Se produjeron fuertes variaciones del nivel eustático en el Pilo-Cuaternario
- Se abrió el Mar de Drake en el Eoceno
- Se formó el Istmo de Panamá en el Plioceno y se produjo el Gran Intercambio Faunístico

Estructura del capítulo:

- A. Fosa, plataforma y borde occidental de la Cordillera de la Costa
- B. Borde occidental de la Cordillera de la Costa
- C. Depresión Central, Precordillera, Altiplano, Cordillera Principal:
 - Arica - Iquique
 - Chañaral - Copiapó - Vallenar - La Serena
 - La Serena – Lonquimay
 - Lonquimay – Punto Triple por la LOFZ

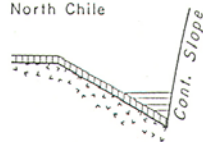
A. Fosa, plataforma y borde occidental de la Cordillera de la Costa

La Fosa

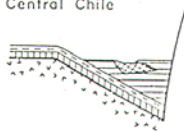


- STARVED TRENCH -

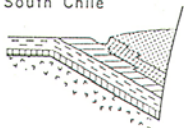
A. North Chile



B. Central Chile



C. South Chile



- FILLED TRENCH -

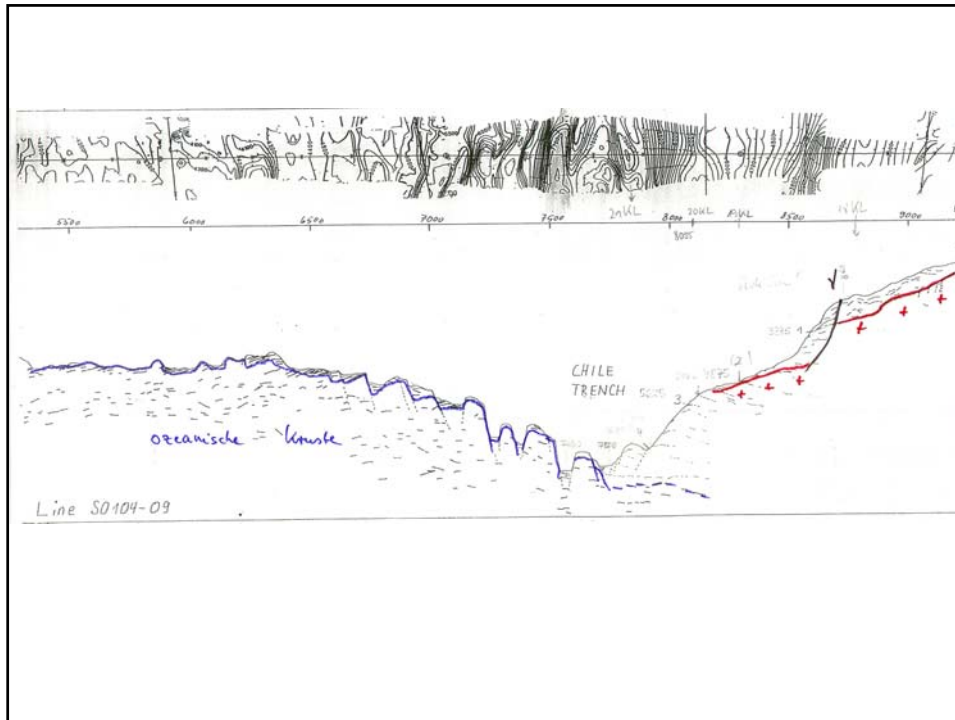
Figure 2. Stratigraphic development of the Chile Trench, from north to south along the Andean margin, under conditions of starved versus abundant sediment supply. The gradients in climate and fluvial discharge, as desert grades to glaciated fjordland toward higher latitudes, provide a full spectrum of structural confinement and depositional maturity in the trench basin. Prograding trench fans and outwardly deflecting axial channels migrate seaward across the trench in areas of high sediment supply, forming landward-dipping facies belts.

TRENCH AXIS

- Trench Fan
- Axial Channel
- Trench Wedge

OCEANIC PLATE

- Hemipelagic Drape
- Pelagic Drape
- Oceanic Basalt



La Plataforma Continental: Arica

A



W

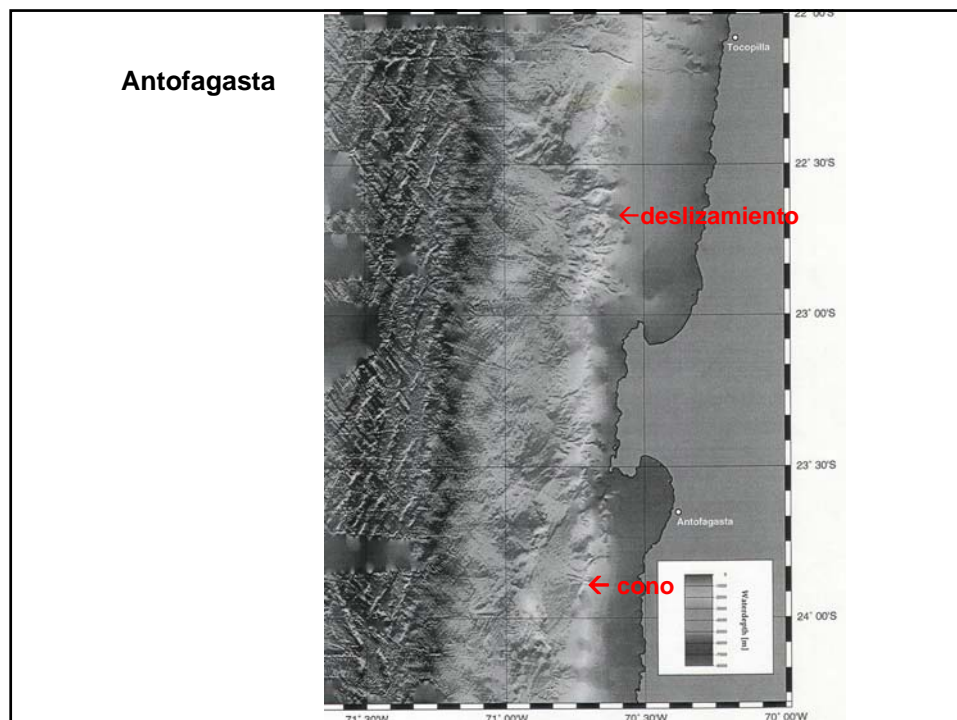
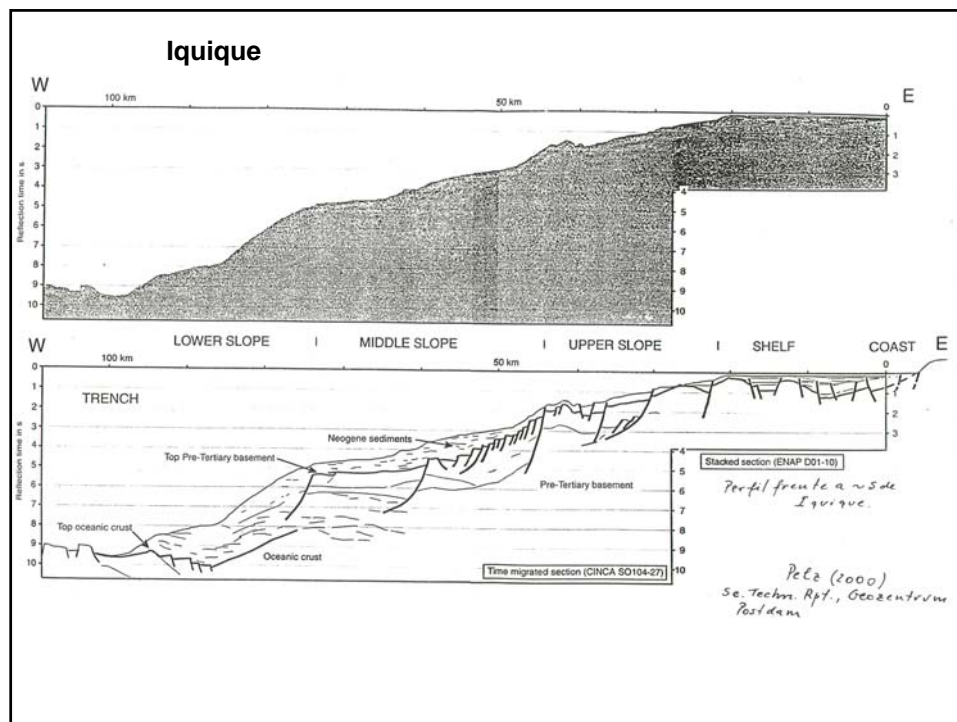
CUENCA ARICA

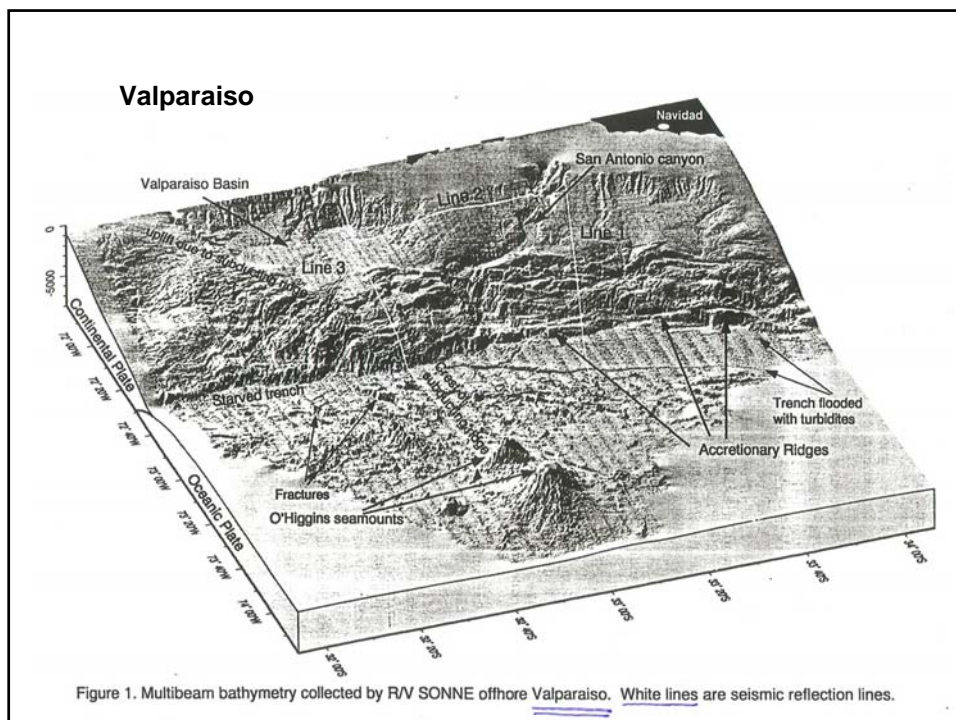
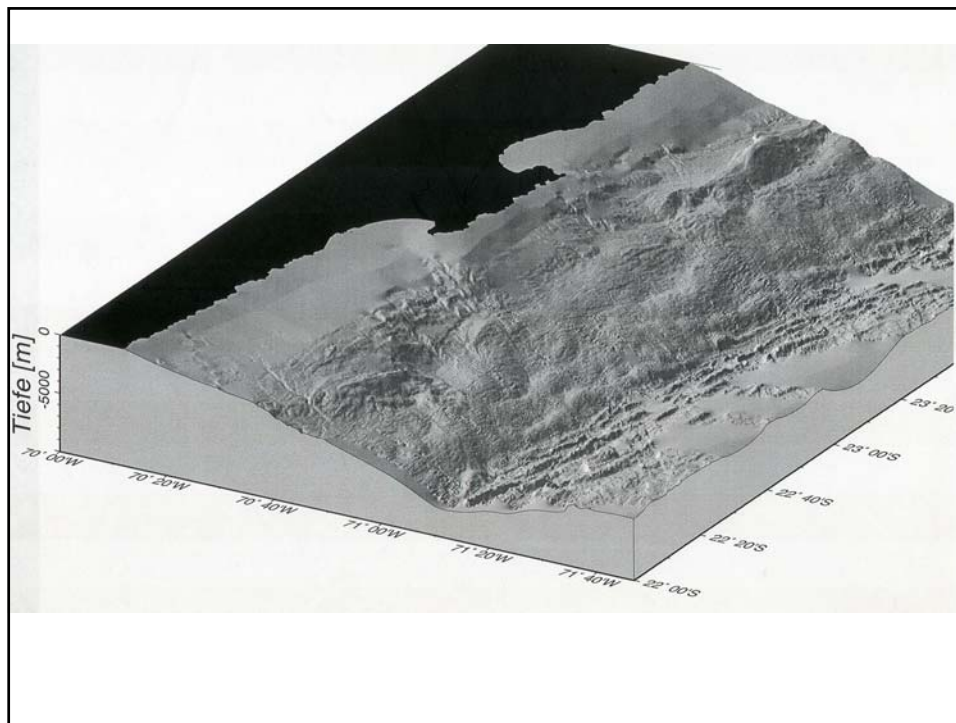
B

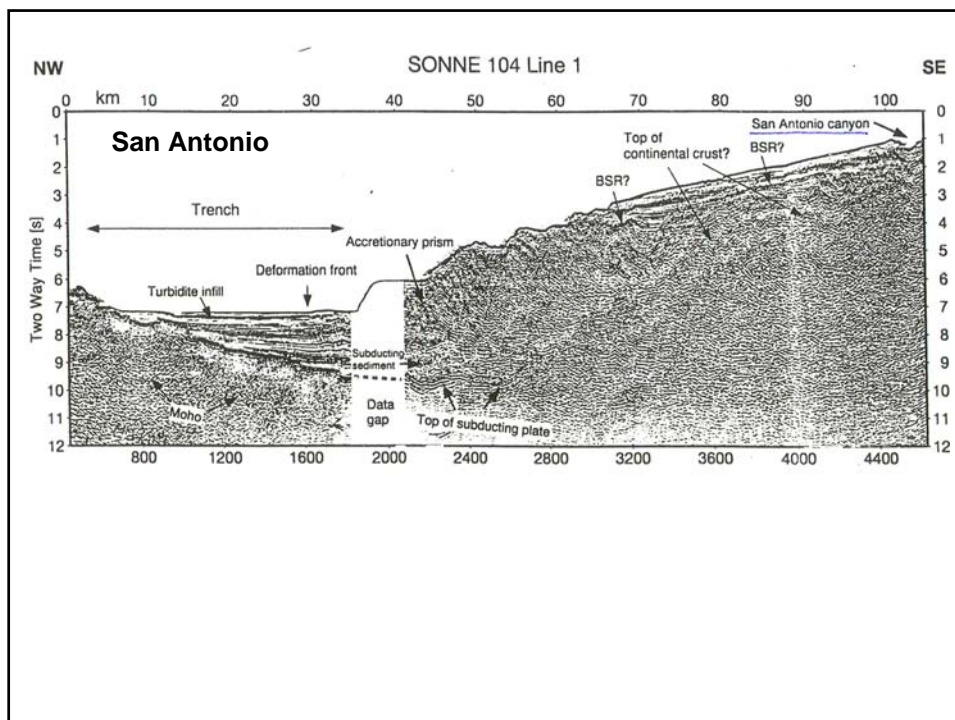
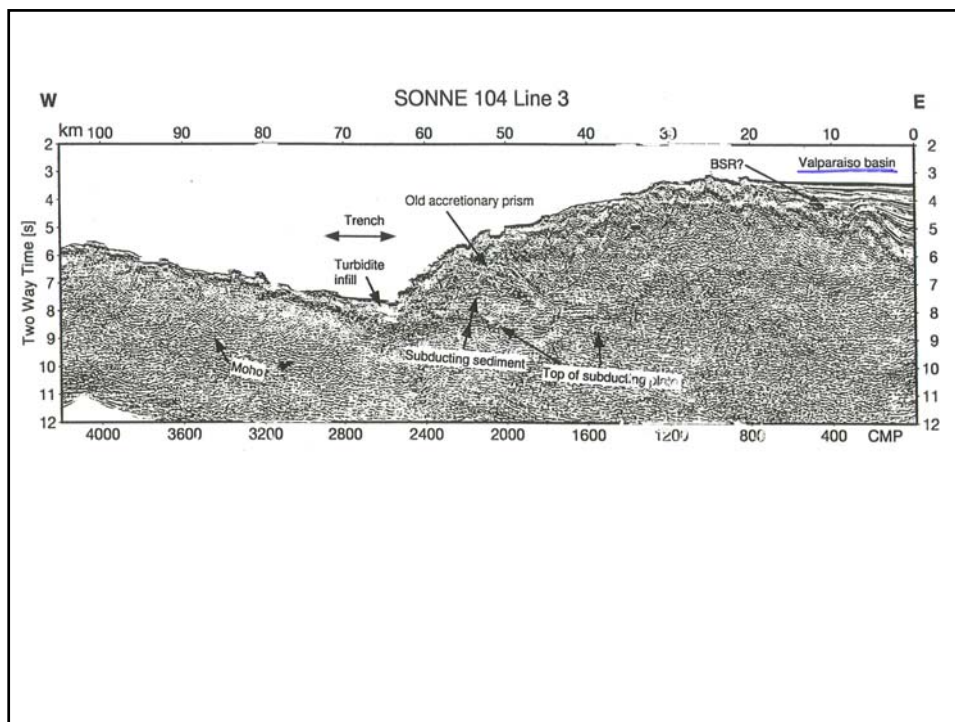
E



Muñoz y Fuenzalida, 1997.
C.G.Ch., Antof.







Plataforma y fosa al S de Constitución

Perfiles de ENAP 1976

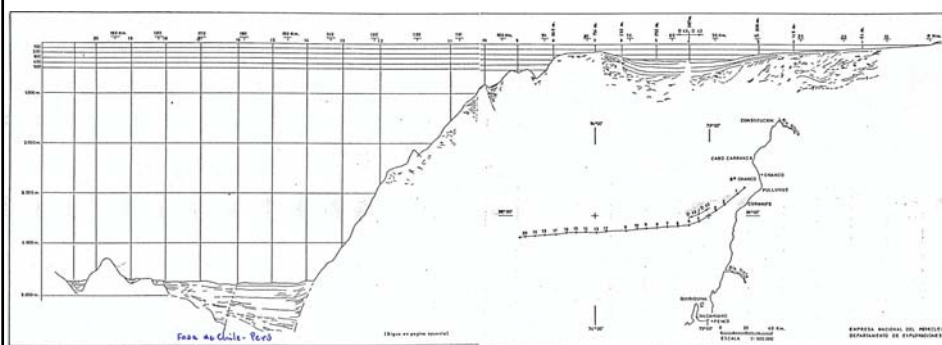
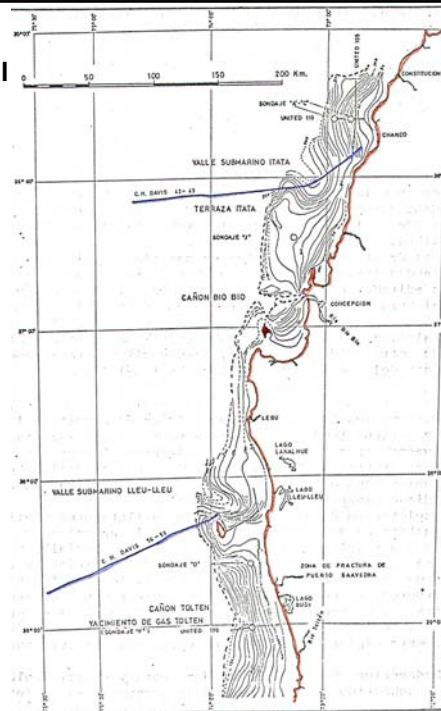
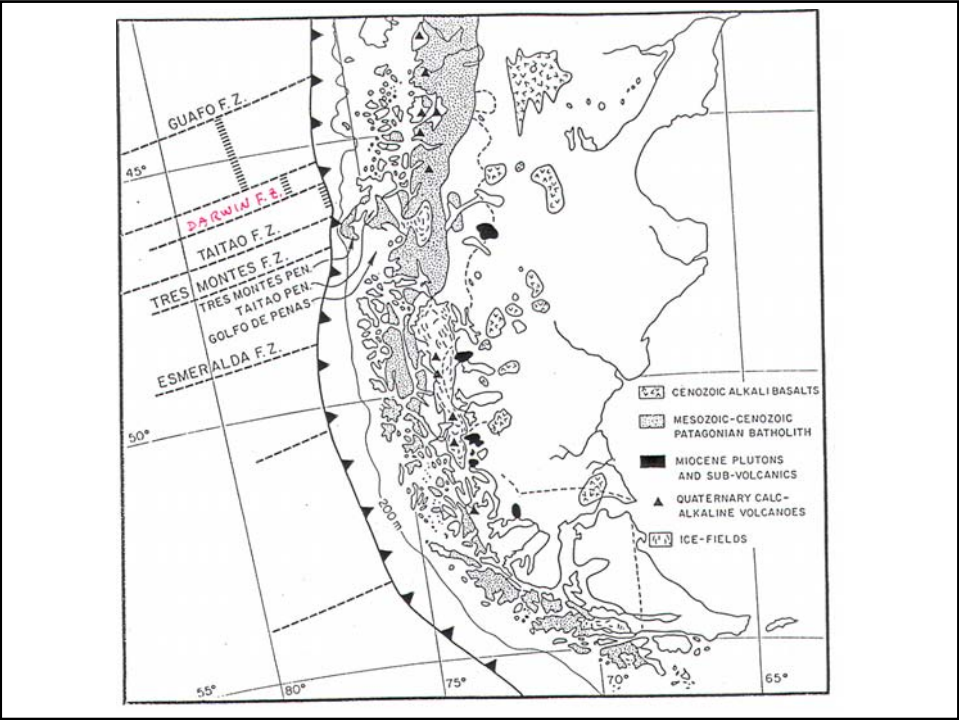
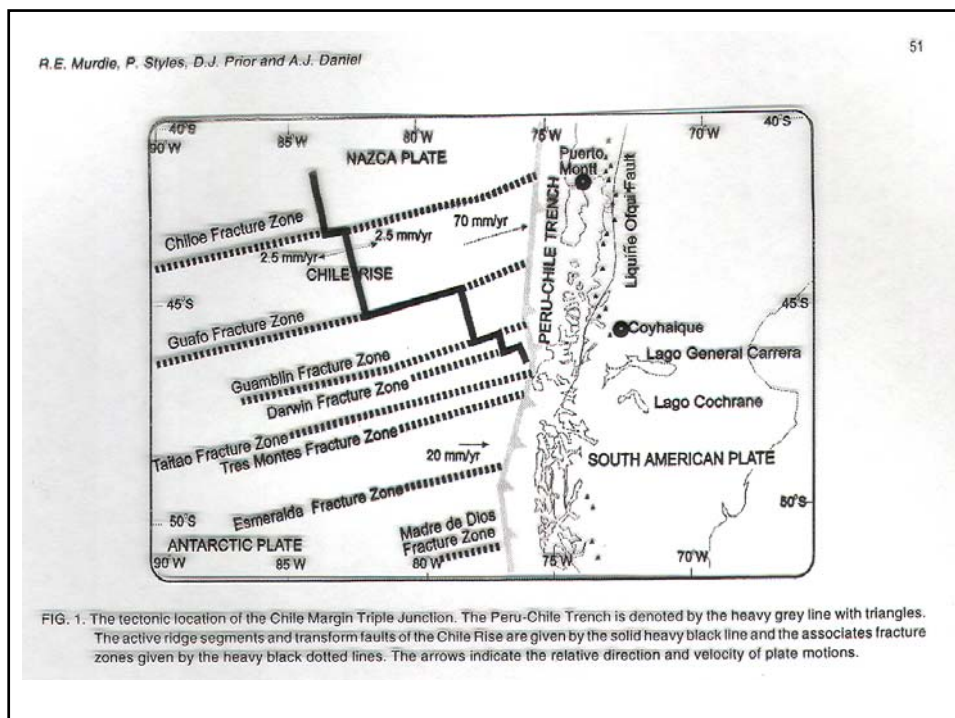
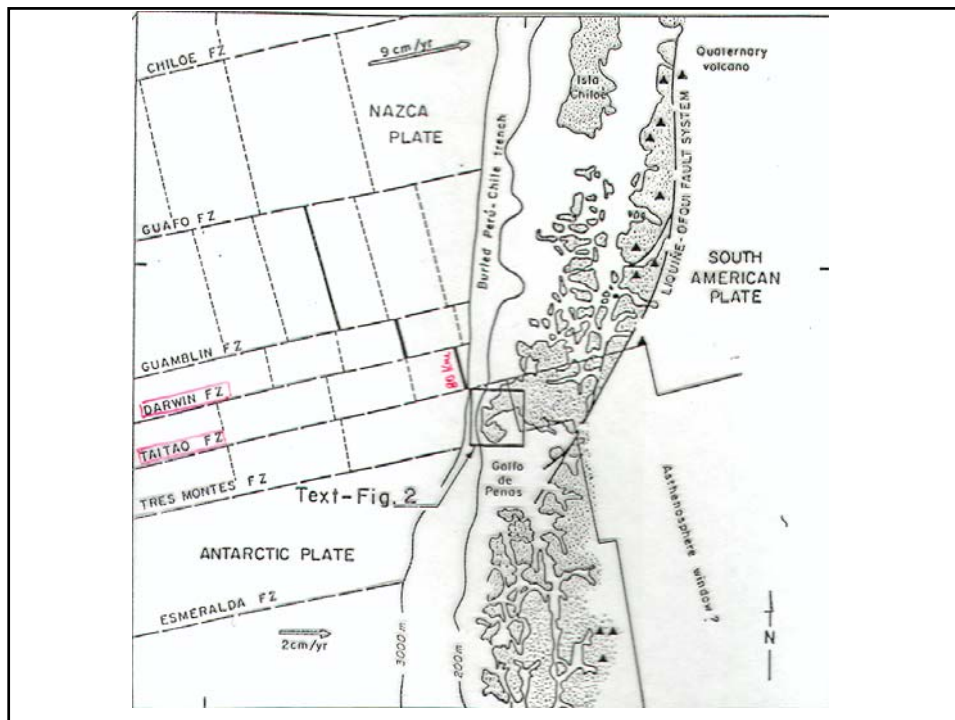


Fig. 2: Perfil batimétrico D42-D43 realizado por el barco oceanográfico Ch. Davis, en Abril de 1967 (Ver Fig. 1, p. K 4).

[illegible]



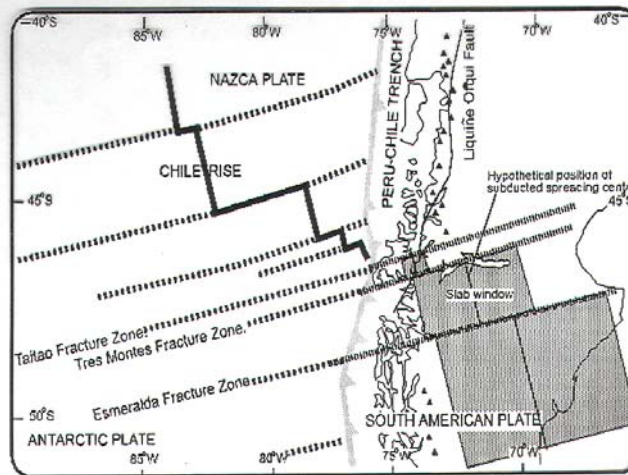


FIG. 2. Predicted positions of the slab windows generated by the continuing separation of the ridge segments of the Chile Rise after subduction into the Peru-Chile Trench. The finely dotted lines show the predicted extension of the transform faults and fracture zones into the trench.



FIG. 1. The tectonic location of the Chile Margin Trench junction. The Peru-Chile Trench is denoted by the heavy grey line with triangles. The active ridge segments and transform faults of the Chile Rise are given by the solid heavy black line and the associated fracture zones given by the heavy black dotted lines. The arrows indicate the relative direction and velocity of plate motions.

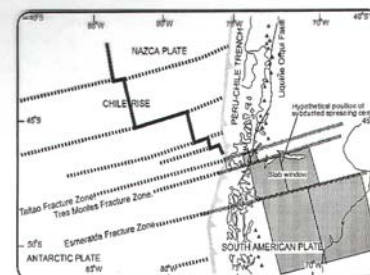
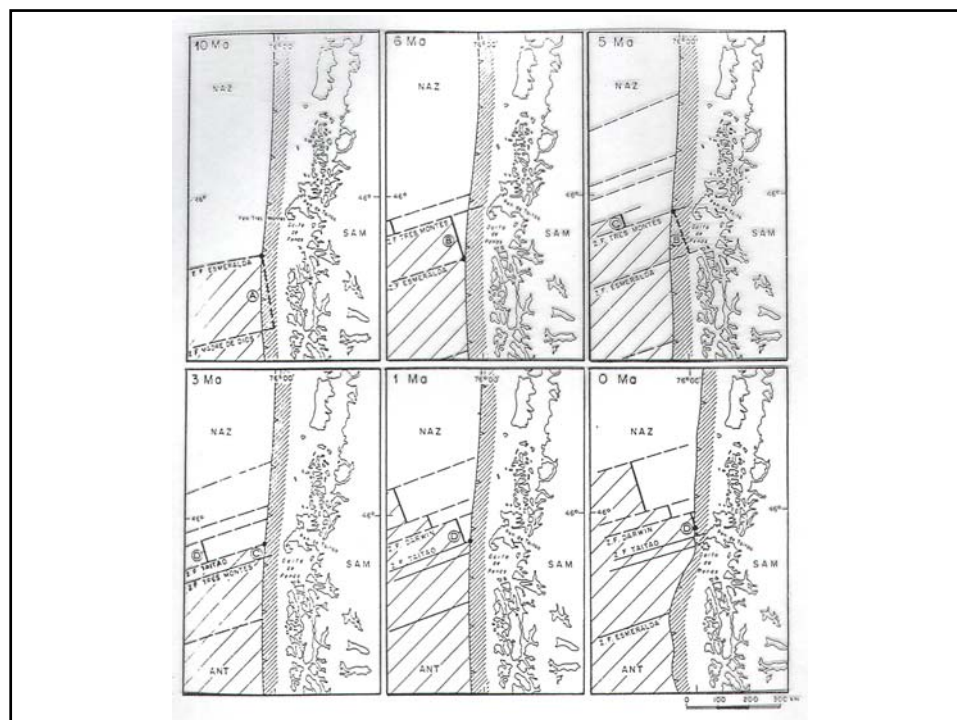
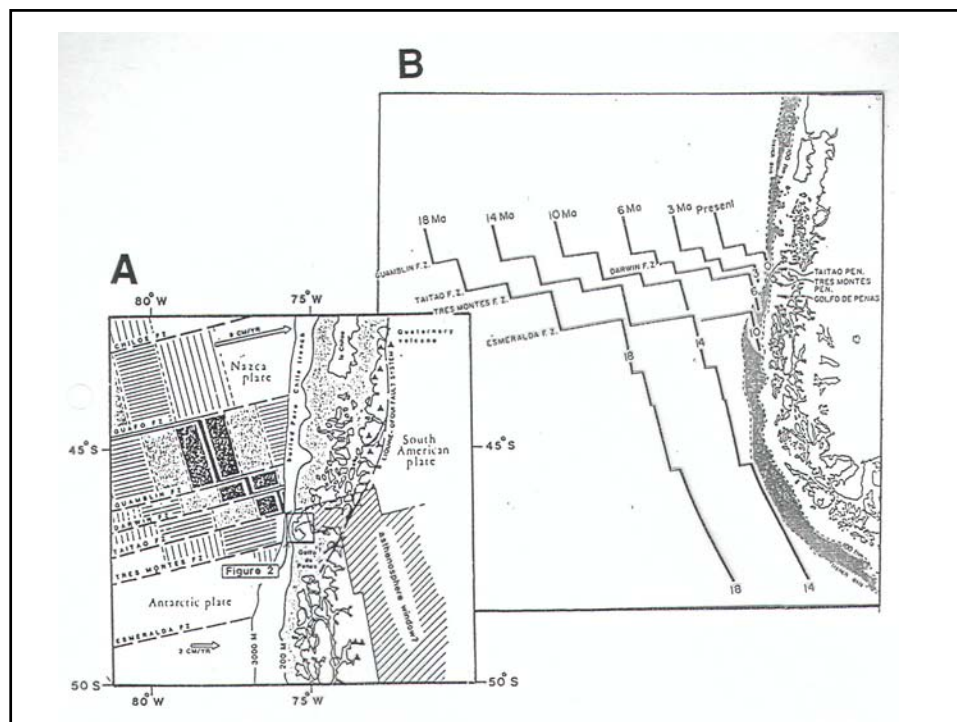
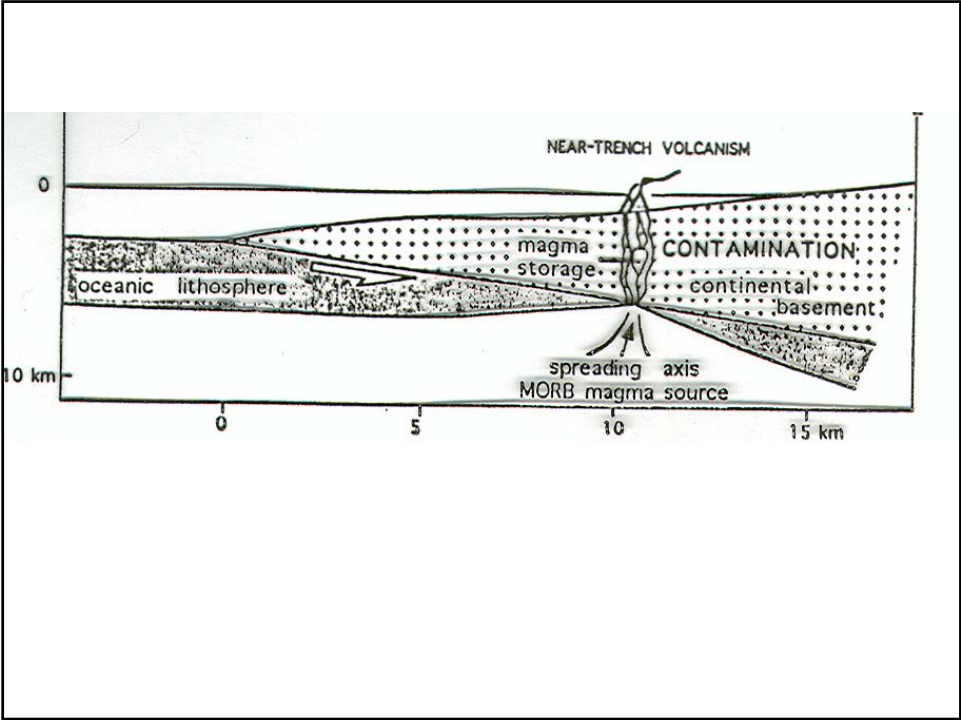
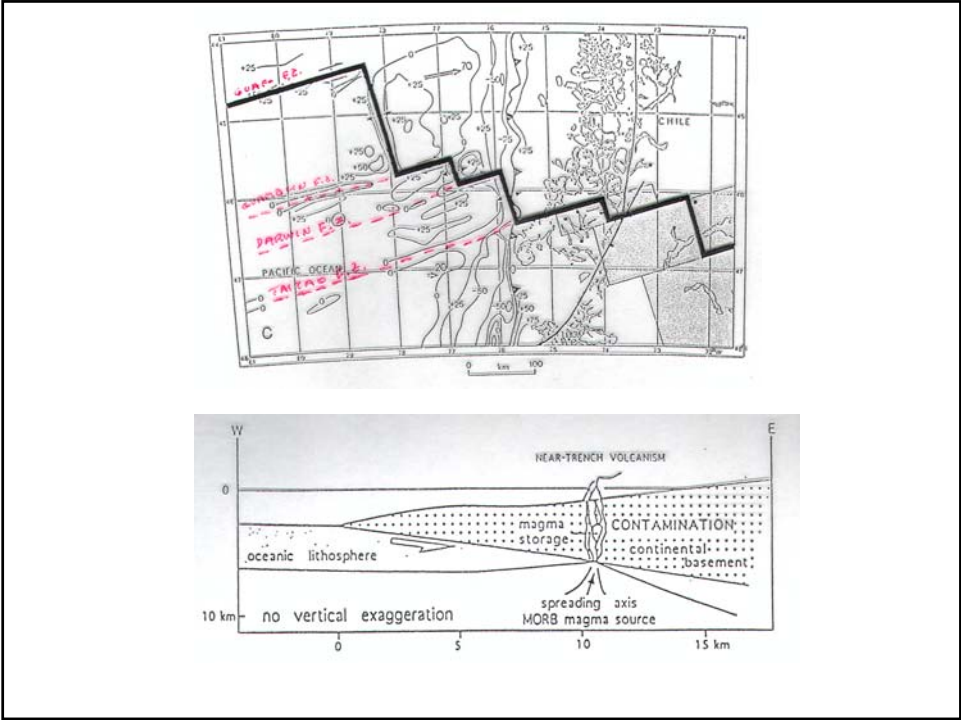
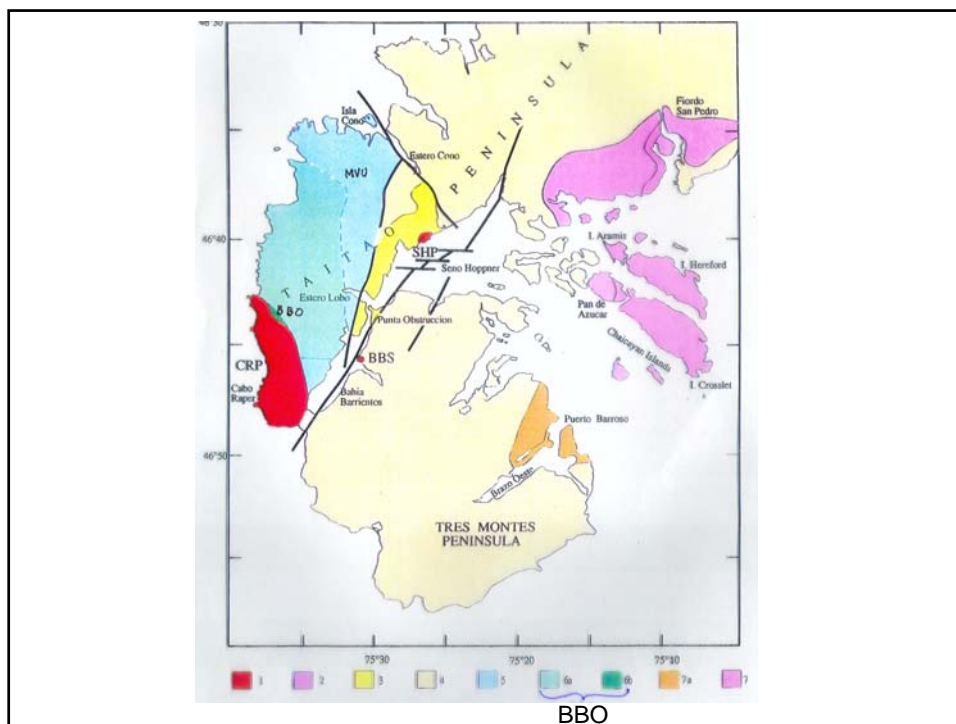
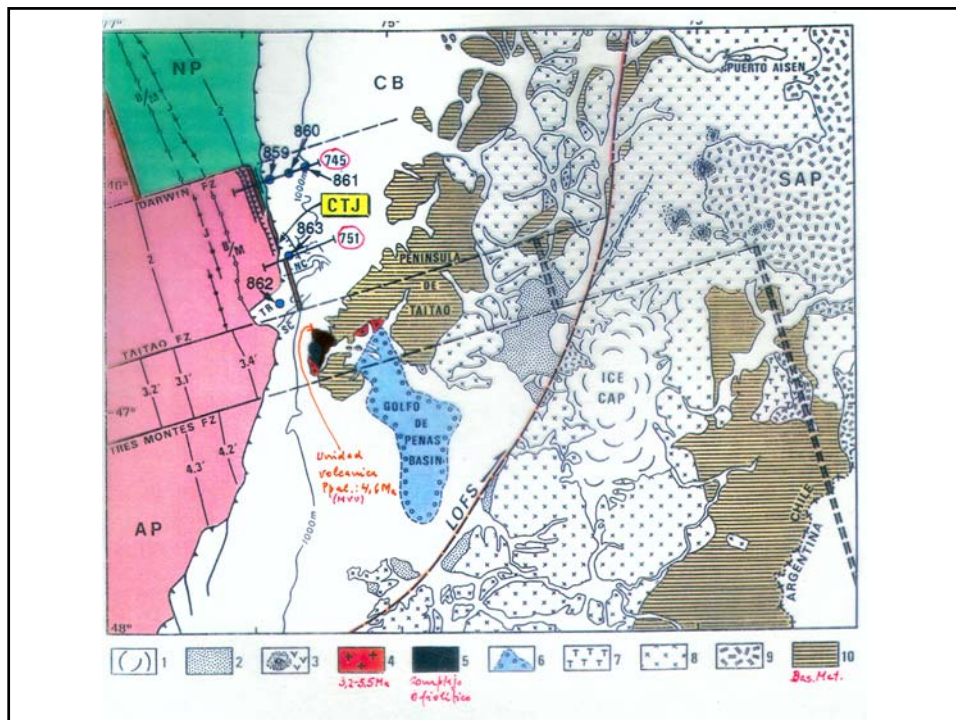


FIG. 2. Predicted positions of the slab windows generated by the continuing separation of the ridge segments of the Chile Rise after subduction into the Peru-Chile Trench. The finely dotted lines show the predicted extension of the transform faults and fracture zones into the trench.





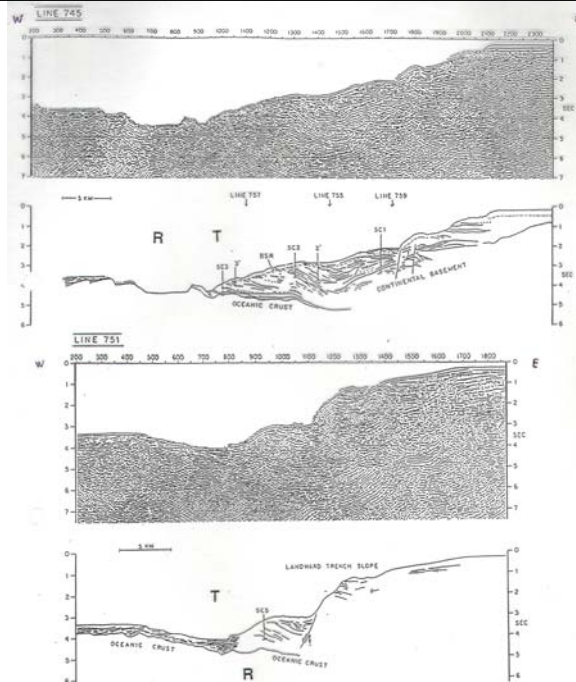


- 1- Pliocene Taitao intrusive suite (3.2 - 5.5 Ma)
 - 2- Calc-alkaline volcanism (0.8 - 5.3 Ma)
 - 3- CMU : Chile Margin Unit
 - 4- Pre-Jurassic metamorphic basement (=Chile Margin basement)
 - 5- MVU : Main Volcanic Unit : 4, 5 Ma
 - 6- BBO : Bahia Barrientos Ophiolite (6a-peridotite, gabbro, dike, 6b-serpentinite)
 - 7- Golfo de Penas basin sequence (Tertiary): 7a- Tres Montes peninsula sequence ; 7b- Chaicayan Islands and Fiordo San Pedro sequences
- CRP : Cabo Raper Pluton, BBS : Bahia Barrientos Stock, SHP : Seno Hoppner Pluton

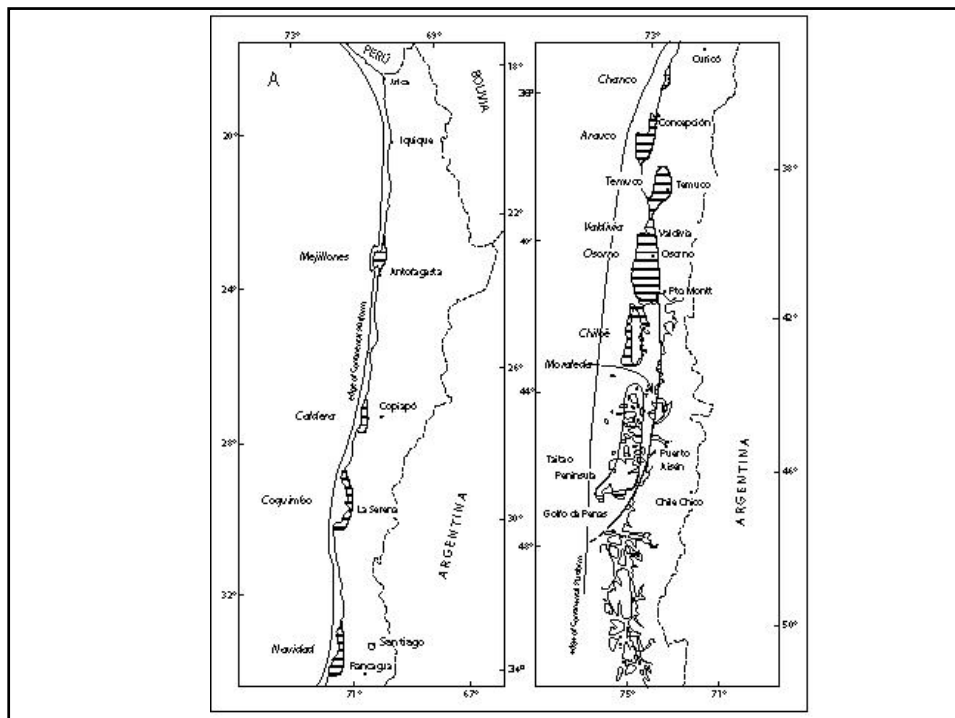
Fig.5 : Carte géologique des péninsules de Taitao et de Tres Montes (Bourgeois et al.,1993).

Prisma de acreción
en el punto triple

T. Trench
R. Ridge

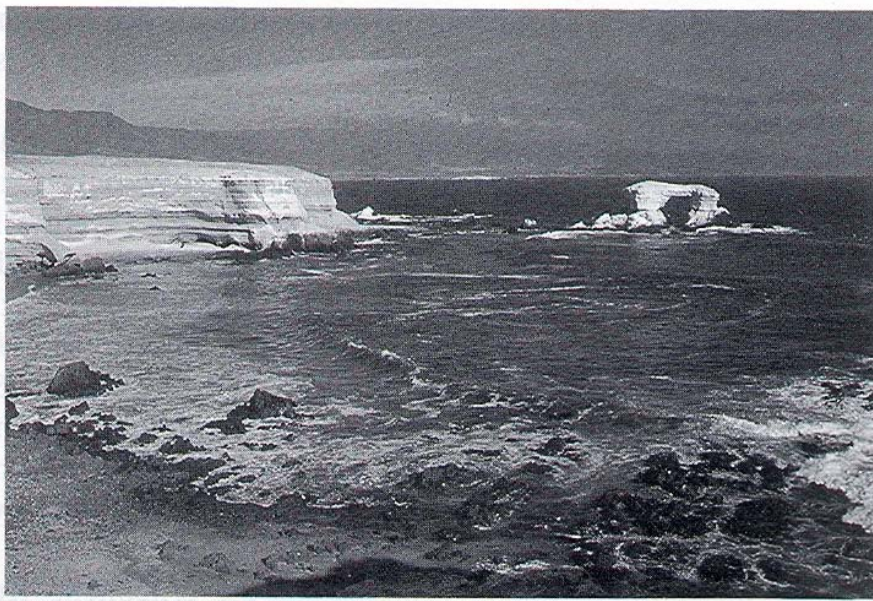


B. Borde occidental de la Cordillera de la Costa



- Mejillones
- Caldera
- Quebrada Chañaral (Gómez; Le Roux)
- Coquimbo
- Navidad
- Arauco
- Temuco-Valdivia-Osorno
- Chiloé

Mejillones



N Antofagasta
Küste La Portada

Terrazas de
acumulación

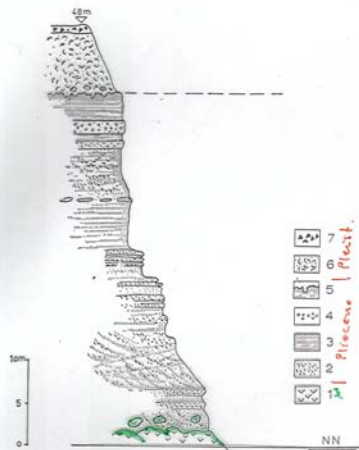
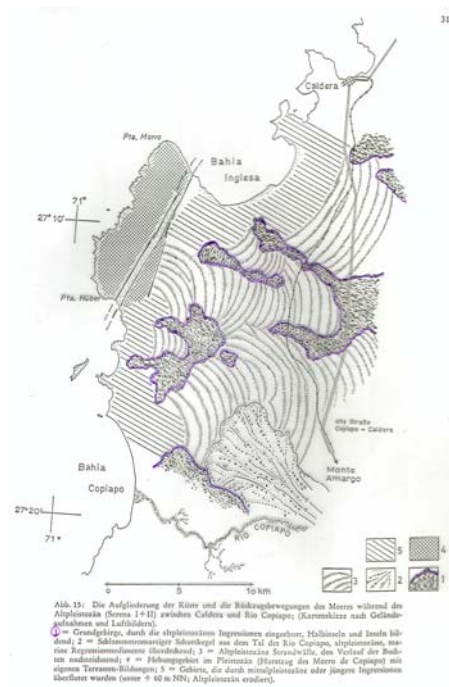


Abb. 4: Profil an der Südküste nördlich Antofagasta beim Aussichtspunkt „La Portada“:
1) Jurassische und kreidezeitliche, porphyrische Esgallagutesteine;
2) Grober Schutt, vorwiegend aus Balanus-Fragmenten bestehend, kreuzgeschichtet oder in kompakten Blöcken, bis 1,5 m mächtig;
3) Gelbliche Feinsande, feingedichtet mit Schilfschalstümpfen;
4) Grobsande bis Feinkonglomerate;
5) Grobe, grünliche Sande, zusammen mit stark angroßter und kavernöser, unregelmäßiger Oberfläch;
6) Grobe Strandsande mit grobem Muschelschutt, der lagenweise in wechselnder Korngroße dicht gepackt das Sediment nahezu ausschließlich aufbaut (Alpinozän);
7) Früherer Seilweg der hier auslaufenden Schenkung, mit Flugsand gemischt.

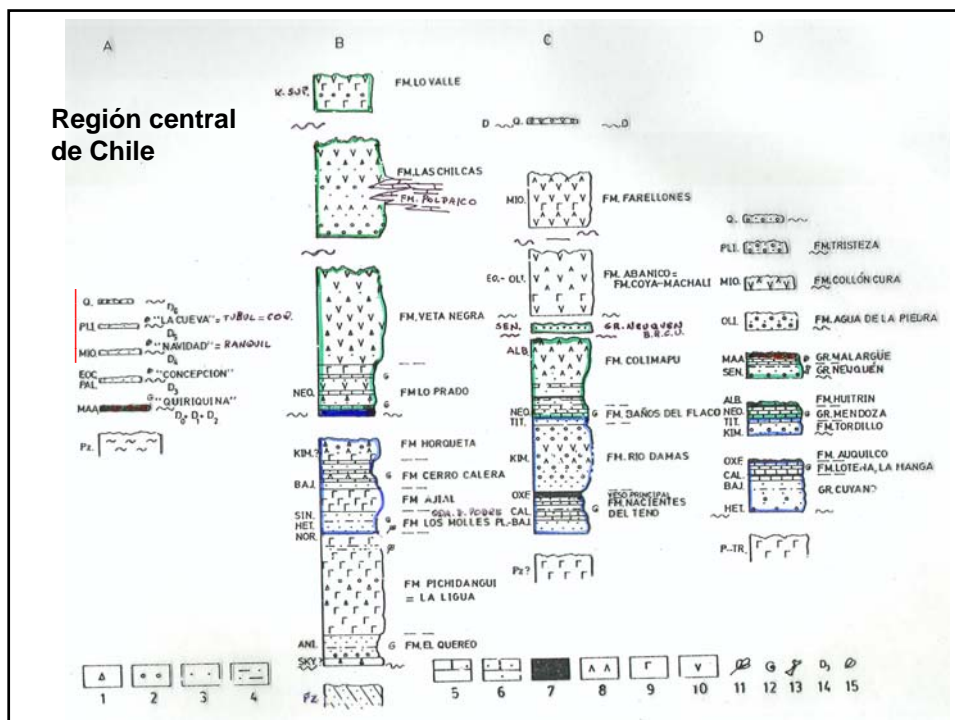
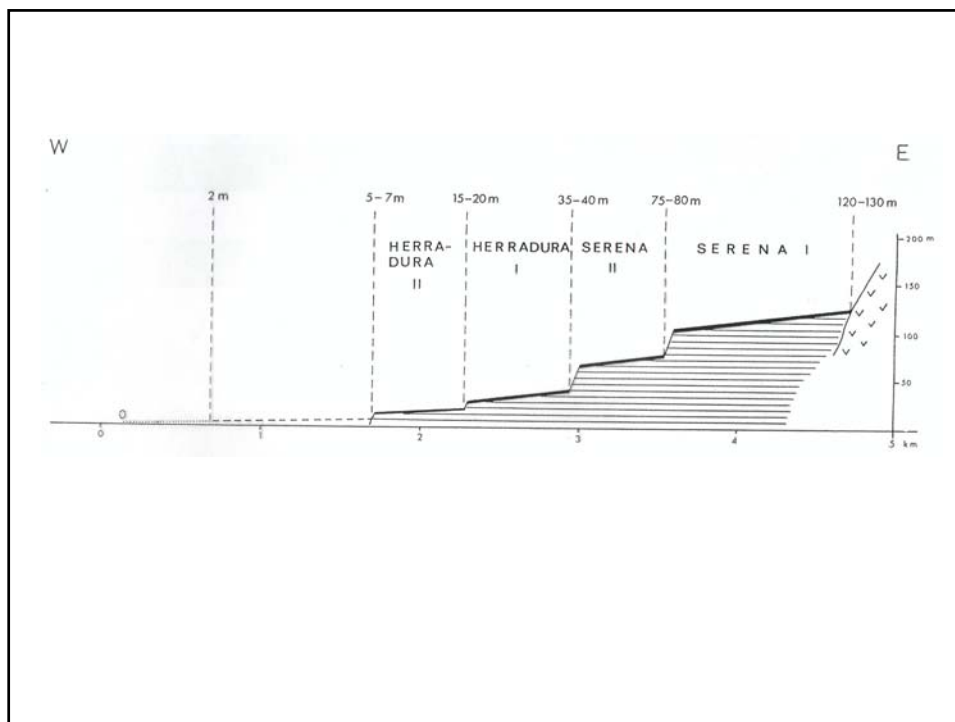
Caldera



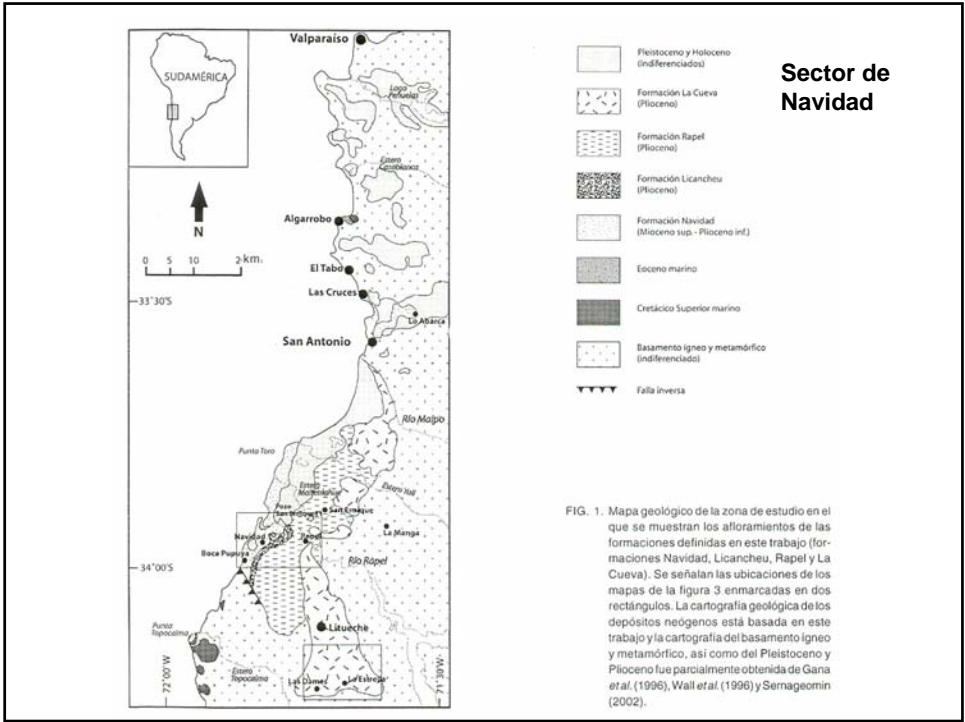
Quebrada Chañaral

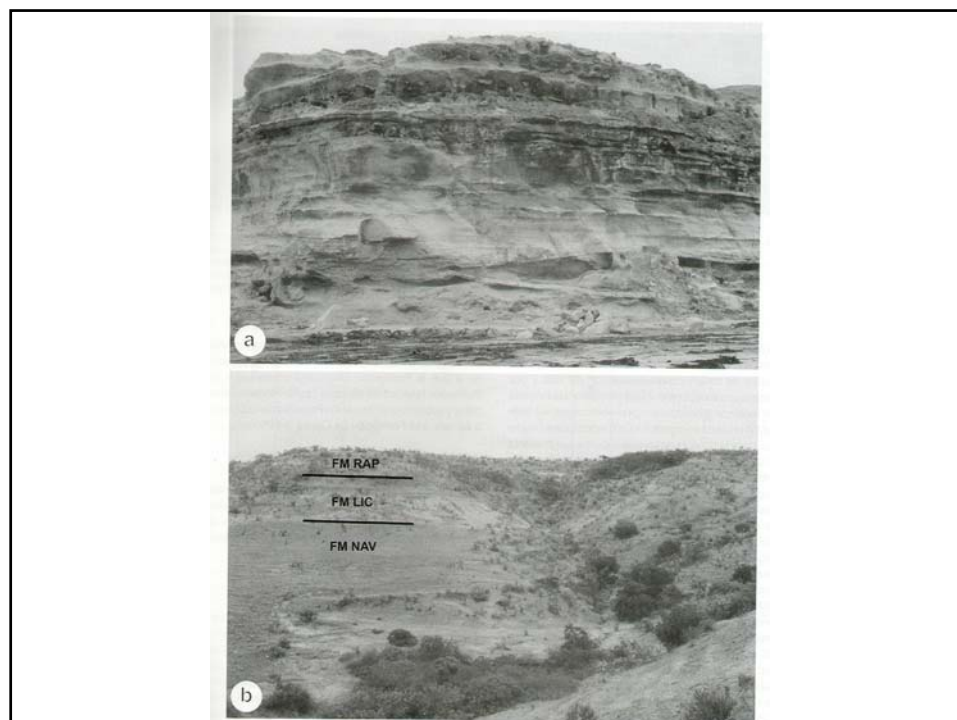
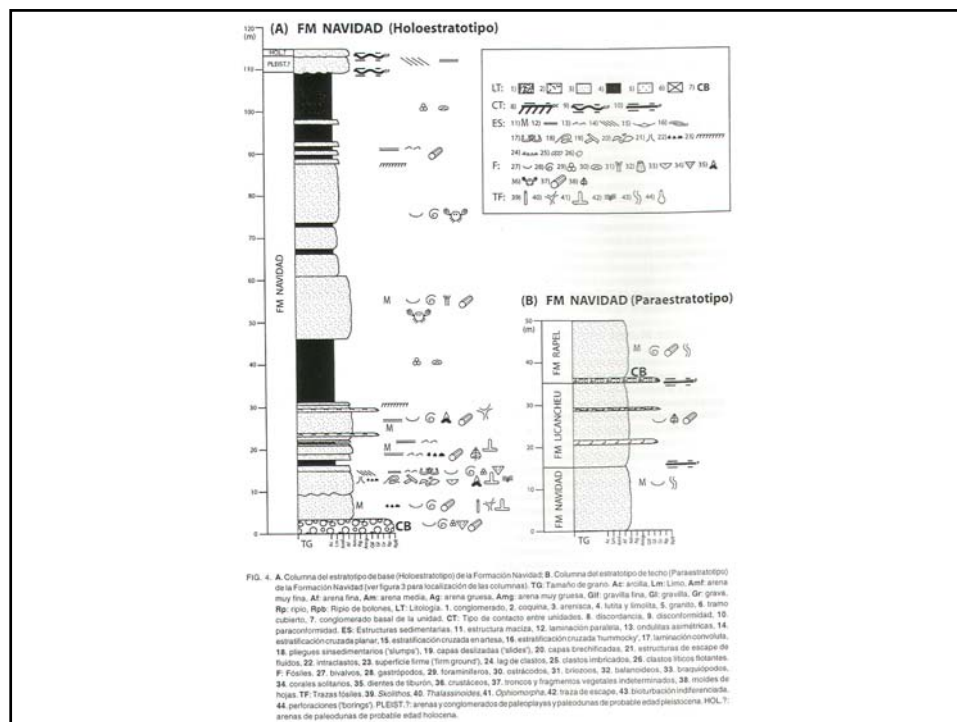
Coquimbo

- Fm. Coquimbo



Navidad





Arauco

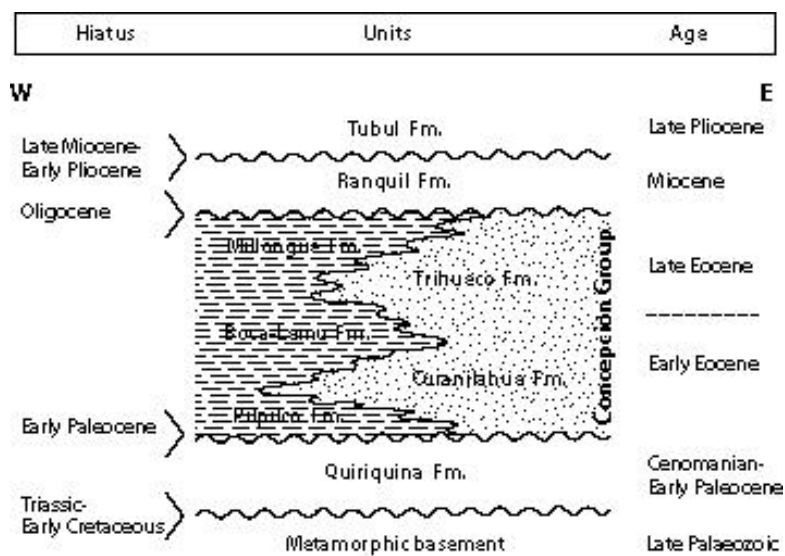
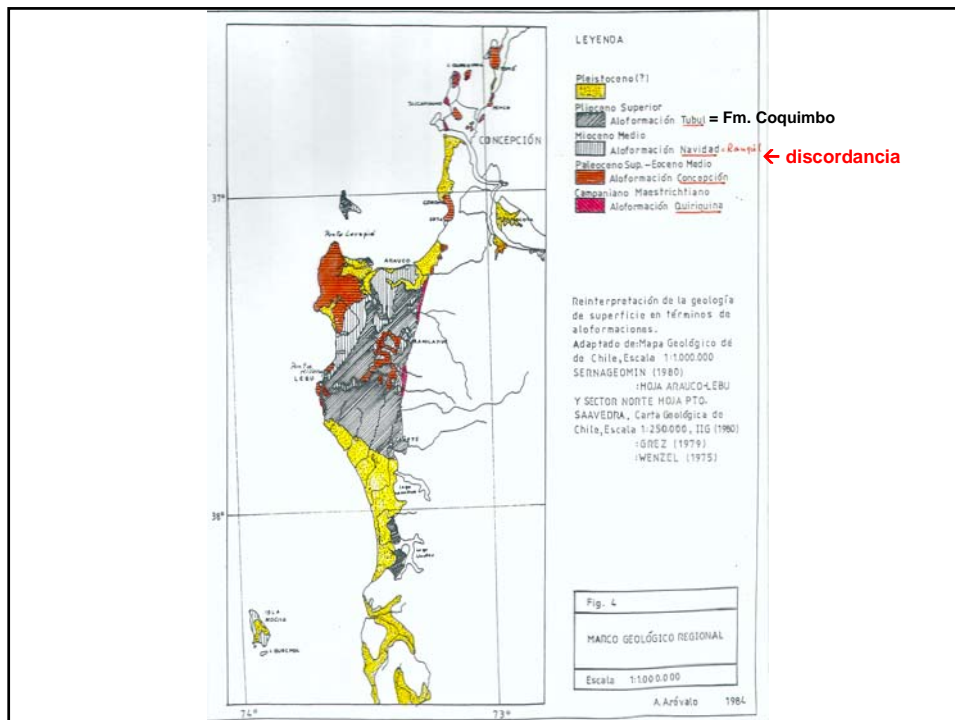
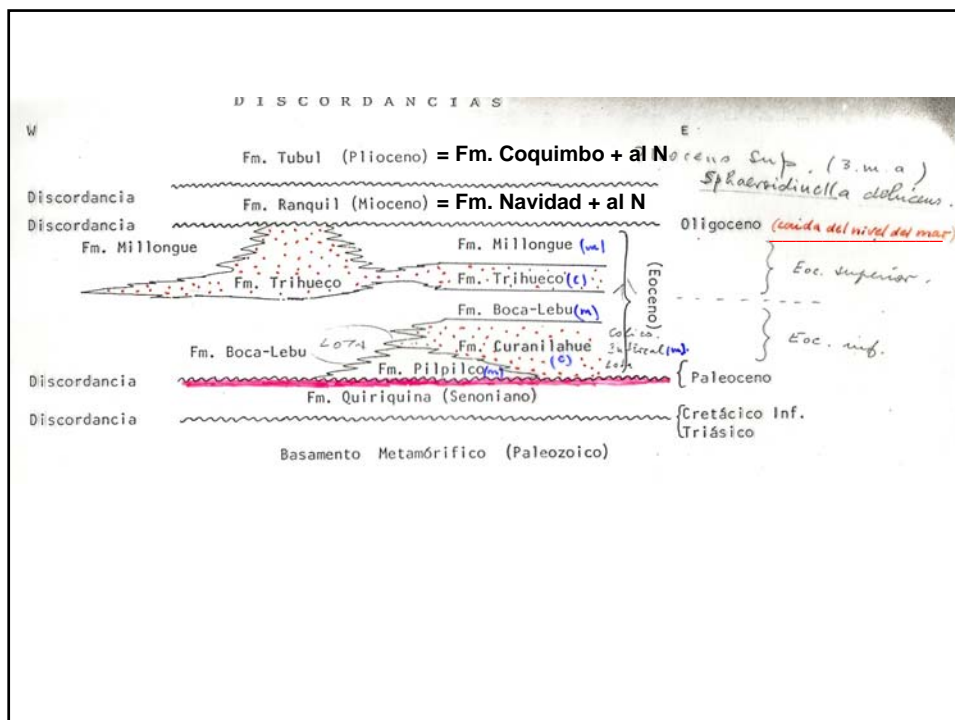


Fig. 7.5 (see 620)



← discordancia



Chiloé

Terrazas marinas (Plio-Q)

discordancia

Fm. Coquimbo (Plioceno)

discordancia

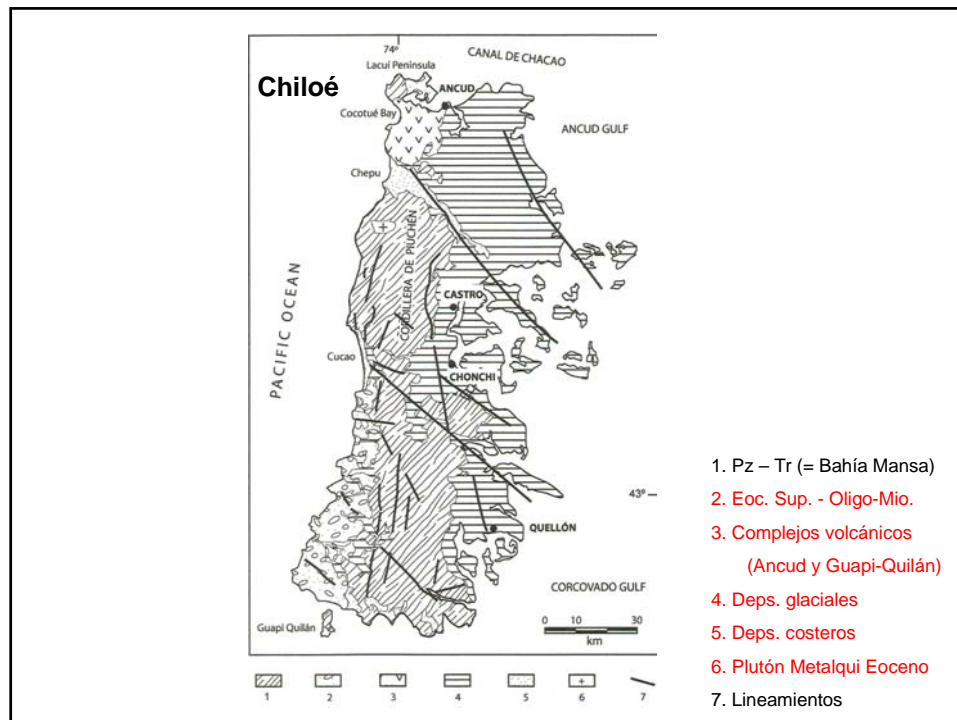
Fm. Navidad = Ranquil (Mioceno)

discordancia (Oligoceno)

Gr. Concepción (Paleoceno – Eoceno)

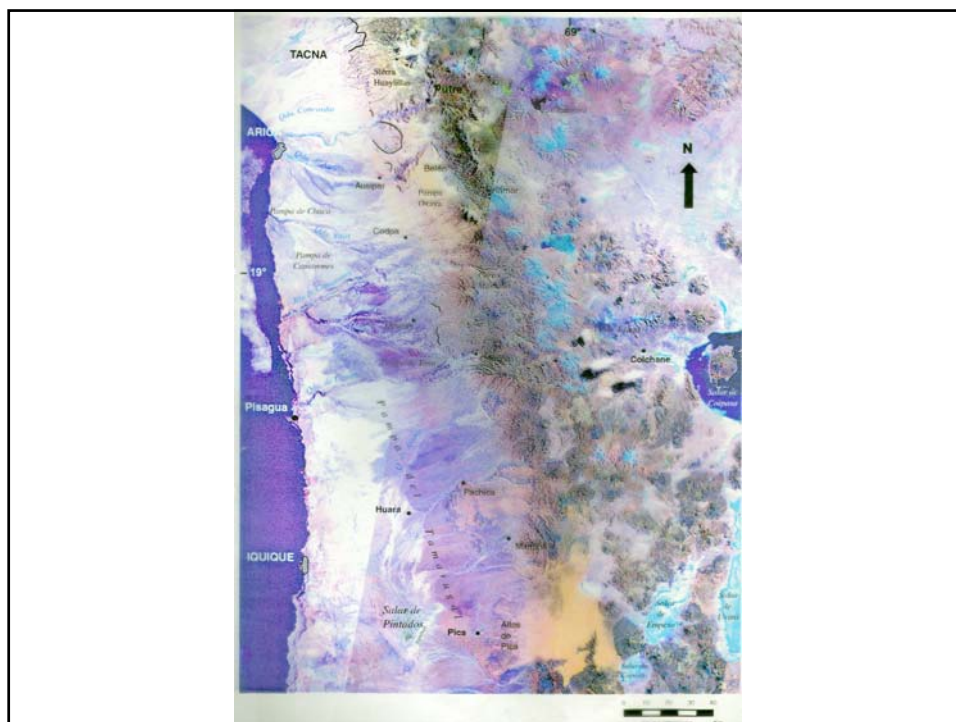
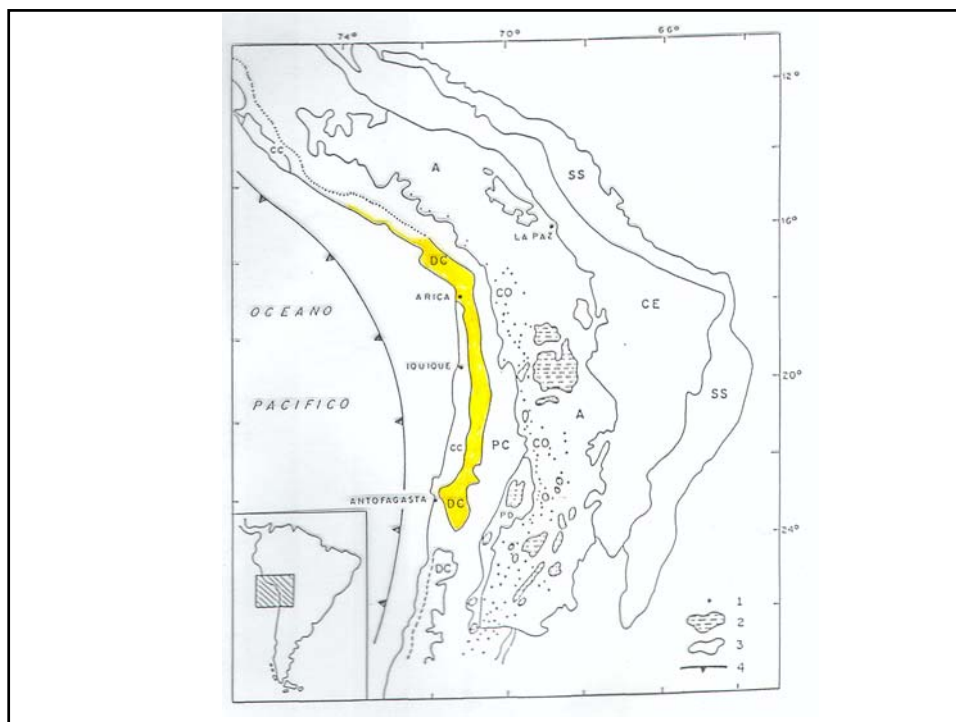
discordancia

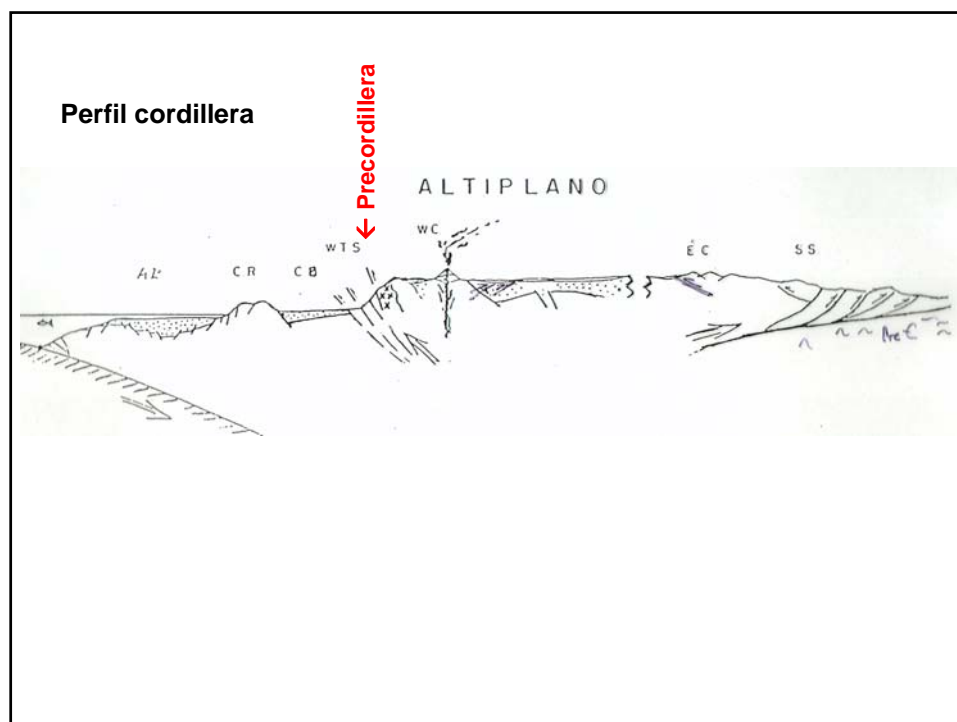
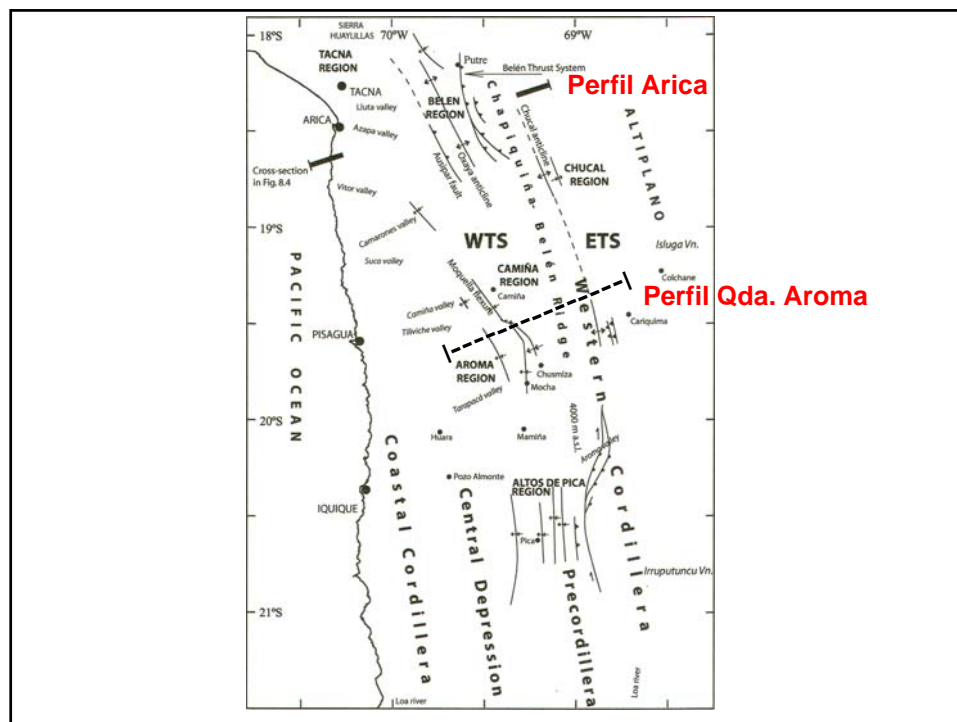
Gr. Quiriquina (K Sup.)



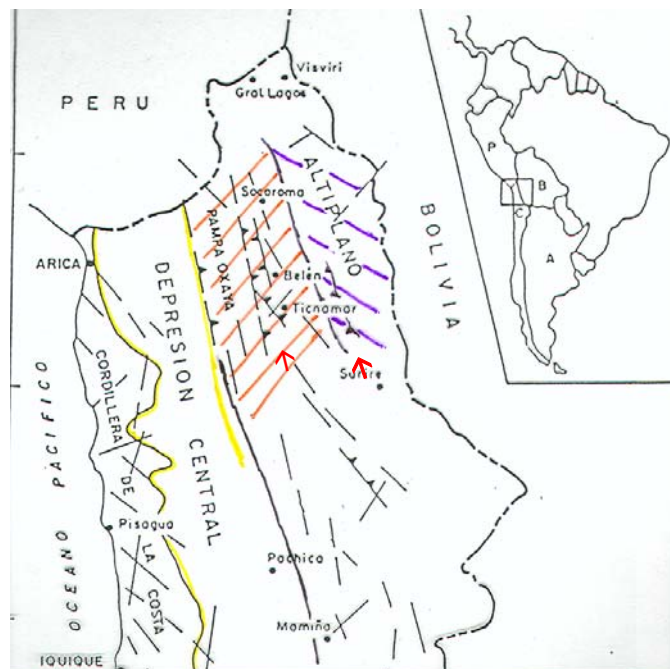
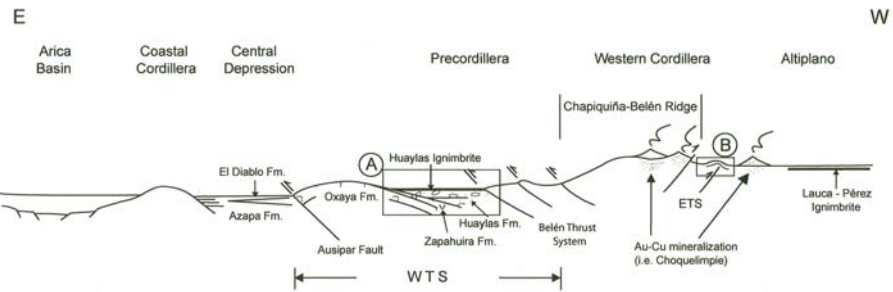
C. Depresión Central, Precordillera, Altiplano y Cordillera Principal

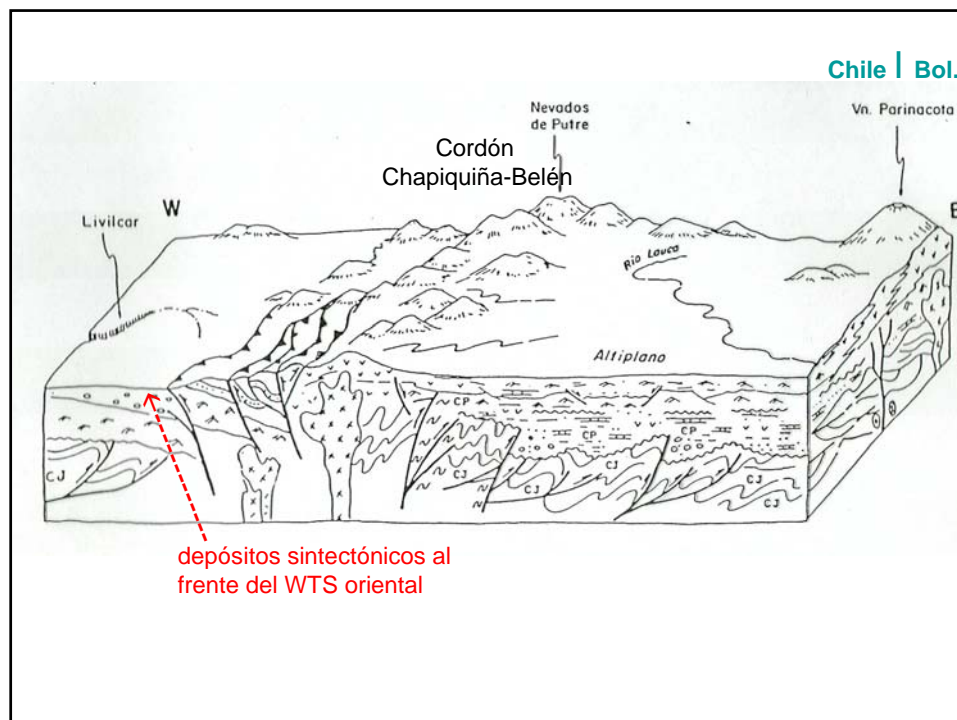
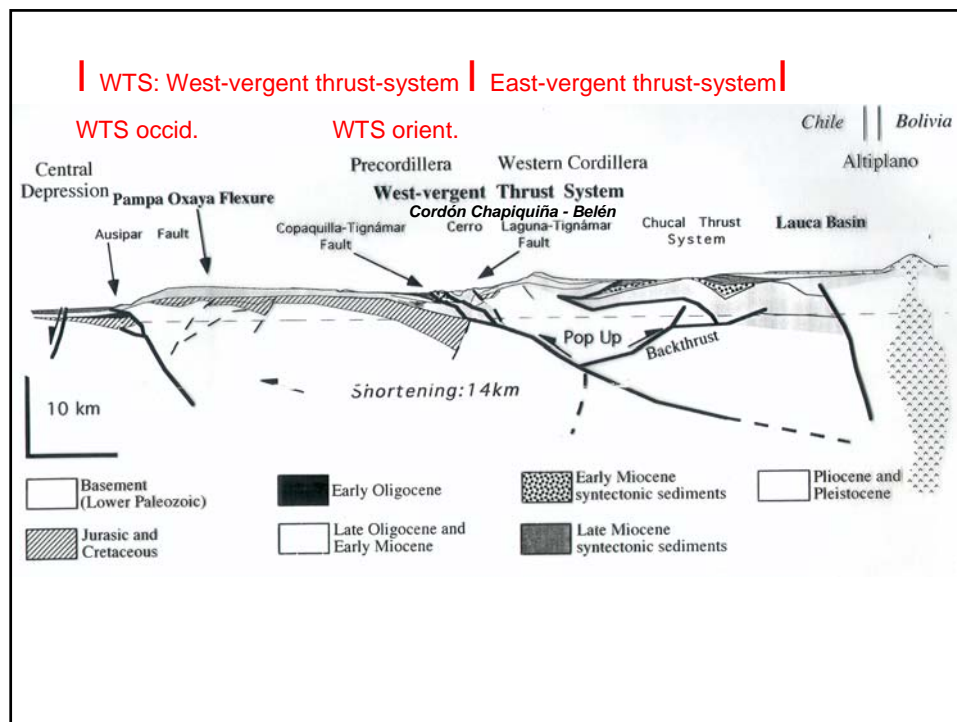
- Arica - Iquique

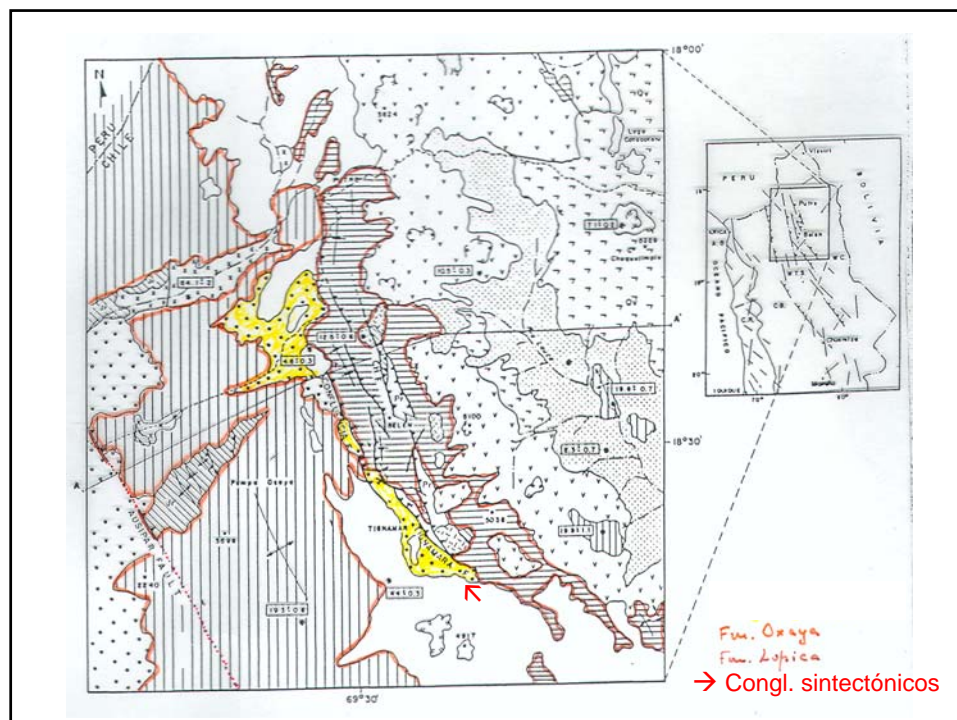
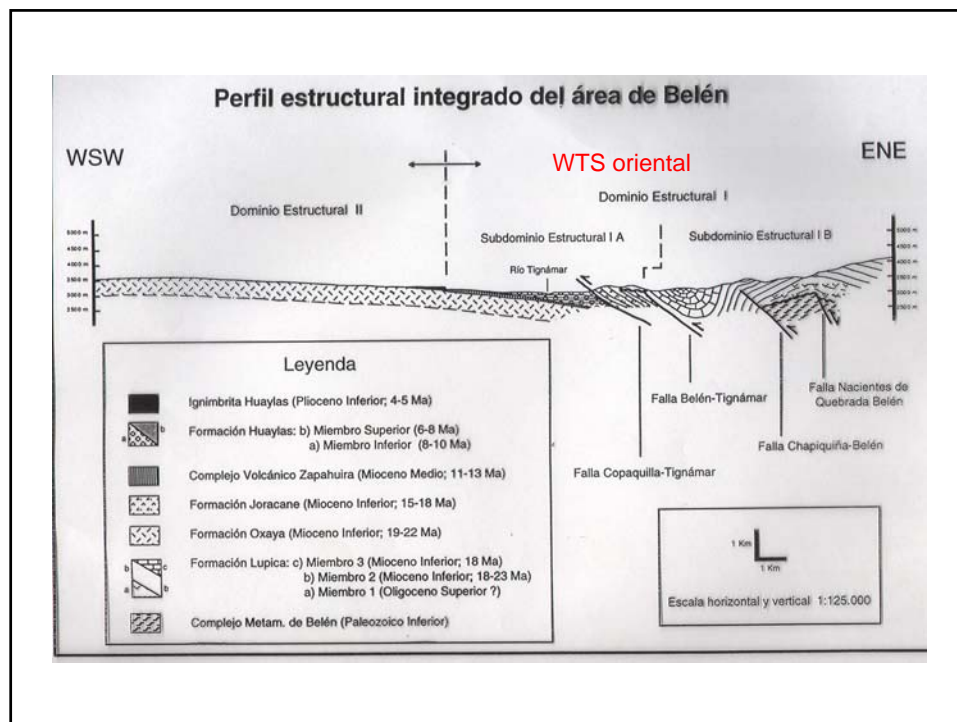


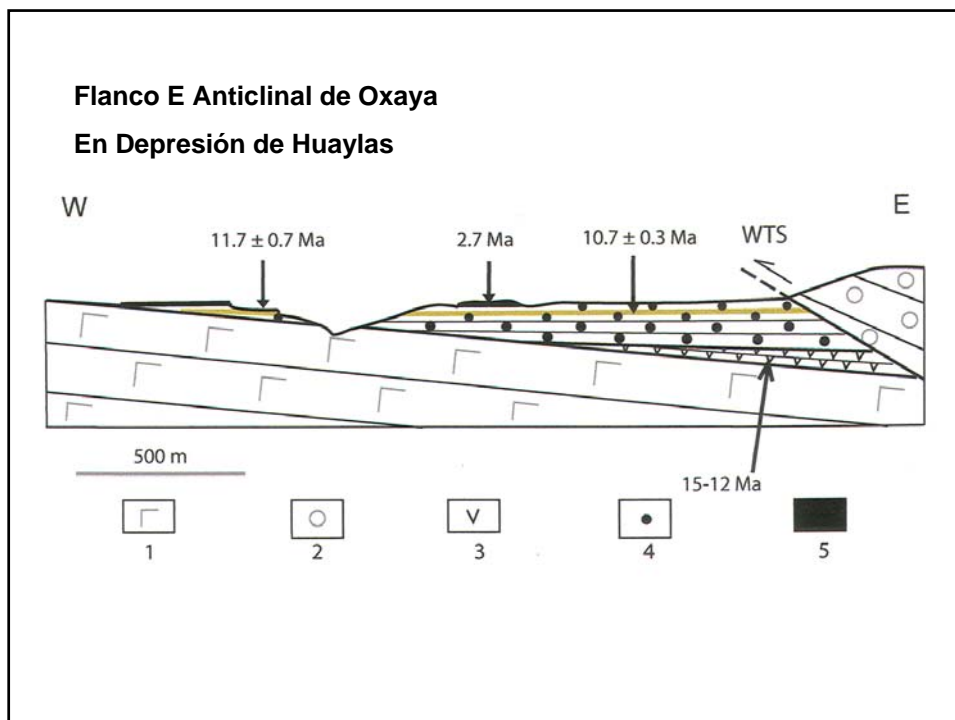
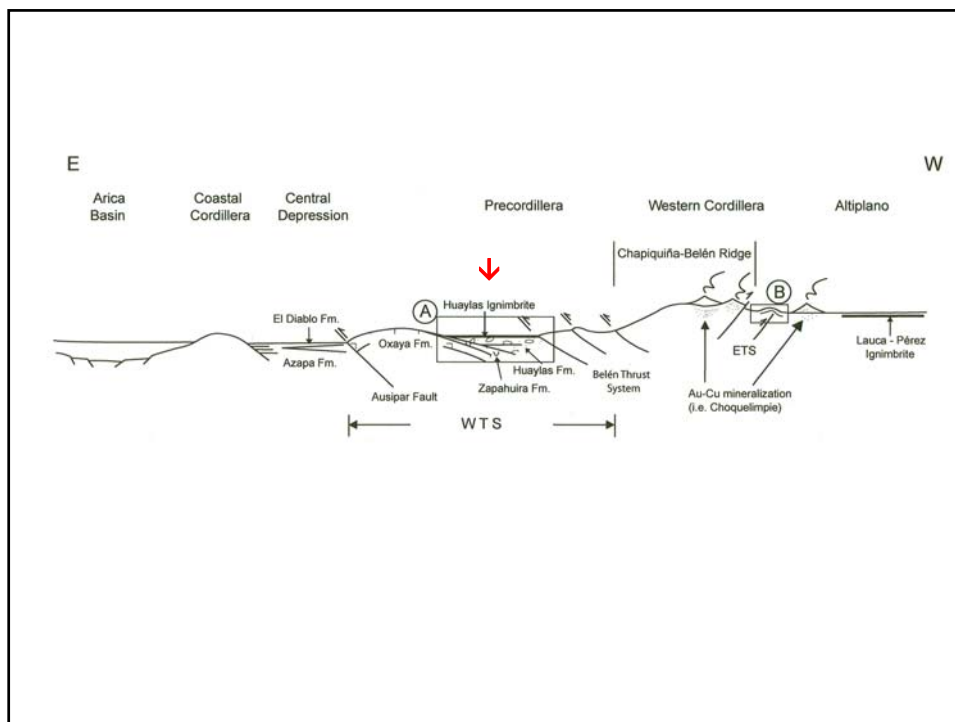


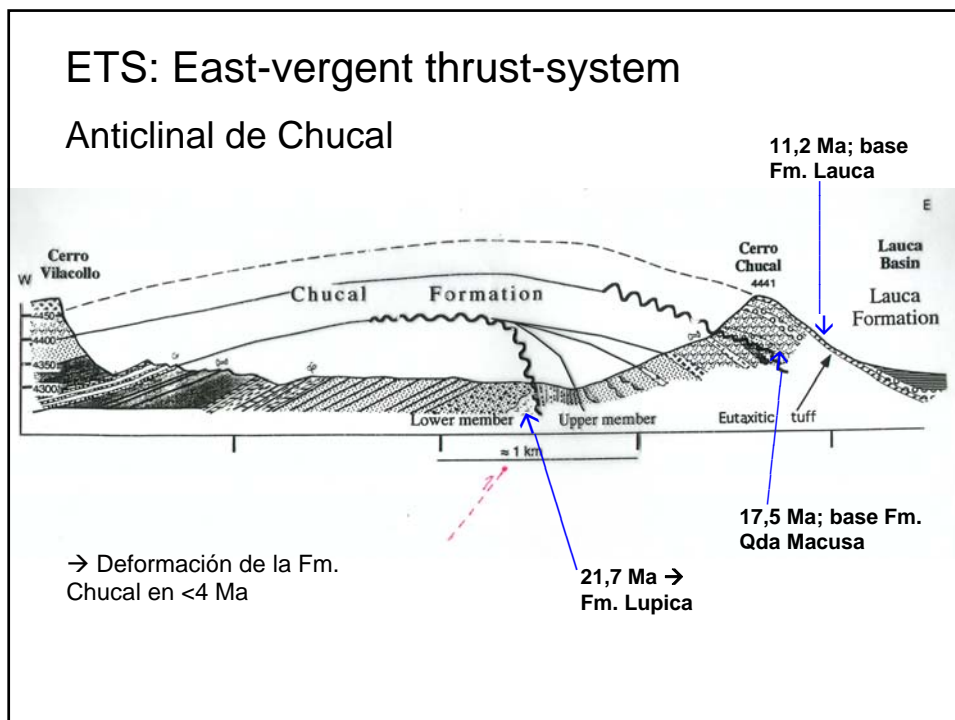
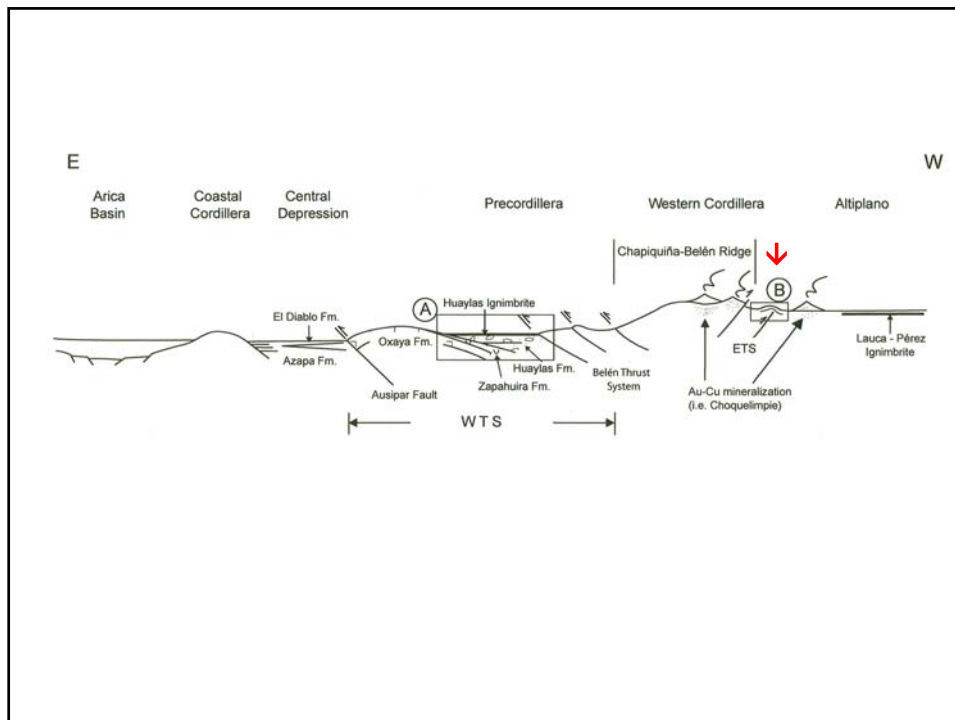
Perfil esquemático sector chileno en Arica

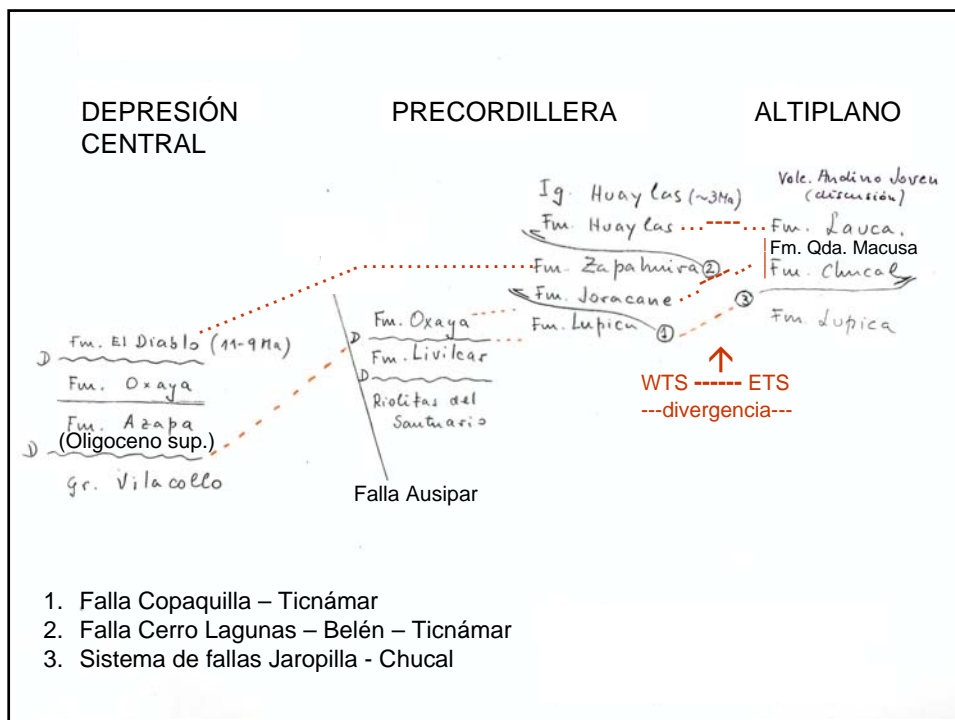
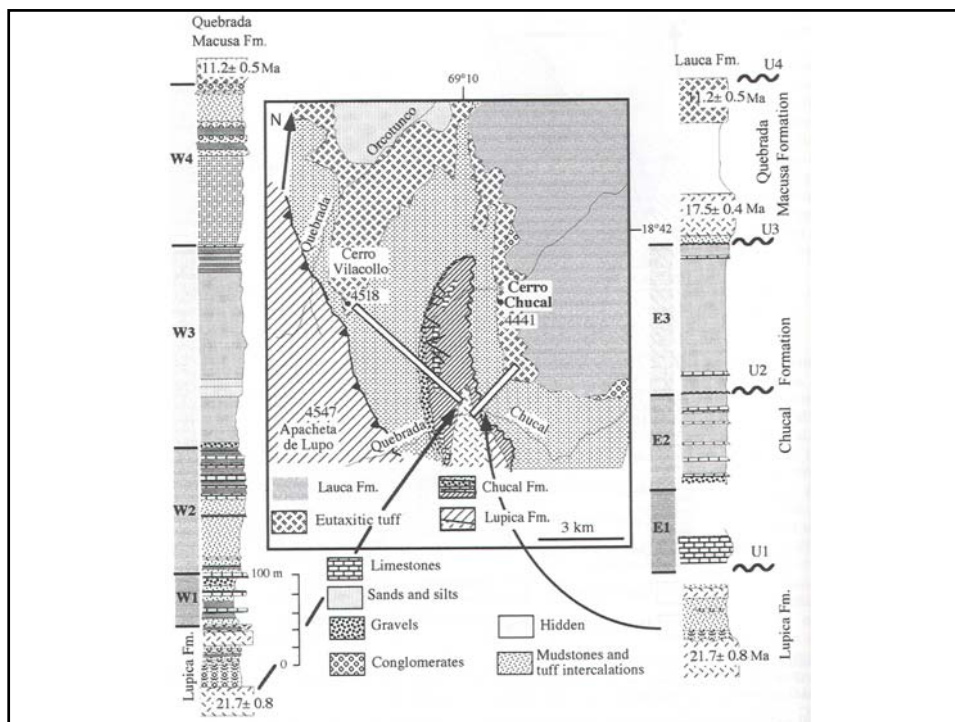


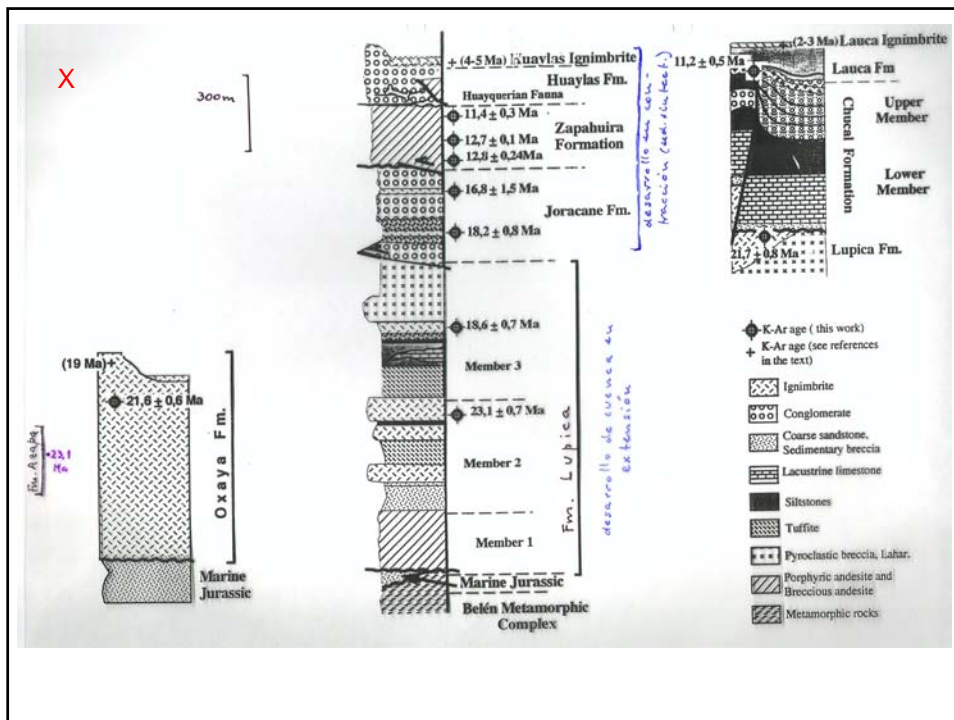
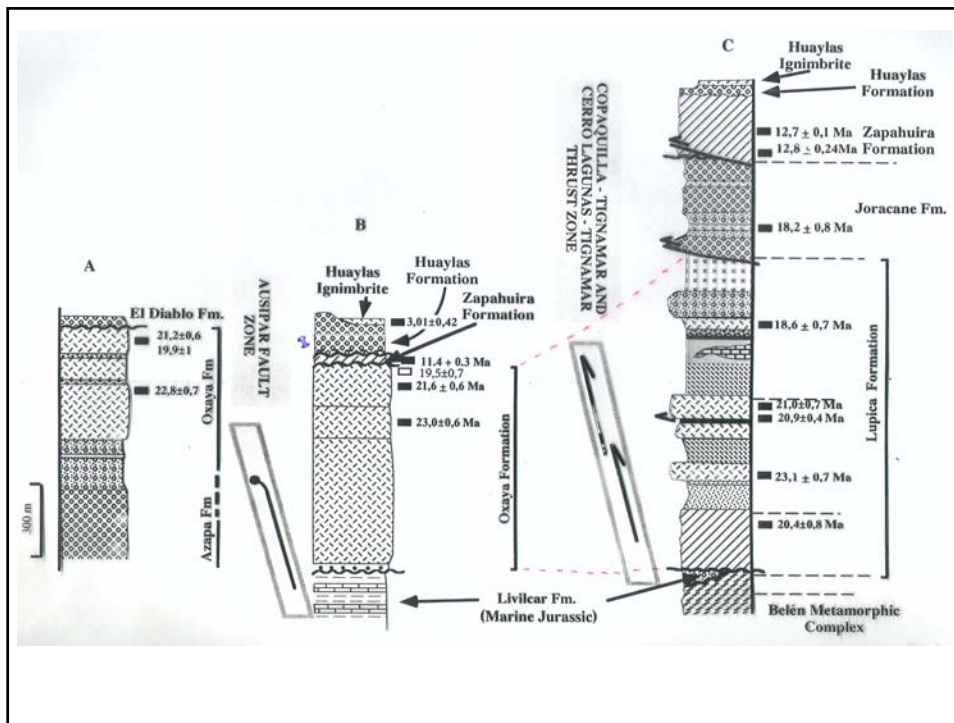


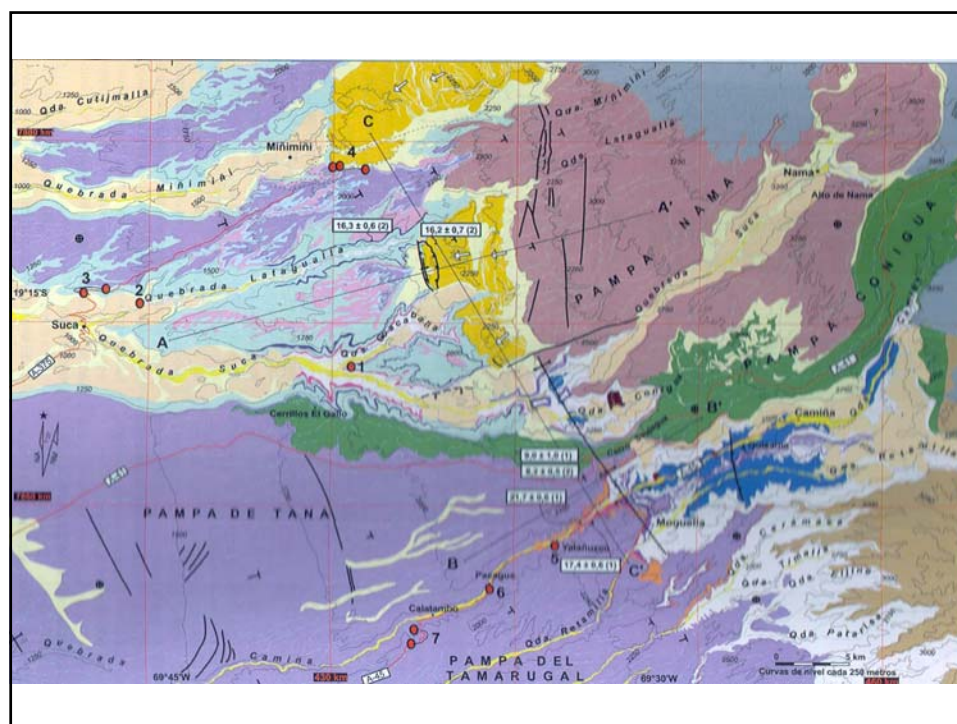
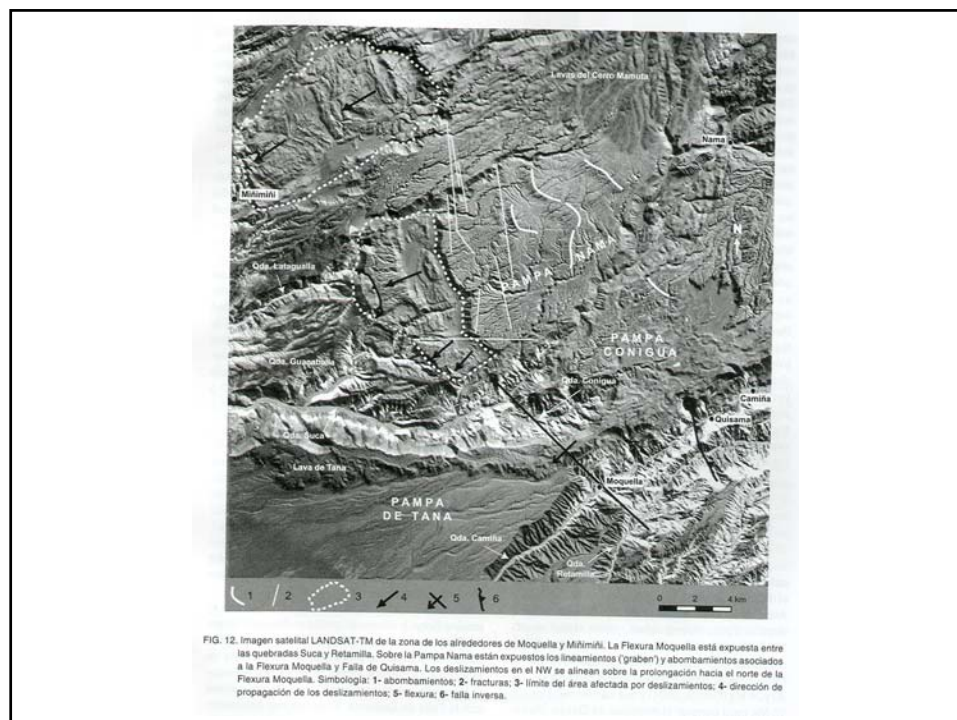


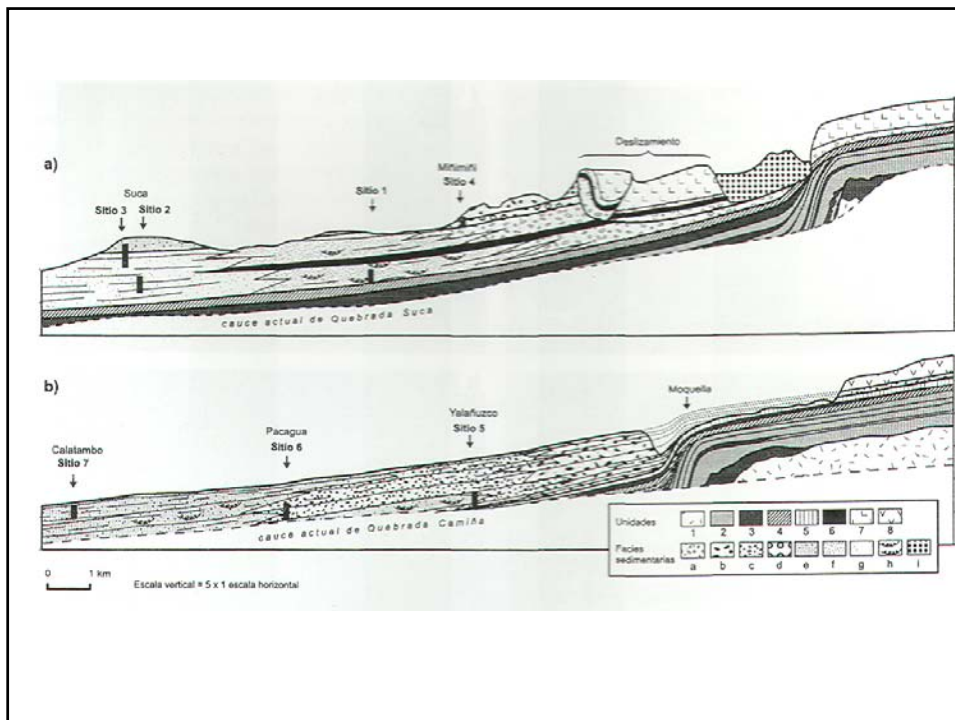
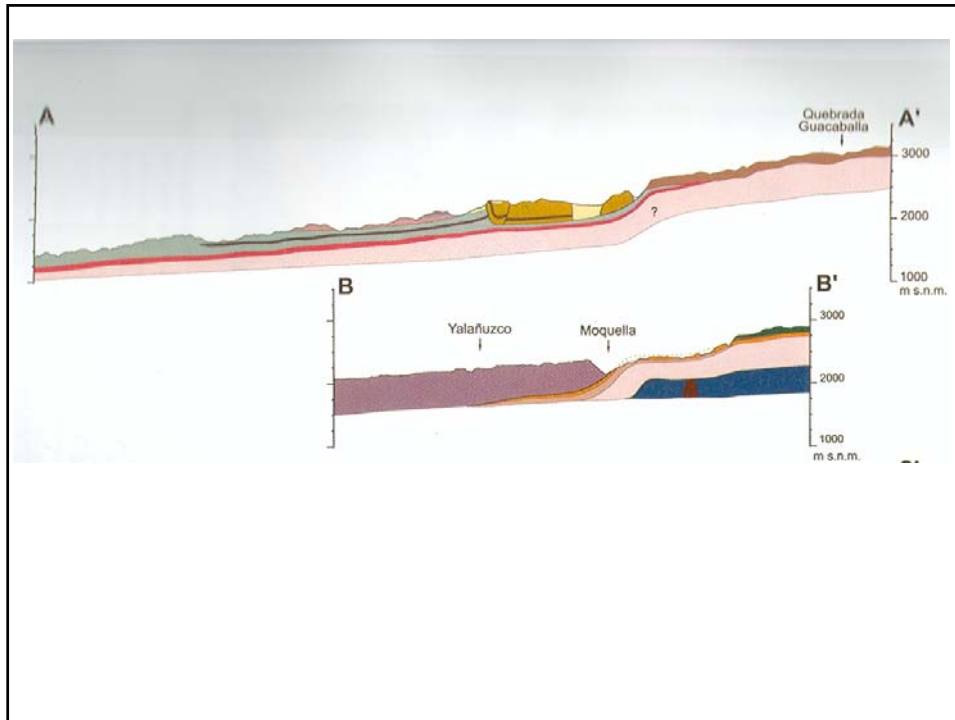


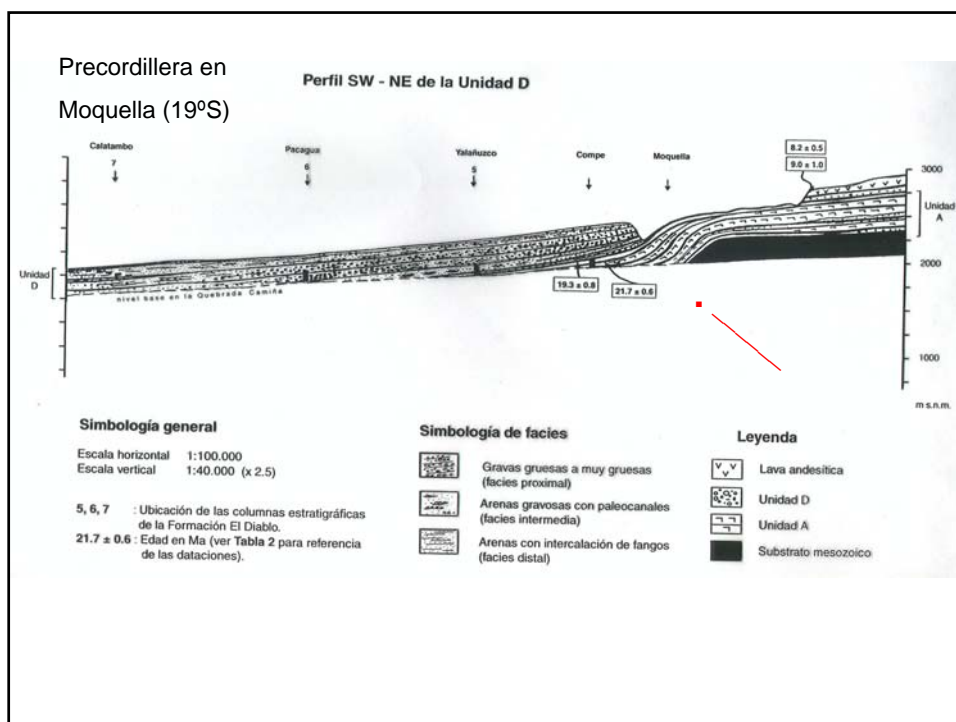
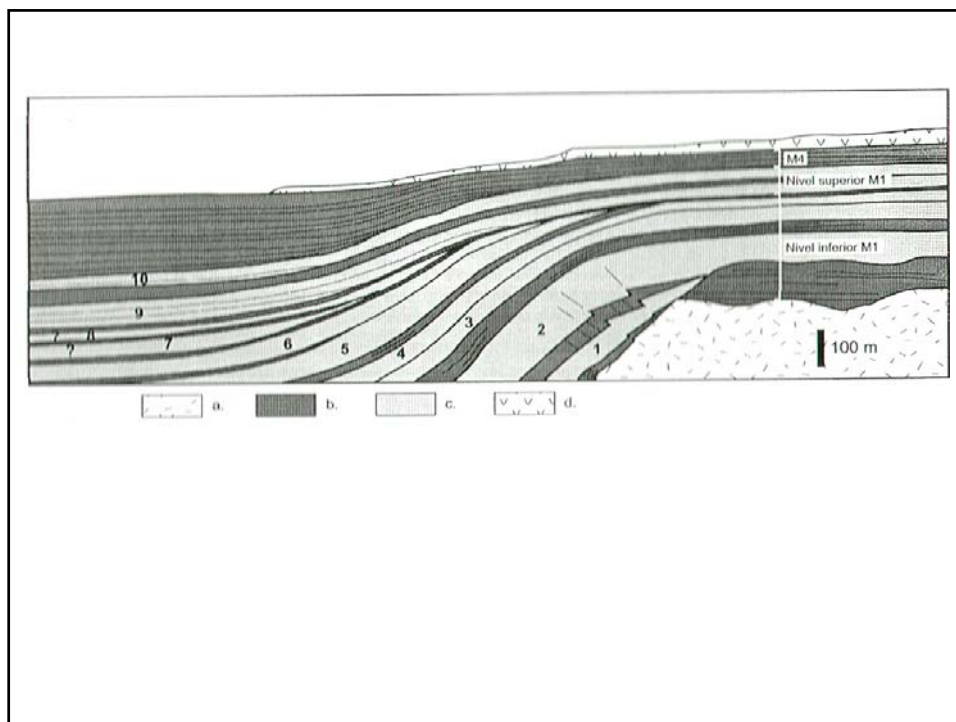












Perfil Quebrada Aroma

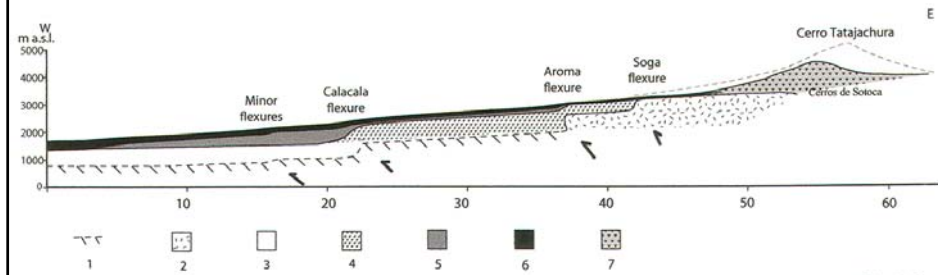
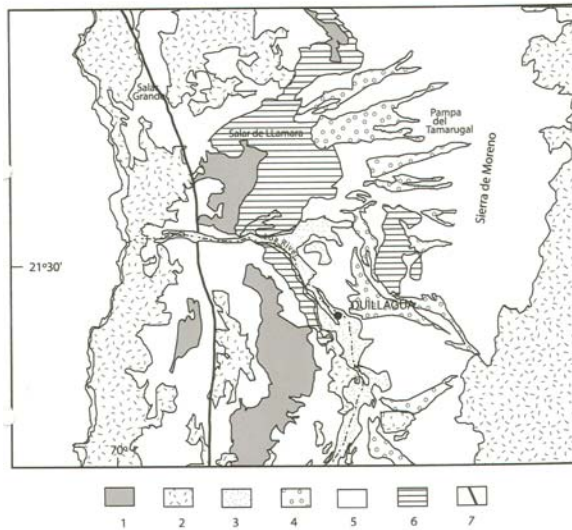


Fig. 8.9

Iquique – Antofagasta - Chañaral

Depresión Central

- Iquique (Quillagua, valle del Río Loa)

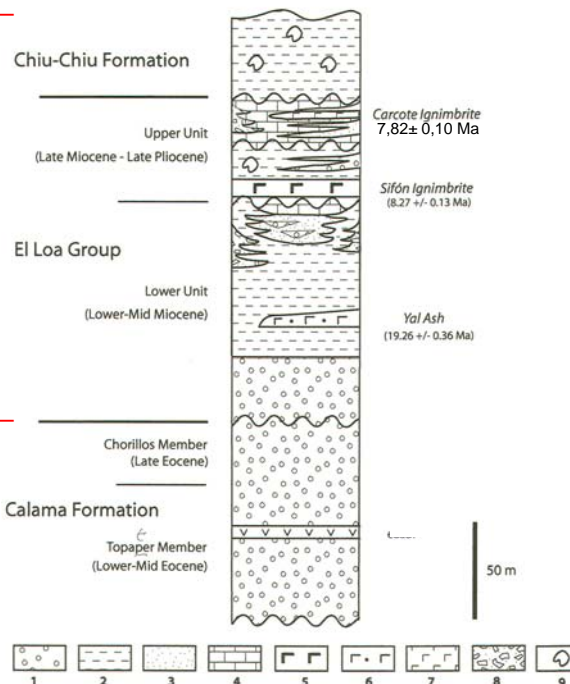


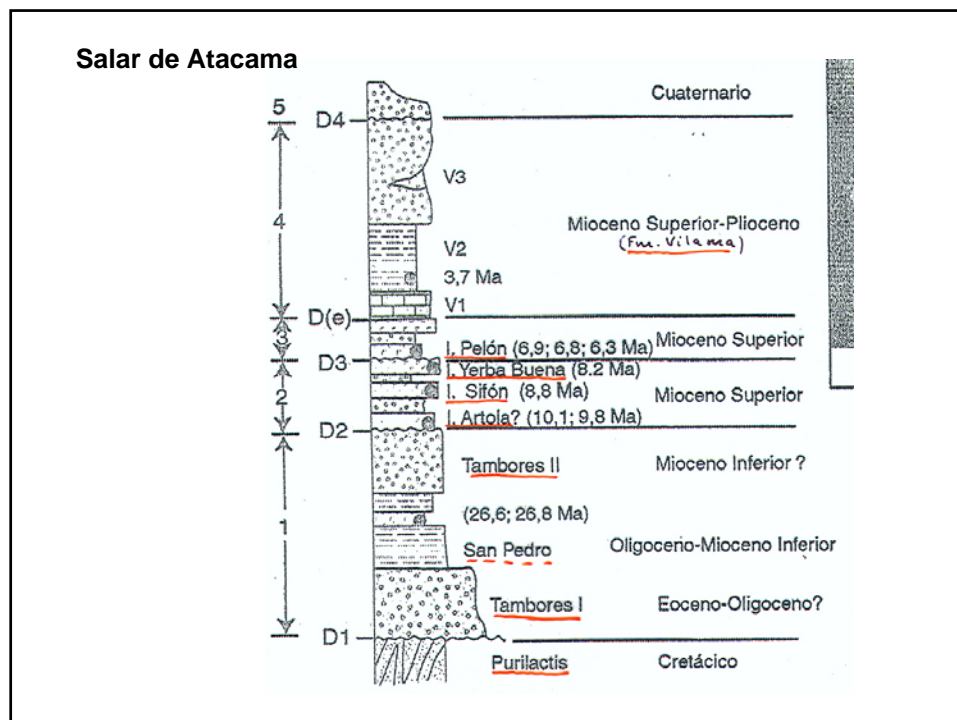
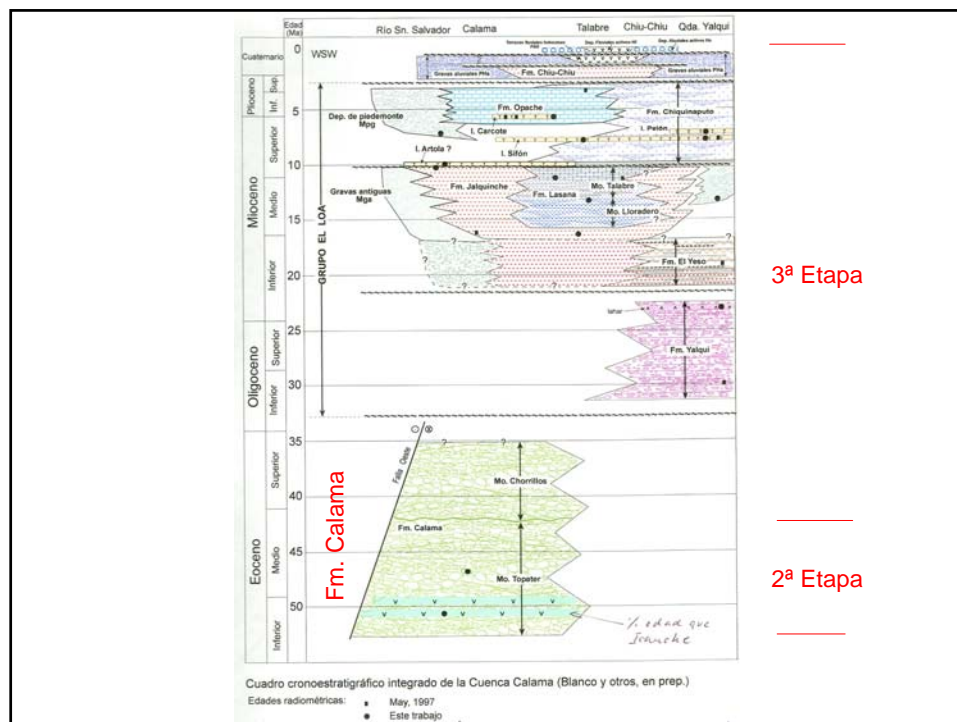
1. Fm. El Toco
2. Mesozoico
3. Gr. El Loa (lacustre)
4. Conos aluviales
5. Otros deps. Cz.
6. Salares.
7. Carretera

Fig.8.11

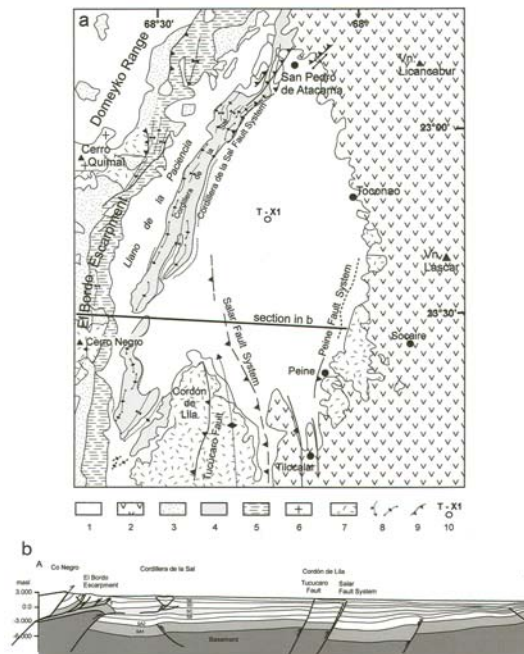
Tercera Etapa →

Cuenca de Calama
(Valle del Río Loa)





Salar de Atacama



FIN
Primera Parte