



Enabling
Virtual
Access to
Latin-American
Southern
Observatories

<http://www.evalso.eu>

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Abstract

The present document collects some useful geographical data on the locations that are involved in the EVALSO procurement.

Important notice: this data are provided for information purpose only and do not represent exact measurements!

¹ nature of the deliverable: **R** = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other

² Dissemination level **PU** = Public
PP = Restricted to other programme participants (including the Commission Services).
RE = Restricted to a group specified by the consortium (including the Commission Services).
CO = Confidential, only for members of the consortium (including the Commission Services).

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Contents

1	PURPOSE AND SCOPE.....	5
2	CHILE	6
3	NORTHERN REGION.....	7
3.1	Antofagasta/2 nd Region	7
3.2	City of Antofagasta	8
3.3	Ruta 5 (Panamericana)	9
3.4	Ruta B710 (old-Panamericana).....	10
3.5	Observatorio Cerro Armazones (OCA)	12
3.6	ESO Paranal Observatory	14
3.7	Summary of distances.....	15
4	SANTIAGO METROPOLITAN REGION	16
4.1	REUNA (Providencia).....	16
4.2	ESO (Vitacura)	16

LIST OF ABBREVIATIONS

ESO European Southern Observatory

OCA Observatorio Cerro Armazones

1 PURPOSE AND SCOPE

This document provides a closer look to the areas where new infrastructure will have to be built and defines a set of reference points and names used in other project documents, hoping to make the reader familiar to the area of interest.

There are two areas of interest:

- The northern region around Antofagasta, where the Observatories are located
- The metropolitan region of Santiago de Chile, where the end points for the communication infrastructure are located.

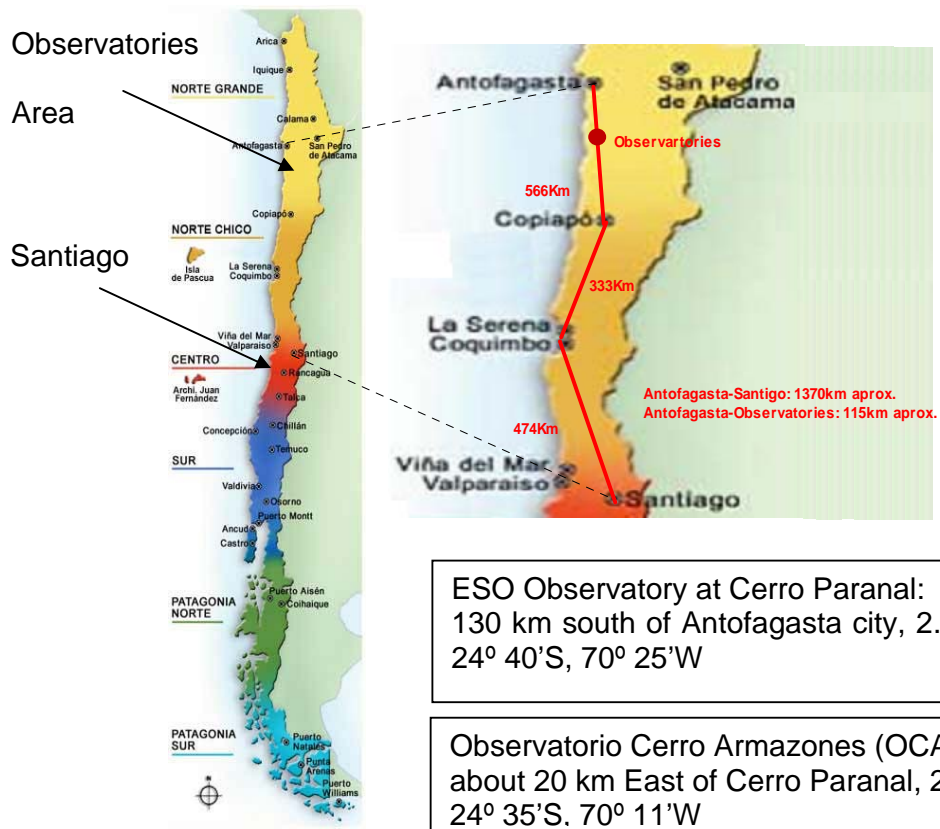
DISCLAIMER

Although best effort has been made to provide reliable and complete information, they are made available for information purpose only and do not represent any type of commitment from the EVALSO member to Tenderers. Only data acquired directly by the Tenderer from official sources and/or direct visit and measurements may be used for the formal preparation of the proposal.

2 CHILE

Chile is a thin but quite long (4300 km) strip of land compressed between the Pacific Ocean and the Cordillera of the Andes. The consequence of this is that the communication infrastructure is essentially a backbone in the north-south direction.

The area of concern for EVALSO is between Santiago and Antofagasta, located on the sea some 1370 km north of Santiago.

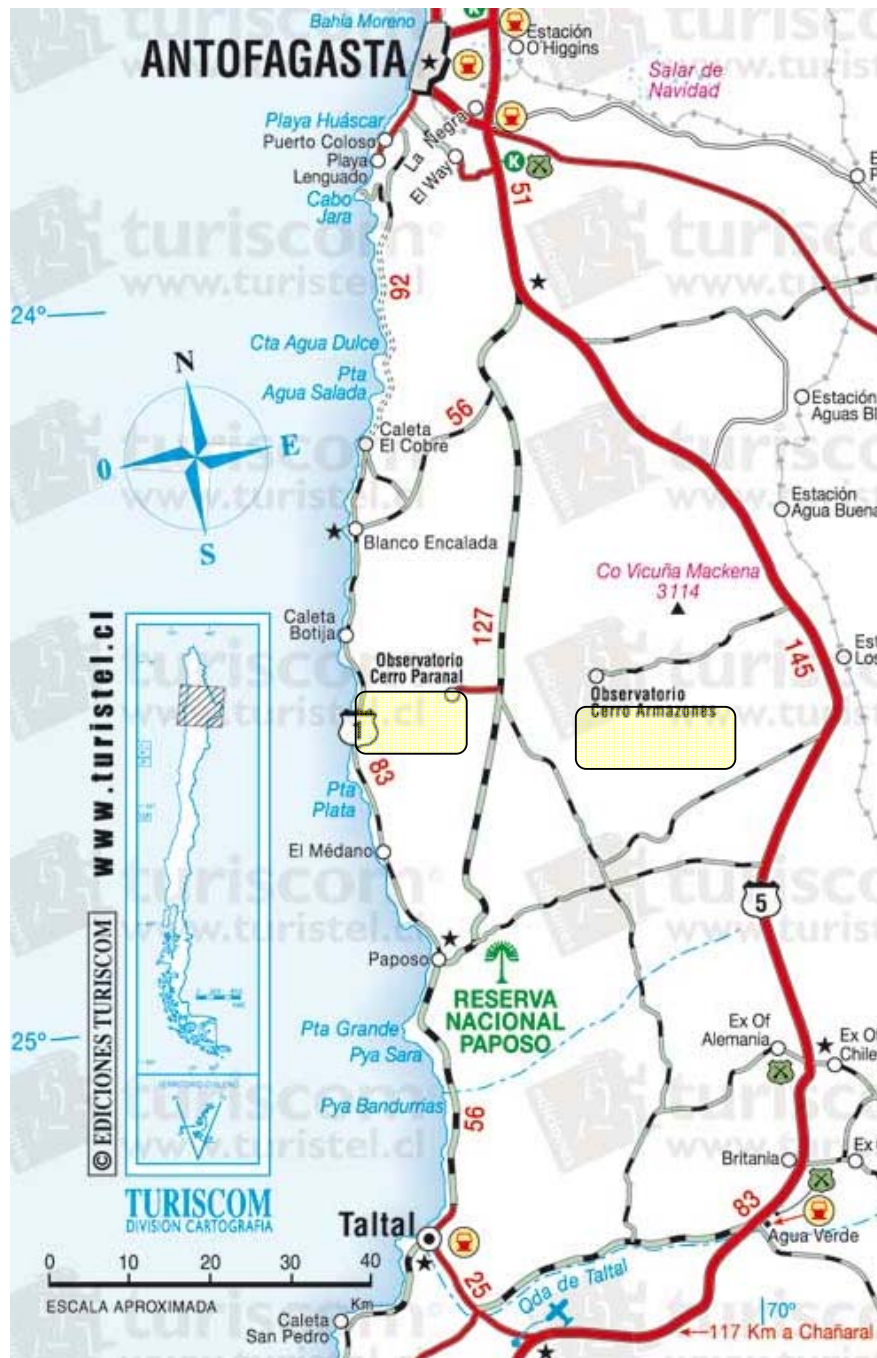


Antofagasta, the Observatories area and their location respect to Santiago.

3 NORTHERN REGION

The area where both Observatories are located is part of the Atacama Desert and belongs administratively to the so called 2nd Region, with Antofagasta as main town and administrative center.

3.1 Antofagasta/2nd Region



(<http://www.turistel.cl/secciones/mapas/ruteros/antofagasta.htm>)

3.2 City of Antofagasta

Antofagasta is on the pacific coast and acts as main service center for the highly developed mining activities in the 2nd Region, one of the richest of the world, including the biggest copper mine (Chuquibambilla). As service and logistic point, Antofagasta counts on a harbor, airport, connection to the main road (Ruta 5), and last but not least, points of presence of the major telecommunication providers.



Antofagasta is connected to the main traffic axis, Ruta 5, by road of approximately 20 km. This road follows a natural fracture (quebrada) that connects the inner desert to the seaside. Along the same path, there are also a railway and the main power and data lines.

3.3 Ruta 5 (Panamericana)

The *Panamericana* or *Ruta 5* is the main communication road running all along Chile from the very North (Arica) to the South (Puerto Montt), connecting all the main towns in Chile. It is also part of the international path linking all South American Country on the Pacific side.

In the area of our concern, Ruta 5 runs parallel to the coast on a flat and open area that is part of the Atacama Desert.



The part of interest is between the intersection with the branch that leads to Antofagasta (location called *La Negra*) and the start of the B710 road (location called *La Varilla*)



Industrial complex in *La Negra*



View of *Ruta 5*.



Ruta 5 direction South



Cross point where the B710 starts

3.4 Ruta B710 (old-Panamericana)

In *La Varilla* starts the road B710 that connects Ruta5 with the town of Paposo and Tal-Tal. Actually this was the original path for the Panamericana (hence the name of old-Panamericana) before the new route has been built to avoid to trucks the difficulties of a steep descent to the coast before Paposo.

The B710 follows an open valley that is between the coast ridge (Cordillera de la Costa) and a second chain of mountains (Sierra Mackenna), separating it to the main opening where Ruta 5 is located.

The road has recently gone through a major upgrade and it was completely paved at the end of last year (2008).



Views of the B710 road



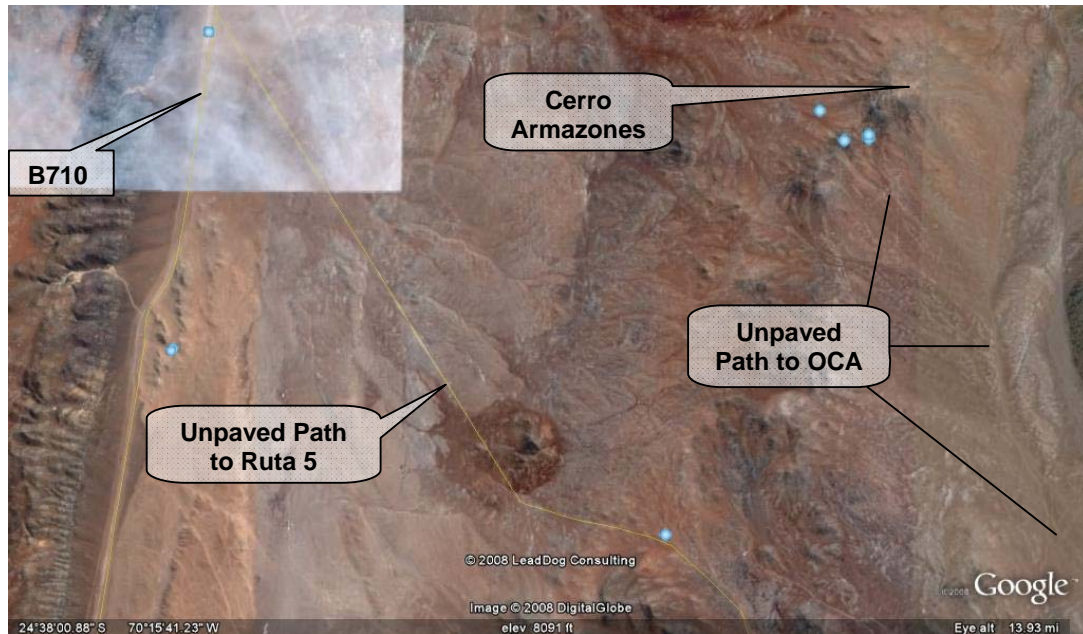
Aspect of the soil along the path.

Parallel to the road there is the installation of a gas pipeline, property of GasAtacama. The surface traces as well as some marking red signals are well visible in the following picture:



3.5 Observatorio Cerro Armazones (OCA)

After approximately 60km on the B710, an unpaved track leads to the Observatorio Cerro Armazones (OCA). This track (not shown in the map) is part of a path that crosses the Sierra Mackenna and connects to the Ruta5 on the other side. From this a side track leads to the site where the OCA observatory is located, together with other installation form the Universidad Catolica del Norte in Antofagasta. Although not yet implemented, there is a projected track that will connect the OCA directly with the B710 by means of a straight path (about 12km) in alternative to the current way that is about 35 km. This new path would also be of interest in the case of a new fiber installation.



Access to Cerro Armazones' area (GoogleEarth)



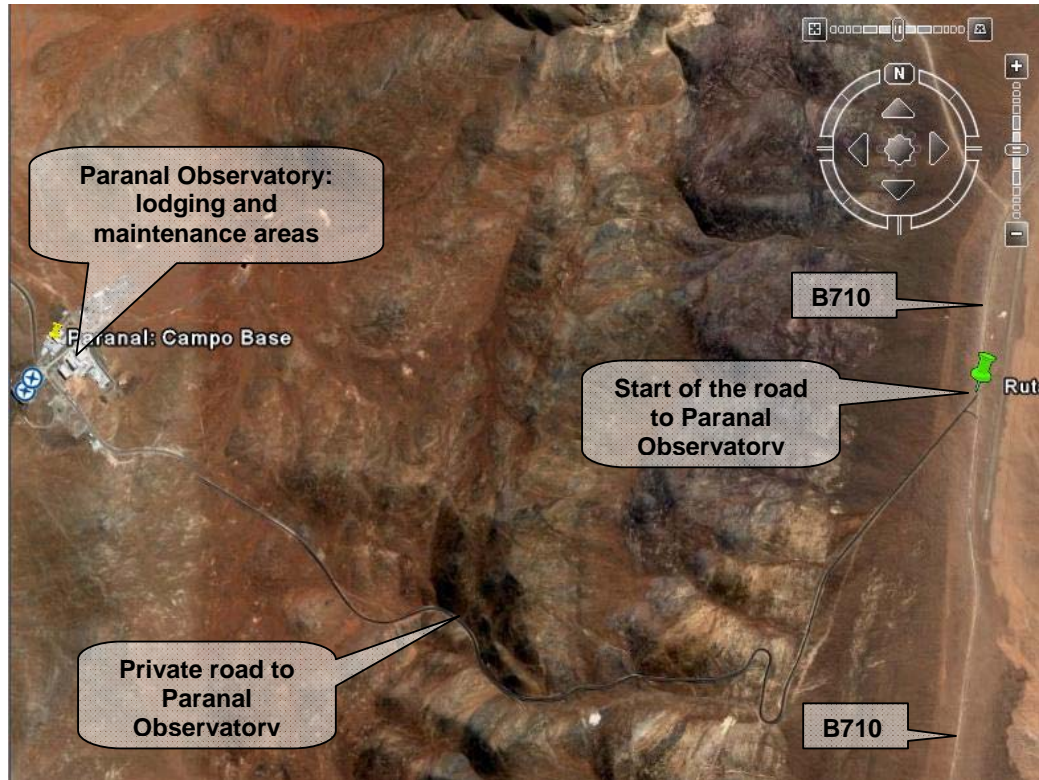
B710, Starting of the unpaved path to the OCA



View from the top of the Cerro Armazones and OCA telescope installations

3.6 ESO Paranal Observatory

After another 5km on the B710, a 5 km paved road branches off to the ESO Paranal Observatory, reaching the lodging and service installations and in 3 km more, the top of the mountain where the telescopes are located.



The paved road connecting Paranal base Camp to the B710 (GoogleEarth).



Start of the road to Paranal.



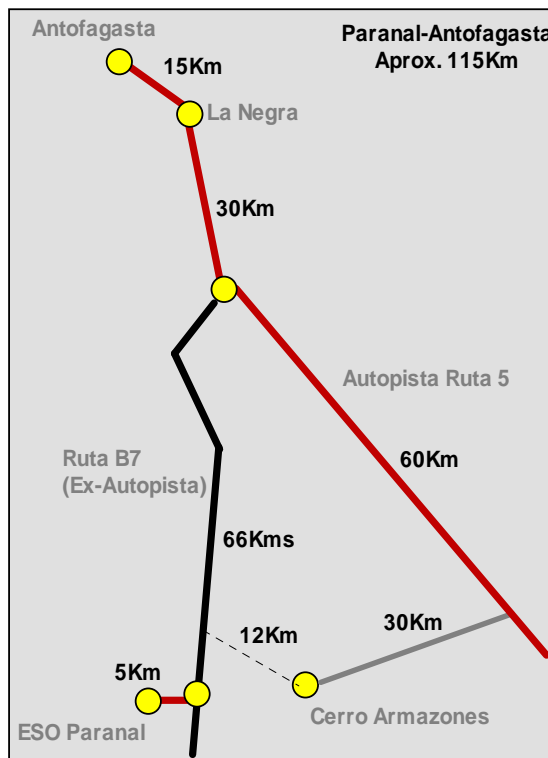
B710 seen from the road to ESO Paranal.



ESO Paranal Observatory: the base camp and the top platform.

3.7 Summary of distances

The following graph provides indicative values on the distance between relevant positions.



Important notice: these numbers are provided for information purpose only and do not represent exact measurements!

4 SANTIAGO METROPOLITAN REGION

In the Santiago metropolitan region the end points of the EVALSO optical infrastructure, namely the ESO and REUNA offices, are located.

4.1 REUNA (Providencia)

REUNA office is located at Canadá 239, Providencia, Telephone numbers 3370300 (voice) and 2040865 (fax). In the same address at 4th floor is located the REUNA's Data Centre, end point for the optical infrastructure.

More information can be found at: <http://www.reuna.cl>

4.2 ESO (Vitacura)

The ESO Headquarters Chile office is located in Alonso de Córdova 3107, Vitacura. Its postal address is Casilla 19001, Santiago 19. Its telephone numbers are 463 3000 (voice) and 463 3001 (fax).



More information can be found at:

<http://www.eso.org/sci/facilities/lasilla/site/communications.html#stgoheadq>

<http://www.eso.cl/> (in Spanish language)

The ESO Data Centre, end point for the optical infrastructure is located in the ESO Headquarters Chile main building.