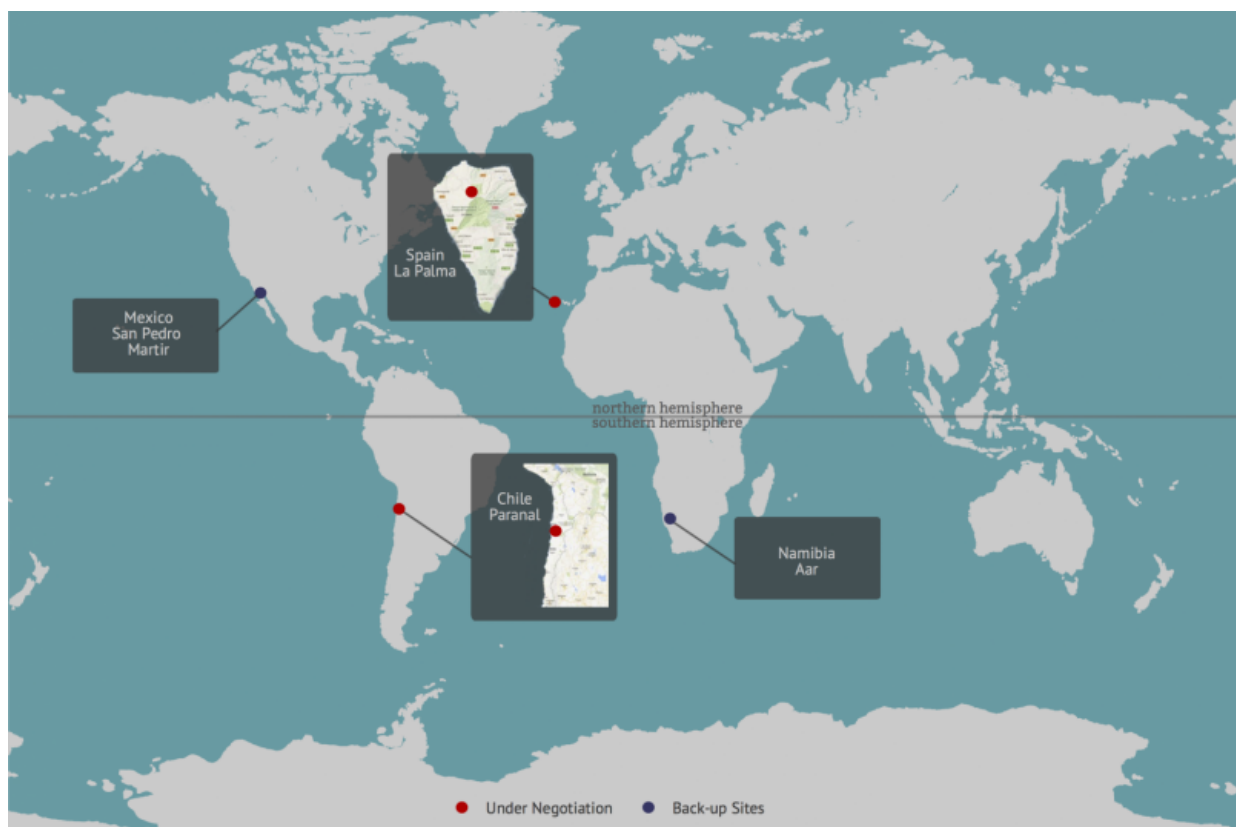


Paranal and La Palma sites chosen for final negotiations to host world's largest array of gamma-ray telescopes

July 17 2015



The Paranal and La Palma sites were chosen for final negotiations to host CTA this week. The Namibian and Mexican sites will be kept as viable alternatives.

On 15 and 16 July 2015, the Cherenkov Telescope Array (CTA)

Resource Board decided to enter into detailed contract negotiations for hosting CTA on the European Southern Observatory (ESO) Paranal grounds in Chile and at the Instituto de Astrofisica de Canarias (IAC), Roque de los Muchachos Observatory in La Palma, Spain.

The Board, composed of representatives of ministries and funding agencies from Austria, Brazil, the Czech Republic, France, Germany, Italy, Namibia, the Netherlands, Japan, Poland, South Africa, Spain, Switzerland and the UK, decided after months of negotiations and careful consideration of extensive studies of the environmental conditions, simulations of the science performance and assessments of construction and operation costs to start [contract negotiations](#) with ESO and Spain. The Namibian and Mexican sites will be kept as viable alternatives.

"All sites considered in this final round were of high quality, and the enthusiasm and strong support of CTA by the site proponents made this a very difficult decision for the Resource Board," said CTA Spokesperson Werner Hofmann. "This decision is an important step towards realization of CTA," said Chair of the CTA Resource Board Beatrix Vierkorn-Rudolph. Vice-Chair Giampaolo Vettolani added, "We hope our supporters and scientists from Namibia and Mexico will continue to contribute scientifically and technically to CTA, driven by the common interest to build the best possible instrument for the entire community."

In order to optimize the coverage of the night sky, the CTA Observatory will consist of about 100 telescopes on the southern site and about 20 telescopes on the northern site.

"This is a significant step towards realizing CTA as the most advanced instrument on the planet for very high-energy gamma-ray astronomy and towards making CTA's full power available to the science community

early in the next decade," said CTA Co-Spokesperson Rene Ong.

The southern site is less than 10 km southeast of ESO's existing Paranal Observatory in the Atacama Desert, which is considered one of the driest and most isolated regions on earth – an astronomical paradise. In addition to the ideal conditions for year-round observation, collaboration with ESO offers CTA the opportunity to take advantage of existing infrastructure (roads, accommodation, water, electricity, etc.) and access to established facilities and processes for the construction and operation of the observatory.

The northern site is located on the existing site of the Instituto Astrofísica de Canarias Observatorio del Roque de los Muchachos on the island of La Palma, the fifth largest island in the Canary Islands. At 2,200 m altitude and nestled on a plateau below the rim of an extinct volcanic crater, the site currently hosts the two Major Atmospheric Gamma Imaging Cherenkov Telescopes (MAGIC) telescopes. This location offers an ideal atmosphere that is mostly free and clear of pollution and turbulence for year-round observation.

Currently in its pre-construction phase, determining the array sites is a critical factor in the CTA construction project. "The selection of array sites is crucial to the progress of CTA and has many implications for the project plans and designs," said CTA Project Manager Christopher Townsley.

More information: CTA is an initiative to build the world's largest and most sensitive high-energy gamma-ray observatory. Over 1,000 scientists and engineers from 5 continents, 31 countries¹ and over 170 research institutes participate in the CTA project. CTA will serve as an open observatory to a wide astrophysics community and provide a deep insight into the non-thermal, high-energy universe. The CTA observatory will detect high-energy radiation with unprecedented accuracy and

approximately 10 times the sensitivity of current instruments, providing novel insights into some of the most extreme and violent events in the universe. [Read more about CTA's expected performance.](#)

¹Argentina, Armenia, Australia, Austria, Brazil, Bulgaria, Canada, Chile, Croatia, Czech Republic, Finland, France, Germany, Greece, India, Ireland, Italy, Japan, Mexico, Namibia, Netherlands, Norway, Poland, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States of America, Ukraine

Provided by Cherenkov Telescope Observatory

Citation: Paranal and La Palma sites chosen for final negotiations to host world's largest array of gamma-ray telescopes (2015, July 17) retrieved 26 April 2024 from <https://phys.org/news/2015-07-paranal-la-palma-sites-chosen.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.