

AGENCIA ESPACIAL DEL PARAGUAY



AEROSPACE DEVELOPMENT

5 YEARS OF PARAGUAY SPACE
AGENCY

Aerospace Industry

TURNOVER OF THE GLOBAL SPACE ECONOMY

423.8bn USD

TOTAL REVENUE OF THE GLOBAL SATELLITE INDUSTRY

271bn USD

GLOBAL GOVERNMENT INVESTMENT ON SPACE EXPLORATION

258bn USD

SPACE LAUNCHES

Total annual commercial space launches worldwide

33

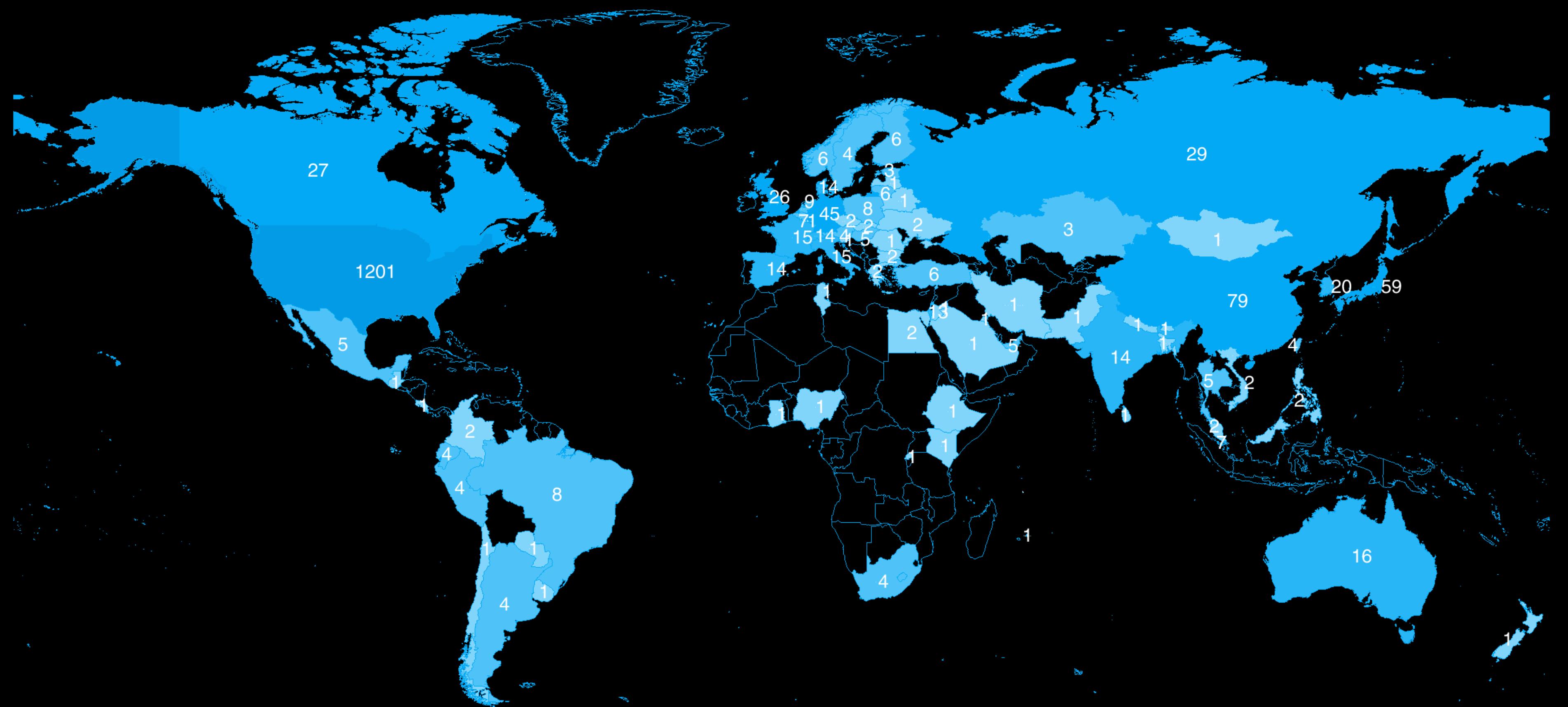
Total number of satellites in orbit

2,666

Total annual satellite launches worldwide

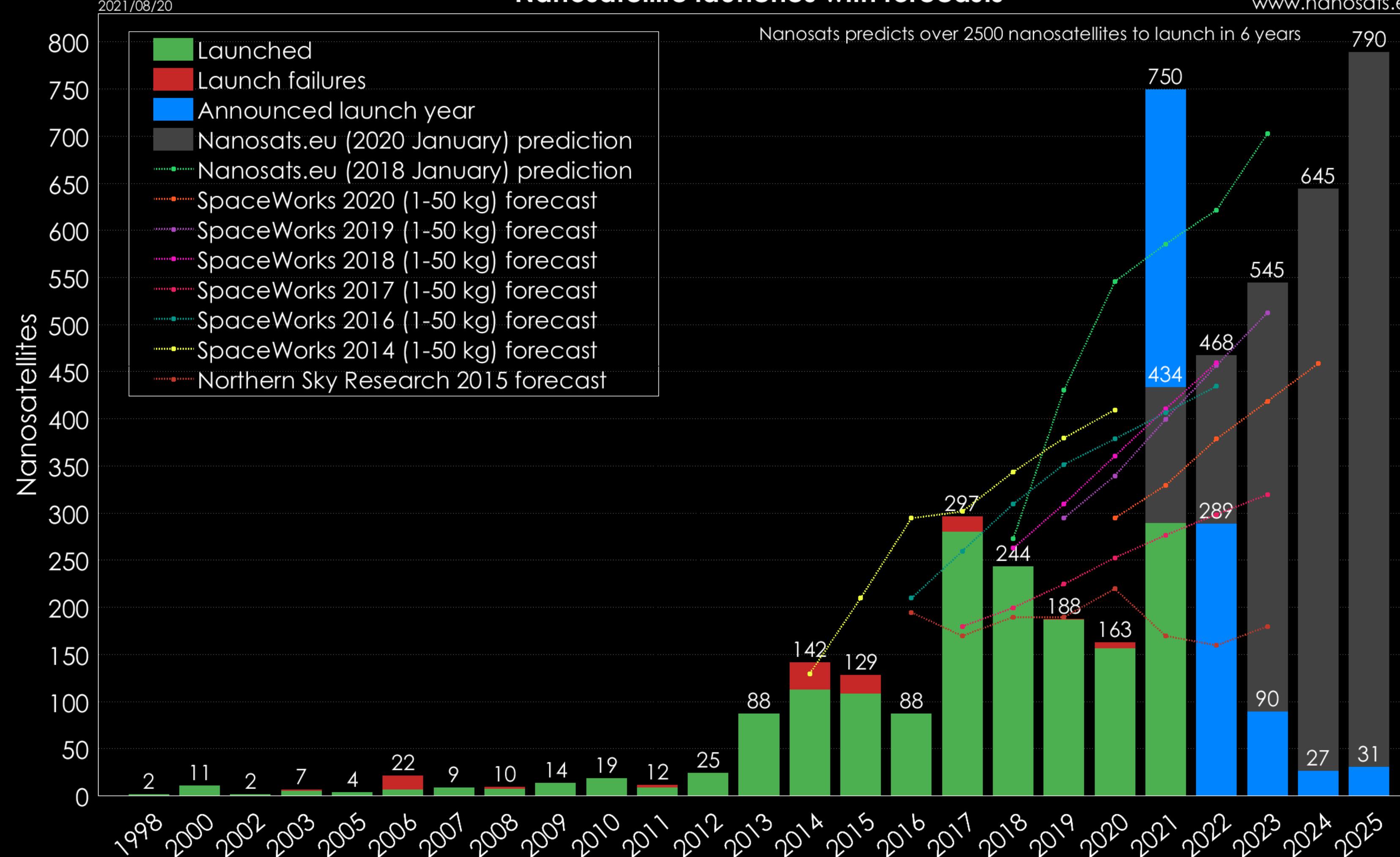
95

Launched nanosatellites

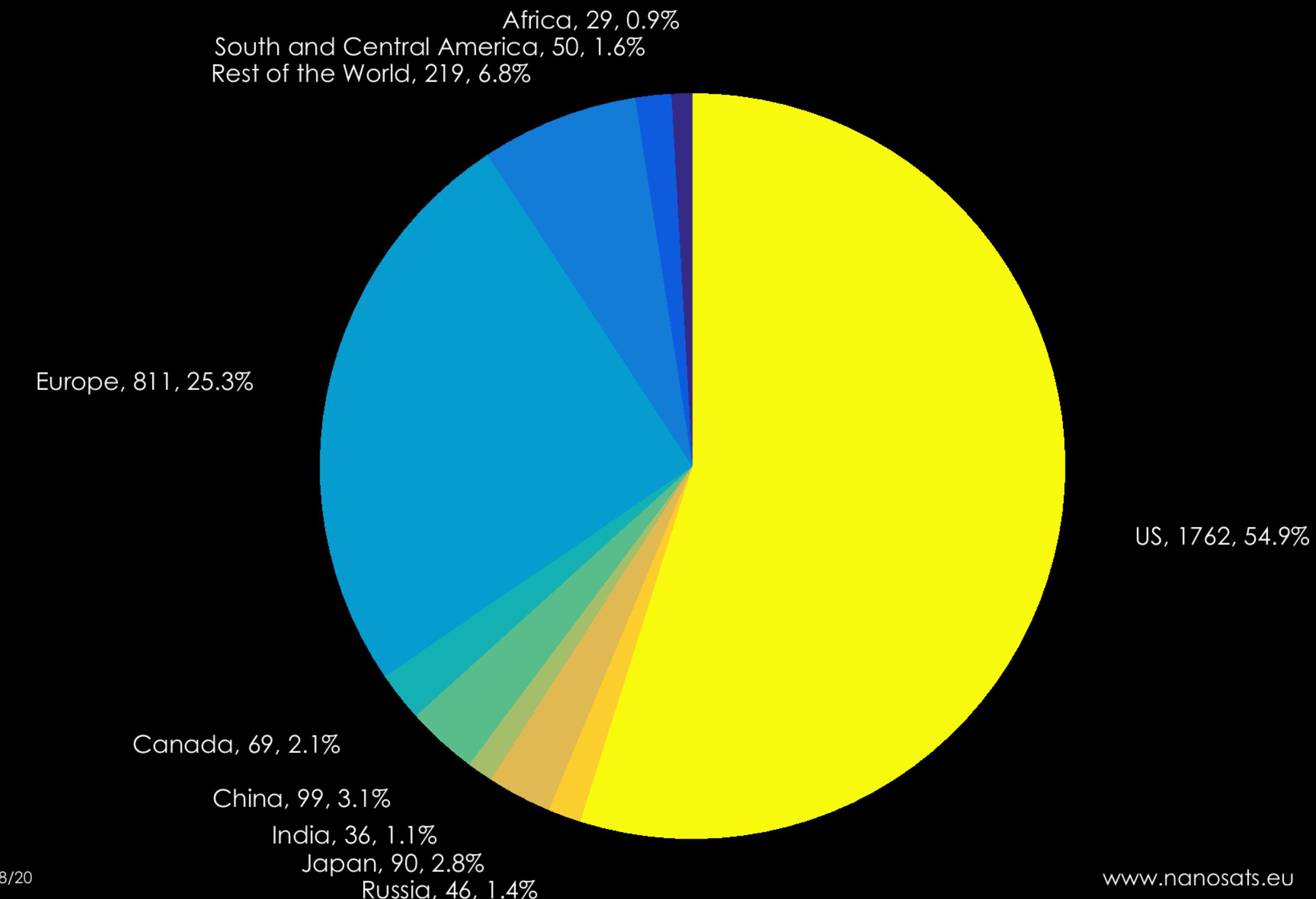


Nanosatellite launches with forecasts

www.nanosats.eu



All nanosatellites by locations



CHANGE





CREDIT: CNES

Satellites



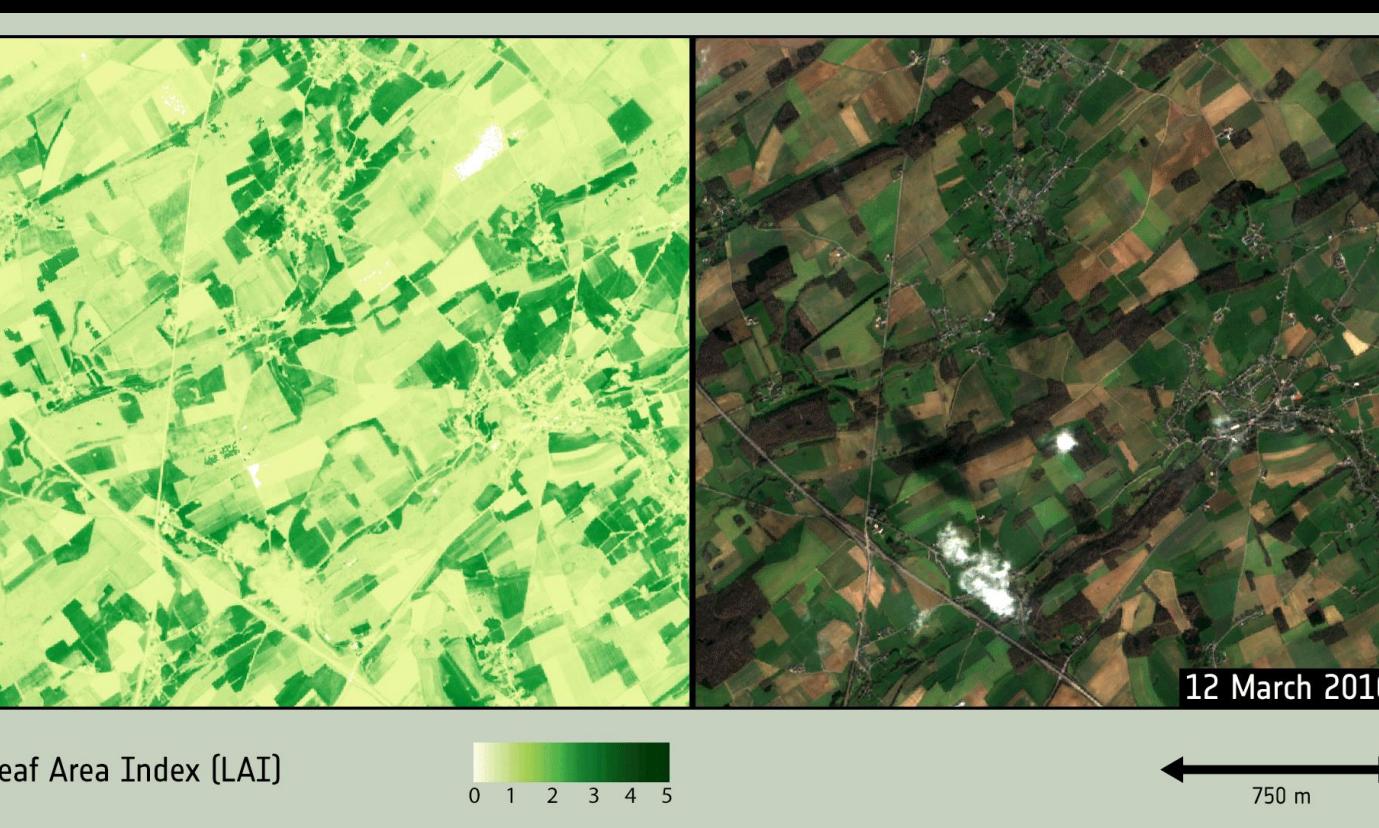
Benefits of space

- ◆ Transmission of signals from satellites to different points on Earth to provide communications services

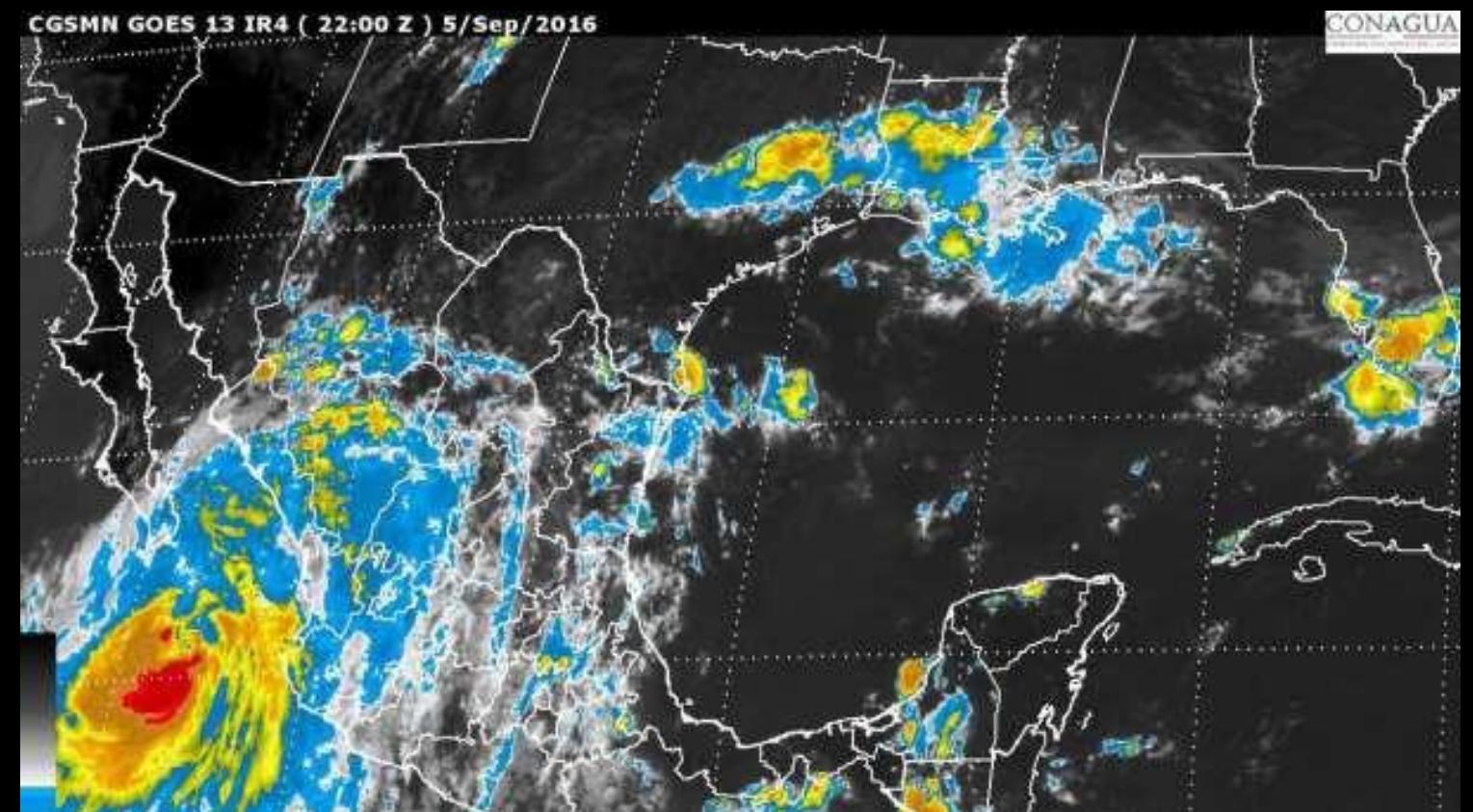


Benefits of space

- ❖ Vision of the Earth as a whole, for the monitoring of physical, natural and human activities in wide regions and on a global basis



FUENTE :AEM

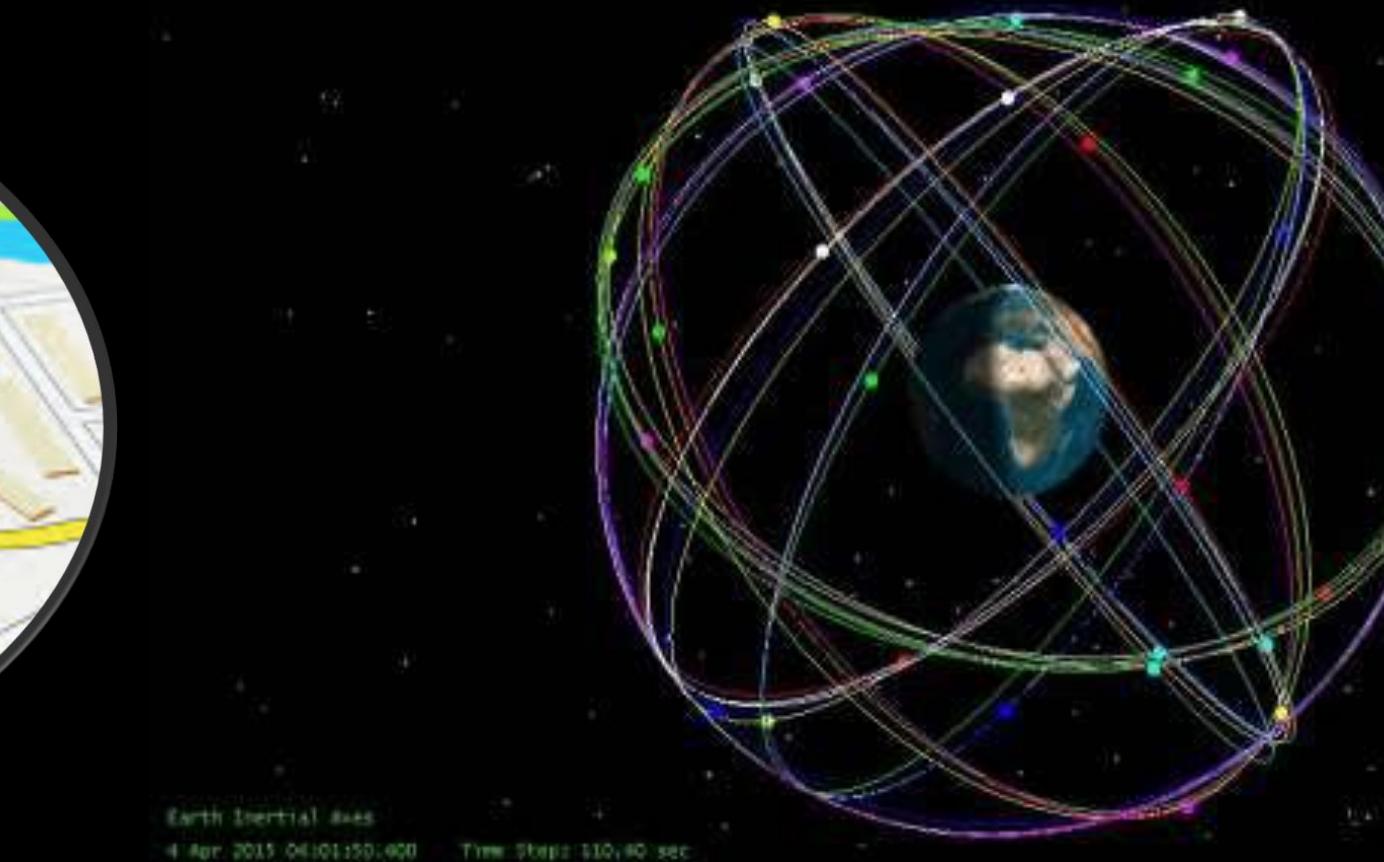


Benefits of space

- ❖ It provides positioning, weather and navigation services across satellite constellations and ground support systems.



FUENTE :AEM



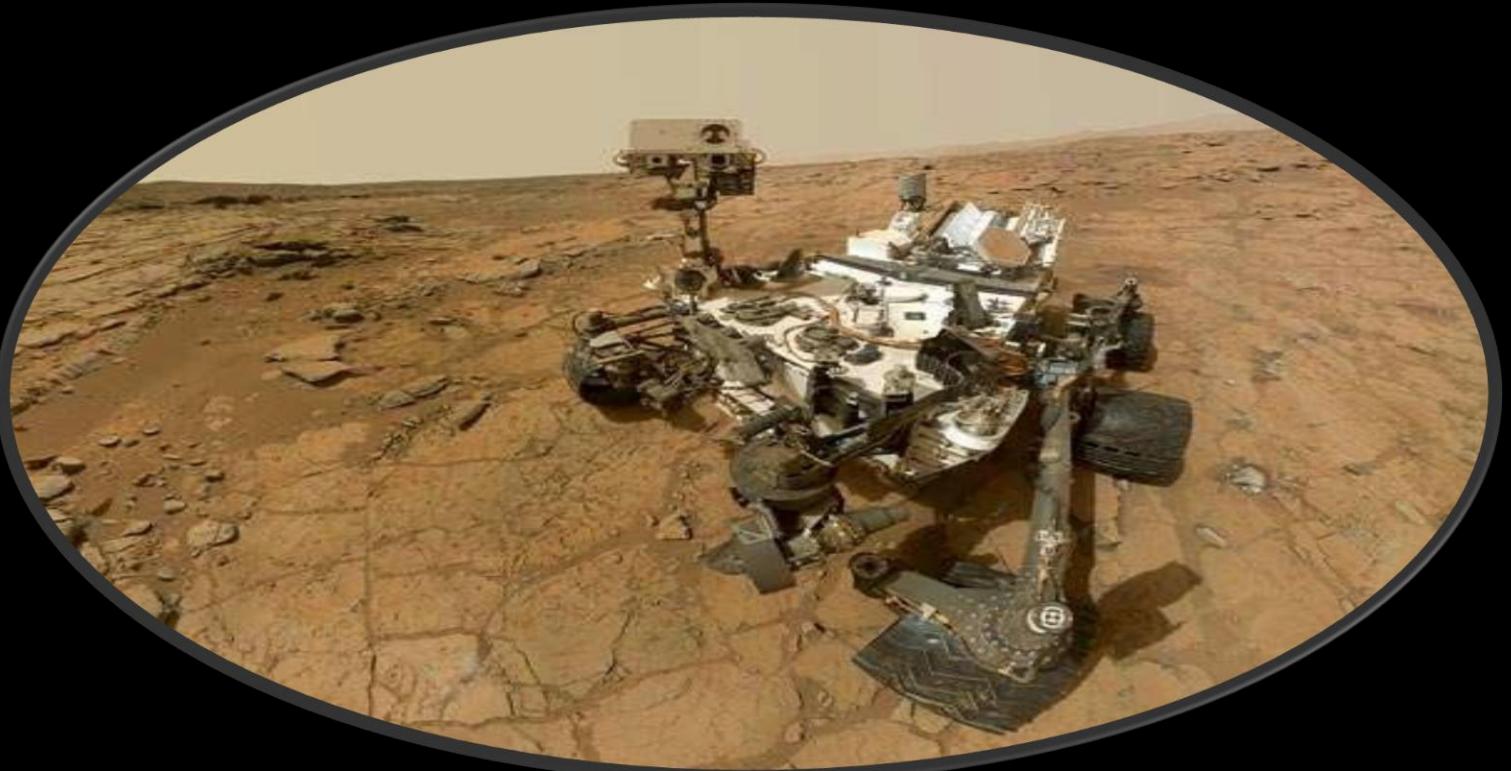
Benefits of space

- ❖ Using the microgravity environment for research and production



Benefits of space

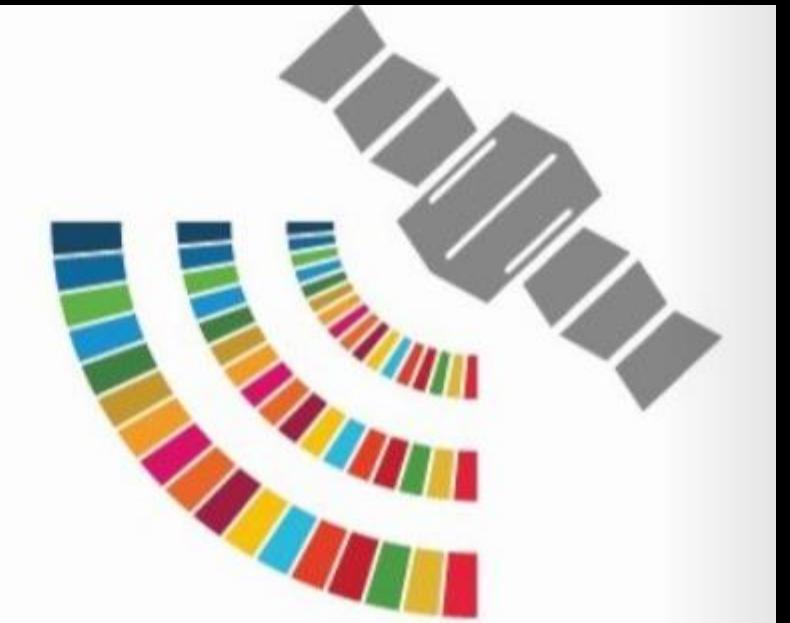
- ❖ Observation and exploration of the universe to expand scientific knowledge



Benefits of space

- ❖ Powerful tool to achieve SDG's

SPACE4SDGS



Why develop Aerospace Science and Technology



- Generator of productive transformations and accelerator of the scientific, technological, industrial, commercial and social development of the country

Aerospace Development at the AEP

Capacity building in Basic Space Engineering

- TTHH Training Worldwide
- CanHABSat
- CubeSat (first Paraguayan satellite)
- Other

Earth Observation Applications

- Emergencies (Floods, Fires, Severe Storms))
- Agriculture (Precision Agriculture)
- Cadastre
- Deforestation
- Water resources
- Critical Infrastructure
- Panoramic Epidemiology
- Territorial Planning

Benefits and Opportunities of Aerospace Development

❖ Applications in Earth Observation



An aerial photograph showing a severe flooding situation in a densely populated residential area. Numerous houses with various roof types, including corrugated metal and tile, are completely submerged in dark, muddy floodwater. The streets and pathways are also inundated, creating a vast expanse of water that covers most of the visible land. Some green trees and bushes are visible above the water level. The overall scene conveys a sense of a major emergency and displacement.

EMERGENCY





International Charter Space & Major Disasters

- ❖ International Charter
Space and Major Disasters
- ❖ Provision of satellite data to those affected by natural or man-made disasters through registered organizations, for use in monitoring and response activities





Institutions involved

AEP

FACULTAD DE
CIENCIAS
AGRARIAS

INFONA

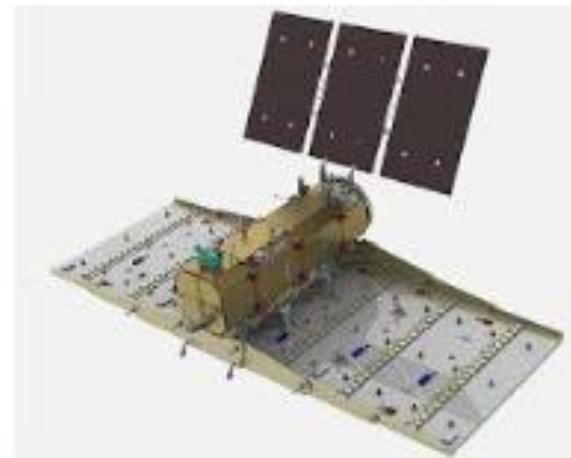
SEN

WWF

OTROS
ORGANISMOS E
INSTITUCIONES



Lista de catálogos disponibles



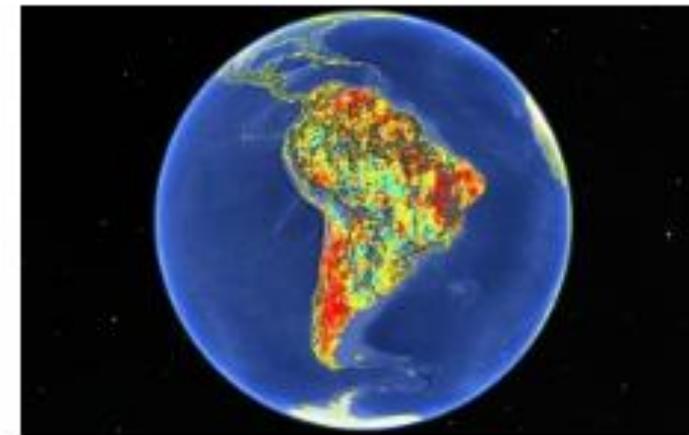
SAOCOM

[IR AL CATÁLOGO](#)



**Sistema de
GEOAvisos**

[IR AL CATÁLOGO](#)

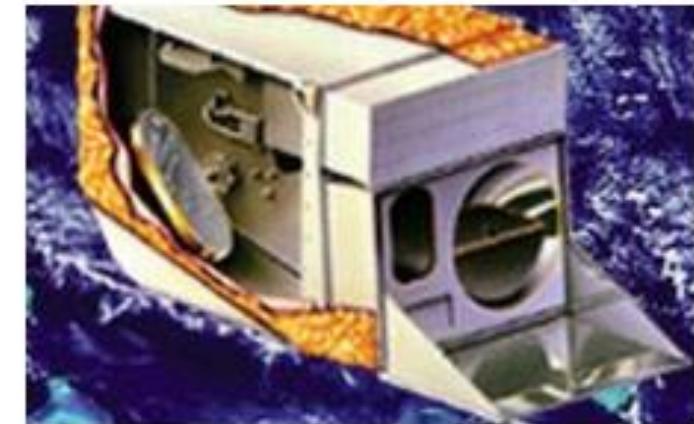


**Humedad de Suelo
SAC-D AQ/SMOS**

[IR AL CATÁLOGO](#)



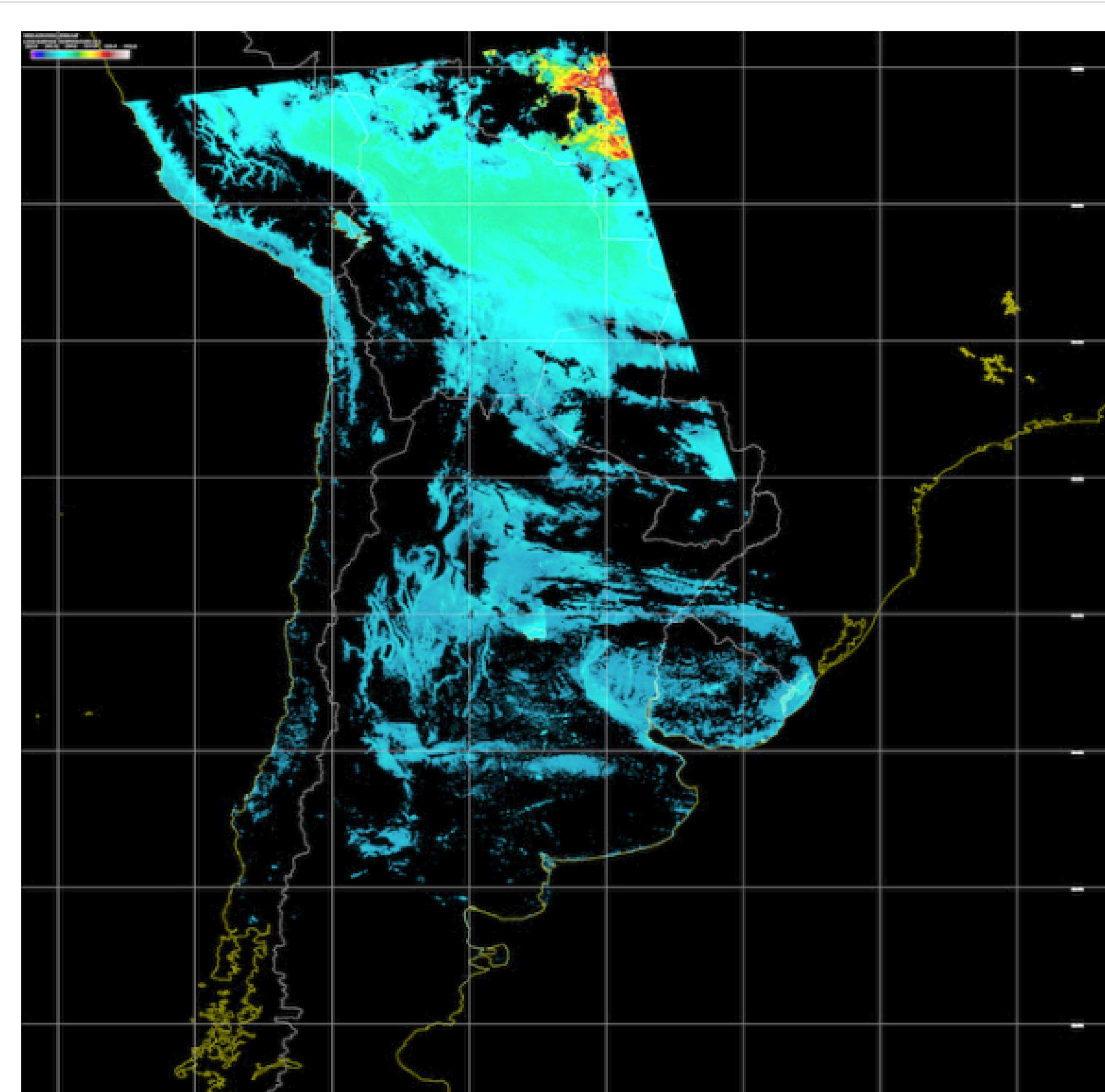
SAC-D USCO



MODIS Terra



SAC-D MWR LO



| | |
|----------------------------|--|
| Satélite: | TERRA |
| Sensor: | MODIS |
| Fecha de Inicio: | 18-Sep-2019 |
| Hora de Inicio (UTC): | 03:05:10 AM |
| Orbita: | 5050 |
| Dirección: | ASC |
| Modo de Adquisición: | NIGHT |
| Tipo de Producto: | TEMPERATURA SUPERFICIAL DE LA TIERRA (LST) |
| Esquina Sup. Izq.: | 50° 24' 39" S / 40° 51' 36" W |
| Esquina Sup. Der.: | 55° 18' 16" S / 82° 40' 48" W |
| Esquina Inf. Izq.: | 11° 24' 43" S / 81° 19' 27" W |
| Esquina Inf. Der.: | 8° 40' 55" S / 60° 13' 9" W |
| Software de Procesamiento: | IMAPP1L2 |
| Estación: | ETC |

[Descargar Producto en GeoTiff compactado como .ZIP \(10.15 Mb.\)](#)

[Descripción del Producto en formato PDF](#)

Lima Insert search criteria...

Display 1 to 10 of 10 products.
Order By: Ingestion Date

1 product selected

-21.15136447556759,-57.1114966187978
-21.15136447556759,-57.1114966187978
-18.701892461496243,-61.1449960675004

S3A SLSTR S3A_SL_1_RBT__20190916T132306_20190916T132606_2...

Download URL: [https://scihub.copernicus.eu/dhus/odata/v1/Products\('13](https://scihub.copernicus.eu/dhus/odata/v1/Products('13)
Mission: Sentinel-3 Instrument: SLSTR Sensing Date: 2019-09-16T13:23:06Z

S3A OLCI S3A_OI_1_ERR__20190916T125516_20190916T133929_201...

Download URL: [https://scihub.copernicus.eu/dhus/odata/v1/Products\('0d1](https://scihub.copernicus.eu/dhus/odata/v1/Products('0d1)
Mission: Sentinel-3 Instrument: OLCI Sensing Date: 2019-09-16T12:55:16Z

25 << < page: 1 of 1 > >>

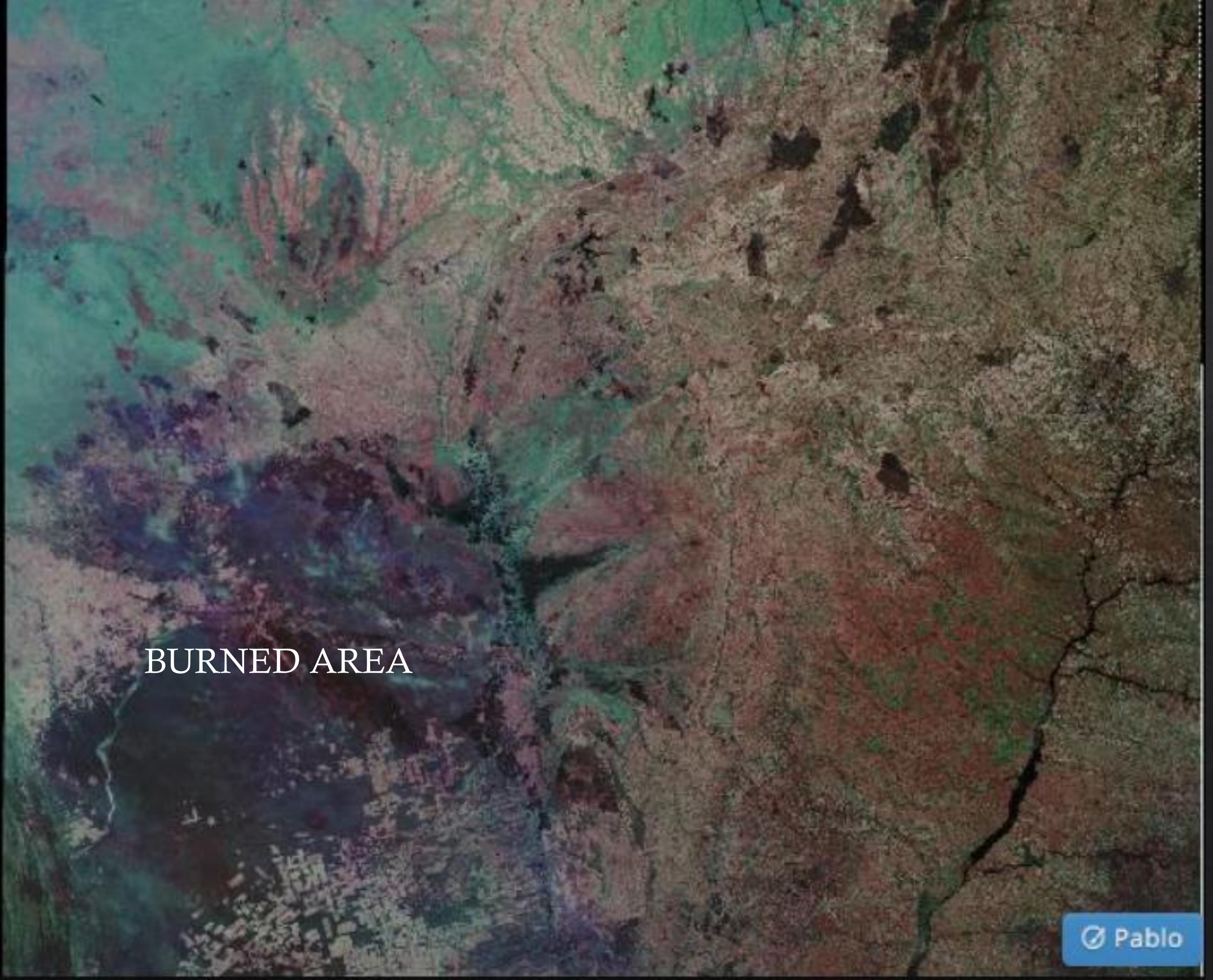
terra_modis_20190916T132306_20190916T132606_20190916T132306_20190916T132606.zip

Barreiras

Map showing a large orange polygonal area of interest over South America, spanning parts of Brazil, Paraguay, and Argentina. The map includes labels for major cities like Brasília, São Paulo, Rio de Janeiro, and Asunción.

Open Street Map Data © OpenStreetMap contributors, Rendering © MapServer and EOxServer

Mostrar todo

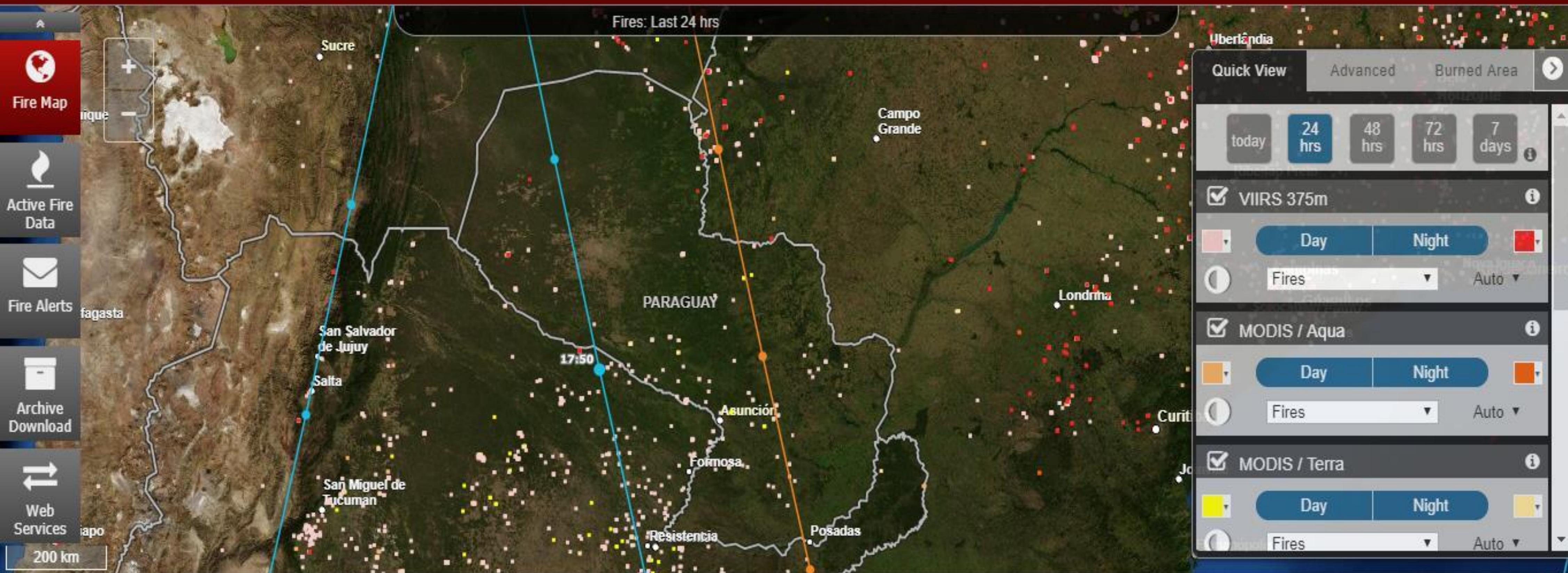




FIRMS

Fire Information for Resource Management System

Feedback



UNIFIED DAILY REPORT

- ❖ PRESS
- ❖ PCIA REPUBLICA
- ❖ GENERAL PUBLIC









DISASTERSCHARTER.org



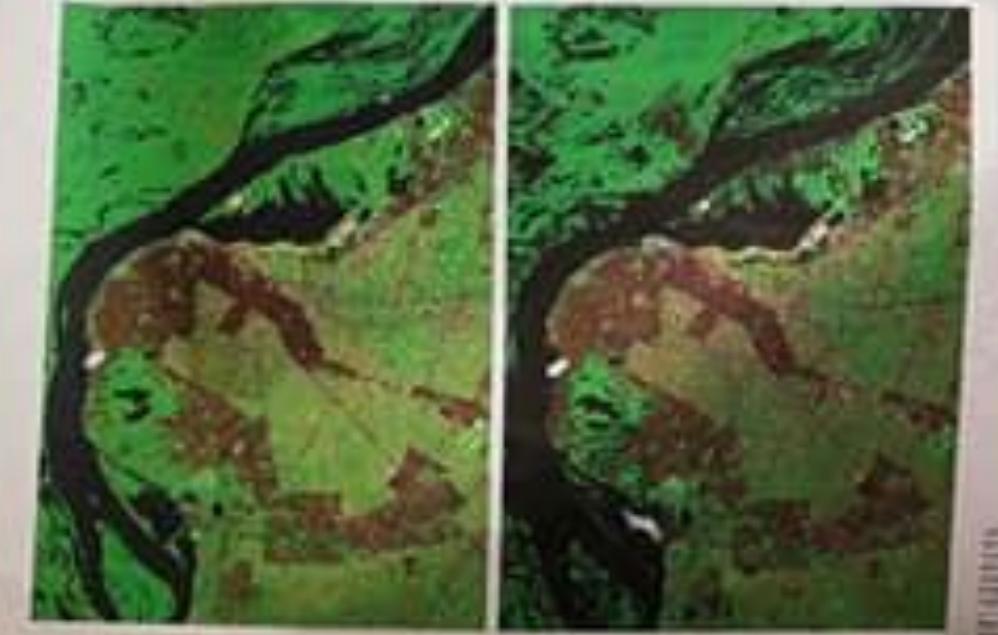
NCIA
AL



PYTYVÓ
PYA'ERA
Sambawita
Secretaría de
EMERGENCIA
TETÁ REKUÁI

TETÁ REKUÁI
GOBIERNO NACIONAL

March 25th, 2010 vs. May 14th, 2010
International Charter Call ID 700



Gosa





Disaster Risk Reduction
Droughts
Fire
Floods
Severe Weather
Precision Agriculture
Territorial Planning
Natural Resource Management
Deforestation
Water
NEOs
Space Junk
Other



Staff and Collaborators





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*General Director of Execution and
Aerospace and Development*



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*Head of the Remote Sensing Systems
Department*



Ing. For. Edgar Jordan Rojas Garcia

Remote Sensing and GIS Analyst





Univ. Thanya Idoyaga

Remote Sensing and GIS Analyst



Ing. Civil Lucía Fariña Amarilla

*Academic Coordinator of the Specialization
in Remote Sensing and GIS of the
Universidad del Pacífico (35 students)*

UNIVERSITY OF THE PACIFIC

Specialization in Geographic Information Systems and Remote Sensing



GROUP 1

Members:

Katya Elise Bogado Ferioli
Patricia Celeste Benitez Almada
Fatima Benitez
Elizabeth Rocholl
Country: Paraguay
University: Universidad Pacifico

TOPIC Risk Management: drought in the last 60 years in the area of Caaguazú and Alto Paraná.



UNIVERSITY OF THE PACIFIC
Specialization in Geographic Information Systems and Remote Sensing



GROUP 2

MEMBERS

MARIEL GUADALUPE NOVOA

EDELIN ROCIO CASCO VERA

FANNY EMILCE AGUERO BAEZ

TOPIC Early warnings of deforestation Canindeyu Department



UNIVERSITY OF THE PACIFIC
Specialization in Geographic Information Systems and Remote Sensing



GROUP 3

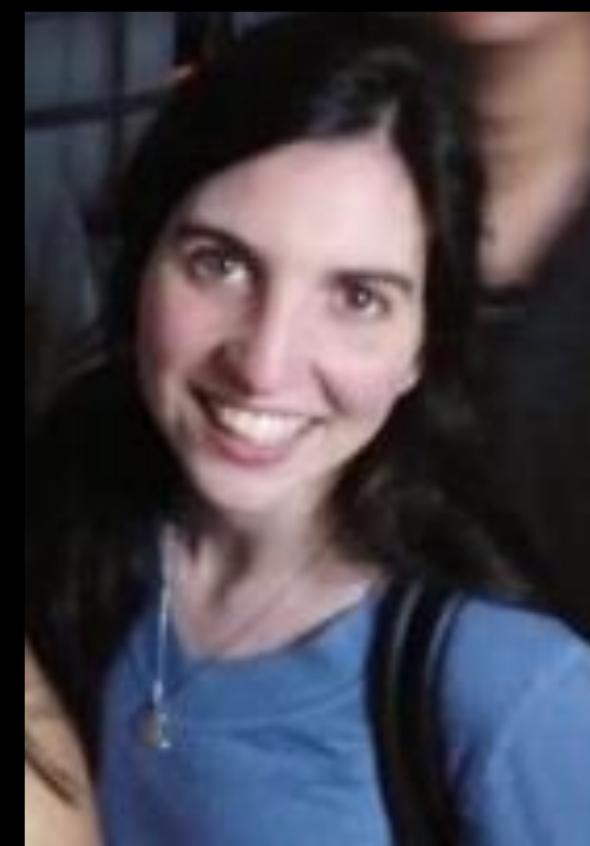
MEMBERS

Lucia Allegretti

Lilian Ayala

Claudia Turner

THEME Flood zone Bañado Asunción



UNIVERSIDAD DEL PACIFICO

Especialización en Sistemas de Información Geográfica y Teledetección

GRUPO 4

INTEGRANTES

Rodrigo Fleitas

María Paz Rejala

Elva Echeverria

Pais: Paraguay

Universidad: Universidad Pacifico

Tema Focos de Incendios



ALLIANCES



ACADEMY (UNA, UP, USC, UC, Other Univ.)



**GOVERNMENT (SEN, INFONA, MADES, INE, CADASTRE,
Municipalities, Other Institutions)**



**PRIVATE SECTOR (Agricultural producers, NGOs, Other
agencies)**



HEALTH

Análisis de riesgo por criaderos de mosquitos

BARRIOS

DE LA RESIDENTA

DR. GASPAR RODRIGUEZ
DE FRANCIAGRAL BERNARDINO
CABALLEROGRAL JOSE EDUVIGIS
DIAZ

HIPODROMO

ITA ENRAMADA

ITA PYTA PUNTA

JARA

JUKYTY

LA CATEDRAL

LA ENCARNACION

LAS LOMAS

LAS MERCEDES

LOMA PYTA

LOS LAURELES

LUIS ALBERTO DE
HERRERAMADAME ELISA ALICIA
LINCH

MANORA

MARISCAL FRANCISCO
SOLANO LOPEZ

Última actualización: hace un minuto

Total criaderos existentes

119.147

Última actualización: hace 22 minutos

Índice de Infestación

417,744

Medido en porcentaje

Última actualización: hace 22 minutos

Índice de Bretau

490,857

Medido en porcentaje

Última actualización: hace 22 minutos

Índice de Infestación Rec

19,388

Medido en porcentaje

Última actualización: hace 22 minutos

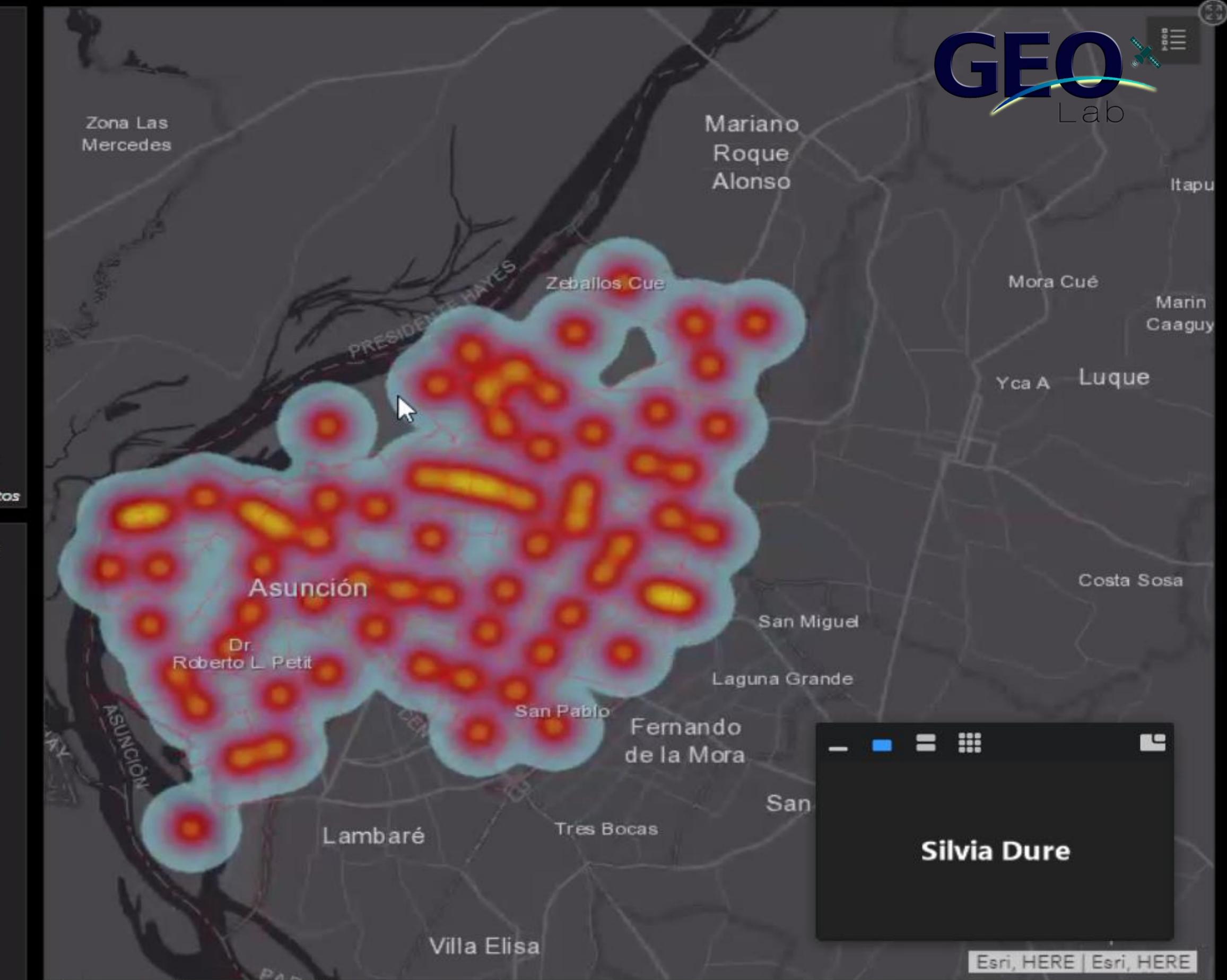
Análisis temporal



Cantidad de casas investigadas vs casas con criaderos



Última actualización: hace 22 minutos



Análisis de riesgo por criaderos de mosquitos

BARRIOS
DE LA RESIDENTA
DR. GASPAR RODRIGUEZ
DE FRANCIA
GRAL BERNARDINO
CABALLERO
GRAL JOSE EDUVIGIS
DIAZ
HIPODROMO
ITA ENRAMADA
ITA PYTA PUNTA
JARA
JUKYTY
LA CATEDRAL
LA ENCARNACION
LAS LOMAS
LAS MERCEDES
LOMA PYTA
LOS LAURELES
LUIS ALBERTO DE
HERRERA
MADAME ELISA ALICIA
LINCH
MANORA
MARISCAL FRANCISCO
SOLANO LOPEZ

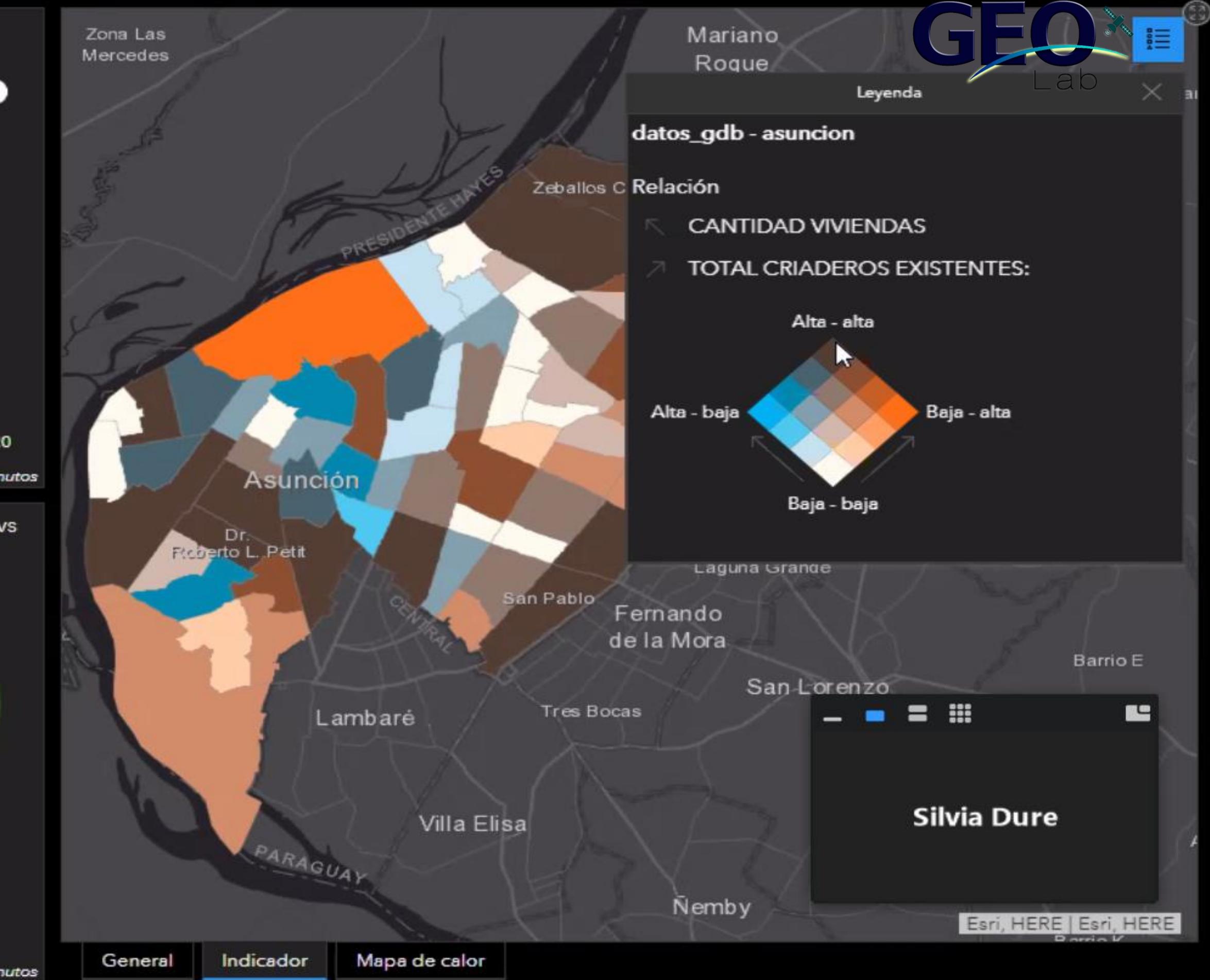
Última actualización: hace unos segundos

Total criaderos existentes
119.147
Última actualización: hace 21 minutos

Índice de Infestación
417,744
Medido en porcentaje
Última actualización: hace 21 minutos

Índice de Bretau
490,857
Medido en porcentaje
Última actualización: hace 21 minutos

Índice de Infestación Rec
19,388
Medido en porcentaje
Última actualización: hace 21 minutos



Mute Stop Video

Participants 9

Chat

Share Screen

Record

Reactions

Leave

Ento 1_Registro Diario de Inspección Larval - Aedes Aegypti

Zoom

45:46

GEO Lab

Existentes vs Positivos

A. Cantidad de Existentes: 120

A. Cantidad de Positivos: 10

B. Cantidad de Existentes: 120

B. Cantidad de Positivos: 10

C. Cantidad de Existentes: 10

C. Cantidad de Positivos: 5

Última actualización: hace 39 minutos

Positivos

13

A. Utiles

Última actualización: hace 2 horas

13

B. Inservisibles

Última actualización: hace 1 hora

7

C. Naturales

Última actualización: hace 2 horas

Porcentaje del total de positivos que corresponde a cada categoría de criaderos.

C. Cantidad de Positivos: 21,21%
A. Cantidad de Positivos: 39,39%

B. Cantidad de Positivos: 39,39%

Última actualización: hace 39 minutos

Cantidad de registros por mes

5

2

1

Ago. Sept. Oct.

Última actualización: hace 39 minutos

00 ASUNCION

01 CONCEPCION

02 SAN PEDRO

03 CORDILLERA

04 GUAIRA

05 CAAGUAZU

06 CAAZAPA

07 ITAPUA

08 MISIONES

09 PARAGUARI

10 ALTO PARANA

11 CENTRAL

Última actualización: hace 39 minutos

Ento 1_Registro Diario de Inspección Larval - Aedes Aegypti

Reactivar audio

Iniciar video

Compartir

Participantes

Más

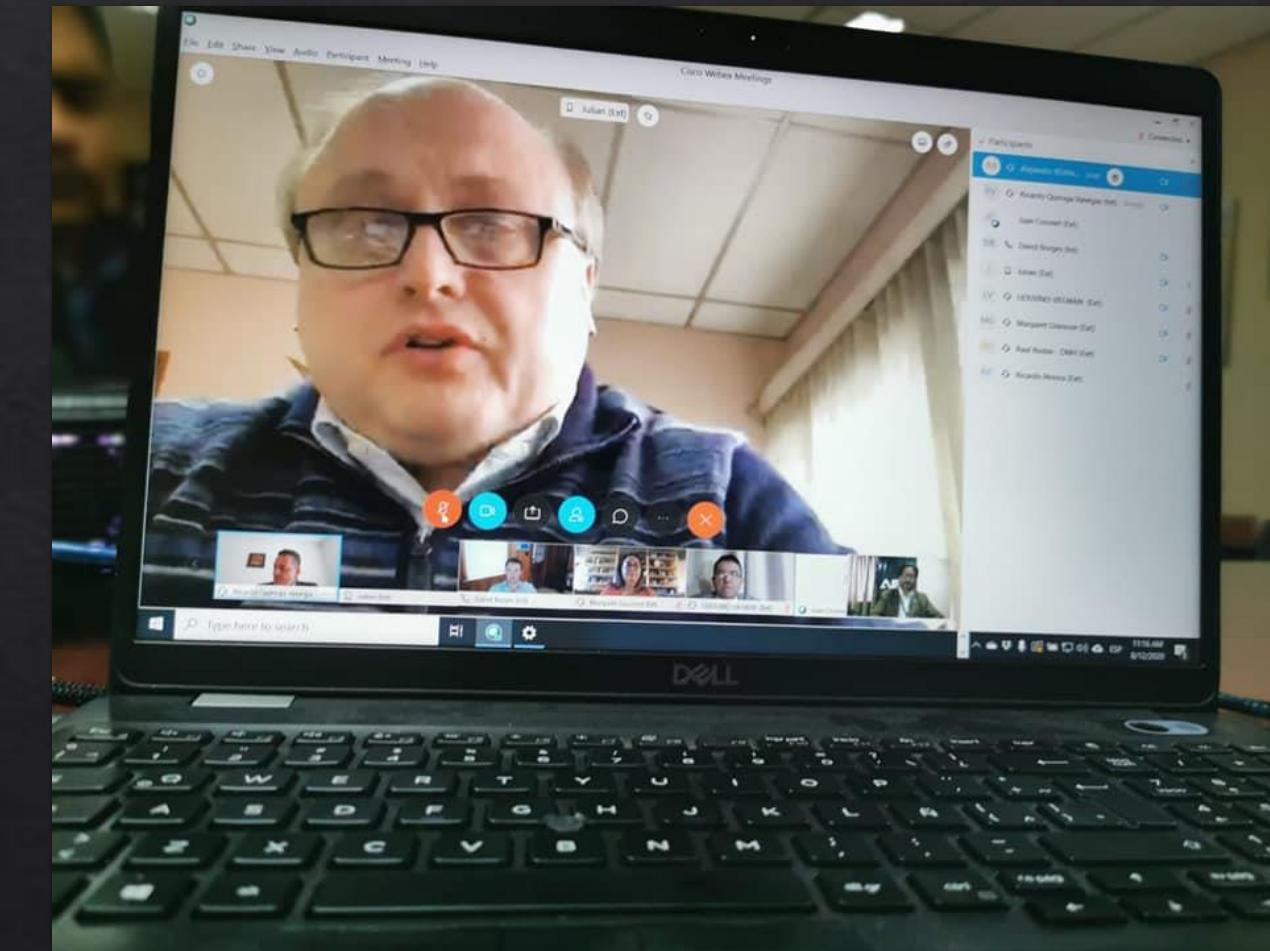
SENEPA



COLLABORATION
OF NASA



TECHNICAL MEETING WITH NASA ON FLOODS WITH THE PARTICIPATION OF THE WMO REGIONAL DIRECTOR AND REPRESENTATIVES OF SEVERAL INSTITUTIONS



WORLD SPACE WEEK

- ◆ CO-ORGANIZING FORUM WITH NASA AND THE UNITED NATIONS OFFICE FOR DISASTER RISK REDUCTION WITH MORE THAN 50 SPEAKERS, 12 FROM NASA.

World Space Week PARAGUAY

Semana Mundial del Espacio

4a. CONFERENCIA ESPACIAL DEL PARAGUAY

4-10 octubre 2020

FORO DE APLICACIONES DE OBSERVACIÓN DE LA TIERRA

DÍA 1 - 5 OCT.

Agradecimientos:

NASA

UNDRR

UN Office for Disaster Risk Reduction

NASA Earth Science
DISASTERS PROGRAM

Tube

PACIAL DEL PARAGUAY - OFICIAL



ricardo quiroga



Alejandro Romain

zoom

PRESENTATION OF RESULTS NASA UNIVERSITY OF IDAHO, MICHIGAN STATE UNIVERSITY, AEP

- ❖ MADES
- ❖ INFONA
- ❖ WWF
- ❖ SEN
- ❖ FCA-UNA

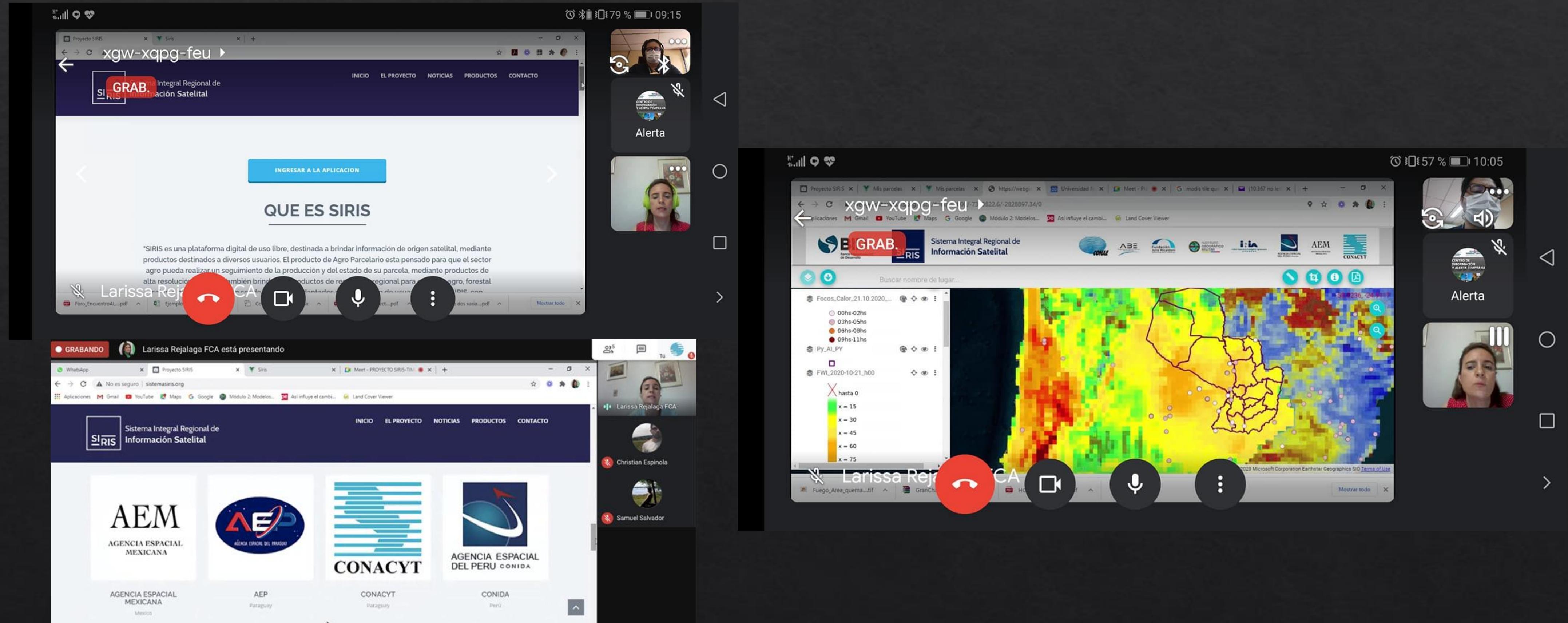


A video conference interface showing a presentation. The main slide features a world map with a focus on South America and text in red: 'Using the NASA polar orbiting fire product record to enhance and expand the Global Wildfire Information System (GWIS)'. Below the slide, names are listed: Luigi Boschetti, Aaron Sparks (University of Idaho), and David Roy (Michigan State University). To the right, a separate window shows the Global Wildfire Information System (GWIS) interface with various charts and data for Paraguay.



SIRIS PROJECT PARTICIPATION

8 COUNTRIES



PARTICIPATION ACTIVITIES DISASTER RISK REDUCTION UNSPIDER/GEO/Amerigeo



Massive Open Online Course (MOOC)

Geospatial Applications for Disaster Risk Management

Organized by

UNITED NATIONS Office for Outer Space Affairs

CSSTEAP

This collage includes several images: a satellite view of a hurricane; a map showing wind patterns; a map of a coastal area with red and green overlays; a group of people working at laptops; a large satellite dish; and a group of people in an office setting.

Welcome to Massive Open Online Course of UNOOSA & CSSTEAP

Watch later Share

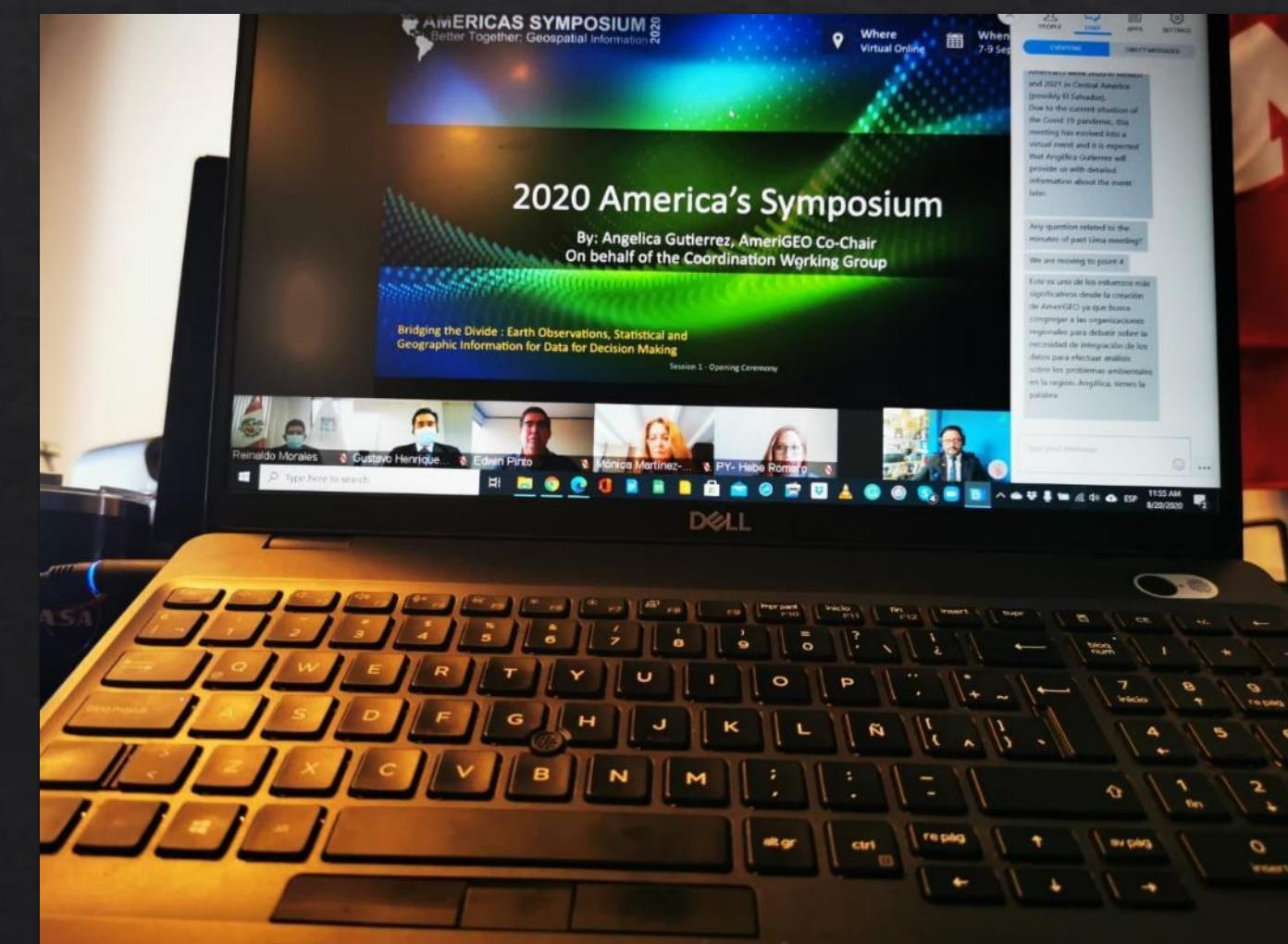
WELCOME TO MASSIVE OPEN ONLINE COURSES (MOOC)

GEOSPATIAL APPLICATION FOR DISASTER RISK MANAGEMENT

MORE VIDEOS UNITED NATIONS Office for Outer Space Affairs

ISRO CSSTEAP YouTube

This screenshot shows a video player interface for a MOOC. It features a dark background with stars, the title "WELCOME TO MASSIVE OPEN ONLINE COURSES (MOOC)", and the subtitle "GEOSPATIAL APPLICATION FOR DISASTER RISK MANAGEMENT". Below the title are images of the United Nations headquarters and the ISRO building. Logos for "MORE VIDEOS", "UNITED NATIONS Office for Outer Space Affairs", and "CSSTEAP YouTube" are also visible.



PARTICIPATION SUB-COMMITTEE OF TECHNICAL AND SCIENTIFIC AFFAIRS OF COPUOS-UNOOSA



ACTIVE PARTICIPATION IN IAF

Committee Member

- ❖ Space Education and Outreach (SEOC)
- ❖ Near Earth Orbit (NEO)
- ❖ Administrative Committee Developing Countries and Emerging Nations (ACDCEN)



The collage features the following elements:

- 71st IAC 2020 The CyberSpace Edition** logo.
- IAC TECHNICAL GALLERY** section:
 - KATHRYN LUEDERS (KTH VETENSAFT INNOVATION) speaking about EXPLOREasONE and INNOVATIVE PARTNERSHIPS IN HUMAN SPACEFLIGHT.
 - Taiko Kawakami (General Manager of ASTRAX, Inc.) speaking about Self Introduction.
- Space Solar Power Satellite for Interplanetary Mission** presentation by TP Technical Programme.

ACTIVE PARTICIPATION IN IAA

- ◆ Elected as Academician Full Member of the International Academy of Astronautics
- ◆ Stem/STEAM for Space Study Group Member
- ◆

The list of New Members of the International Academy of Astronautics (IAA), for the year 2020, is available below:

Corresponding Members Basic Sciences

Antonietti Nicolo, Italy
Campos Luis Braga, Portugal
Grundy William M., USA
Olkin Catherine B., USA
Saito Yoshifumi, Japan
Shustov Boris M., Russia
Spencer John R., USA
Wu Shufan, China
Yankiv-Vitkovska Liubov, Ukraine

Members Basic Sciences

Al-Shidhani Saleh, Oman
Bykov Andrei M., Russia
Grebenev Sergey A., Russia
Kaymaz Zerefsan, Turkey
Li Xuelong, China
Squyres Steven W., USA
Takahashi Tadayuki, Japan
Tong Xudong, China
Turyshev Vyacheslav, Russia

Members Social Sciences

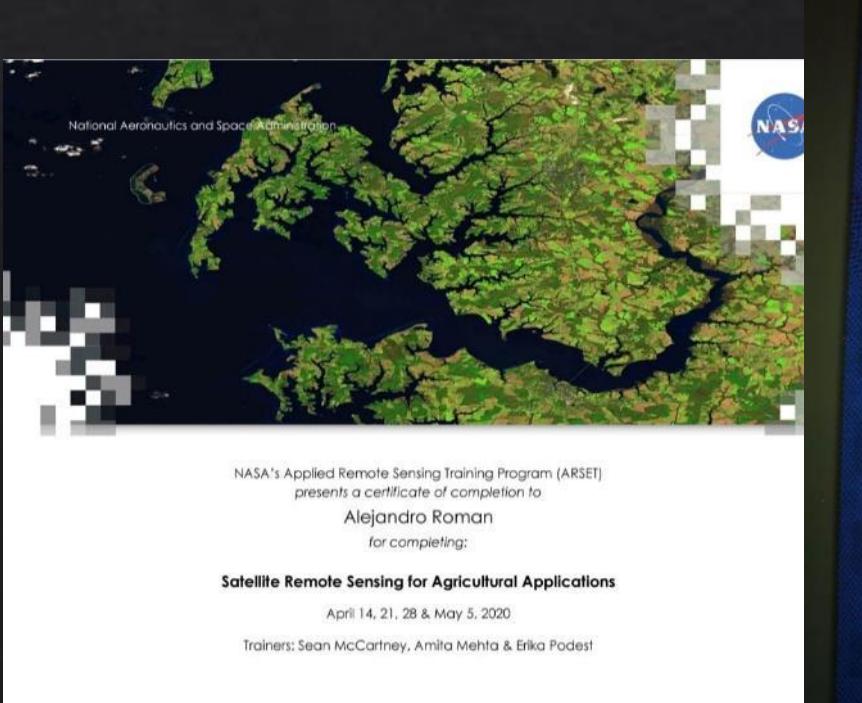
Al Ahbabi Mohammed, UAE
Bezos Jeffrey, USA
Clerc Philippe, France
Gitsch Michaela, Austria
He Zhibin , China
Imhof Barbara, Austria
Krishna Murthy Yelisetty V., India
Medina Tanco Gustavo, Argentina
Roman Molinas Alejandro J., Paraguay
Szaniawski Michal, Poland
Usov Volodymyr, Ukraine
Wang Xiaojun, China
Wang Qiao, China
Wang Tianyi, China
Yu Tao, China
Zhuao Xiaojin, China
Zinoviev Oleksii, Ukraine



ACTIVE PARTICIPATION WITH THE PDC



TRAINING



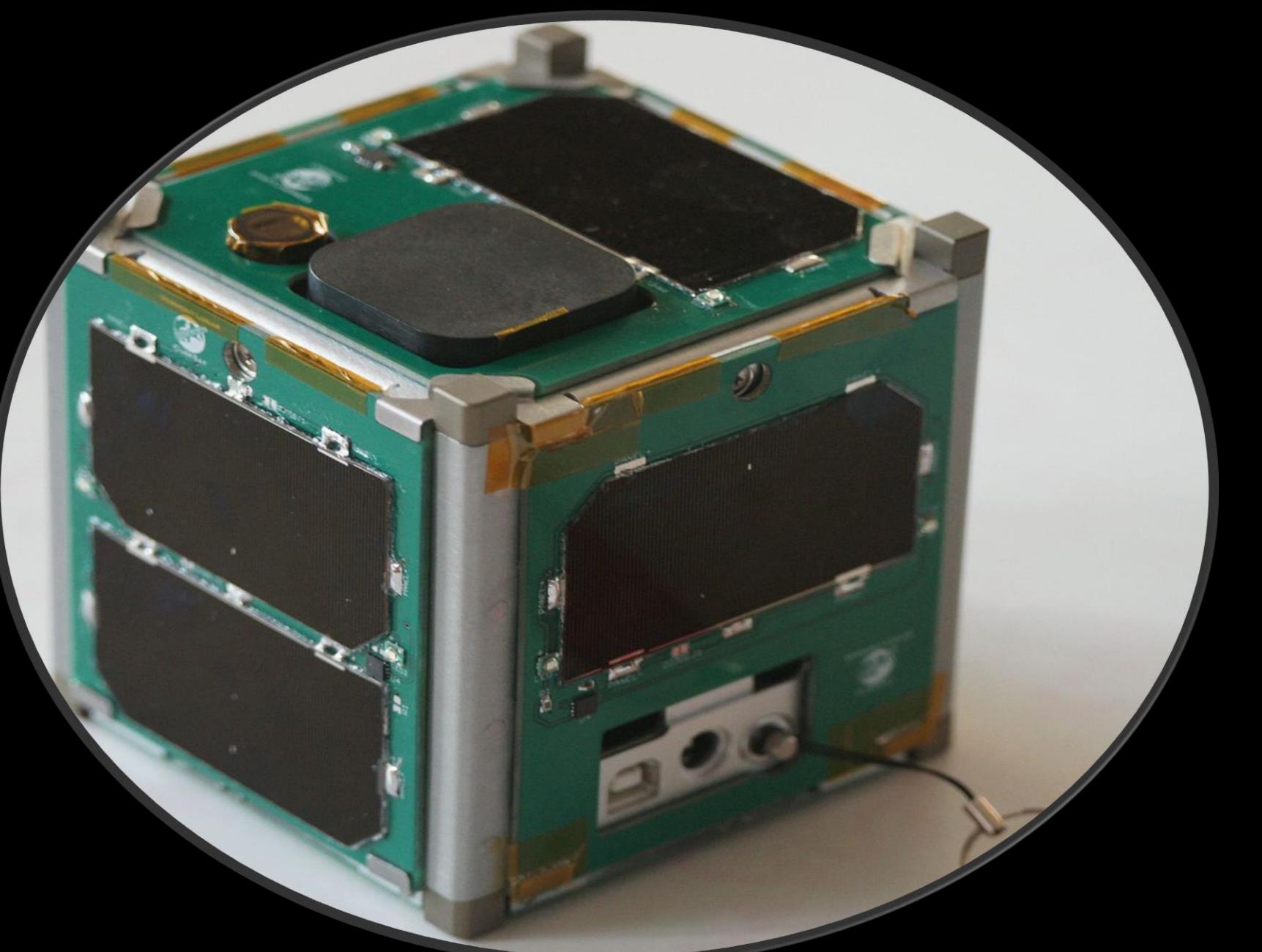
WORKING WITH INSTITUTIONS



- ❖ NATIONAL EMERGENCY SECRETARY
- ❖ INFONA
- ❖ MADES
- ❖ WWF
- ❖ NATIONAL UNIVERSITY OF ASUNCION
- ❖ UNIVERSITY OF THE PACIFIC
- ❖ IPTA
- ❖ SENEPA
- ❖ PETROPAR
- ❖ UNDP
- ❖ CEDIC
- ❖ SCIENTIFIC SOCIETY OF PARAGUAY
- ❖ OTHER

Aerospace Development

❖ Basic Space Engineering



Paraguay to Space

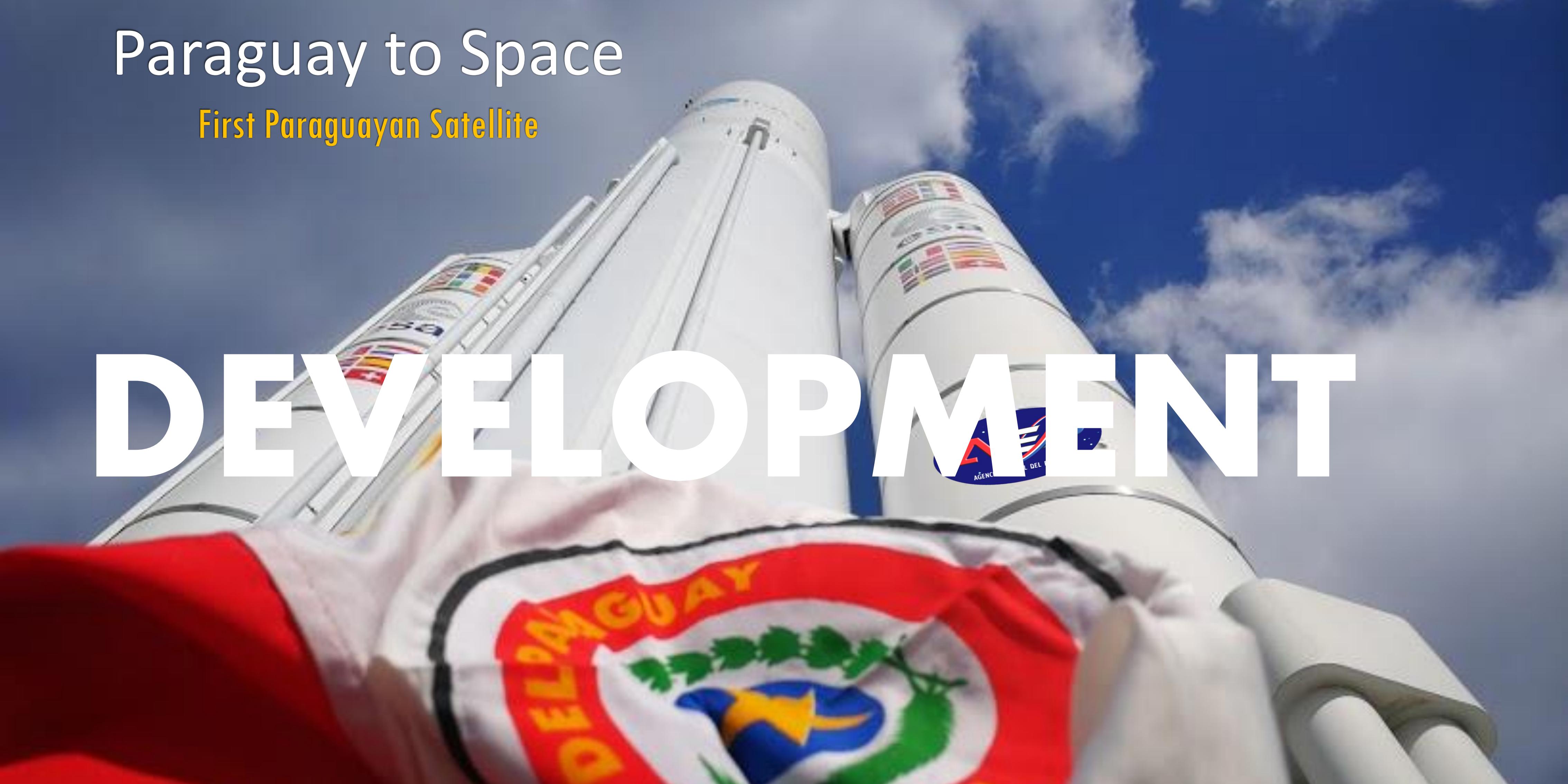
First Paraguayan Satellite



Paraguay to Space

First Paraguayan Satellite

DEVELOPMENT





Why CubeSat?



March 2018

IRAZU – The Costa Rica Case

Primer satélite tico al espacio

‘Estoy impresionado con el equipo costarricense’

Mengu Cho, director del Laboratorio de Ingeniería Espacial del Instituto Tecnológico de Kyushu (Kyutech), asesora el proyecto Irazú, de Costa Rica

áreas como ingeniería mecánica, eléctrica e ingeniería en materiales, entre otros, pues el objetivo es poner a funcionar un sistema.

— ¿En qué consiste la colaboración de Kyutech?

— Nos vamos a encargar de las pruebas y el lanzamiento. El satélite se pondrá en órbita desde Kibo, el módulo japonés de la Estación Espacial Internacional. Por esa razón, a finales de junio firmamos un acuerdo con la Agencia Japonesa de Exploración Aé-

roespacial (JAXA) y ya el proyecto Irazú está su cronograma de lanzamientos. Pero antes tenemos que asegurarnos de que el satélite cumpla con todos los requerimientos de seguridad y que no pondrá en riesgo a los astronautas de la Estación Espacial. También se dará capacitación especializada a estudiantes costarricenses que serán los encargados de realizar las pruebas.

— ¿Qué le diría usted a algunas personas que han minimizado la

importancia del proyecto por ser un satélite pequeño?

— Cualquier proyecto grande comienza con algo pequeño. Lo más importante de un proyecto como Irazú es que no solo se lanza un satélite, sino que existe una estrategia de formación de jóvenes ingenieros que podrán seguir desarrollando otras misiones.

— El objetivo es que sea un programa sostenible a largo plazo, de modo que si se podría generar un proyecto Irazú II, III o más». ■

14A ALDEA GLOBAL

DOMINGO 24 DE JULIO 2016
LA NACIÓN

Andrea Solano B.
ansolano@nacion.com

El experto en aeronáutica Mengu Cho, es el director del Laboratorio de Ingeniería Espacial del Instituto Tecnológico de Kyushu (Kyutech), en Japón, y visitó Costa Rica con el fin de hacer una revisión del diseño del proyecto Irazú, el primer satélite costarricense que será lanzado al espacio.

El Kyutech y la Asociación Centroamericana de Aeronáutica y del Espacio (ACAE), entidad desarrolladora de la iniciativa, firmaron un convenio de cooperación de modo que dicha universidad japonesa se encargará de las pruebas, las certificaciones y el lanzamiento del satélite.

El laboratorio posee equipos de simulación e interacción de ambientes espaciales con aeronaves y dispositivos satelitales los cuales podrán ser utilizados por los expertos que trabajan en las pruebas del satélite.

El proyecto Irazú se fabricará con tecnología CubeSat, y será un cubo que mide 10 centímetros

“

Lo más importante es que el equipo tenga la convicción de que va a triunfar sin importar lo que suceda”.

de cada lado y pesa cerca de un kilogramo. Su misión será realizar mediciones del crecimiento de los árboles y la fijación de carbono en relación con algunas variables meteorológicas.

Este es un extracto de la conversación que el ingeniero japonés concedió a *La Nación*.

— ¿Después de hacer la revisión del diseño del satélite, ¿cuál es su análisis?

— Puedo decir que por ahora, el proyecto va bien. El siguiente paso es comprar los componentes que hacen falta para ensamblarlo y ponerlo a trabajar. Es un reto.

ENTREVISTA



— ¿Por qué se ha elegido el Irazú?

— ¿Cuál es su opinión sobre el desempeño del equipo de profesionales costarricenses involucrados en el proyecto?

— Estoy impresionado con el equipo, pues tiene una enorme voluntad para lanzar el satélite al espacio. La tecnología para construir estos aparatos está disponible, pero lo más importante es que el equipo tenga la convicción de que va a triunfar sin importar lo que suceda. Durante el proceso, van a estar sometidos a mucha presión para cumplir con el cronograma y es necesario tener suficiente fortaleza psicológica.

— ¿Está muy extendido el uso de los CubeSats en el mundo?

— Creo que son cerca de 10 países los que han ingresado al sector aeroespacial por medio de la tecnología de los CubeSats. En América Latina, Ecuador y Perú ya han lanzado los suyos. El proyecto Irazú será el primero de Costa Rica y de Centroamérica. Considero que lo más importante de participar en el diseño, construcción y lanzamiento de un satélite como estos, es la oportunidad que tienen los estudiantes de poner en práctica sus conocimientos en

July 2018

With Prof. Mengu CHO
Kyushu Institute of Technology - Kyutech responsible
for the development of low-cost satellites for
emerging countries in space.





July 2018

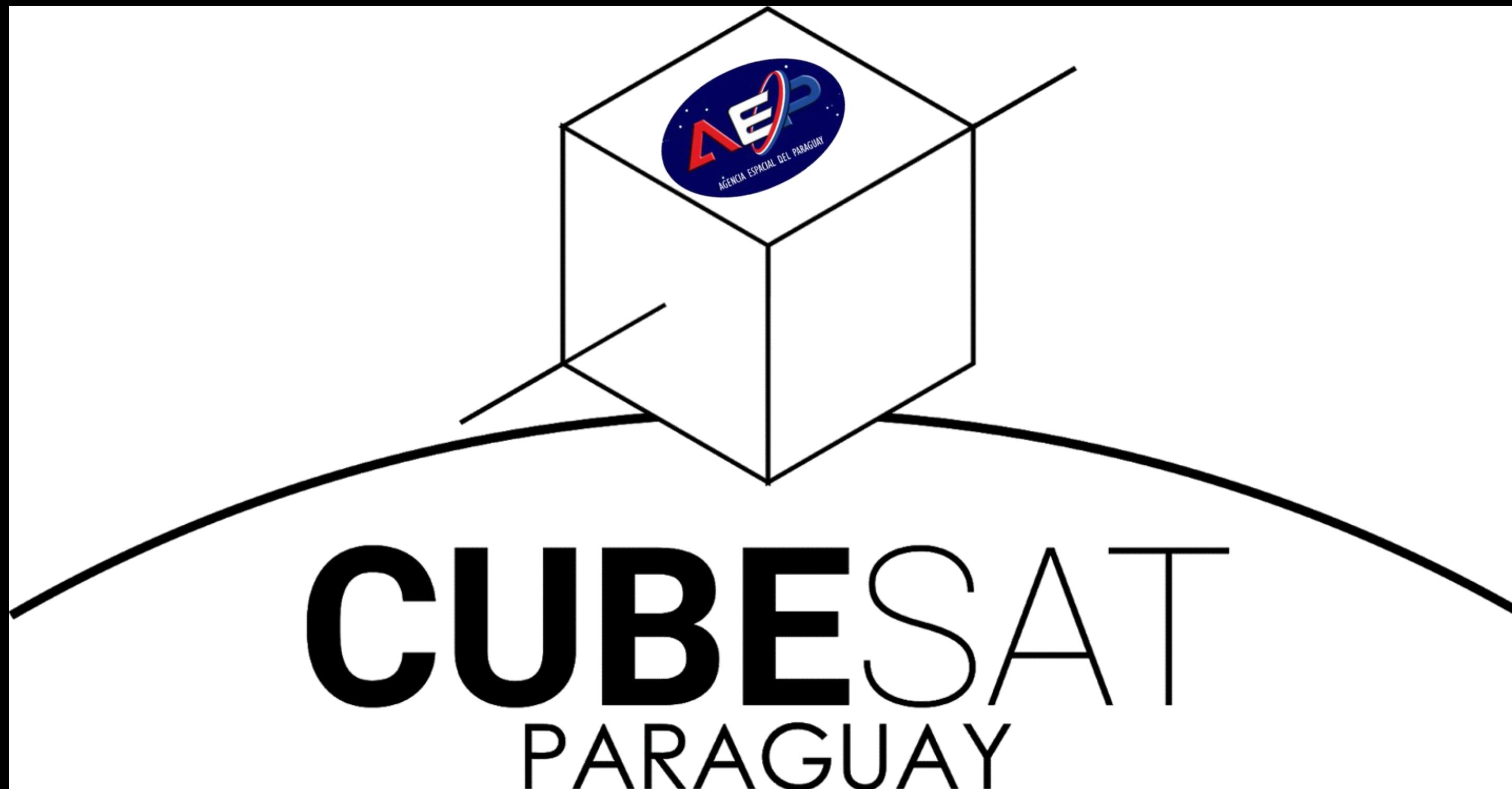
With Prof. Mengu CHO
Kyushu Institute of Technology - Kyutech



UNISPACE
+50



October 2018



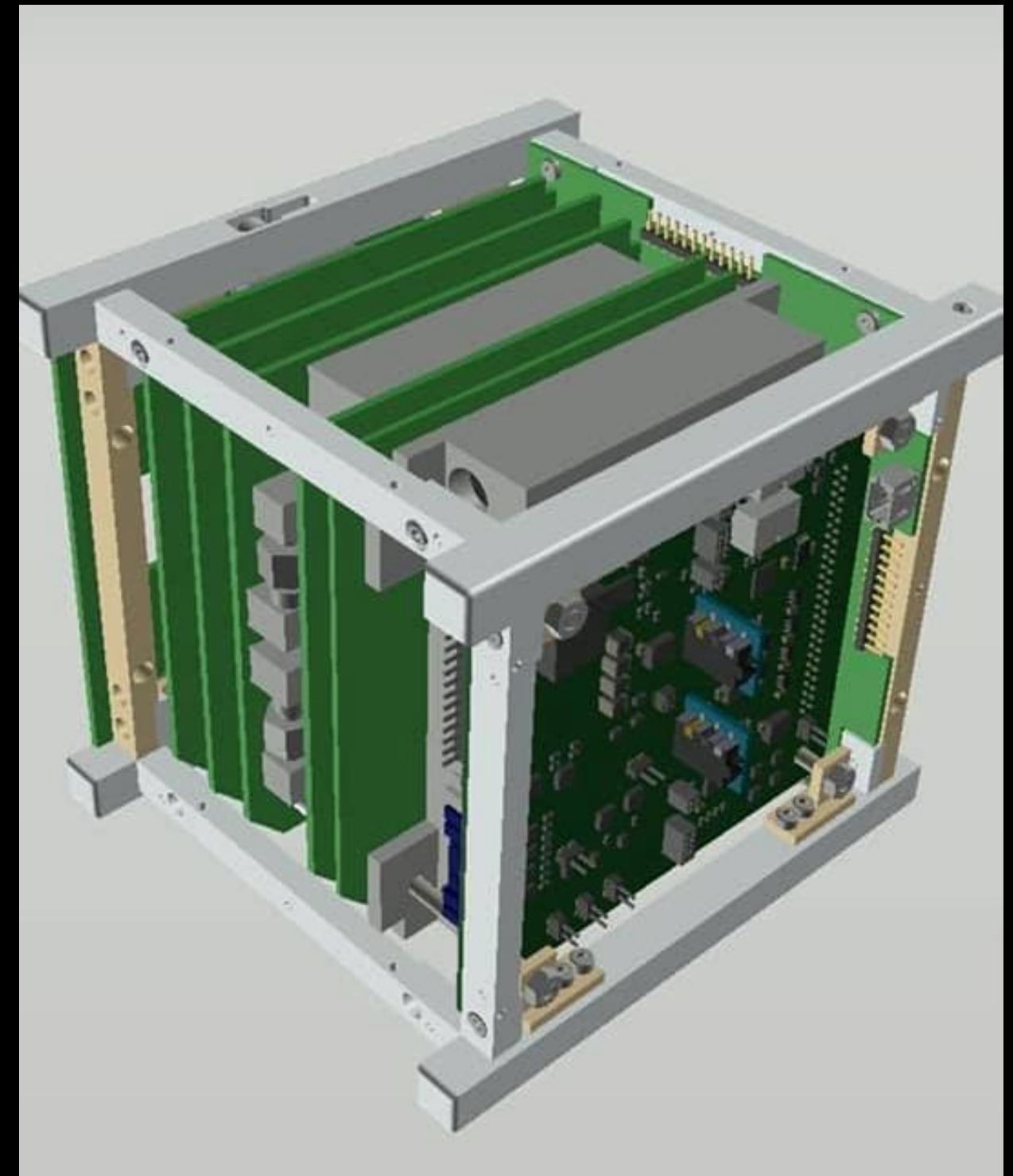
March 2019





March to September 2019

From Design to Engineering Model (EM)





CREDIT: ADOLFO JARA

A photograph of two young men in professional attire. The man on the left has short brown hair and a light beard, wearing a dark suit, white shirt, and patterned tie. The man on the right has dark hair and wears glasses, a dark suit, white shirt, and a striped tie. They are both smiling and looking towards the camera. The background is a blurred indoor setting with large windows.

September 2019

TRAINING

September 2019-February 2020



Flight Model (FM)



CREDIT: ANIBAL MENDOZA

Remote Sensing Application for the Study of Insect Dispersion



Adolfo Jara
BIRDS-4
March 7, 2019



BIRDS Project Newsletter – No. 38



16. BIRDS-4: Preliminary Design Review



Reported by
Anibal Mendoza & Yasir Abbas
BIRDS-4
APRIL 7, 2019



BIRDS Project Newsletter – No. 39



CREDIT: KYUTECH

Application for the Study of Insect Dispersion

models allow development of new sampling sites. Problems of diseases are alterations in appearance, decrease or increase. In the statistical distribution of epidemiology is a case study the vector of indigenous Chaco.

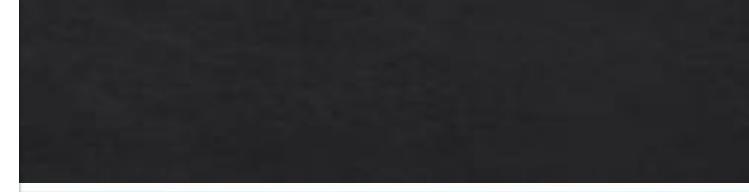
The work area for the development of this research is located in the central Chaco, approximately 400 km from Asunción, zone of influence of indigenous communities.



Representation of the study area - Elaborated using Google Earth Engine.

Page 111 of 150

BIRDS Project Newsletter – No. 38

Prediction variables - Elaborated using RStudio.
Page 112 of 150

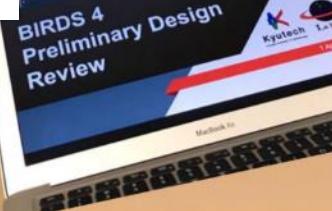
BIRDS-4 PDR

By: Anibal Mendoza

Date and location:
13:20 - 18:00,
1 April 2019.
Seminar Room of the 4th floor of S2 Building at Kyushu Institute of Technology, Tobata Campus, Japan

What is PDR?

The PDR demonstrates that the preliminary design meets all system requirements with acceptable risk and within the cost and schedule constraints and establishes the basis for proceeding with detailed design. It will show that the correct design options have been selected, interfaces have been identified, and verification methods have been described [source].



Page 56 of 97

BIRDS Project Newsletter – No. 39

To determine the distribution, two main variables have been considered: the entomological variable (presence of Chagas disease vectors in the indigenous communities) and the environmental variables. For the entomological variable a total of 110 points of presence of the vector have been taken through manual collect of insects and the use of a real-time remote monitoring system for triatomine using traps with sensors wireless networking. For environmental variables were used: mean NDVI, mean temperature, maximum temperature and mean rainfall, all these derived from satellite images and obtained through the programming of a code written in java script in the Google Earth Engine.

similarity with the known places of presence of the vector. A common method to predict the distribution is the GLM/logistic regression.

- The presence locations of the vector were collected;
- The values of the environmental prediction variables (such as climate) were extracted for these places using the spatial databases;
- Environmental values were used to adjust a model that allows estimating the similarity of other sites with presence sites;
- A model was obtained that allows to predict the distribution of vectors in the region of interest.

As a result, a distribution model based on environmental variables has been obtained that predicts the suitable places for the studied triatomines to be present.

BIRDS Project Newsletter – No. 38



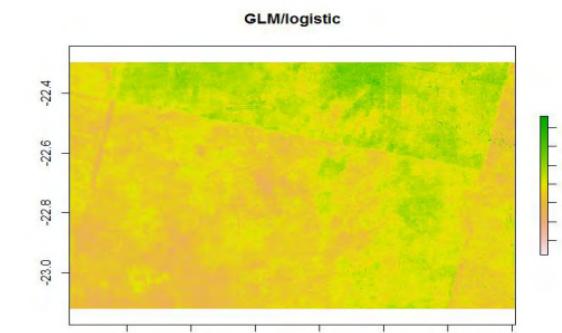
The clock was ticking, and because of this, Prof. Cho started to focus more on the differences with other BIRDS projects, since it was already beyond the scheduled time for the PDR to end. Hence, we moved on quickly as it got close to the end.



BIRDS Project Newsletter – No. 39

Page 58 of 97

The obtained tool is able to serve for the ecological and epidemiological surveillance of the indigenous communities at risk, generating early warning systems and serving as a support to the authorities for decision making.



Map of suitability values - Elaborated using RStudio.

Page 113 of 150

Launch

20 February 2021



Credit: NASA

India







22 February 2021



CREDITO::NASA

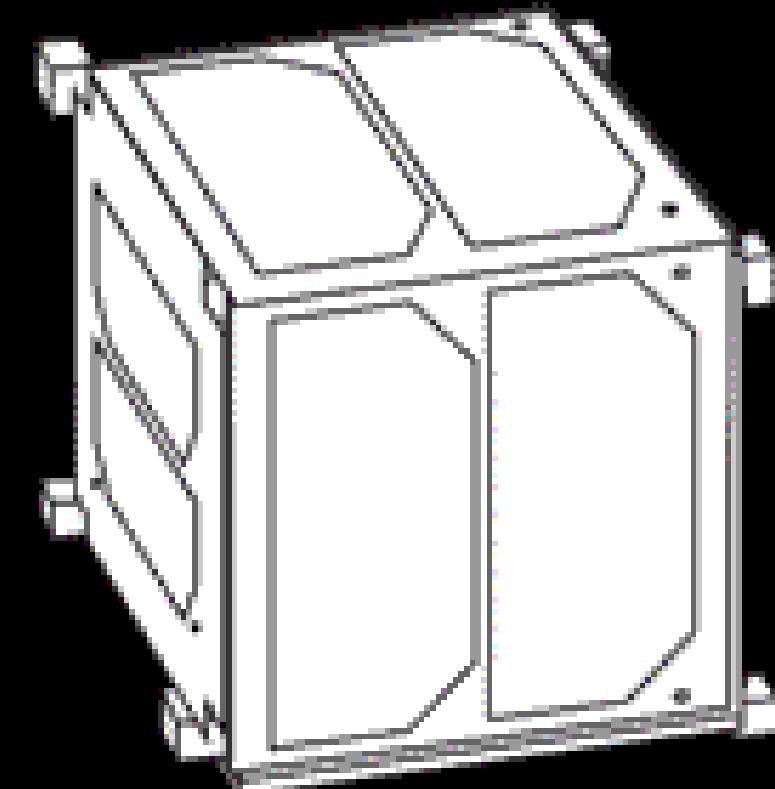
14 March 2021

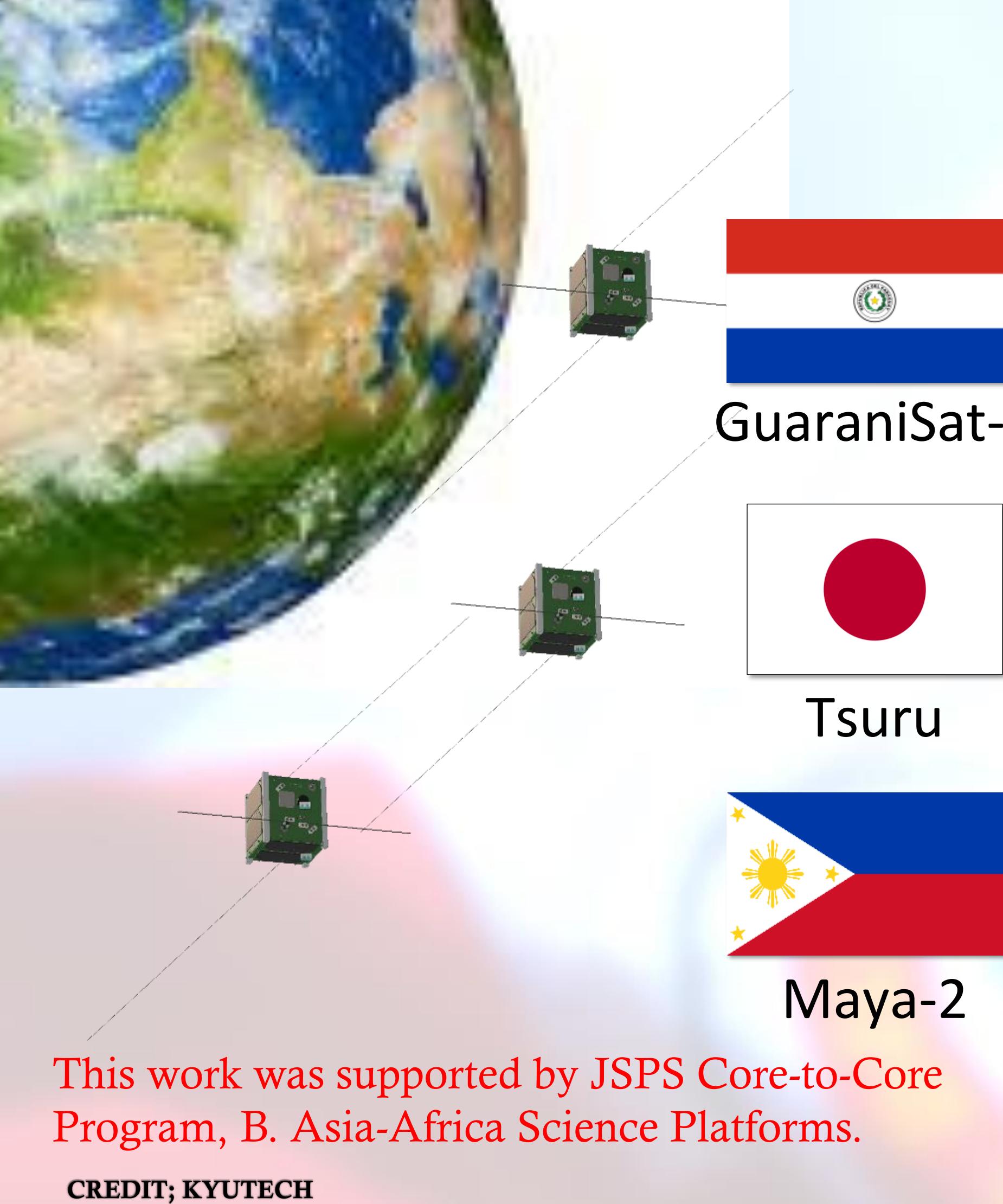


Space Segment



Cubesat 1U - Construction





This work was supported by JSPS Core-to-Core Program, B. Asia-Africa Science Platforms.

CREDIT; KYUTECH



AGENCIA ESPACIAL DEL PARAGUAY

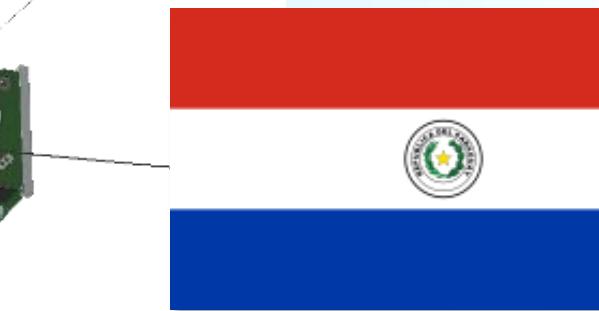


CENTRO PARA EL
DESARROLLO DE LA
INVESTIGACIÓN
CIENTÍFICA

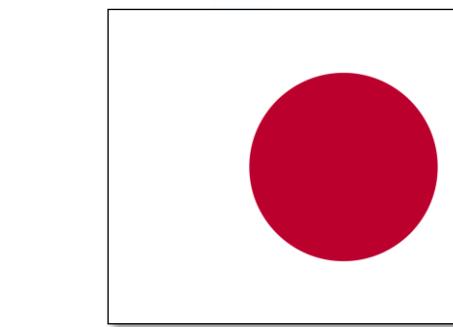
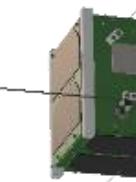
BIRDS PROJECT

- ❖ Take the first step towards creating an indigenous space program by designing, building, testing, launching and operating the first satellites for participating nations.
- ❖ BIRDS – 4
- ❖ Build the first Paraguayan satellite while improving the standardized bus system for future missions and continuing the development of satellites from Japan and the Philippines, and previous MISSIONS OF BIRDS-1, 2 and 3.





GuaraniSat-1



Tsuru



Maya-2



AÉGNCIA ESPACIAL DEL PARAGUAY



PROYECTO BIRDS

- ◆ The most important objective of this mission is CAPACITY BUILDING for our country, having Paraguayan engineers the opportunity to access a Doctorate and Master in Space Engineering in Japan and lay the foundations for the creation of undergraduate and postgraduate programs in our country and the construction of the following satellites in Paraguay.



Kyutech
Kyushu Institute of Technology





MAIN OBJECTIVES



1. Design, build, test, launch and operate Paraguay satellite
2. Give continuity to two missions; Imaging Mission (CAM) and Store & Forward (SF-WARD)
3. Serve the amateur radio community with the APRS-Digipeater (APRS-DP) mission

Secondary objective(s)

1. Demonstrate active in-orbit control and attitude stabilization (ADCS)
2. Demonstrate Perovskite Solar Cells in Space (PSC)
3. Demonstrate the structure of CubeSat as an antenna (HNT)
4. Expand the database of COTS components useful in space applications (TMCR)
5. Demonstrate the functionality of the chip manufactured for hitch detection (NTU)
6. Demonstrate on-board image processing and classification (UCI)
7. Demonstrate the viability of COTS glue for solar cells (GLU)

SPACE SEGMENT

- ❖ The Space segment is composed of 3 identical satellites from Paraguay, Japan and the Philippines.
- ❖ They will be launched at the same time by JAXA with a launch service provider to define the strongest options are from usa (SpaceX) or Japan.
- ❖ The satellite can be divided into subsystems and missions.





MAIN SUBSYSTEMS

- ❖ OBC – On-Board Computer Subsystem – executes commands from the GS, Collects and transmits mission and telemetry data, monitors the overall status of the Satellite and executes commands automatically*
- ❖ EPS – Electric Power Subsystem – provides uninterrupted power supply to all components both in sunlight and in eclipse. Generates, stores, converts and distributes energy
- ❖ COM – Communications Subsystem – receives the commands (uplink) from the GS and forwards to the OBC, Transmits telemetry and mission data to the GS (downlink) and the CW beacon.

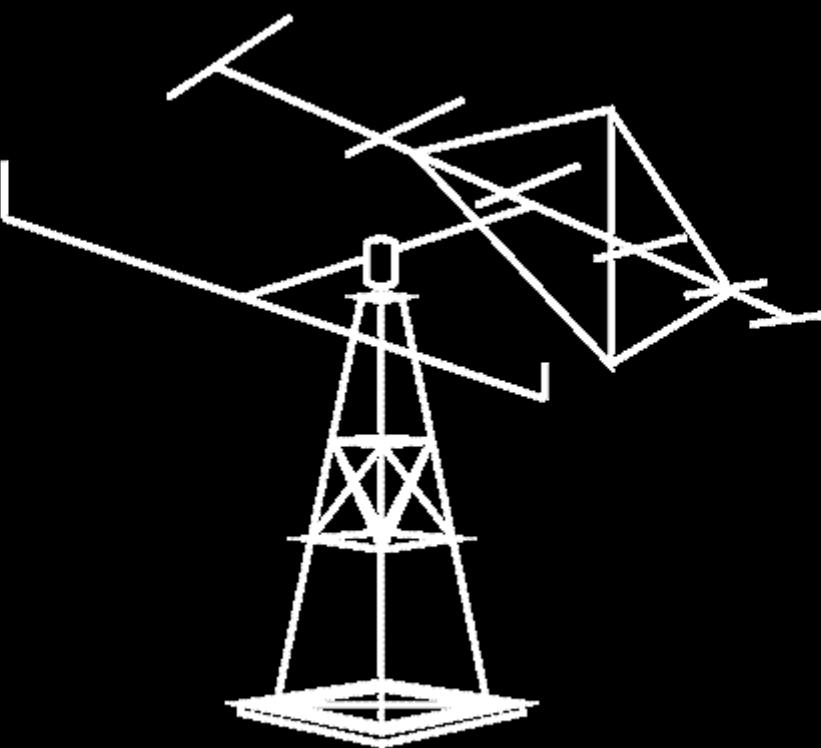


MAIN MISSIONS



- ❖ Camera (CAM)
- ❖ Image Classification Unit (ICU)
- ❖ Automatic packet repetition system: - Digital repeater (APRS-DP)
- ❖ Data storage and forwarding (weather and Re-infestation data) using CubeSats (SF-WARD)
- ❖ Housing as Antenna (HNT)
- ❖ Measurement of Total Ionizing Doses in Components (TMCR)
- ❖ NTU Mission (Latch-up Detection Chip) (NTU)
- ❖ Perovskite Solar Cell (PSC)
- ❖ Attitude Determination and Control (ADCS)
- ❖ Mission of verif. Of glue COTS (GLUE)

Ground Segment





100 Millions at risk
7 Millions infect. **12.000 Deaths**
56,000 new cases per year



**mal de
chagas**

Fuentes:

OMS, 2015

Rojas de Arias et al., 2012

Tesis de Maestría de Federico Gaona, FP-UNA, Octubre 2018

Aerospace Development

❖ Infrastructure



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

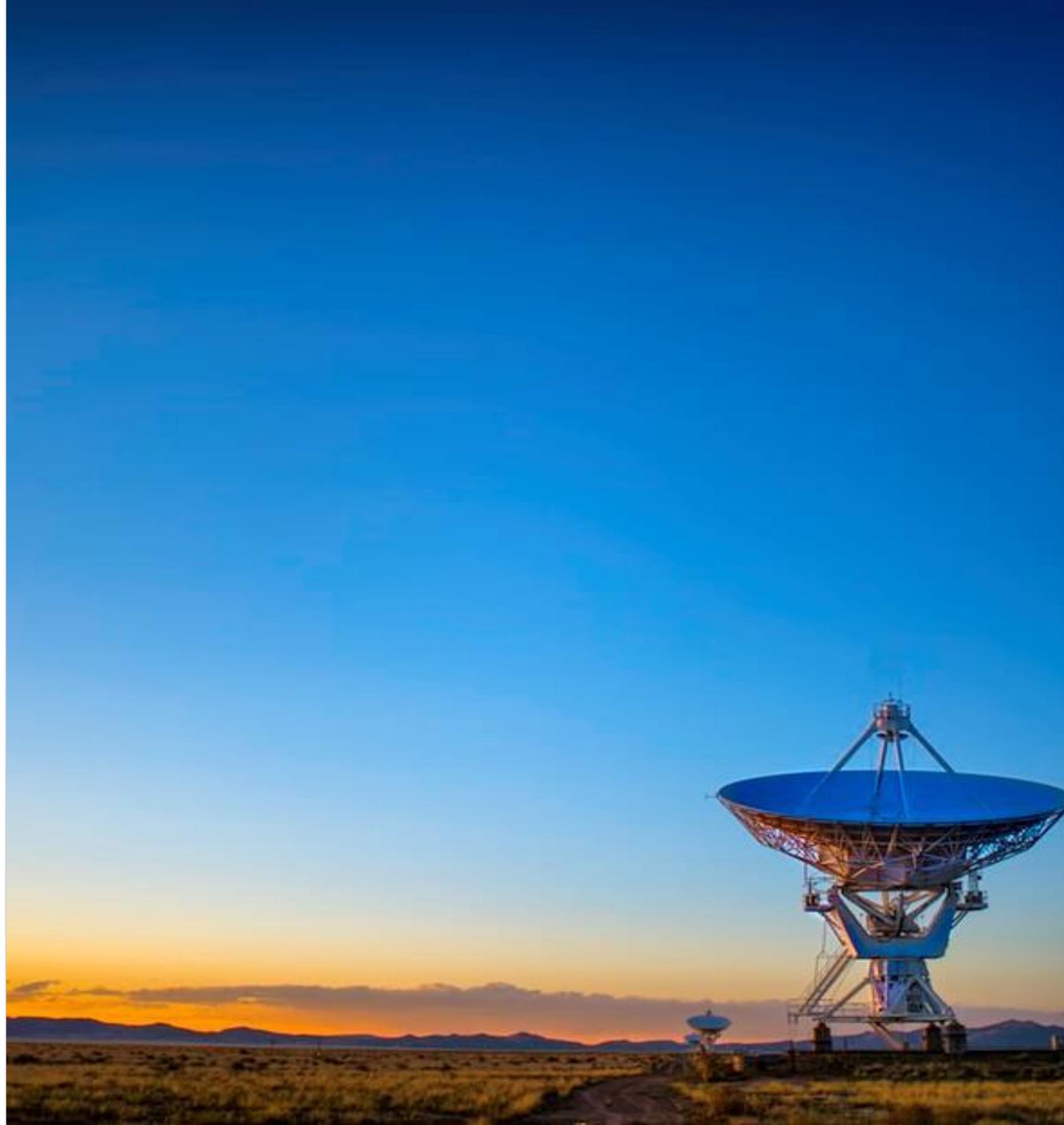


Photo Credit: [Donald Giannatti](#) on [Unsplash](#)



GROUND SEGMENT

-
- ❖ OPERATIONS CENTER MONITORING AND CONTROL AEP HQ
 - ❖ AEP CAMPUS CONTROL CENTER - A
 - ❖ ESTACION TERRENA 1 CAMPUS - UNA
 - ❖ ESTACION TERRENA 2 TIBERIA – CHACO
 - ❖

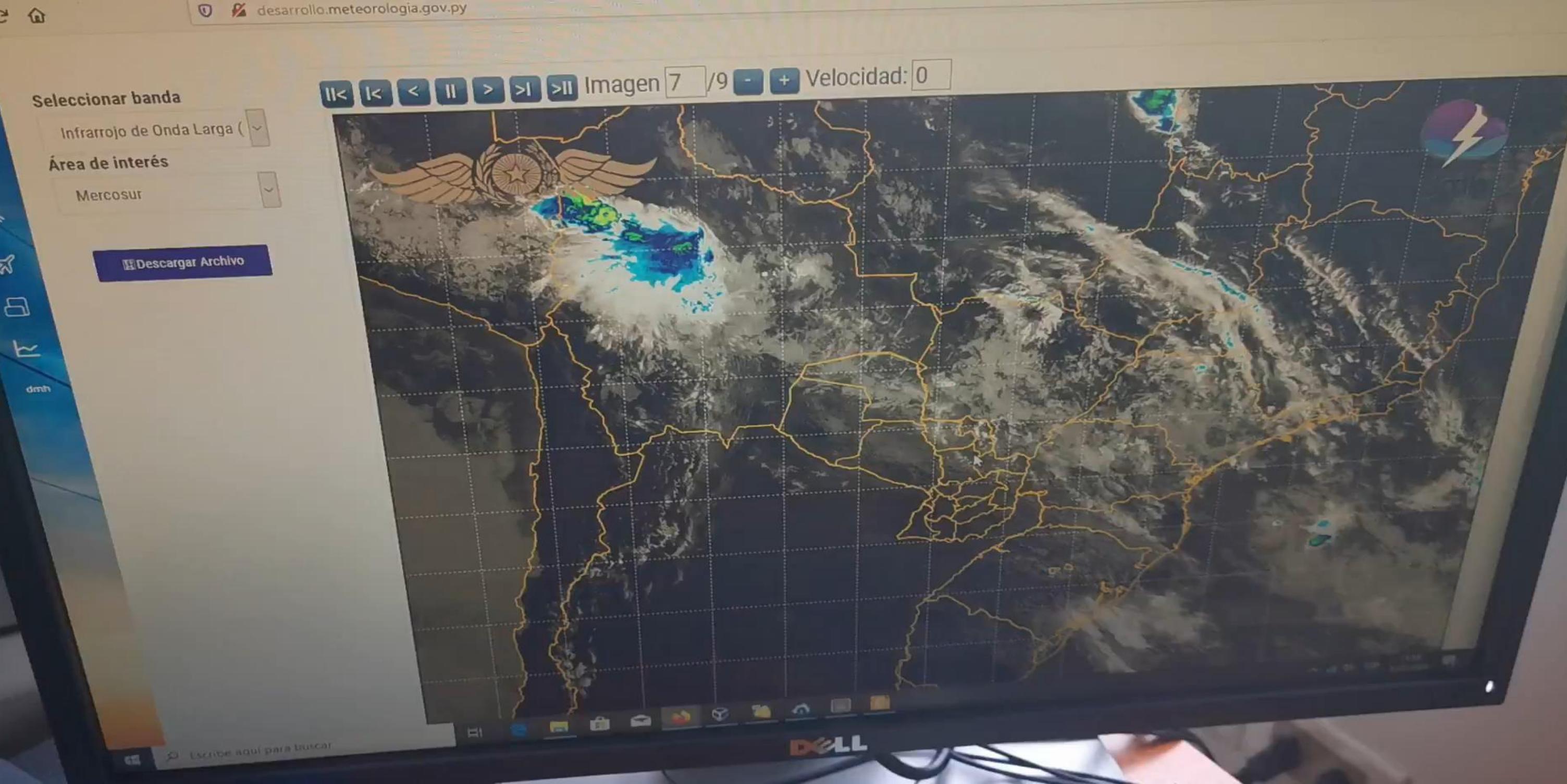
OPERATIONS, MONITORING AND CONTROL CENTER – AEP HQ

Located at the headquarters of the AEP, its main function will be to monitor the GuaraniSAT-1 satellite, in addition to monitoring and supporting the SEN and other state and private agencies in case of disasters such as floods and fires.

Space debris and near-earth objects will also be actively monitored in case of alerts.

It will serve as the main monitoring station in coordination with the CONTROL CENTER of the UNA campus.





AEP CONTROL CENTER – CAMPUS UNA

Located on the CAMPUS of the UNA, its main function will be to communicate with the GuaraniSAT-1 satellite, in this place the Earth Station 1 is also installed.

GROUND STATION 1 AEP – CAMPUS ONE

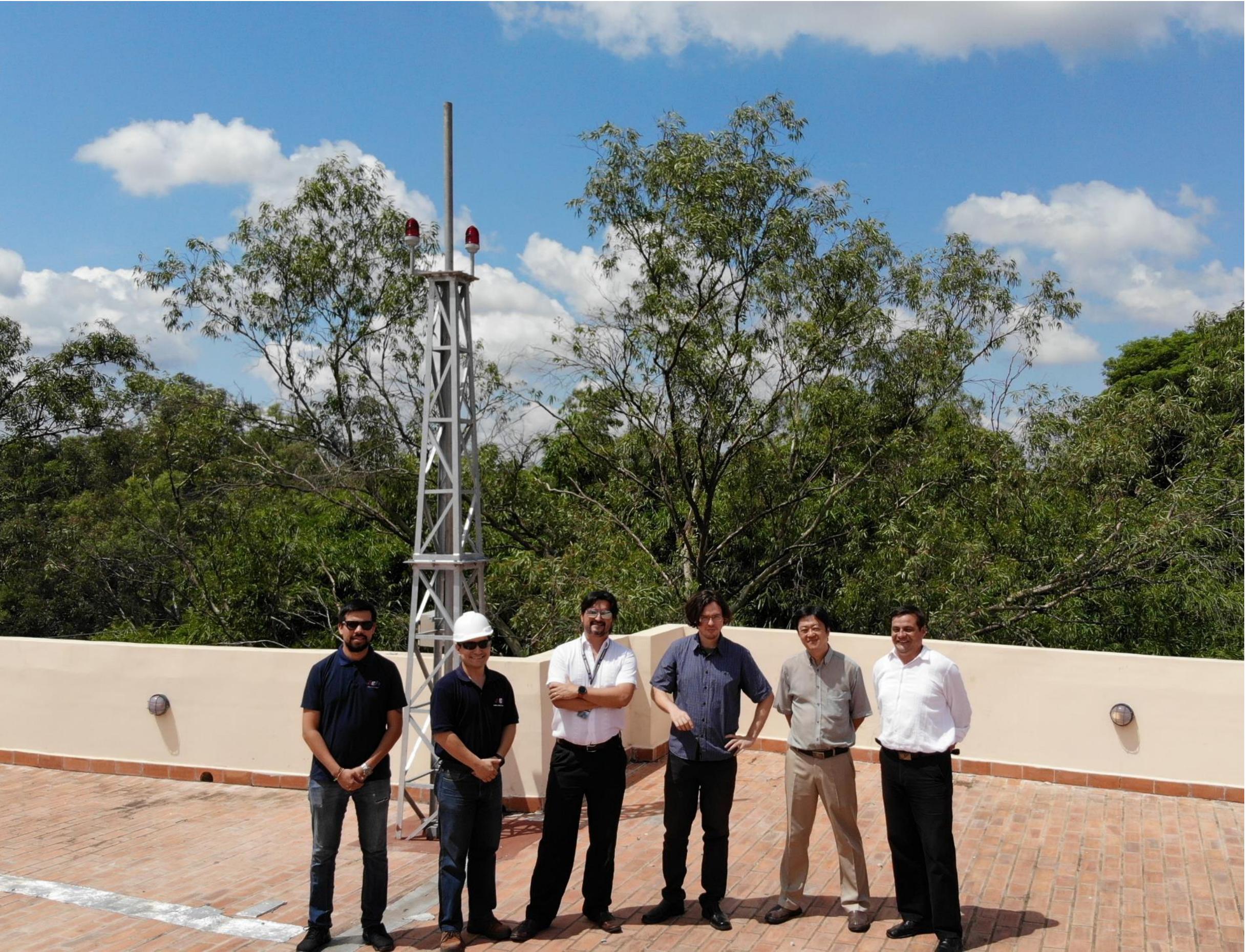
Objectives

- Communication with the BIRDS-4.▪ Satellite Send commands and receive telemetry from each satellite
 - Organize to make telemetry easy to use. ▪ Support communication missions of;
- APRS-DP ▪ ▪ SF-WARD ▪ HNT



Installation

- Acquisitions
- Assembly
- Tests
- Operation





GROUND STATION 2 AEP – TIBERIA CHACO



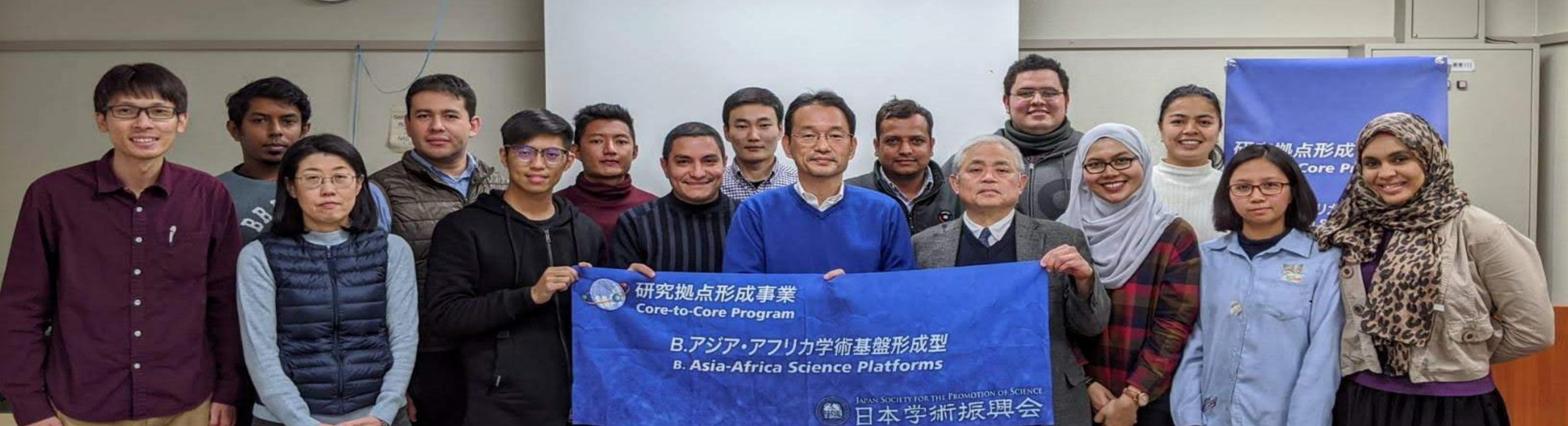
Located 400 km from the city of Asunción in the town of Tiberia - Chaco



OBJECTIVES

- ❖ Collect information from traps that detect the presence of the Chagas disease vector
- ❖ Transmit information packets to the satellite automatically
- ❖ Trading in adverse conditions
- ❖





GS WORKSHOP JAPAN ENE-2020



3 Paraguayan engineers were trained in Japan in order to carry out the installation tasks of the Earth Stations in Paraguay





CHACO TRIP DEC 2020

GROUND SEGMENT



CHACO TRIP DEC 2020





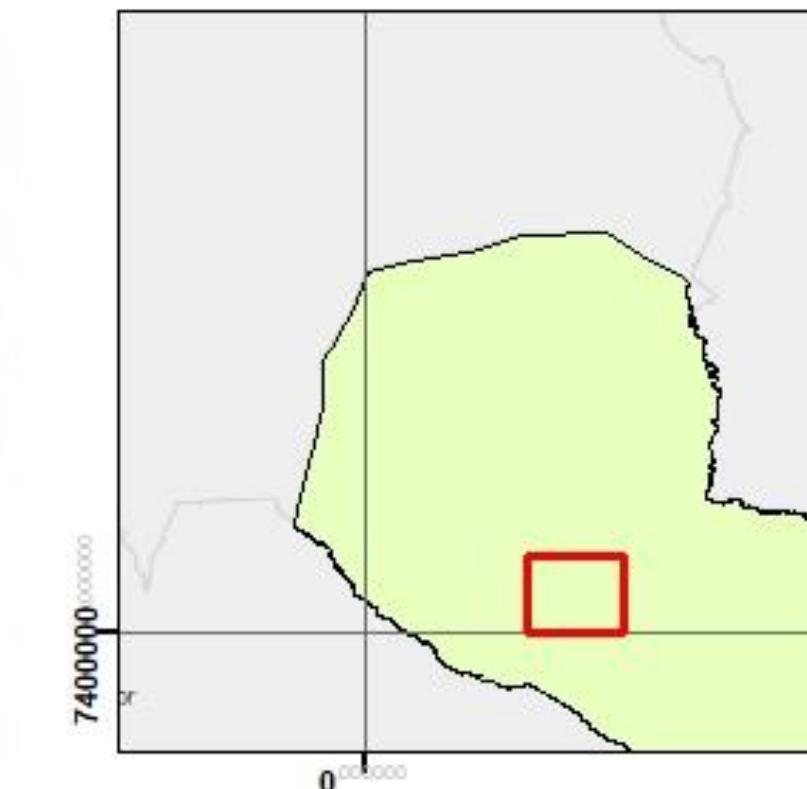
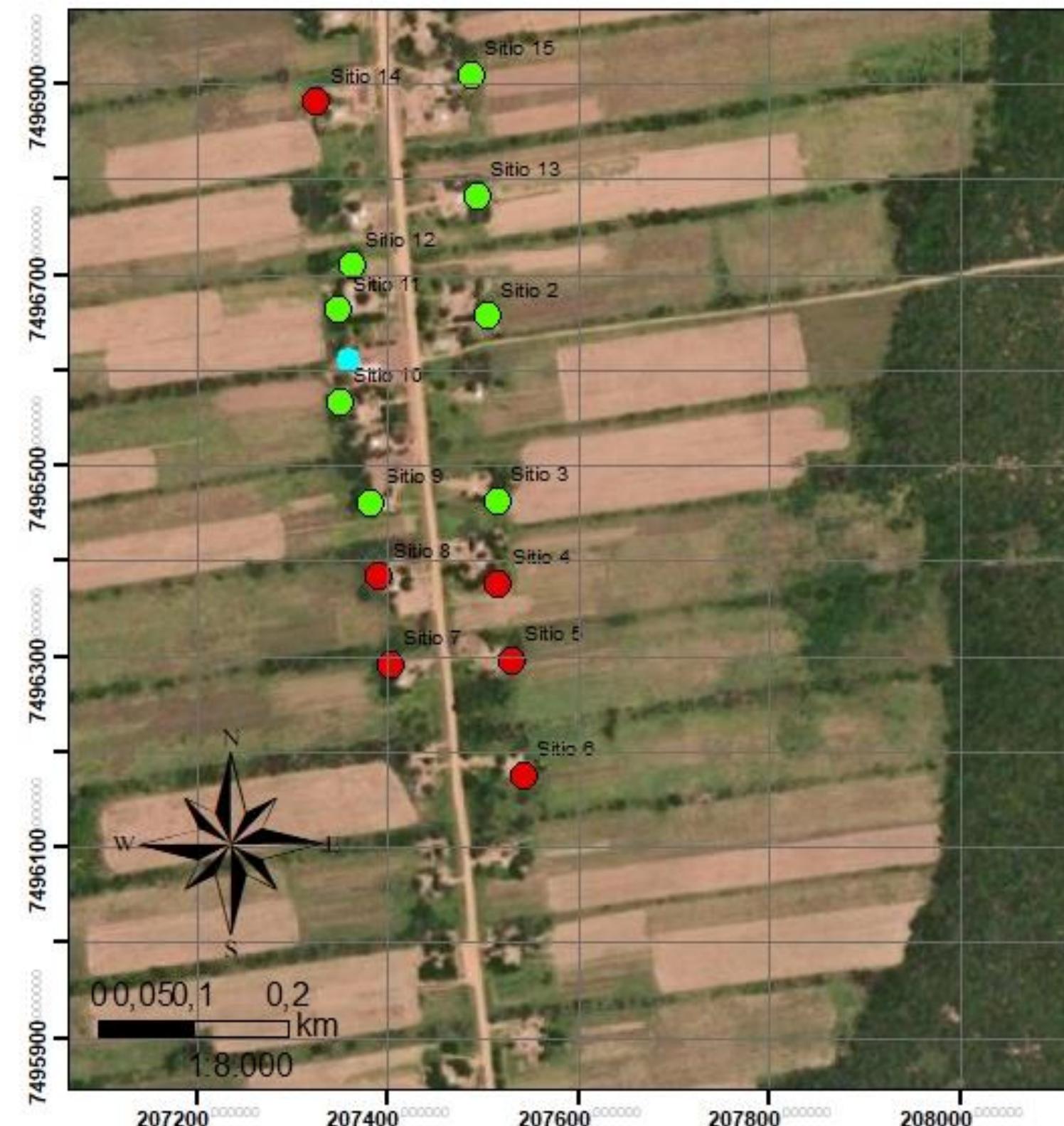
UBICACION DE SENORES - GS2 CHACO



LEYENDA

- Comunicación con repetidor
- Comunicación directa
- Base

| | |
|----|-----------------------------|
| 1 | S 22° 37.184' w 59° 50.748' |
| 2 | S 22° 36.709' w 59° 50.714' |
| 3 | S 22° 36.814' w 59° 50.710' |
| 4 | S 22° 36.861' w 59° 50.710' |
| 5 | S 22° 36.905' w 59° 50.703' |
| 6 | S 22° 36.970' w 59° 50.697' |
| 7 | S 22° 36.906' w 59° 50.777' |
| 8 | S 22° 36.856' w 59° 50.783' |
| 9 | S 22° 36.814' w 59° 50.787' |
| 10 | S 22° 36.756' w 59° 50.805' |
| 11 | S 22° 36.704' w 59° 50.805' |
| 12 | S 22° 36.679' w 59° 50.796' |
| 13 | S 22° 36.641' w 59° 50.719' |
| 14 | S 22° 36.586' w 59° 50.816' |
| 15 | S 22° 36.572' w 59° 50.721' |
| 16 | S 22° 36.486' w 59° 50.738' |
| 17 | S 22° 36.427' w 59° 50.747' |
| 18 | S 22° 36.427' w 59° 50.747' |
| 19 | S 22° 36.378' w 59° 50.839' |
| 20 | S 22° 36.377' w 59° 50.763' |



Descripción

En el siguiente mapa se observan los sitios donde serán ubicados los sensores para la detección de la vinchuca y el concentrador ubicado en la base donde se encontrará la estación terrena GS2 - Chaco

Este producto fue elaborado con técnicas digitales. No existe mapeo de precisión en este producto.

Derecho de Imagen: Mapa base Google Earth Pro

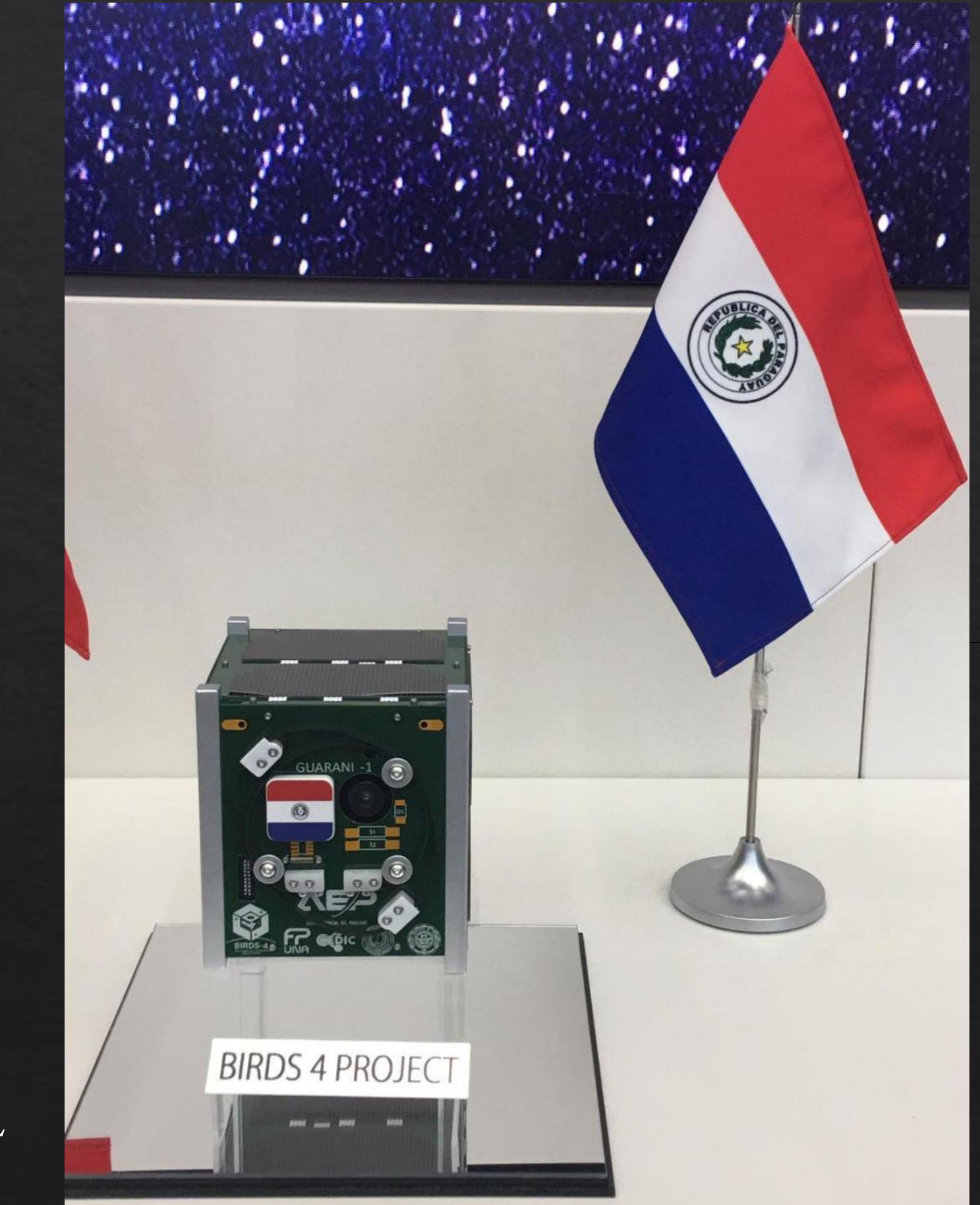
Elaborado el 15/12/2020 por la Agencia Espacial del Paraguay. (RFelytas@DST-DGEDA)

HANOVER CEREMONY KYUTECH



#ORGULLO NACIONAL

CREDIT: KYUTECH-FOTO: MIGUEL MALDONADO



Paraguay's First Satellite will be deployed from Kibo/ISS
Certificate of Acceptance for GuaraniSat-1



PARAGUAY
GuaraniSat-1



Manager of Utilization of KIBO Expose Facility,
JEM Utilization Center, Human Spaceflight Technology Directorate
Japan Aerospace Exploration Agency



JAPAN AEROSPACE EXPLORATION AGENCY
October 6, 2020





CERTIFICATE OF DEPLOYMENT



PROUDLY PRESENTED TO

Paraguayan Space Agency (AEP)

This is to certify that the satellite "GuaraniSat-1" was launched by NG-15, and it has successfully deployed from Kibo/ISS by JEM Small Satellite Orbital Deployer, J-SSOD.

ogawa shiho

OGAWA Shiho

Director of JEM Utilization Center,
Human Spaceflight Technology Directorate

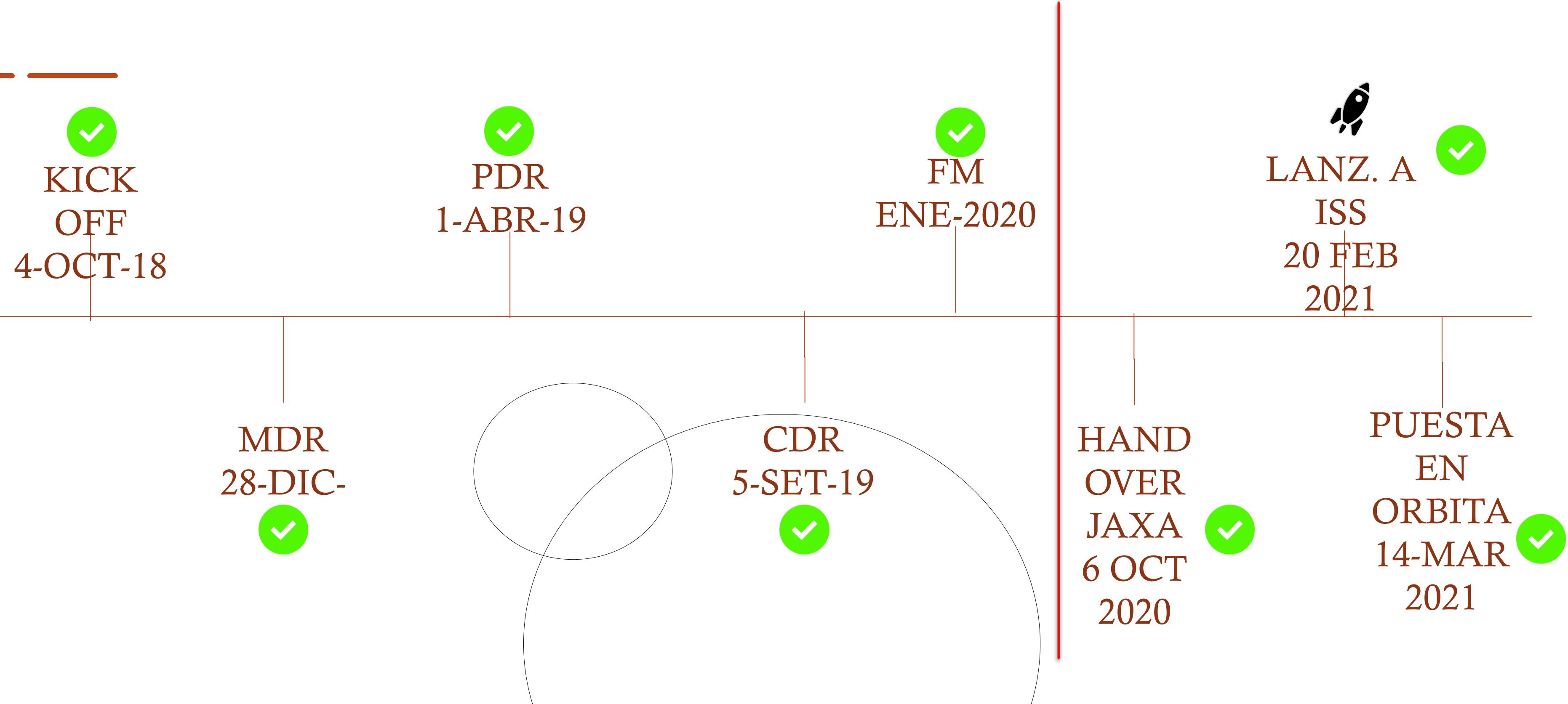


JAPAN AEROSPACE EXPLORATION AGENCY
Mar. 14, 2021

International Space Station



BIRDS4 TIMELINE



Institutions involved



SOCIEDAD
CIENTÍFICA
DEL PARAGUAY



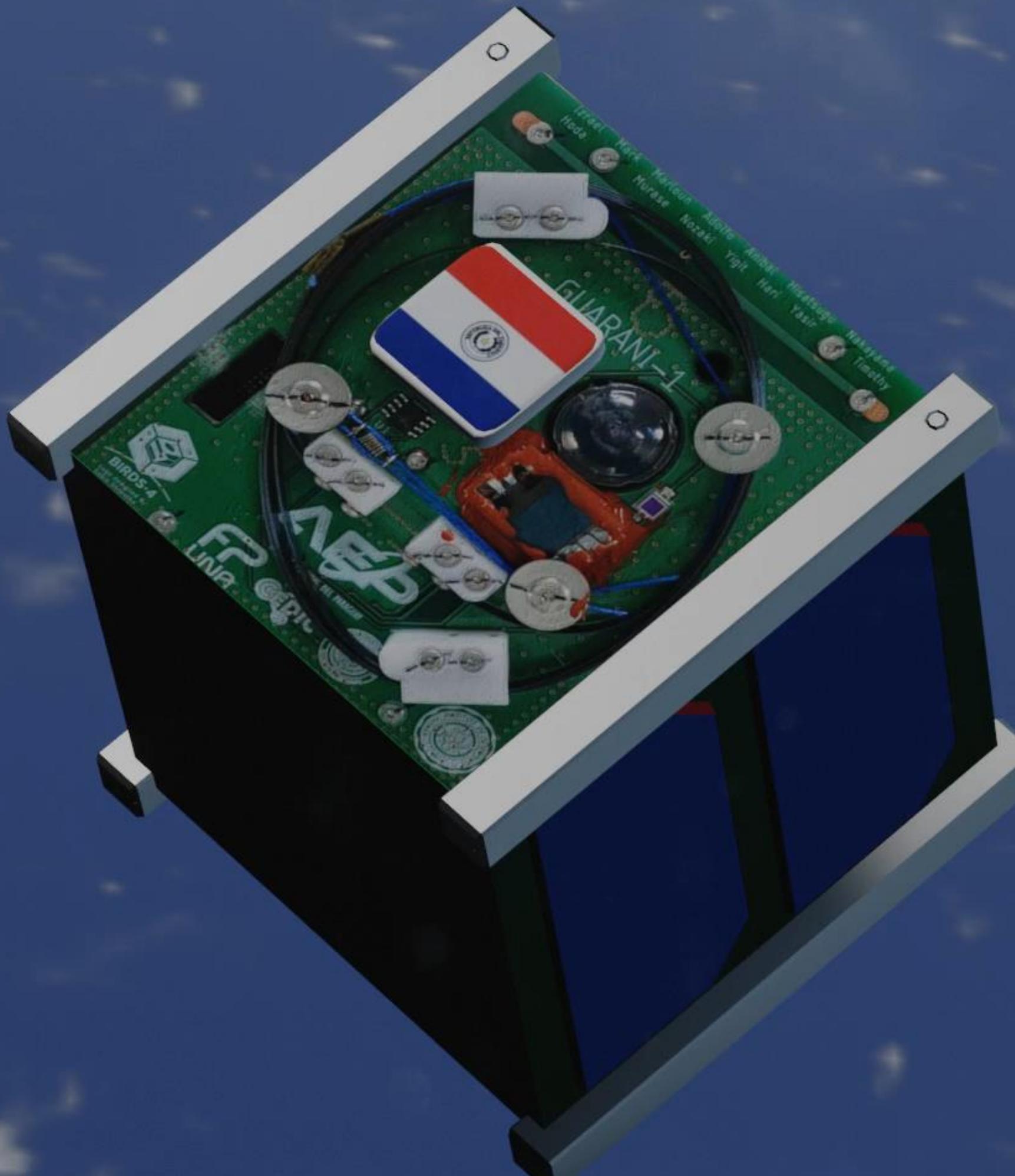
Kyutech
Kyushu Institute of Technology



UNOOSA



A REALITY....



Aerospace Development

- ❖ Training, dissemination and international presence



This Photo by Unknown Author is licensed under CC BY-NC-ND

COLOMBIA



A screenshot of a Microsoft Teams desktop application. It shows a video call with four participants. One participant's video is visible, and others are shown as smaller thumbnail images. The interface includes a 'Meeting chat' sidebar with messages from users like 'Alejandro J Roman' and 'DAVID ANDRES DIAZ ALVAREZ'. The bottom of the screen shows a taskbar with various icons and the Windows Start button.

A screenshot of a Microsoft Teams meeting titled 'Sala Monitoria 4'. The main video feed shows a presentation slide with the title 'Voyager Research Group' and subtitle 'AIRBUS 05: Be a Space Brainer!'. The slide features a background image of Earth and numerous satellites in space. Logos for 'ASTRA', 'Voyager', and 'UNIVERSIDAD DE ANTIOQUIA' are visible. In the bottom right corner of the video feed, there are three participant video thumbnails labeled 'LA', 'JUAN MARIO CAMPANA RICO', and 'SAMUEL LOPEZ ZAPATA'. The right side of the screen shows the 'Meeting chat' window with messages in Spanish from participants like 'David Huley Martinez', 'Laura Hoyos ANIAP', and 'Katherin Serrano'. The taskbar at the bottom is identical to the one in the previous screenshot.

RUSIA

IV WorldSkills Inter-University Competition 2020

SPACE SYSTEMS ENGINEERING

December 01-07, 2020

EXPERTS worldskills Russia

Dr Jayakumar Venkatesan
International Expert
Space Systems Engineering

Ms. Victoria Valdivia
Expert
Space Systems Engineering

Prof Alejandro Roman,
Expert
Space Systems Engineering

Prof. Marcelo de Oliveira Souza
Expert
Space Systems Engineering

LA Shumova
WSR Expert

Alexander Makarov
Chief expert
WSR Expert since 2016

Dmitry Amelin,
Technical Expert
WSR SSE specialist

Svetlana Kuzmina,
Deputy Chief Expert
WSR SSE specialist

ROSCOSMOS

VALLES MAR-NERIS

PICASO

FUTURE SKILLS

worldskills Russia

МОЛОДЫЕ
ЗОДОИ
ФЕСТСИОНАЛІ

2020

CERTIFICATE
OF HONOUR

This is to certify that
Alejandro J. Román M

as an expert

took part in IV WorldSkills Russia University
League Competition
in Space System Engineering

MOSCOW

1-7 DECEMBER 2020

CEO WorldSkills Russia
Robert Urazov



FRANCE/UNITED STATES



The Americas Online Executive Space Course 2020

A photograph of Earth from space, showing a vast expanse of clouds and landmasses below the blue atmosphere. The International Space University (ISU) logo is visible in the top right corner.

EARTH OBSERVATION AND SPACE APPLICATIONS FOR LATIN AMERICA

A large, detailed image of Earth from space, focusing on South America. Several circular profile pictures of speakers are overlaid on the globe.

Pilar Zamora Acevedo
Colombian Space Agency

Alejandro Román
Paraguayan Space Agency

Carlos Alvarado Briceño
Federated College of
Engineers and Architects
of Costa Rica

Mario Arreola Santander
Mexican Space Agency

Mariano Imbert
Bolivarian Agency for
Space Activities
Venezuela

Camilo Andrés Reyes
ISU - Moderator

Date: August 8, 2020, 17:00 UTC-5



Kennedy Space Center, Florida US

1972 Explorer Space Seminar

An aerial photograph of the Kennedy Space Center in Florida, showing the launch pad complex and surrounding infrastructure. A video feed of a man is overlaid on the image.

Mario M. Arreola S.
Seleccionado para viajar al
Centro Espacial Kennedy de NASA
durante la misión Apolo 15

The NASA logo is displayed at the bottom left of the screen.

2

PERU

WEBINAR

REVOLUCIÓN TECNOLÓGICA EN LA EDUCACIÓN

Dirigido al Público en General



Sábado 14 de Noviembre
10:00 h



Lugar: Campus Virtual
E-learning UNI



Moderadora:
Mg. Yvonne Alarcón



Ponente:

Mg. Alejandro Román Molinas
Director General de Ejecución y Desarrollo Aeroespacial
Agencia Espacial del Paraguay

Contactos:

campuselearninguni@uni.edu.pe



VIDEOCONFERENCIA AVANCES EN EL DESARROLLO AEROESPACIAL

CASO: AGENCIA ESPACIAL DEL PARAGUAY



Viernes 19 de junio
19:30 hrs. (Perú)
20:30 hrs. (Paraguay)



Lugar: Campus de la UNIDA Virtual
Evento Gratuito



Disertante:
Mg. Alejandro Román Molinas
Director General de Ejecución y
Desarrollo Aeroespacial
Catedrático de la UNIDA

MEXICO



COMUNICACIONES | AEM

SCO
SISTEMAS DE COMUNICACIONES

Webinar SCO-Latinoamérica
6 de noviembre de 2020
9h - 10h30 (centro de México)
Agenda

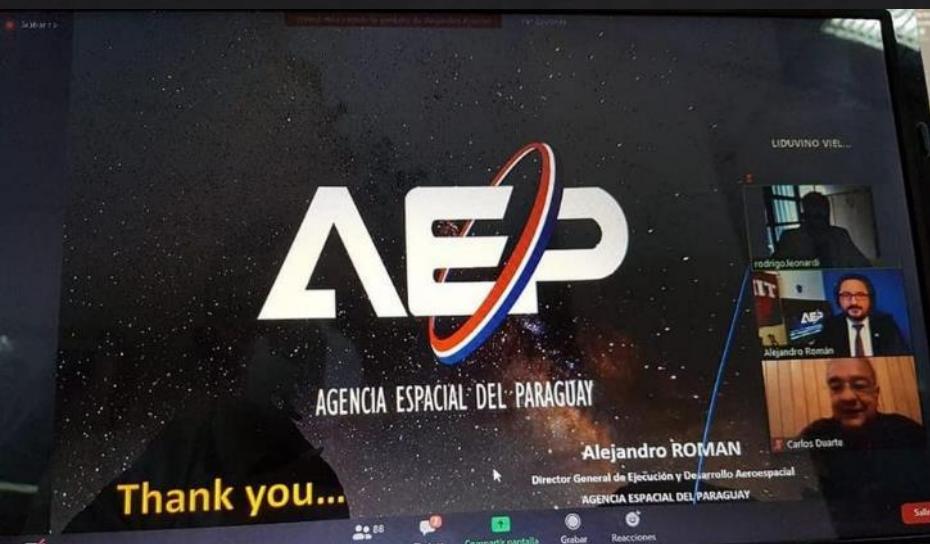
| | |
|---------------|---|
| 9:00 - 9:05 | Palabras de bienvenida, SCO-CNES. |
| 9:05 - 9:10 | Presentación de la convocatoria 2020 de proyectos, Alejandro Monelvá. |
| 9:10 - 9:20 | Presentación Proyecto FloodDAM, Peter Kettig. |
| 9:20 - 9:30 | Presentación Proyecto ARBOCARDO-v2, Lucía Campegnoli. |
| 9:30 - 9:40 | Presentación INECC (Por confirmar). |
| 9:40 - 9:50 | Presentación México, Jesús Romero, Agencia Espacial Mexicana. |
| 9:50 - 10:00 | Presentación Argentina, Sandra Torruco, Comisión Nacionales de Actividades Espaciales. |
| 10:00 - 10:10 | Presentación Colombia, Pilar Zamora Acevedo, Agencia Espacial de Colombia. |
| 10:10 - 10:20 | Presentación Paraguay, Alejandro Roman, Agencia Espacial del Paraguay y Ricardo Pereira, Secretaría de Emergencia Nacional. |
| 10:20 - 10:30 | Preguntas y respuestas. |

UNITED ARAB EMIRATES



BRASIL

This screenshot shows a Zoom meeting interface. At the top, it says "Zoom Meeting" and "You are viewing Alejandro Román's screen". The video feed shows four participants: Jorge Kurita, rodrigo.leonardi, Alejandro Román, and Carlos Duarte. Below the video, there is a banner for the "Paraguayan Space Program and first Cubesat Mission" and the "IV IAA Latin American CubeSat Workshop". A yellow box highlights the text "ROUND TABLE SPACE PROGRAM AND CUBESAT MISSIONS 06.08.2020 BRASIL". The participant list on the right shows 89 participants, including the host and co-hosts. The interface includes standard Zoom controls like Unmute, Start Video, Participants, Chat, Share Screen, Record, Reactions, Leave, Invite, Unmute Me, and Raise Hand.



Round-table, August 6th 2020
"Latin American Space Programs and the Cubesat Missions"

IV IAA Latin America CubeSat Workshop

| | | | |
|---------------|---------------------|-----------------|-----------------|
| Livio Grattan | Rodrigo Leonardi | Marcos Diaz | Ronnie Nader |
| CONAE-UNSAM | AEB | Uchile | EXA |
| Argentina | Brazil | Chile | Ecuador |
| | | | |
| | | | |
| Luis Zea | Carlos Duarte Muñoz | Alejandro Román | Juan Julca Yaya |
| UVG | AEM | AEP | CONIDA |
| Guatemala | Mexico | Paraguay | Peru |
| | | | |
| | | | |



CHILE

SG Latin American Webinar Series

S5

Democratizando el espacio: oportunidades y
beneficios de implementaciones regionales de
tecnologías espaciales de bajo costo

27 de Mayo | Hrs: 18:00 - 19:30 (UTC -5)

Moderadora: Isidora Casas del Valle, NPoC Chile



P1 | Ampliación de la diversidad espacial en Colombia
MY. Sonia Rincon, Colombia
Lider Centro Ciencia y Tecnología Fuerza Aerea Colombiana



P2 | Beneficios del desarrollo aeroespacial para el Paraguay
Alejandro Román, Paraguay
Director General de Desarrollo Aeroespacial de la Agencia Espacial
del Paraguay (AEP)



P3 | Democratización del espacio
Andrés Martínez, Mexico/USA
Ejecutivo de programa, División de Sistemas de
Exploración Avanzada - NASA



f /SpaceGenSouthAmerica
/NCACSGAC

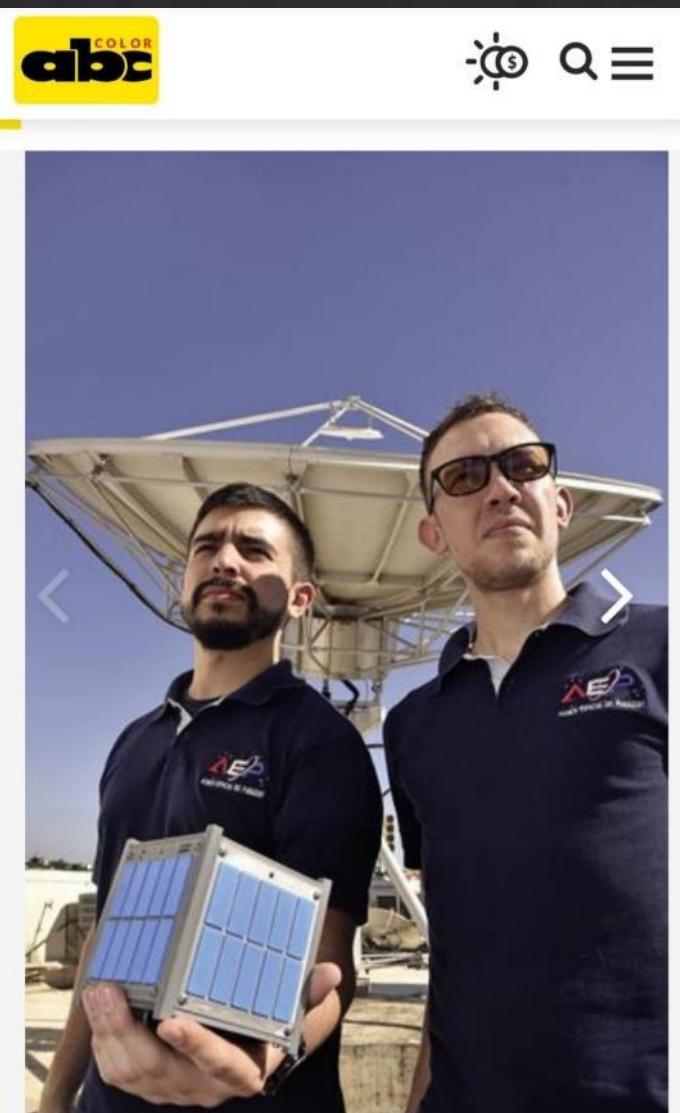
UNITED KINGDOM



Wilton Park



PARAGUAY



NPY.COM.PY

¡Orgullo nacional! Primer satélite paraguayo es presentado en Japón | Noticias Paraguay



YOUTUBE.COM

¡Orgullo nacional! Primer satélite paraguayo es presentado en Japón



24 HORAS

ORGULLO NACIONAL
PROYECTO "PARAGUAY AL ESPACIO"
PRIMER SATÉLITE NACIONAL SERÁ LANZADO EN 2021



TD

EL PRIMER SATÉLITE PARAGUAYO
FUE CONSTRUIDO GRACIAS A COOPERACIÓN DE JAPÓN

PARAGUAY

AGENCIA ESPACIAL DEL PARAGUAY
"UNA HERRAMIENTA MÁS PARA EL DESARROLLO Y DEFENSA NACIONAL"

**"SABER MÁS SOBRE EL ESPACIO
Y TU AGENCIA ESPACIAL"**

CHARLAS PROGRAMADAS

AGENCIA BOLIVIANA ESPACIAL
Y EL SATÉLITE TUPAC KATARI - 1

PH.D ALEXIS ANDRADE ROMERO
A.B.S.

ESTACIÓN ESPACIAL INTERNACIONAL

PROF. MATER ALEJANDRO ROMÁN
AEP - PARAGUAY

GOBIERNO NACIONAL

Paraguay de la gente

PARAGUAY TV

canal 15.1 | canal 14 | canal 3 | canal 18 ClaroTV | canal 43 PioneroTV | canal 3 y 603HD STAR | f LIVE

Hoy, domingo 19 de Julio del 2020 a las 20:00 hs.

Nuestra Sesión de Hoy | 08:51

Juan Alberto Bejarano

AEP

AGENCIA ESPACIAL DEL PARAGUAY

RESPONSABLES:

- Prof. Abg. Hebe Romero
- Prof. Abg. Janice Goldenberg
- Raquel Bogado 0985 632 101
- Sebastian Lobos 0984 540 465
- Ivo Baez 0983 766 895 - Filial Misiones.

POLÍTICA ESPACIAL DEL PARAGUAY

INSTITUTO UNIVERSITARIO DE CIENCIAS
Y TECNOLOGÍAS AERONÁUTICAS
Y ESPACIALES

1889

LIVE

GUARANISAT-1
BIRDS-4
2020

**PROYECTO
PARAGUAY AL ESPACIO**
Y LA IMPORTANCIA DEL DERECHO Y LA POLÍTICA ESPACIAL

Prof. Dra. Inés Martínez Valiotti
PROFESORA TITULAR
DERECHO AERONÁUTICO Y ESPACIAL
SEGUNDA CÁTEDRA T.N.

Cnel Liduvino Vilman Diaz
MINISTRO
PRESIDENTE AEP

Ing. Jorge Kurita
DGP&A AEP

Prof. Mg. Alejandro Román
DGEDA AEP
Coordinator General del Proyecto

Ing. Adolfo Jara
ENCARGADO SEGMENTO
ESPACIAL AEP

Ing. Aníbal Mendoza
ENCARGADO SEGMENTO
ESPACIAL AEP

Ing. Eladio Javier Ferrer
Encargado Segmento Terrestre
AEP

VIERNES 7 DE AGOSTO -18:00 Hs.

LIVE AGENCIA ESPACIAL DEL PARAGUAY - AEP.

ACTIVIDAD DE EXTENSIÓN UNIVERSITARIA
DE LA CÁTEDRA DERECHO AERONÁUTICO Y ESPACIAL
SEDE CENTRAL Y SAN JUAN BAUTISTA MISIONES

RESPONSABLES:

- Prof. Abg. Hebe Romero
- Prof. Abg. Janice Goldenberg
- Raquel Bogado 0985 632 101
- Sebastian Lobos 0984 540 465
- Ivo Baez 0983 766 895 - Filial Misiones.

Universidad Metropolitana de Asunción
Centro de Investigación,
Análisis y Estrategia (CIAE)
Escuela de Postgrado

**CICLO DE CONFERENCIAS VIRTUALES EDUCATIVAS EN MATERIA DE
SEGURIDAD Y DEFENSA MULTIDIMENSIONAL EN EL CONTEXTO
DEL COVID-19**

**TEMA: Agencia Espacial del Paraguay; Cómo las
Ciencias y Tecnologías Espaciales pueden ayudar
en la Epidemiología.**

Jueves 23 julio • 16:00 hs.

EXPOSITORES

Coronel DEM (R) Liduvino Vilman Diaz
Presidente de la Agencia Espacial del Paraguay

Prof. Mg. Alejandro Román Molinas
Director de Desarrollo Aeroespacial de la AEP.
Docente Universitario

COORDINACIÓN

Dra. Abg. Nair Cardozo UMA
Egresada del Centro de Estudios Hemisférico de Defensa William J. Perry (Washington - USA)

<https://us02web.zoom.us/j/87042235917>

AGENCIA ESPACIAL DEL PARAGUAY
"UNA HERRAMIENTA MÁS PARA EL DESARROLLO Y DEFENSA NACIONAL"

**"SABER MÁS SOBRE EL ESPACIO
Y TU AGENCIA ESPACIAL"**

CHARLAS PROGRAMADAS

**BENEFICIOS DEL ESPACIO
NEW SPACE Y PARAGUAY**

PH.D. JORGE KURITA
DIRECTOR GENERAL
DE PLANIFICACIÓN Y GESTIÓN
AEP

PROF. MG. ALEJANDRO
ROMÁN
DIRECTOR DE EJECUCIÓN
Y DESARROLLO AEROSPACE
AEP

SÁBADO 4 DE JULIO | 14:00 HS.

LIVE AGENCIA ESPACIAL
DEL PARAGUAY - AEP

GOBIERNO NACIONAL

Paraguay de la gente

PARAGUAY TV

canal 15.1 | canal 14 | canal 3 | canal 18 ClaroTV | canal 43 PioneroTV | canal 3 y 603HD STAR | f LIVE

AGENCIA ESPACIAL DEL PARAGUAY
"UNA HERRAMIENTA MÁS PARA EL DESARROLLO Y DEFENSA NACIONAL"

**"SABER MÁS SOBRE EL ESPACIO
Y TU AGENCIA ESPACIAL"**

CHARLAS PROGRAMADAS

**"PARAGUAY AL ESPACIO"
PRIMERA MISIÓN
ESPACIAL PARAGUAYA**
GUARANISAT-1. SEGMENTO ESPACIAL

ING. MSC. ADOLFO JARA
AEP - PARAGUAY

**"PARAGUAY AL ESPACIO"
PRIMERA MISIÓN
ESPACIAL PARAGUAYA**
GUARANISAT-1. SEGMENTO TERRESTRE

ING. ANÍBAL MENDOZA
AEP - PARAGUAY

ING. ELADIO FERRER
AEP - PARAGUAY

JUEVES 04 DE JUNIO | 14:00 HS. **LIVE** AGENCIA ESPACIAL DEL PARAGUAY - AEP

GOBIERNO NACIONAL

Paraguay de la gente

PARAGUAY

Recording Usted está viendo la pantalla de Alejandro Román Ver opciones

Desde el Centro de Operaciones, Monitoreo y Control de la AEP

LIVE Sábado 30 de Mayo 2020 14:30 Hrs.

Liduvino Vielman
MINISTRO PRESIDENTE

Alejandro J. Román
DG EJEC. Y DESARROLLO AEROESPACIAL

Hebe Romero
DG JURIDICA Y DE AS. INTERNAC.

Con la participación especial de expertos internacionales del ámbito espacial.

Hernando Gaitan
NASA ESTADOS UNIDOS

Luis Diego Monge
IRAZU COSTA RICA

Victoria Valdavia
ANEPE CHILE

Jesús Martínez Frías
REDESPE ESPAÑA

Retransmisión del Lanzamiento de Crew Dragon Demo-2

Alejandro Román

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ACTIVITIES 2022

- ❖ NATIONAL EMERGENCY SECRETARY
- ❖ INFONA
- ❖ MADES
- ❖ WWF
- ❖ NATIONAL UNIVERSITY OF ASUNCION
- ❖ UNIVERSITY OF THE PACIFIC
- ❖ IPTA
- ❖ SENEPA
- ❖ PETROPAR
- ❖ UNDP
- ❖ CEDIC
- ❖ SCIENTIFIC SOCIETY OF PARAGUAY
- ❖ OTHER
- ❖ OTHER HEALTH AREAS
- ❖ AGRICULTURE
- ❖ CAPACITY BUILDING
- ❖ EARTH OBSERVATION LABORATORY
- ❖ OPERATION GUARANISAT-1
- ❖ EARTH STATIONS OPERATIONS
- ❖ TERRITORIAL PLANNING
- ❖ NEW ALLIANCES
- ❖ NEW CHALLENGES
- ❖ NEW PROJECTS...

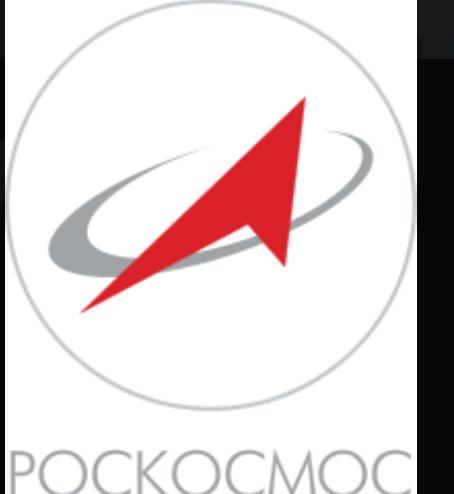
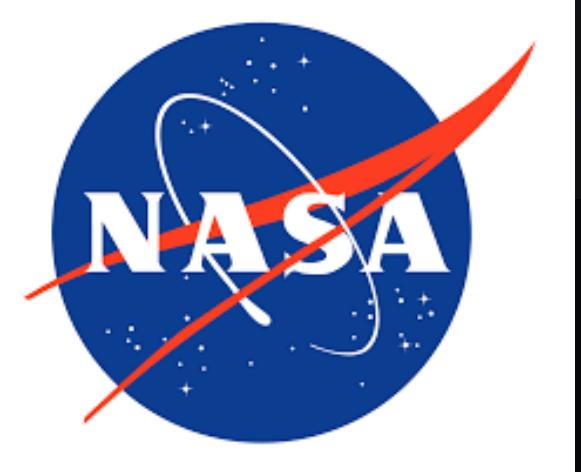
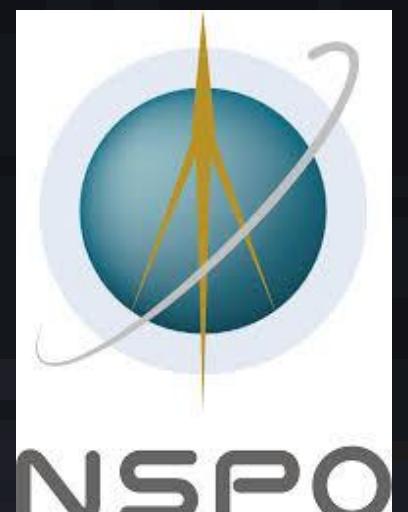
KEY POINTS OF INTEREST



- ❖ Continue with Basic Space Engineering Projects (next mission),
- ❖ Participating in joint missions (Kyutech's Kitsune, others).
- ❖ Participating in International Challenges and Competition in STEM/STEAM
- ❖ Strengthen the Capacity Building (Training, Experts, Technical Visits),
- ❖ Earth Observation Applications for our GEOLab (Satellite Data, Images, Models, Tools,
- ❖ Scientific, education and outreach events (march 1ST Year GuaraniSat-1, October VI Paraguay Space Conference & AmeriGEO Week)
- ❖ Others



Conclusions



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TEAMWORK



**The exploration and use of
outer space shall be
carried out for the benefit,
and in the interests **of all
countries** and shall be the
province of all mankind...**

The Outer Space Treaty 1967





**SPACE IS
FOR
EVERYONE**





IS
IMPERATIVE
TO LEAVE NO
ONE BEHIND



THANK YOU

- ❖ Prof. Mg. Alejandro ROMAN
- ❖ General Manager of Aerospace Execution and Development
- ❖ PARAGUAYAN SPACE AGENCY
- ❖ aroman@aep.gov.py

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AGENCIA ESPACIAL DEL PARAGUAY