

# SPACE ACTIVITIES IN VENEZUELA

Capacity Building and Knowledge Distribution

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# AGENDA

- **INTRODUCTION**
- **VENEZUELAN SPACE PROGRAM OVERVIEW**
- **VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS**
- **FUTURE COOPERATION AND PARTNERSHIP**



# INTRODUCTION

- **The Venezuelan National Space Agency was founded in 2007**
- **In charge of designing the national space policy and overview the implementation of the National Space Program**
- **Promoting the international cooperation and standardization**

Science,  
Education and  
Development

Research and  
Innovation

Quality,  
Standardization  
and Regulation

Space Systems

Space  
Applications



# INTRODUCTION

**ETCS BAEMARI**



**ETCS LUEPA**



**CIDE**



**SEDE CENTRAL**



**ABAE-SAT**



- a** CIDE: Space Research and Development Center
- b** SEDE-ABAE: Headquarters
- b** SAT: Ground Application System
- c** ETCS BAEMARI: Ground Control System Station
- d** ETCS LUEPA: Backup Ground Control System Station



# VENEZUELAN SPACE PROGRAM



**VENESAT-1 (2008)**



**VENESAT-2 (2022)**



**VRSS-1 (2012)**



**VRSS-2 (2017)**



**CIDE (2008)**



**Space Capacity Building  
(2019...)**

**Telecommunications**

**Remote Sensing**

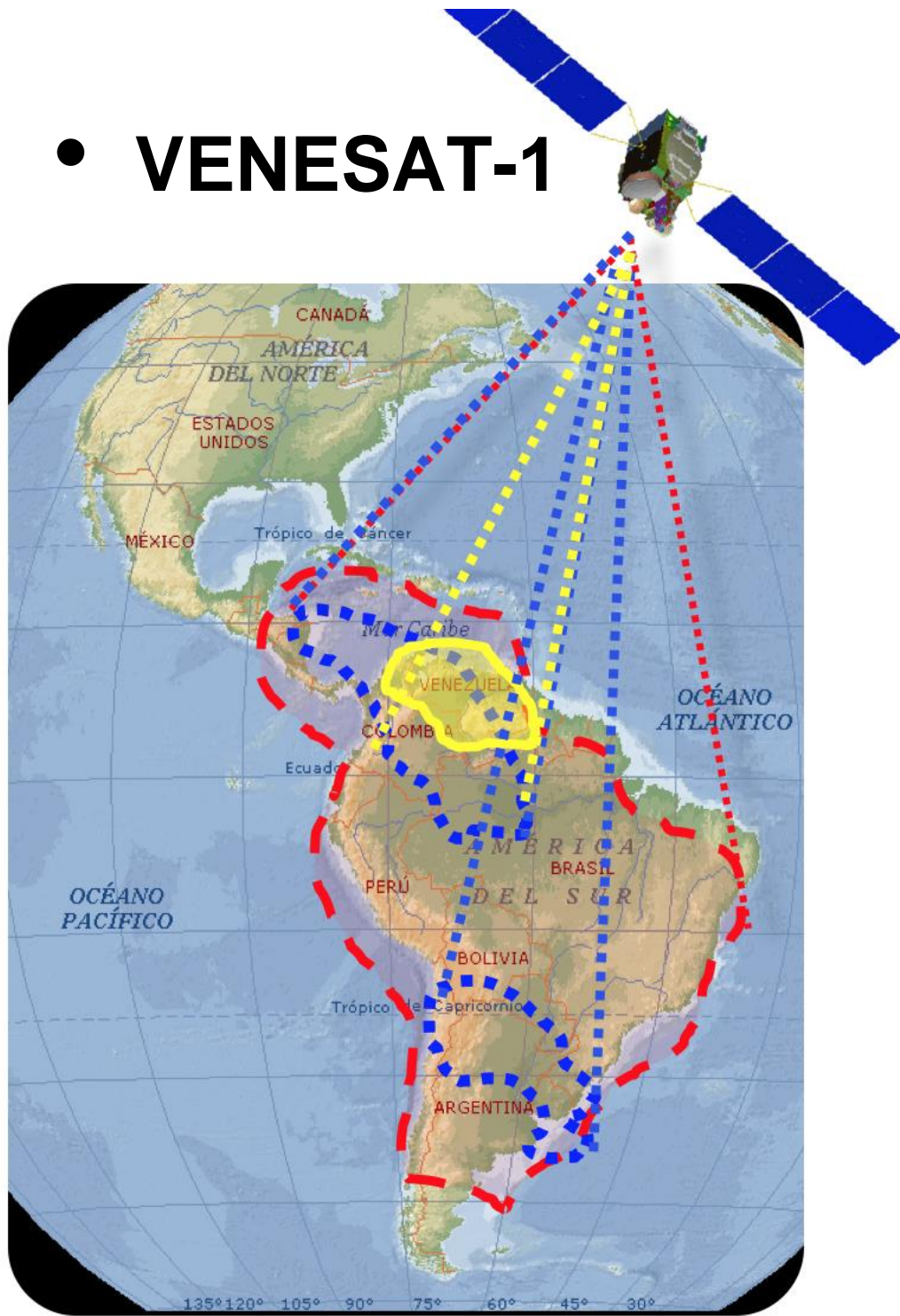
**Space Infrastructure  
and Architecture**



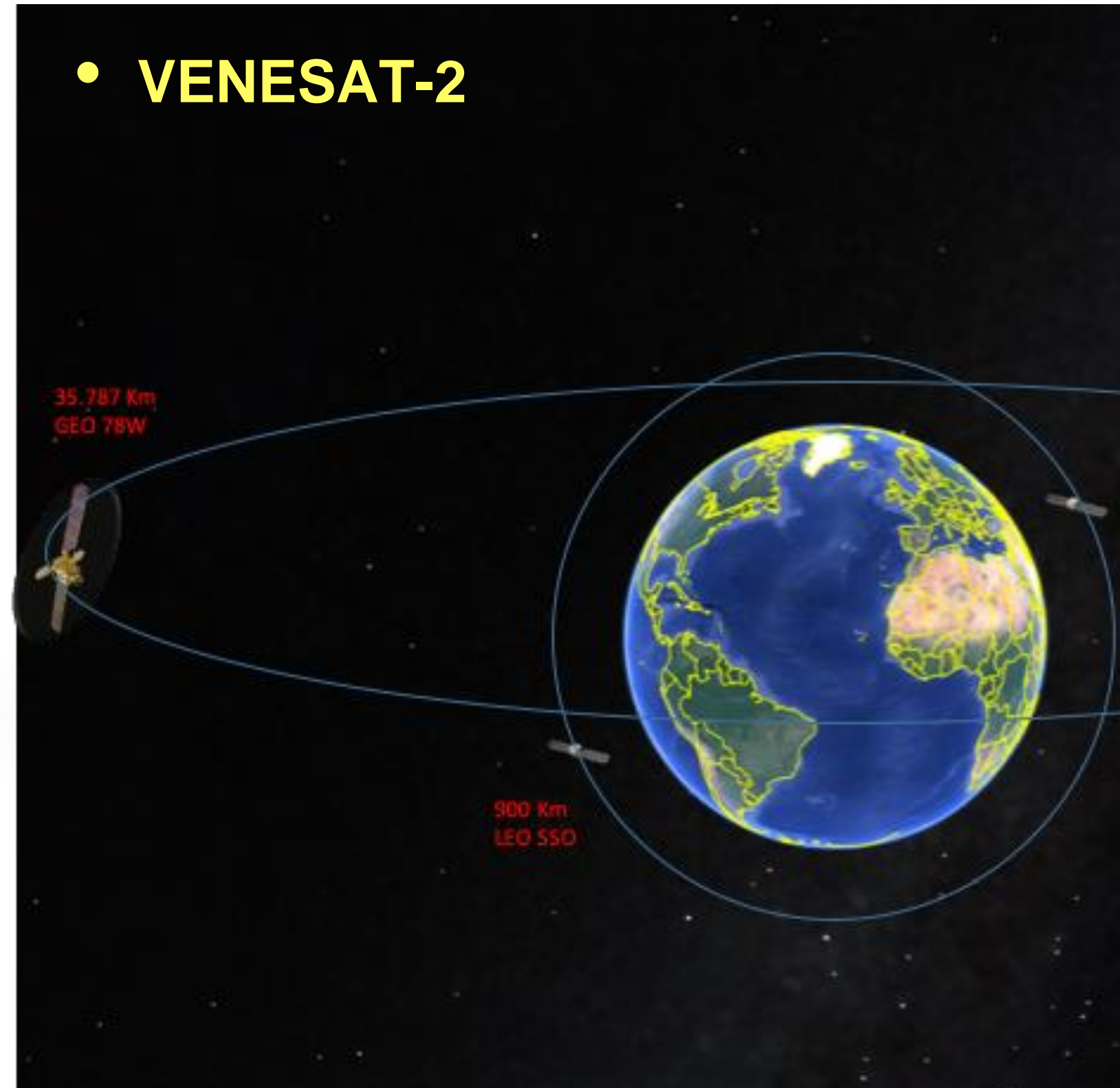


# VENEZUELAN SPACE PROGRAM

- **VENESAT-1**



- **VENESAT-2**



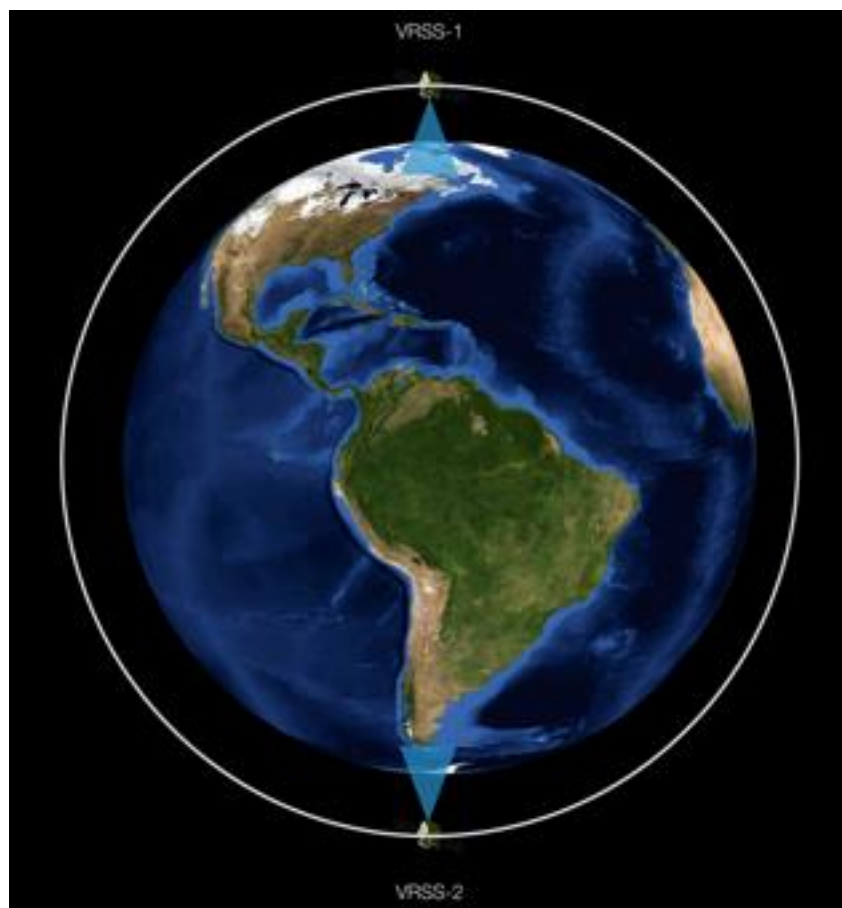
# REMOTE SENSING PROGRAM

## VRSS

- **VRSS (VENEZUELAN REMOTE SENSING SATELLITES)**

- Miranda Satellite (VRSS-1)
- Sucre Satellite (VRSS-2)

Satellite	Payload	Specification
<b>VRSS-1</b>	HRC WMC	PAN 2.5 m, MS 10 m. Swath (57x57) Km WMC MS 16 m. Swath (369X369) Km
<b>VRSS-2</b>	HRC IRC	PAN 1 m, MS 3 m. Swath (30x30) Km IRC SWIR 30 m, LWIR 60 m. Swath (30x30) Km





# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS





# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS

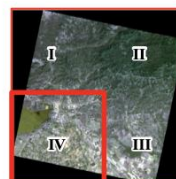
Intelligent Crop Monitoring  
and Management



Fuente: ABAE. Satélite Sucre,  
Imagen Multiespectral  
Combinación 321 - Color Verdadero  
Resolución Espacial: 3 m.  
Fecha de Adquisición: 05/01/2018  
Fecha de Elaboración: 06/01/2018.

**QUEBRADA HONDA,  
MUNICIPIOS AGUA BLANCA Y  
SAN RAFAEL  
DE ONOTO  
ESTADO PORTUGUESA**

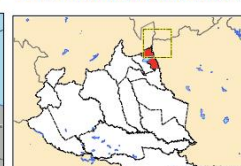
ESCALA 1:15,000  
PROYECCIÓN UNIVERSAL TRANSVERSAL DE MERCATOR  
LAS LÍNEAS NUMERADAS INDICAN LA CUADRÍCULA  
UNIVERSAL TRANSVERSAL DE MERCATOR  
CON ESPACIAMIENTO DE 3000 METROS.  
HUSO 19 ESFEROIDE WGS84.



SITUACIÓN RELATIVA NACIONAL



SITUACIÓN RELATIVA REGIONAL





# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS



## HEALTH AND EDUCATION WITHIN ALL REACH



### TELEEDUCATION:

Establishment of audio and video connection in info-centers and educational centers with remote participation of teachers and facilitators.

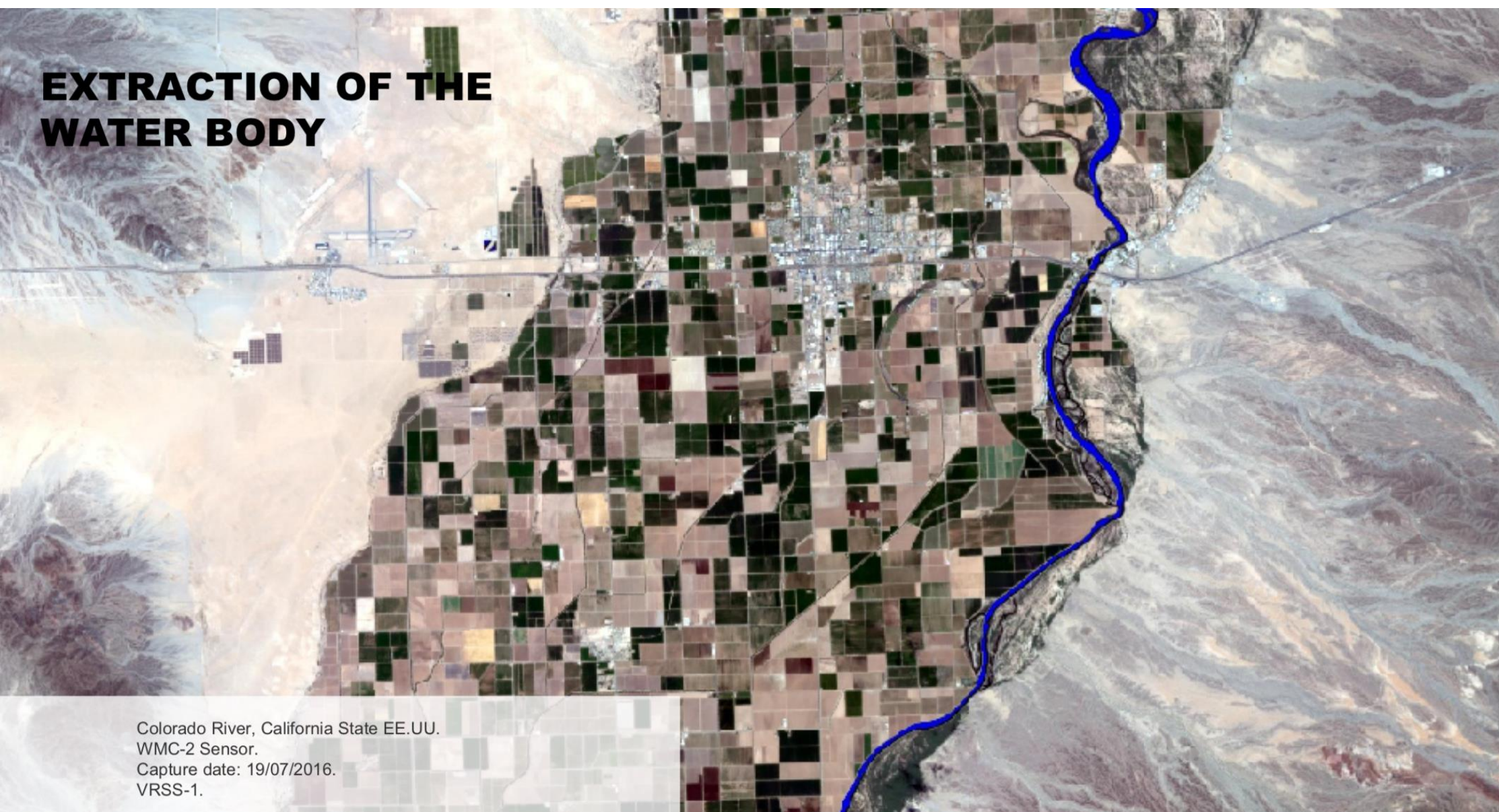
**TELEMEDICINE:** Implementation of medical services in the modality of telemedicine to facilitate discussion and diagnosis of special cases through the establishment of audio and video connections.





# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS

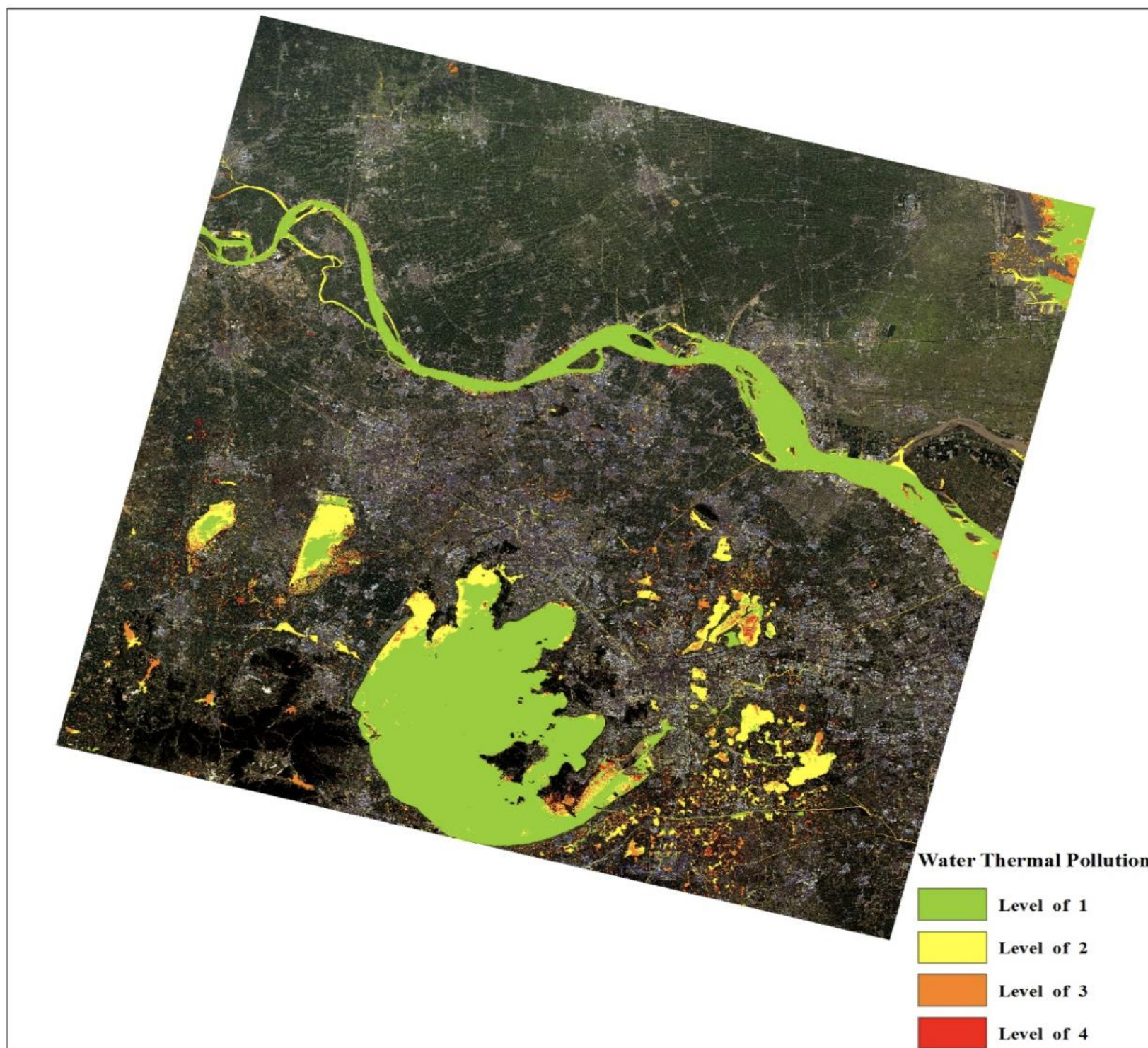
## EXTRACTION OF THE WATER BODY





# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS

## Water Thermal Pollution of Industrial Product





# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS

## SECURE AND RELIABLE COMMUNICATION

Audio, video and data communication between strategic centers for the control and monitoring of operation status, failure control and contingency management with transmission safety.

Establishment of satellite links that interconnect the LAN networks of offices and institutes located in different regions.



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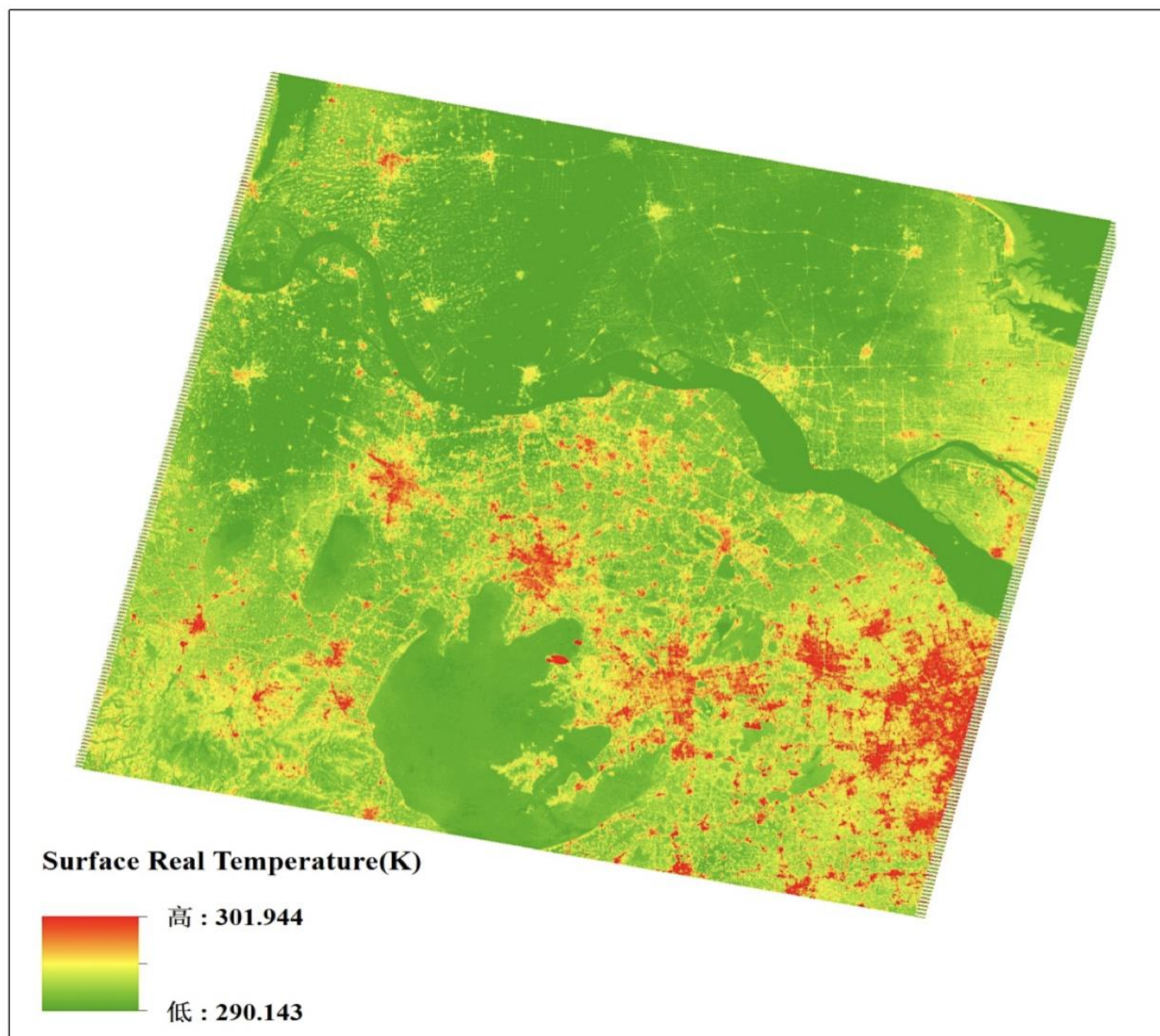
## RADIO AND TV

Among the services we offer, we have the satellite transport of national analog and digital state radio and TV signals.



# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS

## Surface Real Temperature Monitoring Product



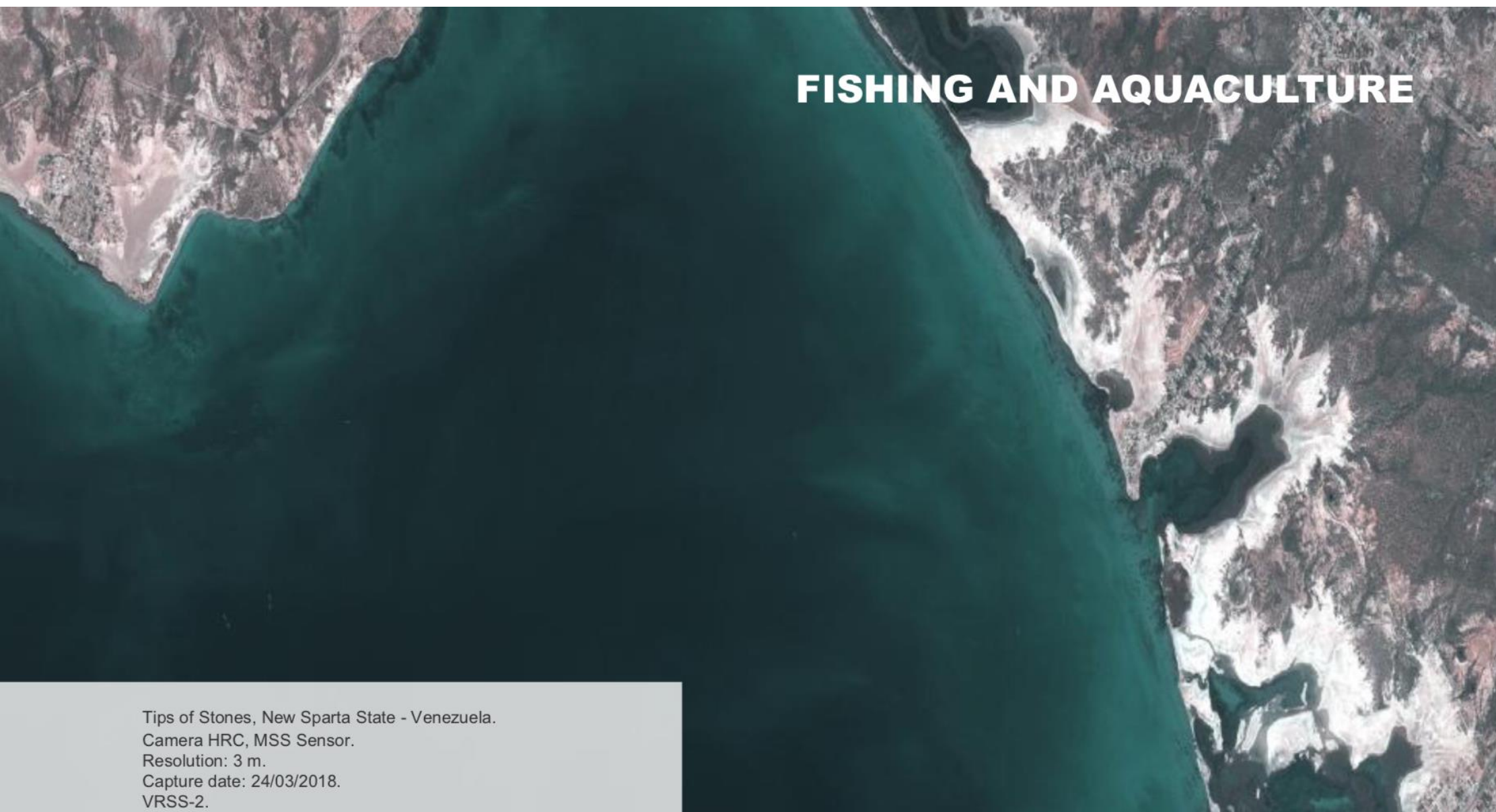


# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS





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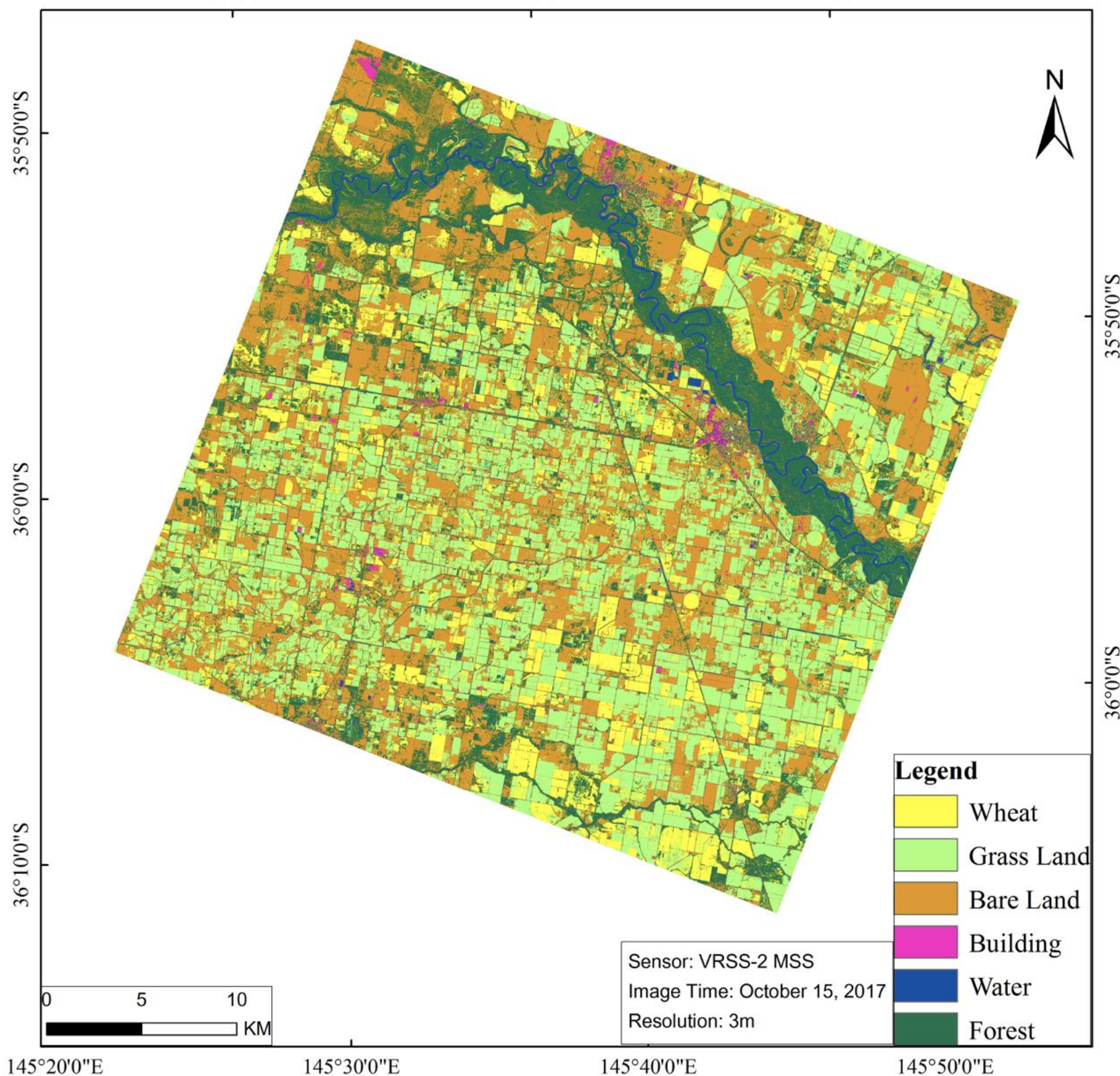
# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS

## Land Use Classification of Victoria, Australia

145°20'0"E

145°30'0"E

145°40'0"E





# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS



## TRANSPORT

### 100% CONECTADOS:

Usuarios de transportes marítimos, aéreos y fluviales, podrán acceder a gran cantidad de contenido multimedia bajo demanda, además de contar con la posibilidad de subir, descargar y compartir archivos al instante, gracias a la tecnología de reuso de la frecuencia, que permite el acceso en movimiento a Internet banda ancha y ultra banda ancha.

### INSTANT PAYMENT:

Travelers will be able to acquire goods and services provided during the tour with payment processing in real time through satellite (POS) points of sale.

### SATELLITE RADIO:

Geographic coverage significantly wider than those achieved by conventional radio stations with more content and options for the user in motion.



## OIL INDUSTRY

### COMMUNICATION:

Greater bandwidth that allows the high speed communication of audio, video and data between fuel supply centers for the control and monitoring of supply status, failure control and contingency management.

### PAYMENT:

Satellite points of sale with payment processing in real time may be installed in service stations.



# VENEZUELAN SPACE PROGRAM ON SUSTAINABLE DEVELOPMENT GOALS

- **We are working with different companies and institutes nation-wide and abroad in order to develop the different **SDGs**** (for example, the Venezuelan Agriculture Ministry, Civil Protection Agency, Oil Industry and others)





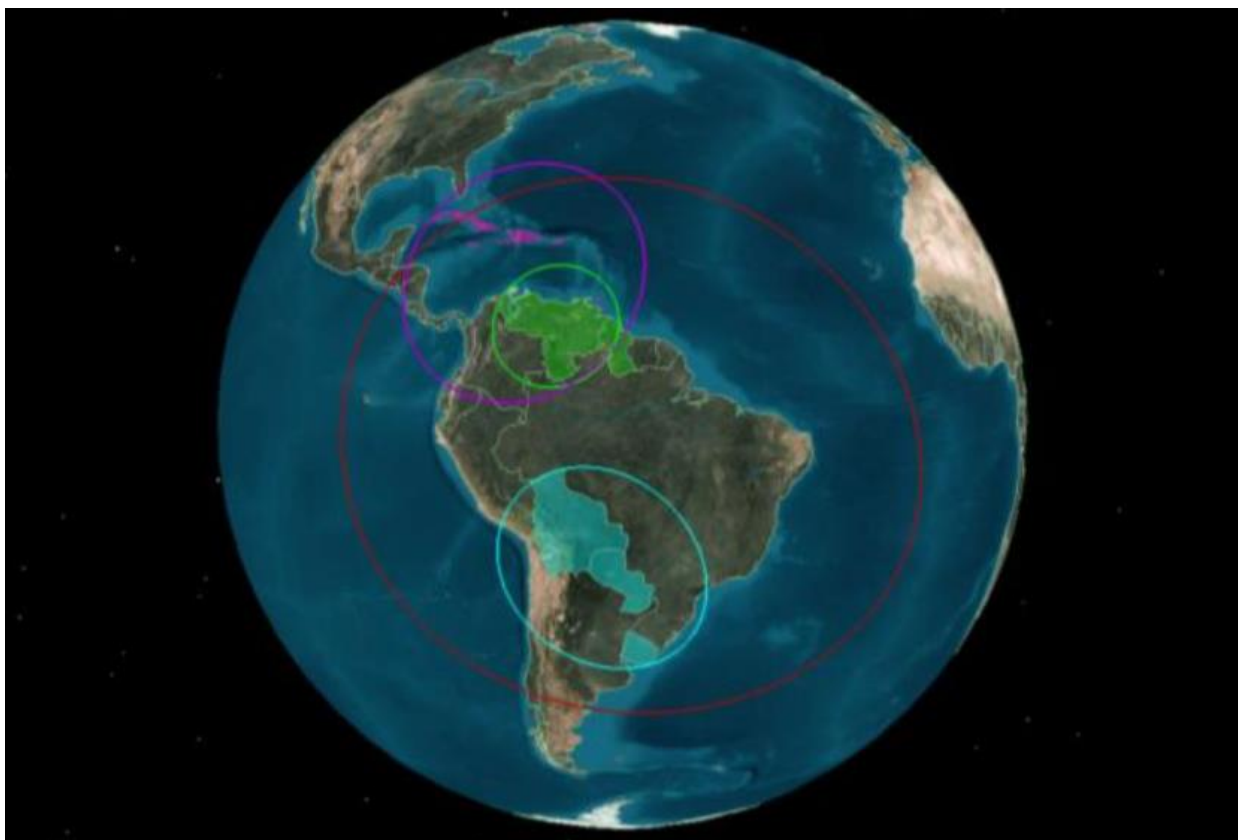
# FUTURE COOPERATION AND PARTNERSHIP

- We are open to work together with any country and company who can benefit from a win-win cooperation with ABAE for the development of space technology and applications, and helping improve our response to the SDGs in Venezuela and the World.



# FUTURE COOPERATION AND PARTNERSHIP

- Small Satellite and Ground Equipment Development
- Remote Sensing Applications Development
- Telecommunications Applications Development
- Distribution of data worldwide
- Telecommunications link in LAC Region
- Education and Training





Thank you and let's work together!

