



# National Commission of Space Activities - CONAE -

## SAOCOM

### An Argentinean Mission



**COPUOS  
2019**

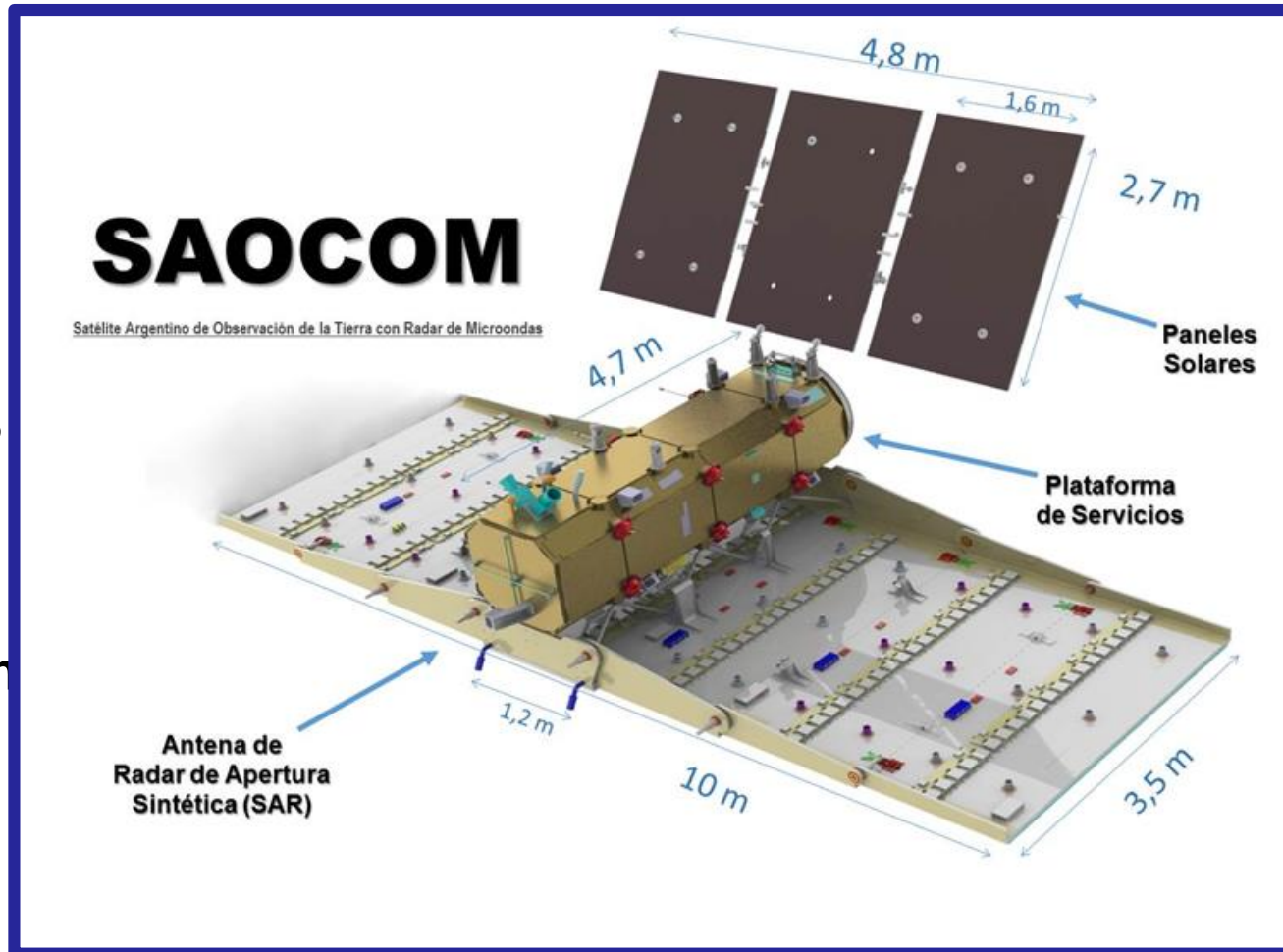
**Vienna  
June 21<sup>st</sup>, 2019**

## CONFIGURATION:

- Two Satellites with an L-Band SAR Instrument (polarimetric)
- Orbit : 619.6 km
- Repetition Cycle: 16 days
- Near Polar Sun-synchronous frozen orbit, 06:00 am ascending node

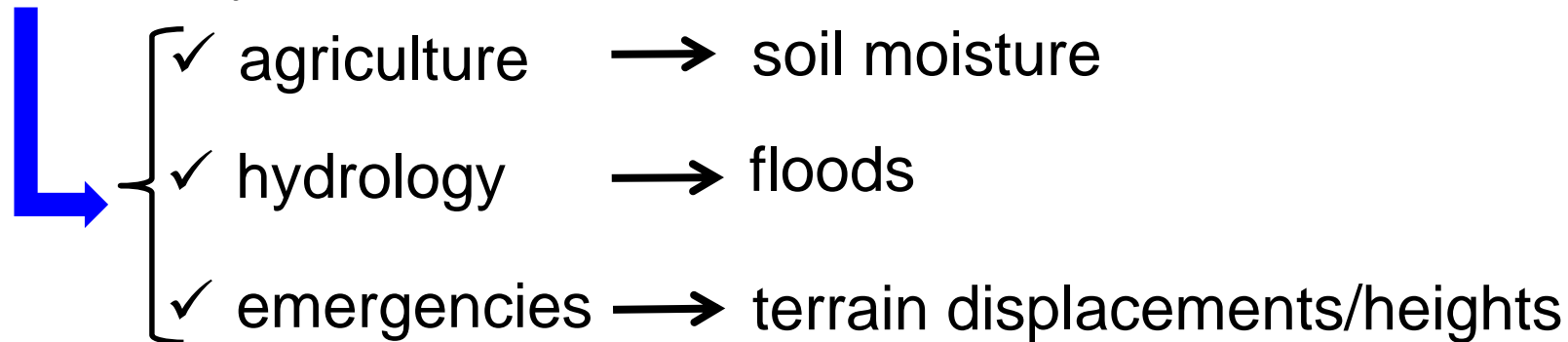
## MASS:

- 3100 kg

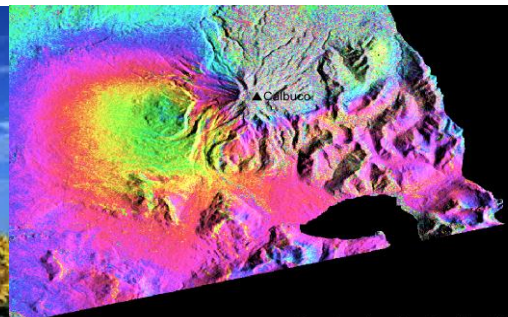
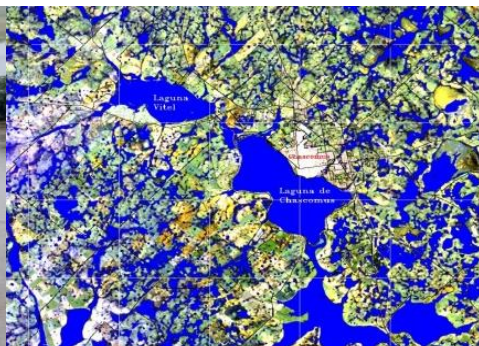




➤ To satisfy **user needs**



➤ To operationally integrate **SIASGE** composed by the **SAOCOM Constellation (2)** and the **COSMO-SkyMed Constellation (4)**





**Constellation:** 6 satellites with SAR instruments  
4 italian in X band (**COSMO-SkyMed**) and 2  
argentinean in L band (**SAOCOM**):

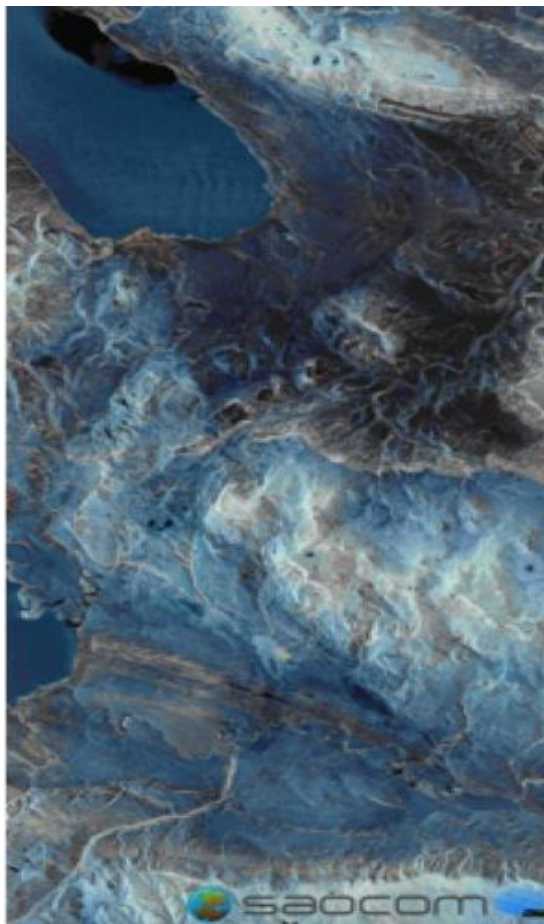
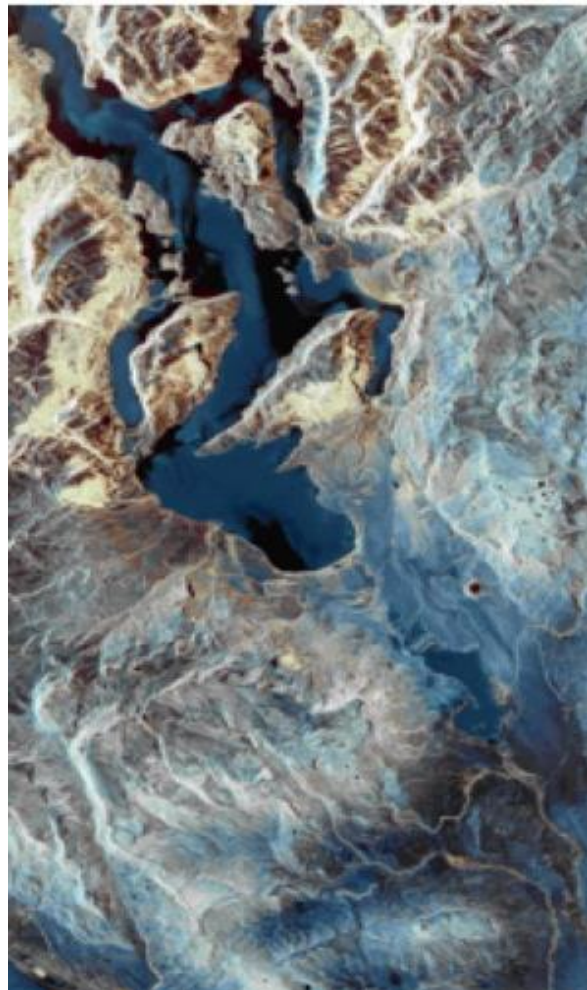
- Multiband **Sinergy** (X & L)
- High **revisit** (12 hs)

- More **discrimination** among the different surface components
- Significant improvement in the **geophysical parameters quantitative knowledge**
- **Very high revisit** for monitoring events of fast evolution & emergencies
- Improvement in **cartographic** and **change detection** studies





# First Images SAOCOM 1A





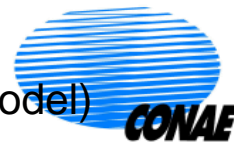
| Acquisition modes | Polarization modes            | Swath width | Spatial resolution | Incidence angle range |
|-------------------|-------------------------------|-------------|--------------------|-----------------------|
| StripMap          | SP: HH or HV or VH or VV      | > 40 km     | < 10 m             | 21° - 50°             |
|                   | DP: HH/HV or VV/VH            | > 40 km     | < 10 m             | 21° - 50°             |
|                   | QP: HH/HV/VH/VV               | > 20 km     | < 10 m             | 18° - 36°             |
| TOPSAR Narrow     | SP: HH or HV or VH or VV      | > 150 km    | < 30 m             | 25° - 47°             |
|                   | DP: HH/HV or VV/VH            | > 150 km    | < 30 m             | 25° - 47°             |
|                   | QP: HH/HV/VH/VV               | > 100 km    | < 50 m             | 18° - 36°             |
| TOPSAR Wide       | SP: HH or HV or VH or VV      | > 350 km    | < 50 m             | 25° - 49°             |
|                   | DP: HH/HV or VV/VH            | > 350 km    | < 50 m             | 25° - 49°             |
|                   | QP: HH/HV/VH/VV               | > 220 km    | < 100 m            | 18° - 36°             |
|                   | <b>CL-POL: RH/RV or LH/LV</b> | > 350 km    | < 50 m             | 25° - 45°             |



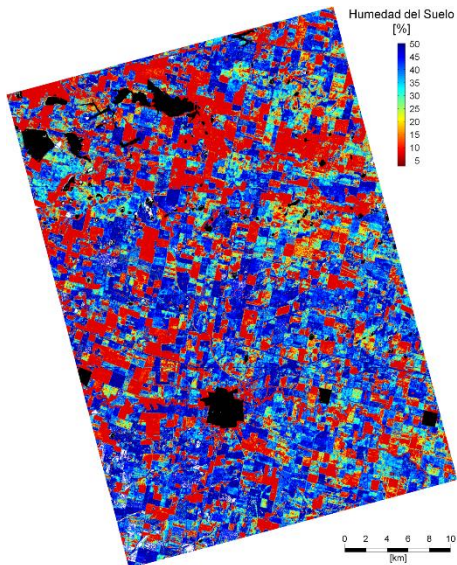


# Some Applications!

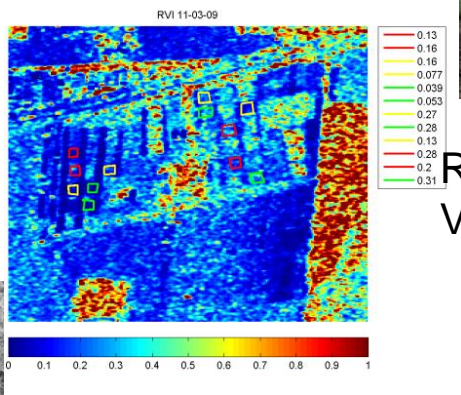
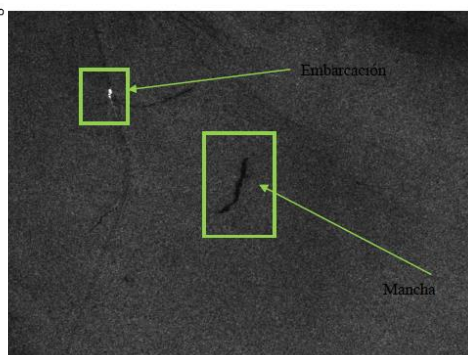
## Processors: Ready! (SM, Ocean, Agro, Hydrological model)



### Oil Spill & Ship Detection



Soil Moisture Maps



Radar  
Veg. Index



Sunflower



Soybean



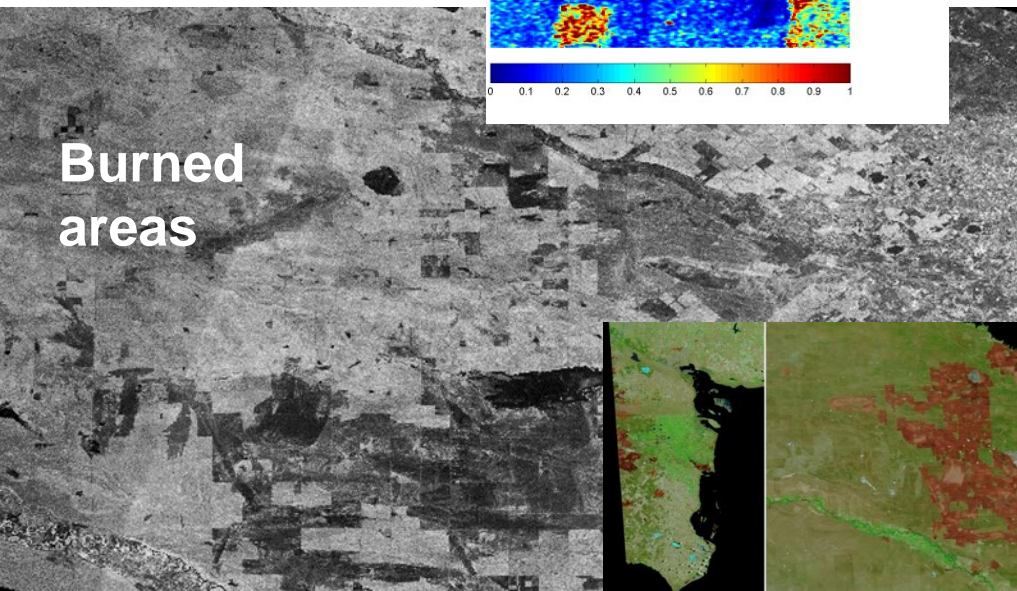
Soybean

Maize

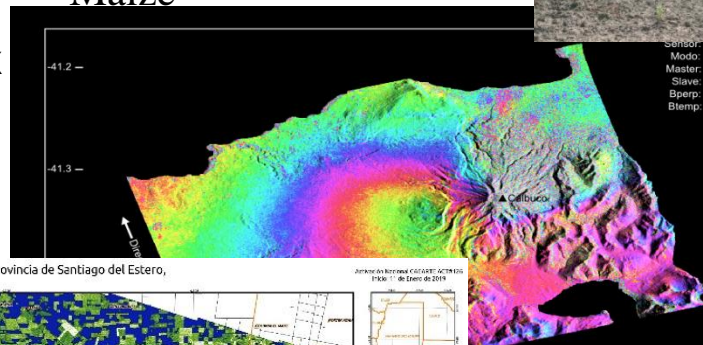
Sunflower

Bare Soil

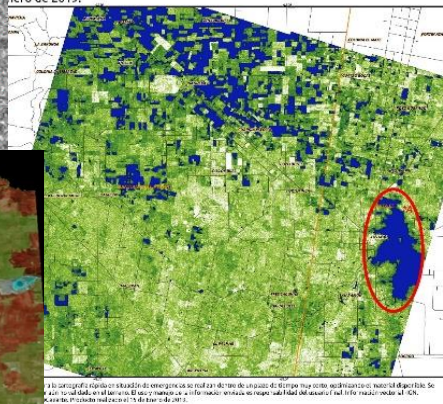
Maize



Burned  
areas



Cambios en la provincia de Santiago del Estero,  
enero de 2019.



22 de Abril 2015  
SAR con imágenes PALSAR-2

Floods







# Some Pictures during the construction







# Some Pictures before and during the launch in October 7th 2018

