EO services contributing to SDGs

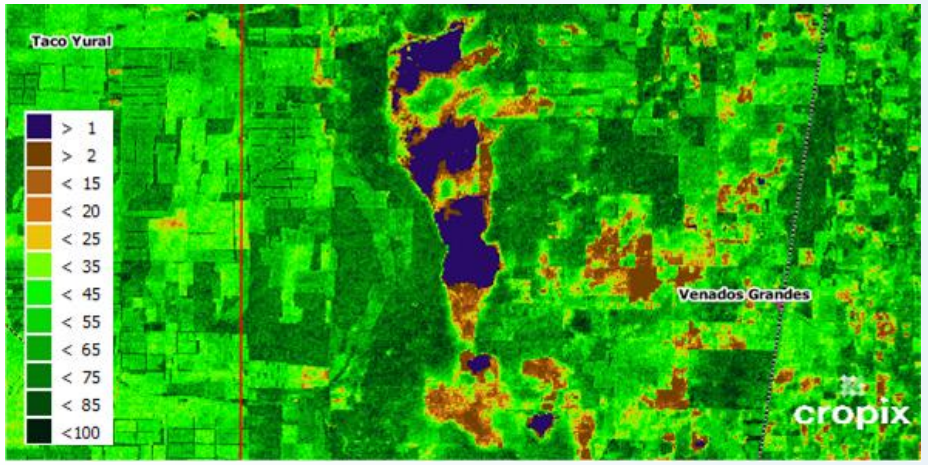
Inundation monitoring

Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.
Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

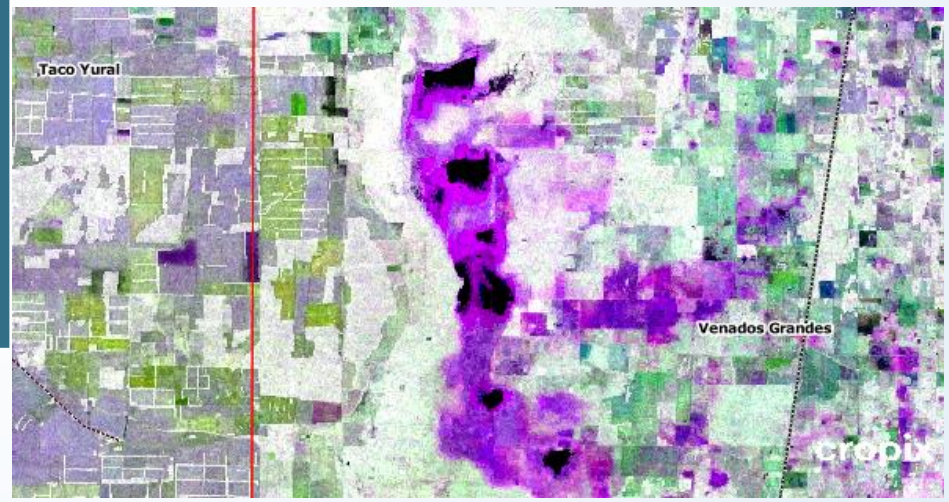
- User: Governmental institutions or crop Insurance
- Challenge/Needs: Detect an inundation event and monitor it over time.
- Initiative: Show the flooded area for mitigation and compensation.
- Results: Clear images on regular basis, while heavy rains occur.
- Service Provider: cropix based on Sentinel-1 SAR data.

Enhanced SAR Water Index (ESVI) derived from Sentinel-1 SAR data

- Sentinel-1 acquires data on regular basis with a repetition of 12 days (20x20 m).
- Independent from atmospheric disturbances and daylight.
- Constant observation angle, energy and geometry. Ideal for time-series monitoring.
- ESVI indicates fresh biomass but as well flooded areas.
- Due to regular data acquisition the development of the flooding can be observed.
- A repetition of 6 days is better for this application, but it can be possible to use data from ascending and descending node, if available.



ESVI shows beside the fresh biomass as well flooded areas



For an area in Santa Fe province in Argentina we made an observation of an inundation event in February 2020. The ESVI from 9. February shows the flooded area. The Color Composite shows the same area over a period of 24 days.

EARSC
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