

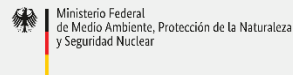
1st Weekly report of the 2019 fire season in the Selva Maya

March 28th, 2019

Developed by:



With the support of:



Scope

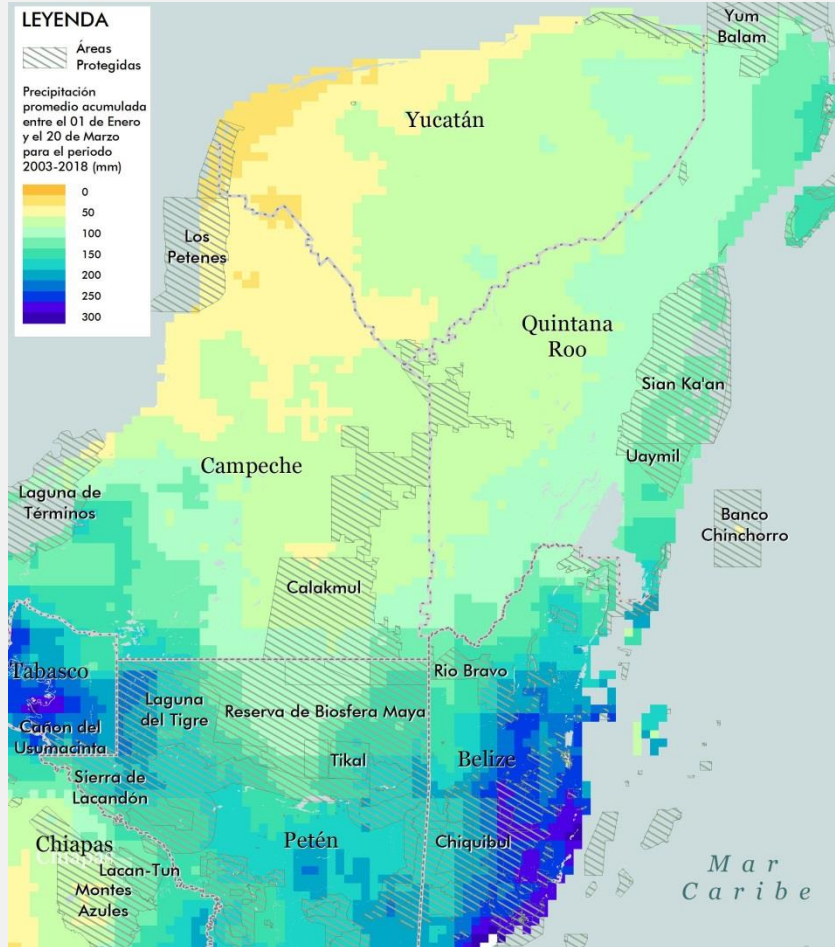
This report aims to support professionals in charge of prevention, mitigation and fighting of wildfires during the 2019 fire season in the Selva Maya.

Contents

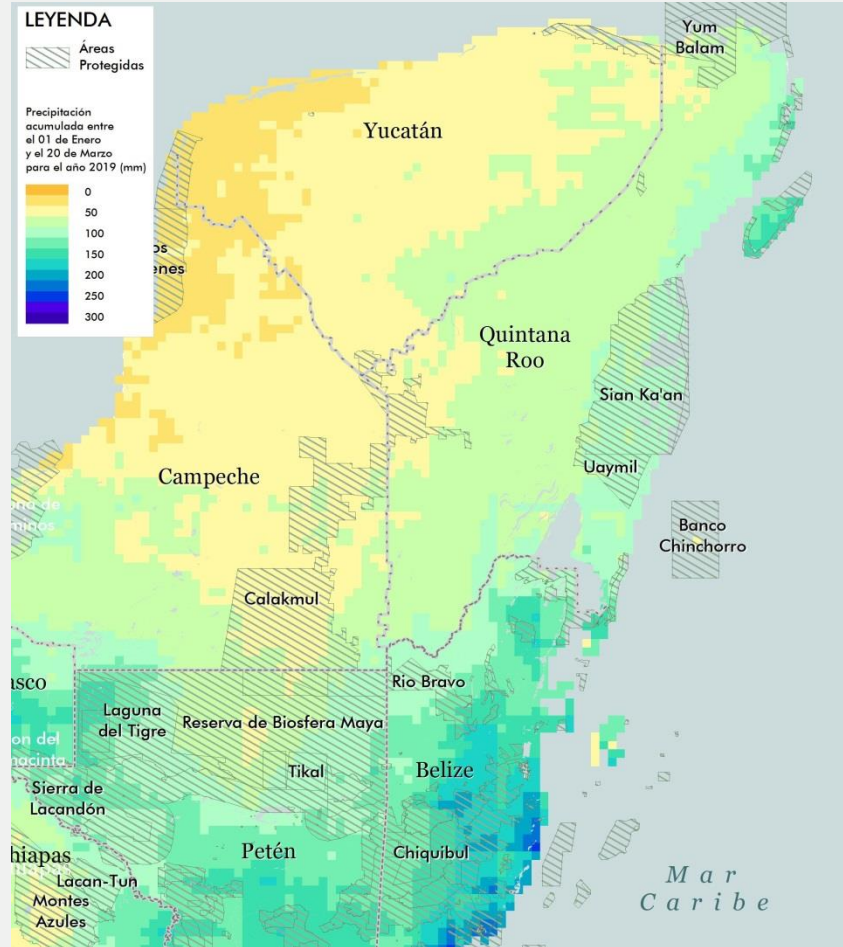
- Cumulative precipitation
- Precipitation forecast
- MODIS Hot Spots
- VIIRS Hot Spots
- Conclusions

Cumulative Precipitation: 2019 Values versus Historic Average

Average cumulative precipitation **2003-2018**
between January 1st and March 20th

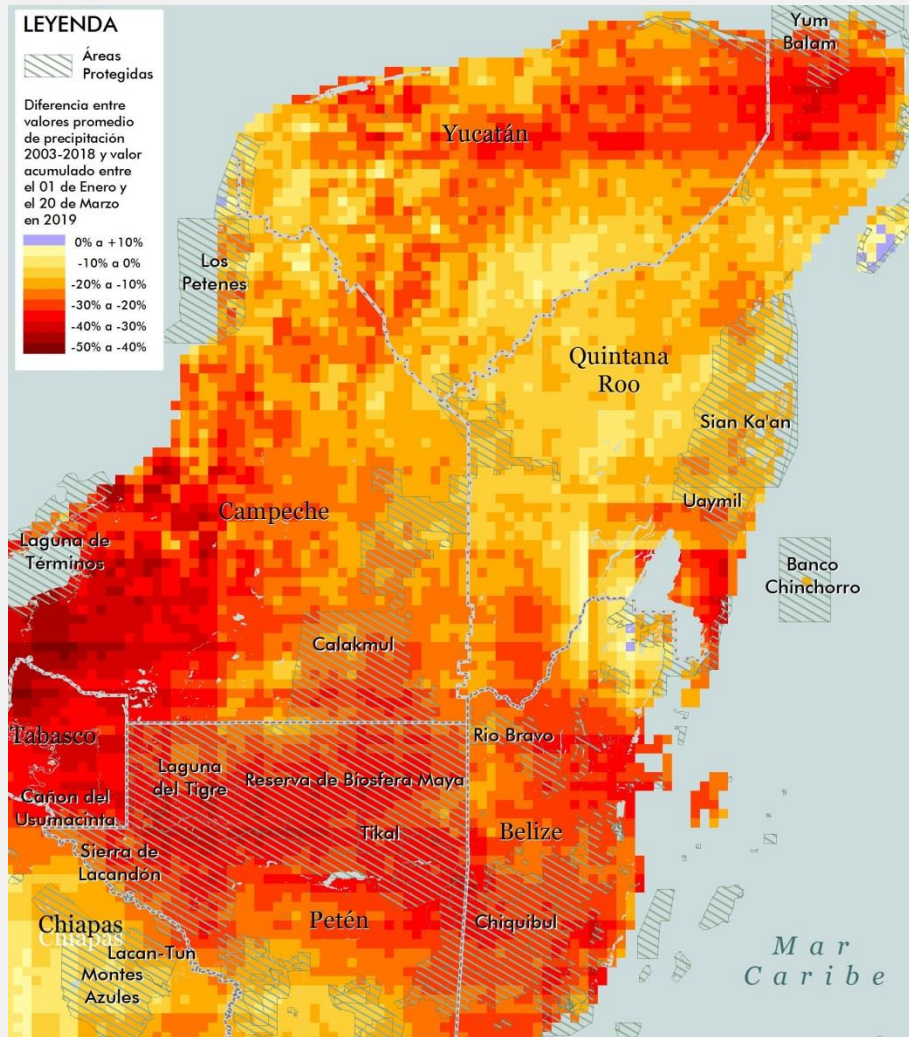


Cumulative precipitation between January 1st and March 20th, **2019**



The comparison between the average cumulative pre-dry season precipitation (Jan. 1st – Mar. 20th) of 2003 - 2018 and 2019 shows a general **reduction in the amount of precipitation throughout the Selva Maya.**

Cumulative Precipitation: 2019 Values versus Average Value

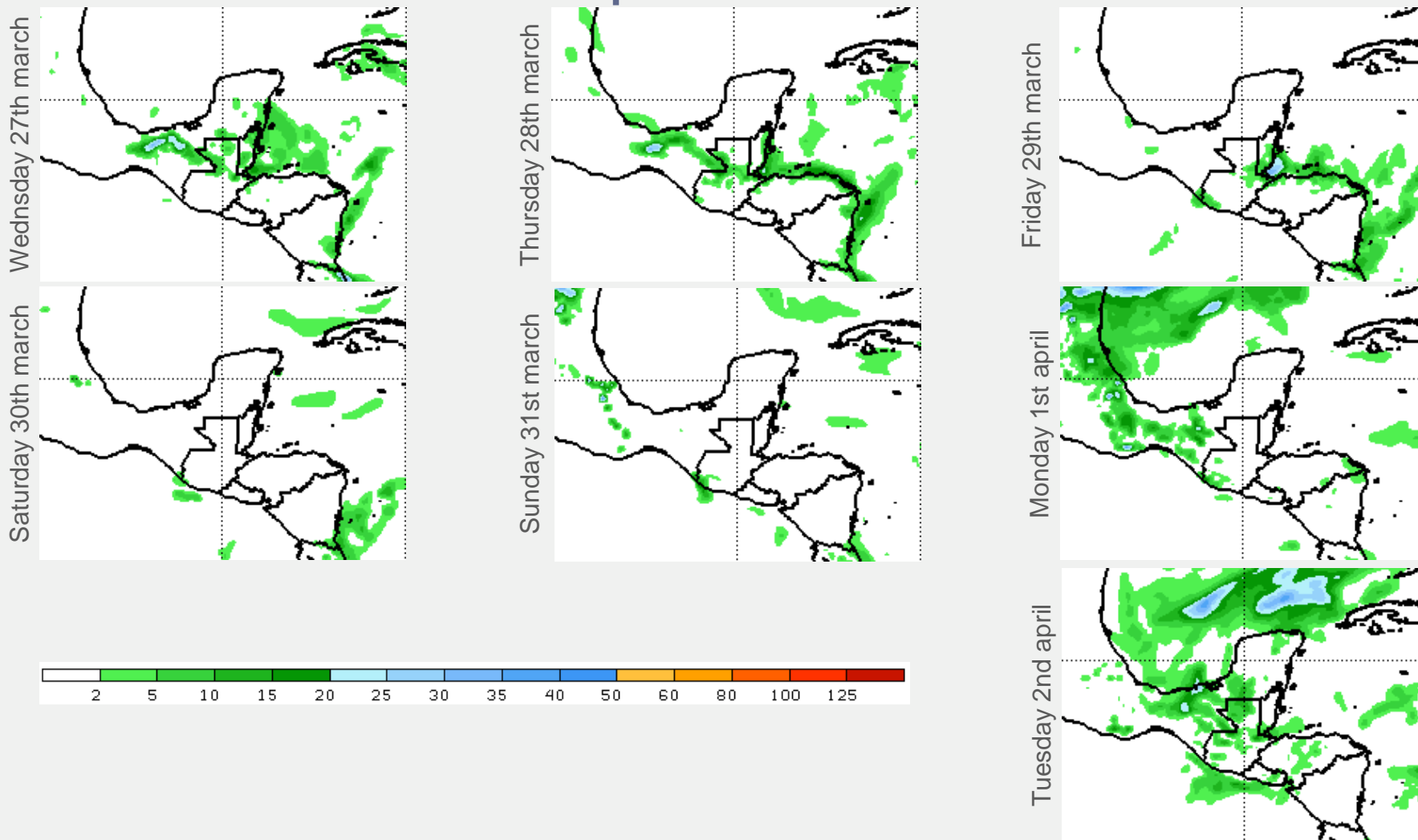


Accumulated rainfall between January 1st and March 20th, 2019

Campeche	-25%
Chiapas	-16%
Quintana Roo	-18%
Tabasco	-35%
Yucatán	-20%
Belize	-25%
Petén	-27%
Selva Maya	-23%

The difference between the cumulative precipitation in early 2019 (Jan. 1st - Mar. 20th) against the average from 2003 – 2018 is **negative throughout the Selva Maya**. The strongest deviations from average rainfalls are found in Tabasco (-35%) and Petén (-27%).

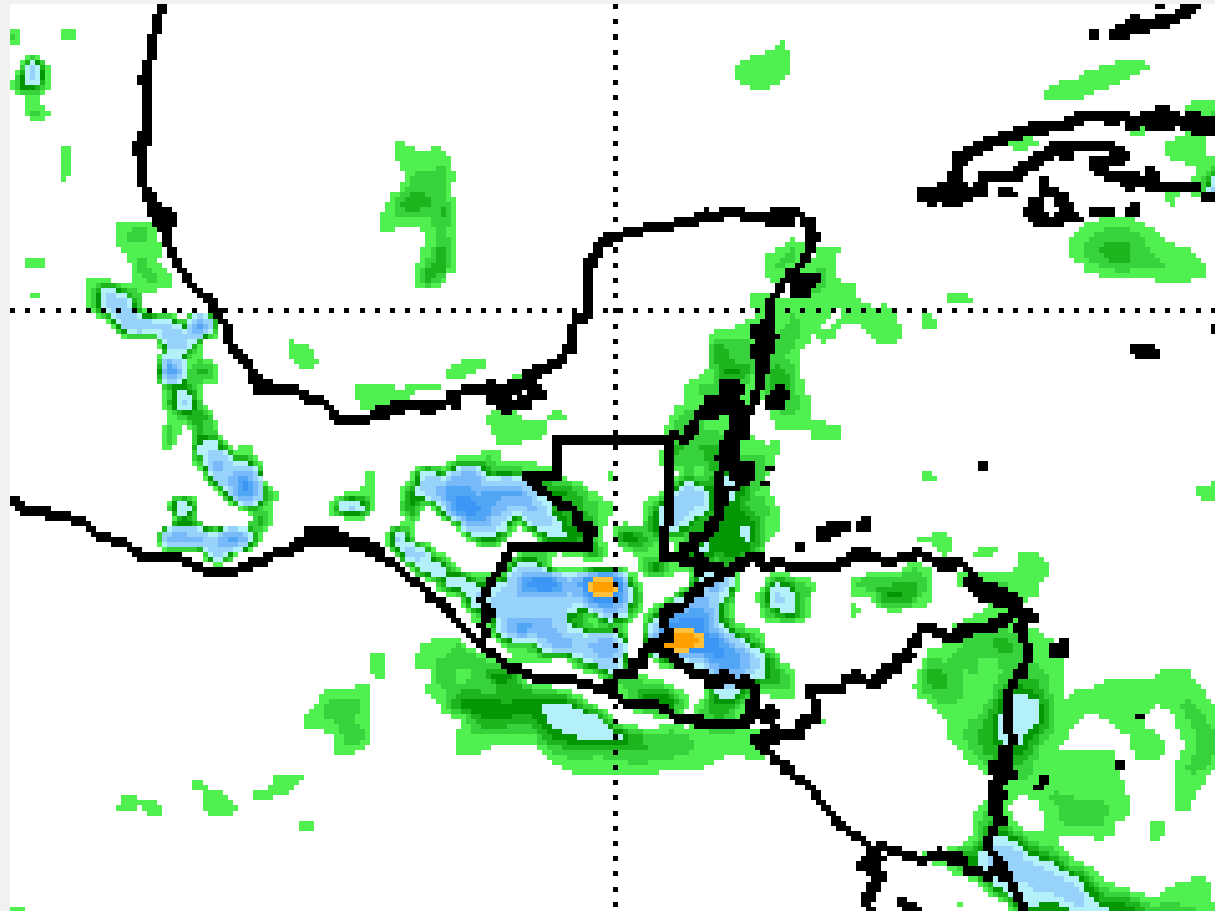
Precipitation Forecast



Data source: Climate Prediction Center / NCEP, NOAA

The precipitation forecast for the next seven days suggests isolated and weak rainfall in the Rio Usumacinta Basin and the south of Belize. There is no significant rainfall forecast for the north of Petén and the Yucatan Peninsula. Forecasts are fairly reliable up to 3 or 4 days. For this reason it is worth visiting up to date forecast sites every few days. The forecast presented here can be accessed [HERE](#).

Precipitacion Forecast



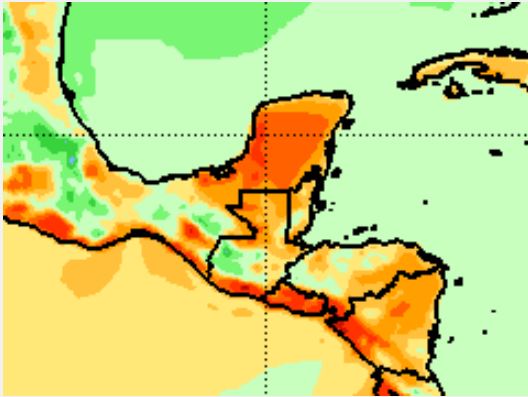
Wednesday 3rd to tuesday 9th April



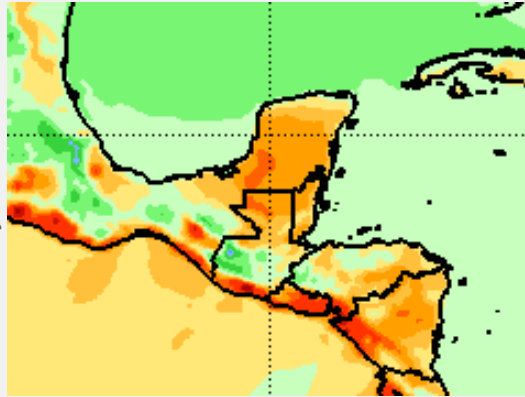
The precipitation forecast for the 3rd - 9th April suggests rainfall in the Usumacinta Basin, Belize and Quintana Roo coastal area. Precipitations can reach up to 40 mm in Chiapas and in the south of Belize.

Maximum Temperature Forecast

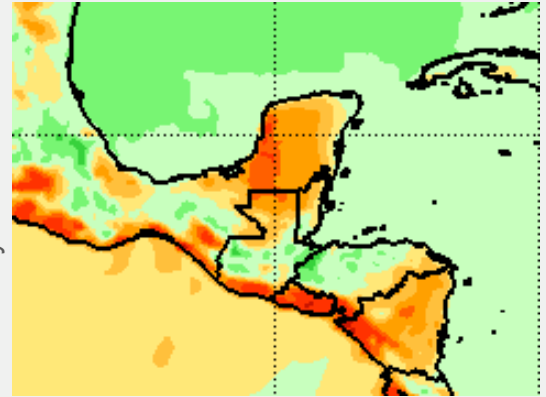
Wednesday 27th March



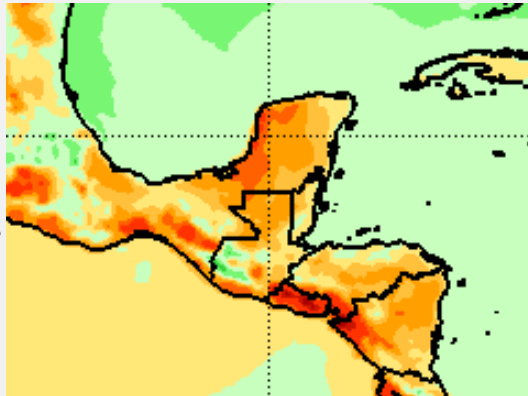
Thursday 28th March



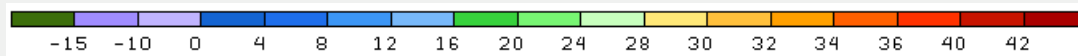
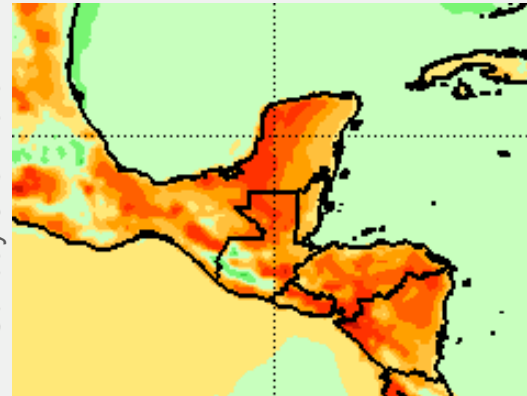
Friday 29th March



Saturday 30th March



Sunday 31st March



Data source: Climate Prediction Center / NCEP, NOAA

Temperature forecast for the next five days indicates maximum daily values between 32°C for the first four days which are expected to rise to ca. 34°C until 31th March, mainly in western Selva Maya.

2019 Hot Spots

Two sources of hot spot data are presented in the weekly report. The first source corresponds to **MODIS** (Moderate Resolution Imaging Spectroradiometer) and the second source to **VIIRS** (Visible Infrared Imaging Radiometer Suite). Some of the characteristics of both data sources and their differences regarding fire monitoring are described below.

MODIS

- MODIS refers to a set of sensors on board two satellites (Terra and Aqua) launched in 1999 and 2002. The operation of both sensors allows global coverage of the Earth every 1-2 days and up to 4 overflights in any area near the Equator.

-The MODIS product used for near-real-time fire monitoring has a spatial resolution (pixel size) of approximately 1000 m.

-The MODIS fire database line extends from 2003 to the present and is a valuable tool for the inter-annual comparison of the intensity of fire burning seasons. For this reason, all the information products that make this comparison will be based on MODIS in all future reports.

VIIRS

- VIIRS is a set of sensors on board the Suomi-NPP polar orbit satellite, a joint initiative of NASA and NOAA. In theory there is global data coverage every 12 hours, or what is the same, 2 daily passes.

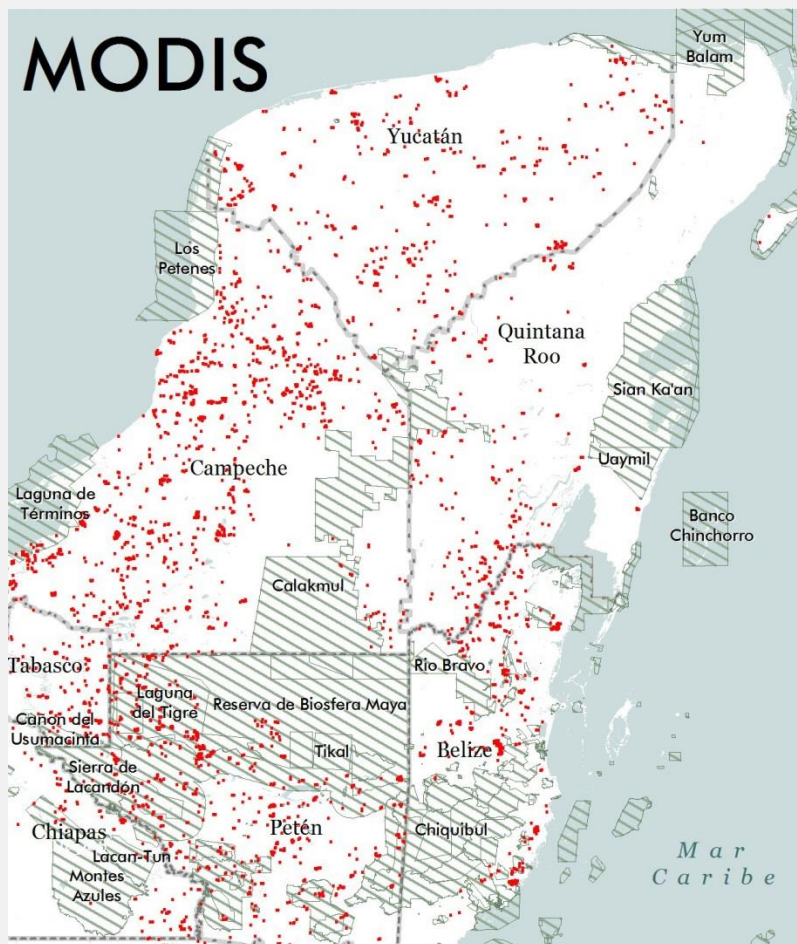
- The VIIRS product used for near real-time fire monitoring (VNP14IMGTDL_NRT) has a spatial resolution (pixel size) of approximately 375 m.

- VIIRS and MODIS complement each other for fire detection, both satellites compare well with each other, but the higher spatial resolution of VIIRS improves the detection of small fires.

- There is data from VIIRS since 2012. However, complete hot spot data are available only since 2015, so that the historical baseline provided by the MODIS data is of great importance, mainly to allow inter-annual comparison.

MODIS Heat points

The MODIS satellite sensors allow the detection of "hot spots" in the landscape, which mostly reflect fires.

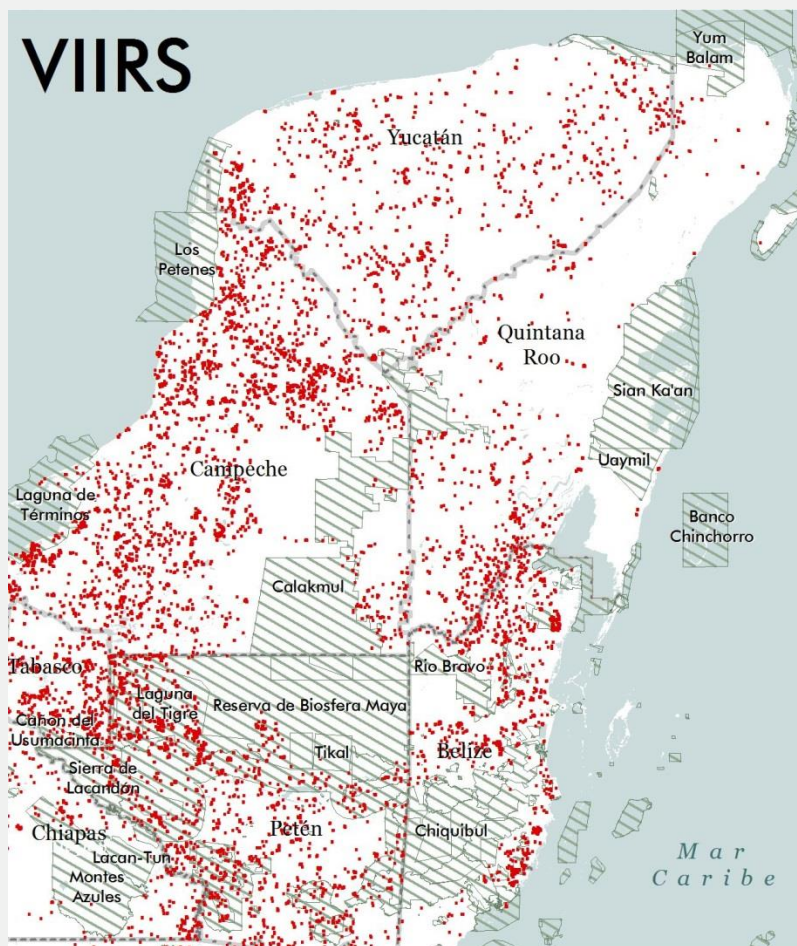


Total number of MODIS heat points registered until March 25th

Campeche	1040
Chiapas	93
Quintana Roo	217
Tabasco	152
Yucatán	410
Belize	332
Petén	623
Selva Maya	2867

VIIRS Heat points

The VIIRS satellite sensors allow the detection of "hot spots" in the landscape, which mostly reflect fires.



Total number of VIIRS heat points registered until March 25th

Campeche	3793
Chiapas	278
Quintana Roo	827
Tabasco	666
Yucatán	1511
Belize	1416
Petén	2190
Selva Maya	10681

Conclusions

- The accumulated precipitation in 2019 between January 1st and March 20th, is generally lower than the average value for the same period between 2003 and 2018. The largest reductions in the amount of precipitation for this period are recorded in Tabasco (- 35%) and Petén (-27%).
- Precipitation forecasts for the next two weeks indicate that some precipitation may occur in the Usumacinta River Basin, Belize and coastal areas of Quintana Roo.
- With the information available it is recommended to maintain a **very high** alert level in the short term

TodosSomosSelvaMaya # WeAreSelvaMaya

This report was elaborated within the framework of the project "Support for the Monitoring of Biodiversity and Climate Change in the Selva Maya". For more information please visit <http://selvamaya.info/es/proyecto-monitoreo/> or contact giz.selvamaya@giz.de

If you would like to receive further information on wildfires and related conservation issues in the Selva Maya, please register [HERE](#).



Ministerio Federal
de Medio Ambiente, Protección de la Naturaleza
y Seguridad Nuclear



giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

KFW

