2nd Weekly Report of the 2019 Fire Season in the Selva Maya

2nd April 2019

Developed by:

Wildlife Conservation Society

With the support of::

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

cooperación alemana DEUTSCHE ZUSAMMENARBEIT

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

KFW

UICN

Scope

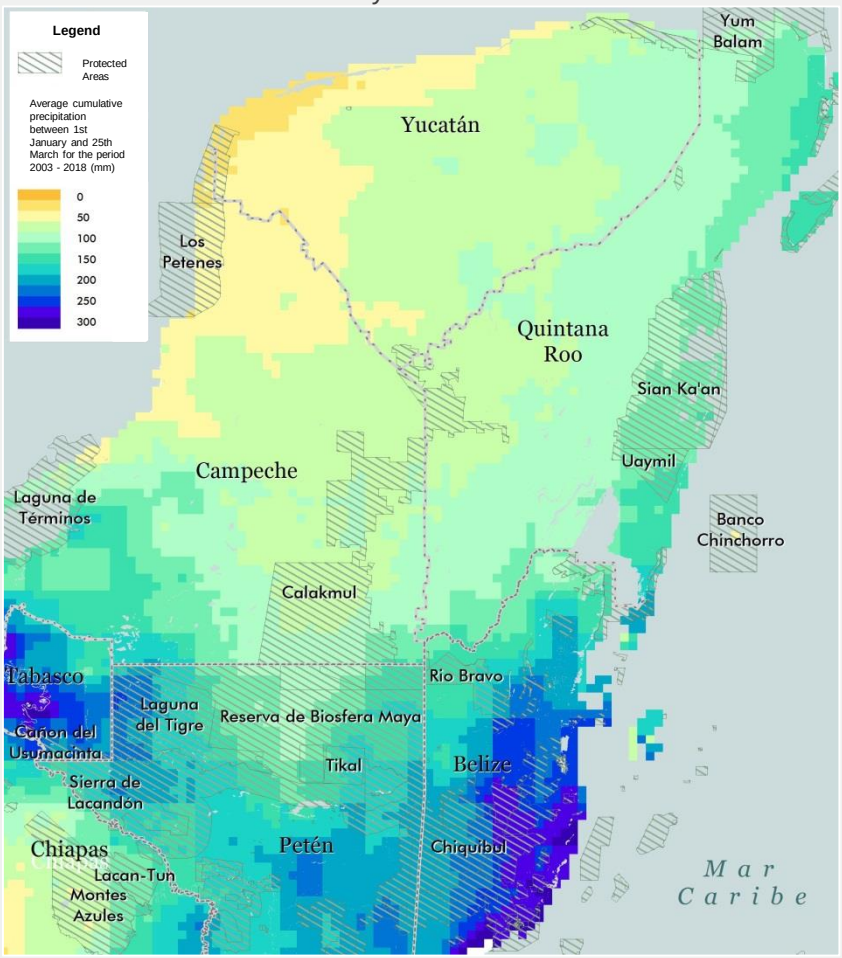
This report aims to support professionals in charge of prevention, mitigation and the fighting of wildfires during the 2019 fire season in the Selva Maya.

Contents

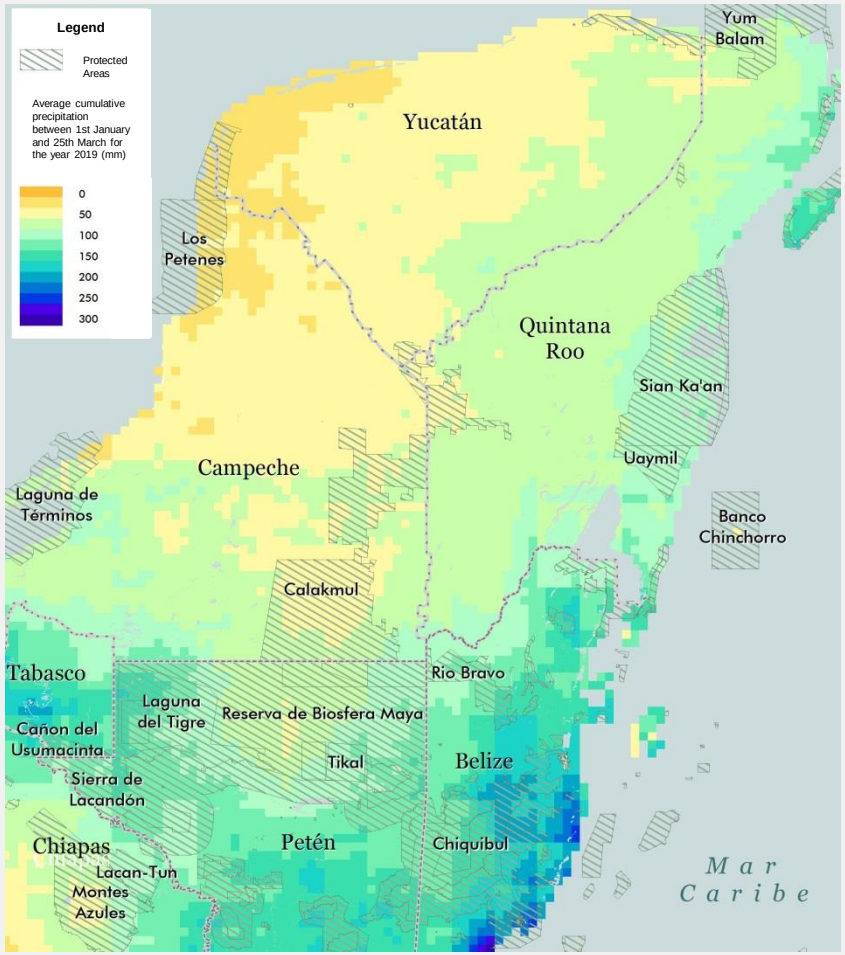
- Cumulative precipitation
- Precipitation forecast
- MODIS Hot Spots
- VIIRS Hot Spots
- Conclusions

Cumulative Precipitation: 2019 Values versus Historic Average

Average cumulative precipitation **2003-2018** between January 1st and March 25th



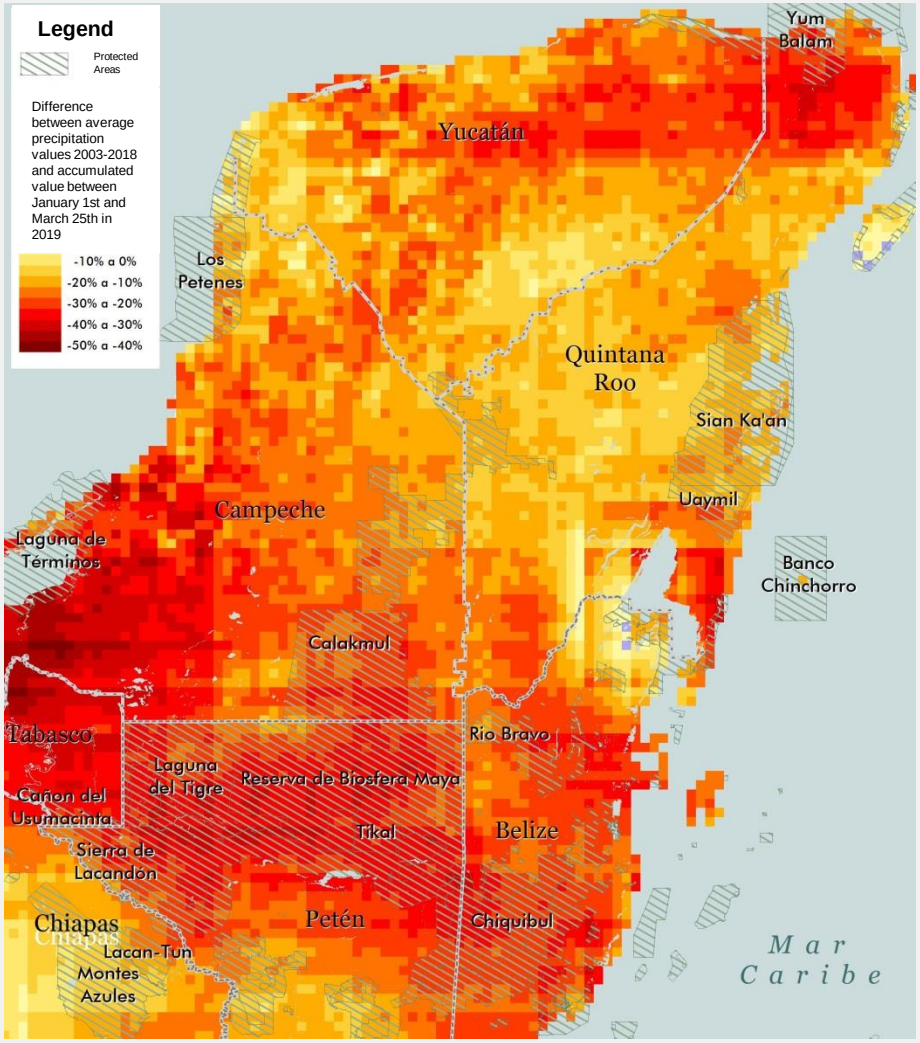
Cumulative precipitation between January 1st and March 25th, **2019**



Data source: Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS), [http://chg.geog.ucsb.edu/data/chirps/]

The comparison between the average cumulative precipitation (January 1st and March 25th) of 2003-2018 and the cumulative of the same time range for 2019 shows an **overall reduction in the amount of precipitation throughout the Selva Maya.**

Cumulative Precipitation: 2019 Values versus Average Value



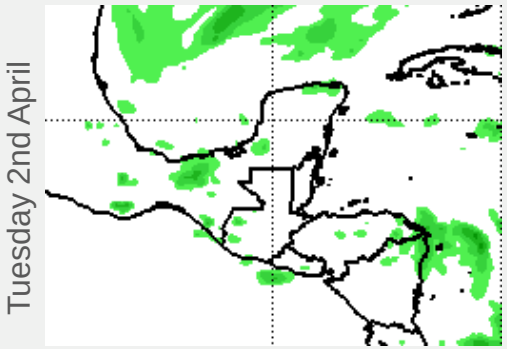
Accumulated rainfall between January 1 st and March 25 th, **2019**

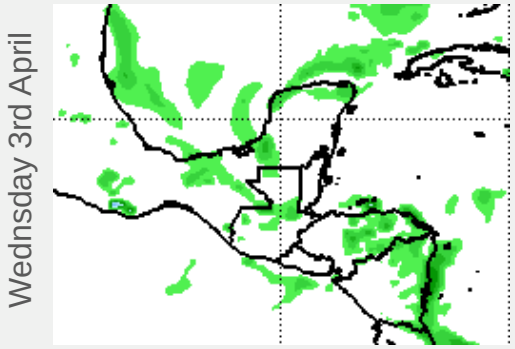
Campeche	-26%
Chiapas	-17%
Quintana Roo	-19%
Tabasco	-35%
Yucatán	-21%
Belize	-25%
Petén	-28%
Selva Maya	-23%

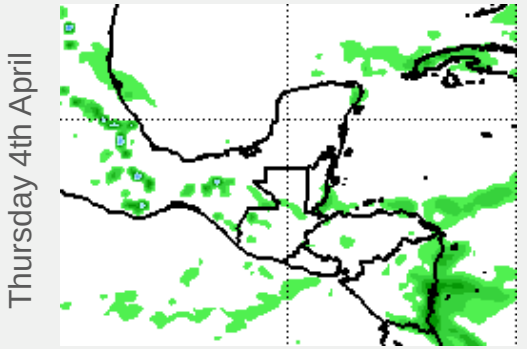
Data source: Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS), [http://chg.geog.ucsb.edu/data/chirps/]

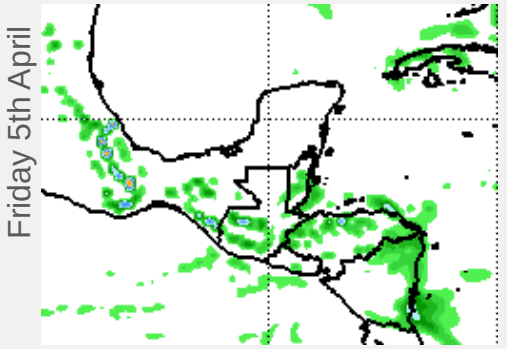
The difference between the cumulative precipitation in early 2019 (Jan. 1st - Mar. 25th) against the average from 2003 – 2018 **is negative throughout the Selva Maya**. The strongest deviations from average rainfalls are found in Tabasco (-35%) and Petén (-28%).

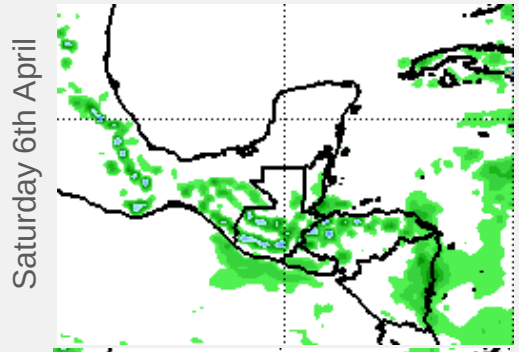
Precipitation Forecast

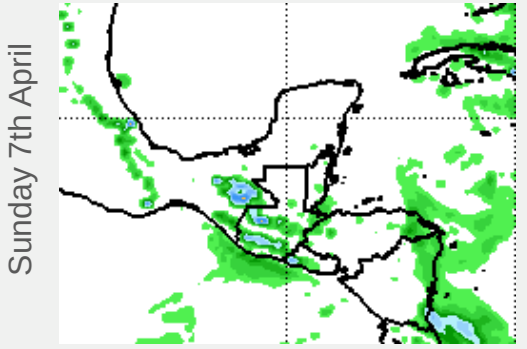


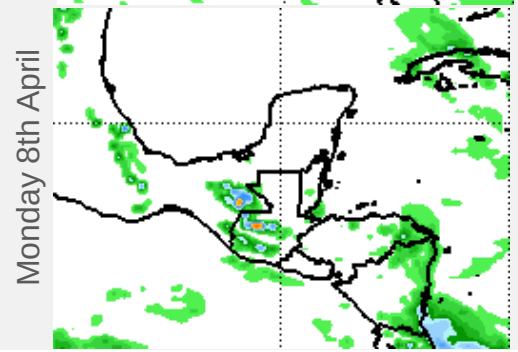


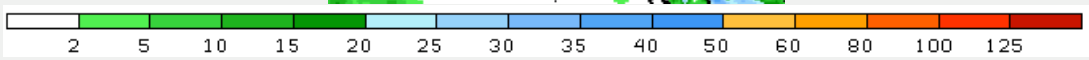








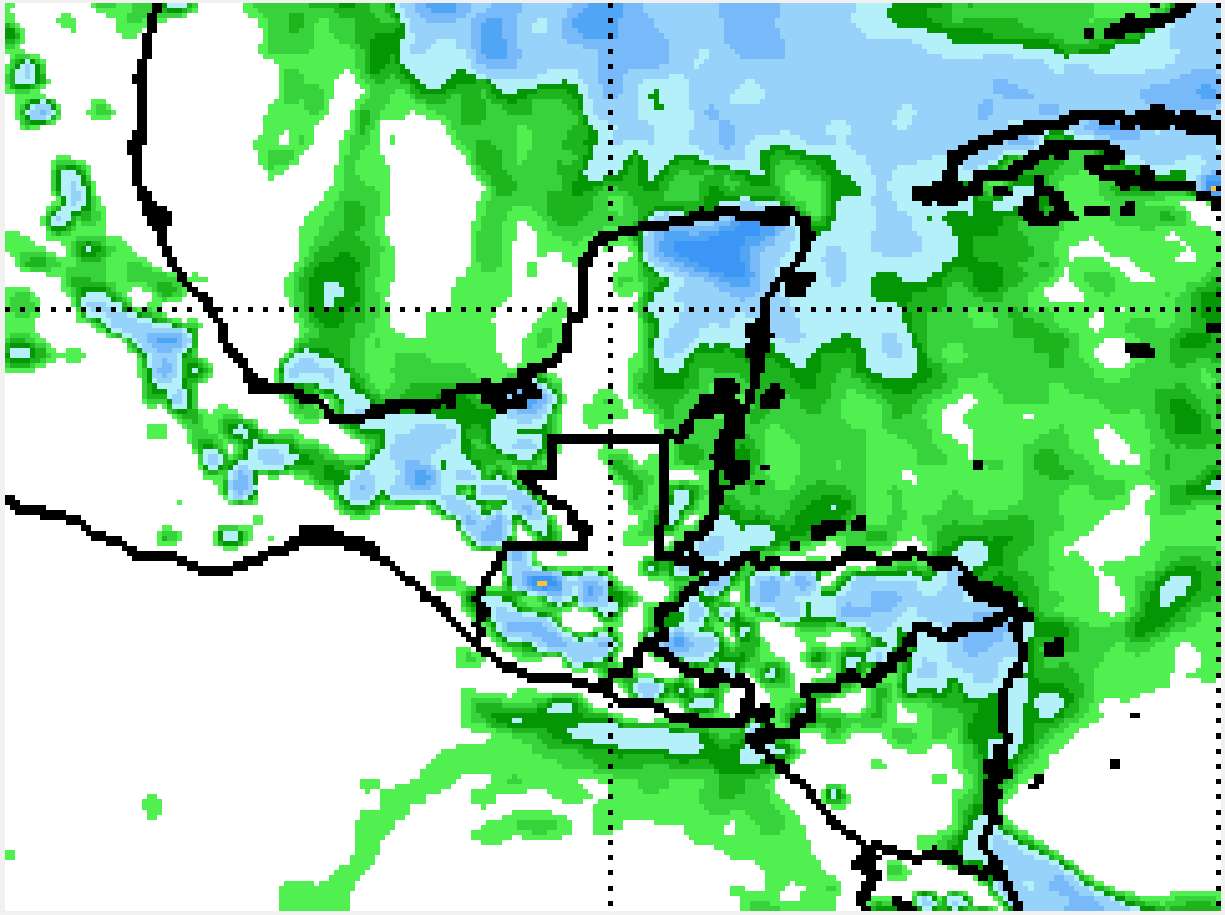




Data source: Climate Prediction Center / NCEP, NOAA

The precipitation forecast for the next seven days visualizes possibly strong rainfall in the east of Chiapas, mainly in the Ocosingo municipality. No significant rainfall is expected for the rest of the region. 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 above can be accessed HERE

Precipitacion Forecast



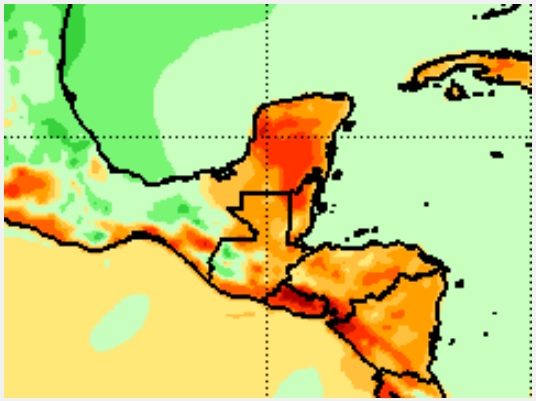
Data source : Climate Prediction Center / NCEP, NOAA

Tuesday 9th – Monday 15th April

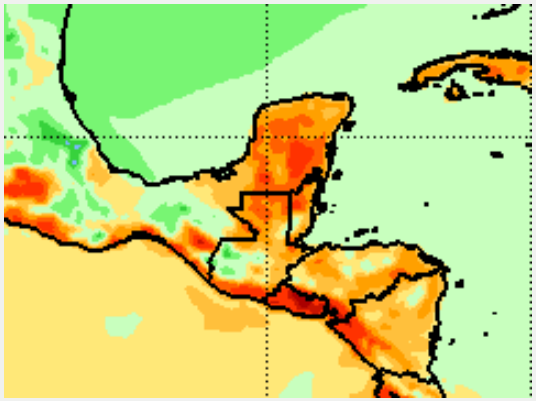
The forecast for the period 9th to 15th April indicates rainfall which could be close to 50 mm in the north of the Peninsula and in eastern Chiapas near the Ocosingo municipality. No significant rainfall is expected for most of Campeche and Petén. In order to always be up to date with the latest values – entre HERE for the update of the image above.

Maximum Temperature Forecast

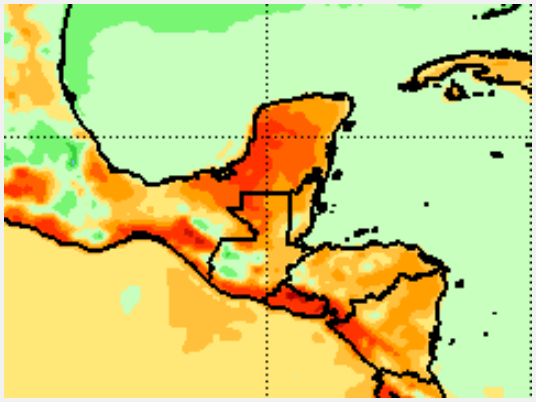
Tuesday 2nd April



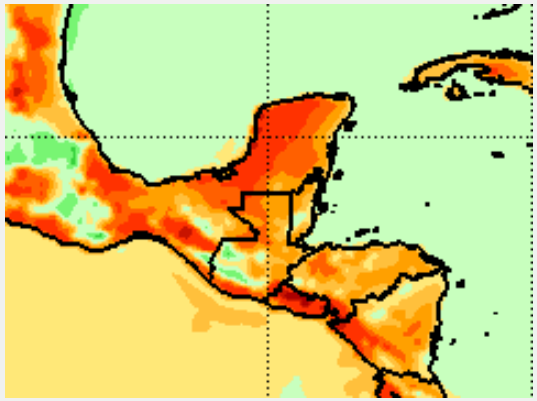
Wednsday 3rd April



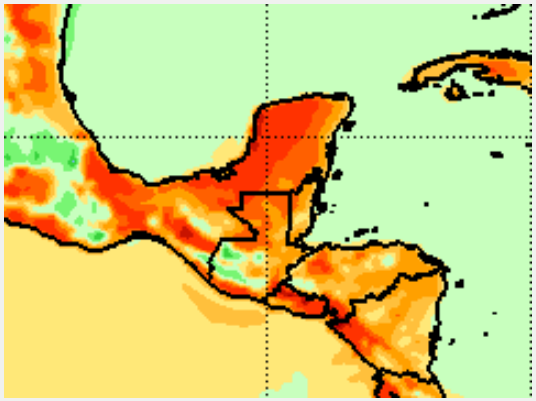
Thursday 4th April

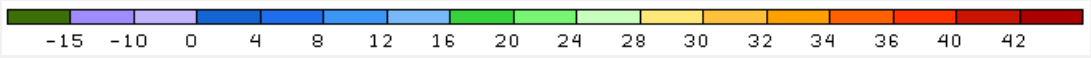


Friday 5th April



Saturday 6th April





Data source :Climate Prediction Center / NCEP, NOAA

The maximum temperature forecast for the next five days indicates a increase of values up to 34°C for the northwest of the Peninsula, while in Petén and Belize cooler values are anticipated for the beginning of the forecast period.

2019 Hot Spots

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

MODIS

- MODIS refers to a set of sensors on board of 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 of the Suomi-NPP polar orbit satellite, a joint initiative of NASA and NOAA. In theory there is global data coverage every 12 hours, hence, 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 in the detection of fires and both satellites compare well with each other, but the higher spatial resolution of VIIRS improves the detection of small fires.

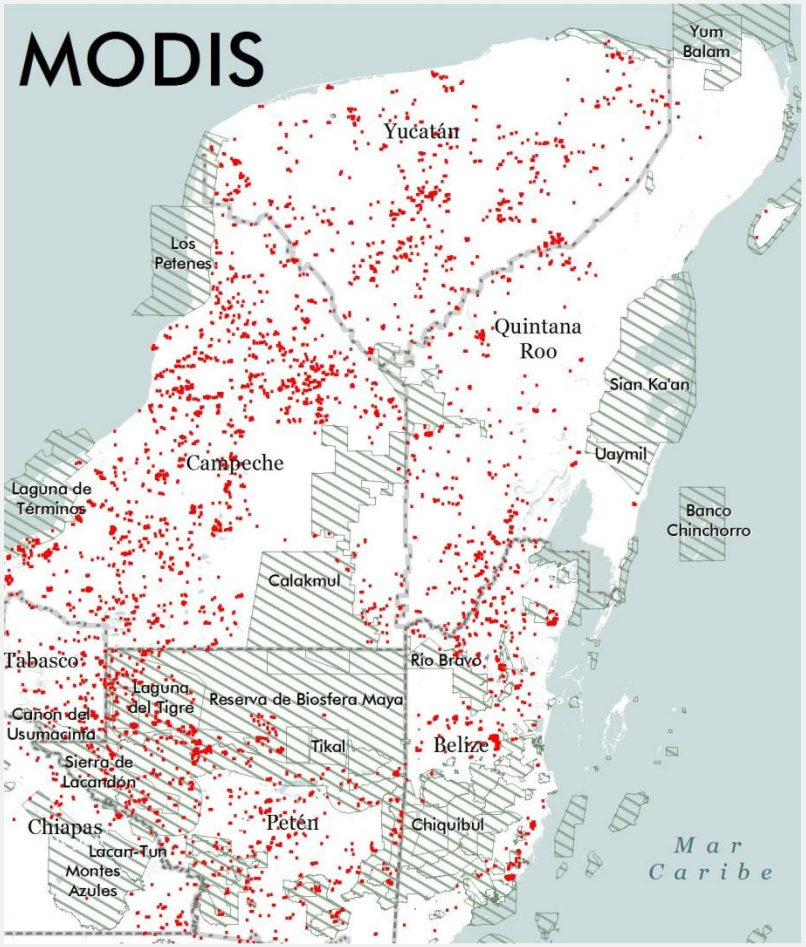
- VIIRS provides data since 2012. However, complete hot spot data are available only since 2015, so that the historical baseline provided by the MODIS data is of great importance, mainly to allow inter-annual comparison.

Data source : : MODIS Collection 6 NRT Hotspot / Active Fire Detections MCD14DL. Disponible [https://earthdata.nasa.gov/firms].

Some background information on the two hot spot data sources used in this report.

MODIS Hot Spots

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



Total number of MODIS hot spots registered until March 31st

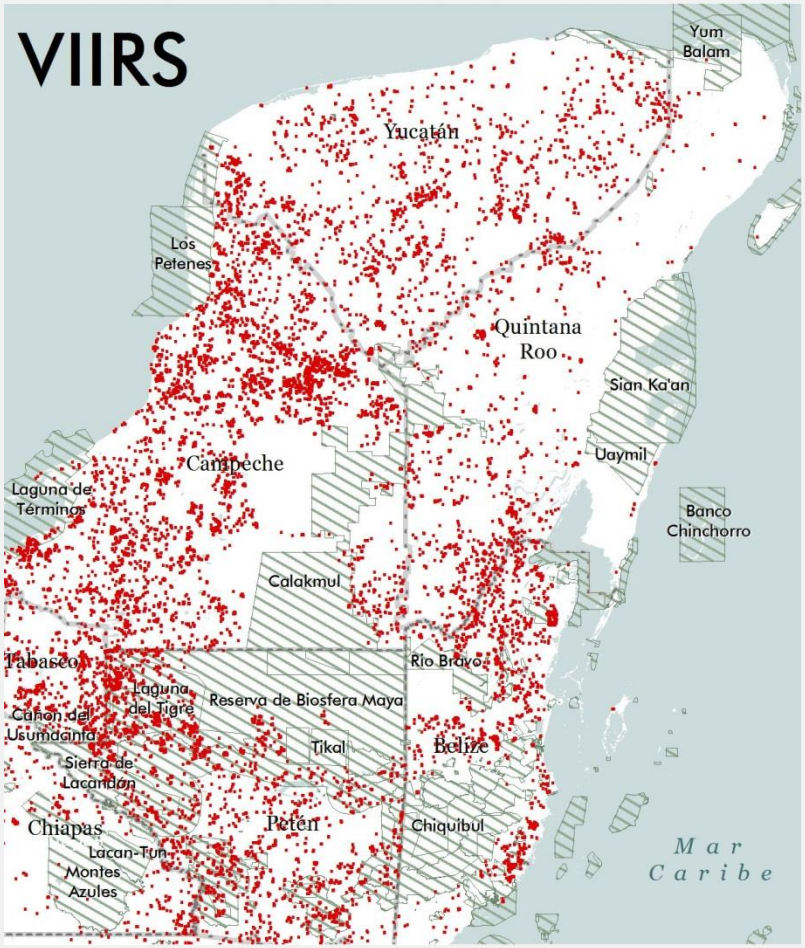
Campeche	1469
Chiapas	102
Quintana Roo	352
Tabasco	184
Yucatán	682
Belize	439
Petén	837
Selva Maya	4065

Data source: MODIS Collection 6 NRT Hotspot / Active Fire Detections MCD14DL. Disponible [*https://earthdata.nasa.gov/firms*].

Basic statistics on the occurrence of MODIS hot spots up to March the 31st.

VIIRS Hot Spots

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



Total number of VIIRS hot spots registered until March 31st

Campeche	5484
Chiapas	323
Quintana Roo	1350
Tabasco	803
Yucatán	2287
Belize	1802
Petén	3070
Selva Maya	15119

Data source: MODIS Collection 6 NRT Hotspot / Active Fire Detections MCD14DL. Disponible [https://earthdata.nasa.gov/firms].

Basic statistics on the occurrence of VIIRS hot spots up to March the 31st .

Conclusions

- The accumulated precipitation in 2019 between January 1st and March 25th, 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 (-28%).

- Precipitation forecasts for the next two weeks indicate that some precipitation may occur in the Ocosingo municipality (Chiapas) and its surroundings and in the northeast of the Yucatan Peninsula. No significant rainfall is to be expected for much of Campeche and Petén.

- 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.

PROGRAMA/PROGRAMME SELVA MAYA
CCAD
BELIZE FOREST DEPARTMENT
CONAP
CONANP
CONABIO
Ministerio Federal de Medio Ambiente, Protección de la Naturaleza y Seguridad Nuclear
cooperación alemana DEUTSCHE ZUSAMMENARBEIT
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
KFW
UICN