## Copernicus Soil Water Index (10 d.) evidences agriculture economic impact of droughts from 2009 to 2018 in Central America and California

Pacific Ocean Temperature Oscillation relationship with droughts in Northern and Central America and Northern Europe melting ice using Copernicus Snow Water Equivalent 2009 to 2018

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## Topics

a) Copernicus Soil Water Index application for places with no expensive ground sensors like Central America.

Cross Check of the satellite data with images of United States Drought Monitor (https://droughtmonitor.unl.edu/) and Australia Bureau of Meteorology (http://www.bom.gov.au/climate/) for drought crisis from 2009 to 2018.

b) Drought crisis in Central America: Soil Water Index for Coffee Plantations regions and Dry Corridor of Guatemala.

b.1) Numeric Charts of the crisis chronology.

b.2) Humanitarian facts published by International Press. Mass migration
to the United States 2014. Dry corridor evidence with Soil Water Index
300m. images,

## Topics

b.3) Impact on Hydro Resources. Lake disappearance report by National Geographic article.
b.4) Economic impact on coffee plantations. Rust and crop's loss.

c) Soil Water Index relationship with crop production and subterranean water wells levels in California.

d) The possible connection between the Pacific Ocean's temperature, Soil Water Index for California and Snow Water Equivalent for Northern Europe.

#### e) On development:

e.1) Web Service to deliver FCOVER 1km. and 300M. to integrate data with QGIS and topography. Can be developed for anyone interested.
e.2) Use of Copernicus Satellite data to build prediction models using "R" statistical package integrated with Microsoft Power BI.

# a) Copernicus Soil Water Index application for places with no expensive ground sensors like Central America.

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### Drought crisis in Central America. Numeric Charts of the crisis chronology





### Lake Atescatempa, Guatemala dissapeared

Dry Corridor, Guatemala. National Geographic article: https://news.nationalgeographic.com/2017/05/lakeatescatempa-guatemala-drought-el-nino-video/

#### Why Did This Once Thriving Lake Disappear?

Previously known for having vast blue-green waters, Lake Atescatempa is now little more than a few puddles of mud.



#### **HUFFINGTON POST**

## Drought And Climate Change Are Forcing Young Guatemalans To Flee To The U.S.

What's happening in Guatemala is, in many ways, a harbinger of what's to come throughout the world.

#### By Lauren Markham

02/16/2017 02:11 pm ET I Updated Oct 30, 2017

https://www.huffingtonpost.com/entry/climatechange-coffeeguatemala us 589dd223e4b094a129ea4ea2

## Dry Corridor, Guatemala. FCOVER 300m images





# Soil Water Index relationship with crop production and subterranean water wells levels in California.



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https://sgma.water.ca.gov/portal/

## d) The possible connection between the Pacific Ocean's temperature, Soil Water Index for California and Snow Water Equivalent for Northern Europe.



d) Fore	ecast	of NO	AA for 2	2018			
TORR	<sup>Na</sup> Climat	e Predict	tion Cente	er.			
	Home	Site Map	News	Organization	Search	Go	
arch the CPC C search Go ISO Diagnostic scussion Archive anish Language	HOME > Expert Assessments > ENSO Diagnostic Discussion EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION issued by						
r <u>sion</u> out Us	CLIMATE PREDICTION CENTER/NCEP/NWS and the International Research Institute for Climate and Society						
Our Mission Who We Are	11 October 2018						
ntact Us PC Information PC Web Team	<b>ENSO Alert System Status: El Niño Watch</b> <u>Synopsis:</u> El Niño is favored to form in the next couple of months and continue through the Northern Hemisphere winter 2018-19 (70-75% chance).						
sta.							

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# SWI 1km. Integrated with Topography in QGis and Google Earth

