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n Asked 25th Jun, 2018

Vempi Satriya Adi Hendrawan

Tohoku University

ne had step-by-step tutorial to extract and smoothing time series phenology signal from MODIS (MOD13Q1)?

g analysis of MODIS data in order to build yield model from the Vegetation Indices.

I used R since I have found it's been used widely by many research regarding time series Remote

several packages, but it was still confusing me, **"what should I do first with my Raster data ded from USGS?"** before I use the packages to analysis my stack of data.

re some best practice tutorial, I will be glad if you can share it to me!

nks!

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Answer

3ageshree Katneshwarkar

Tokyo Institute of Technology

10th Oct, 2019

Diogo when you input your images to TIMESAT in flat binary format, many times the first pixels which reads does not contain any value. You can go on to plot next series till you get your time series curve circular pixel, or you can set the data range accordingly so that the range will not contain pixels with no es. You may have already found this.

)

lyda Aktaş

Istanbul Technical University

26th Jun, 2018

I to know the seasonal transition parameters in order to extract phenology data out of remote sensing as data. I recommend you to check TIMESAT (<http://web.nateko.lu.se/timesat/timesat.asp>) for the 1 of these parameters which are mainly: beginning of season, end of season, length of season, time of season, maximum value, amplitude etc. You can model the same approach or try different fittings for series data with R but the main idea is explained briefly in the software manual.

acting phenological data you can build your own model between yield and vegetation indices.

also check our study, performed with Landsat data, which is not totally aiming yield prediction but at the use of phenological data for agricultural applications helps to improve accuracy:

[Open Paper](#) [Phenology based NDVI time-series compensation for yield esti...](#)

Recommendation

[Sunil Kumar](#)

26th Jun, 2018

CSIR - Institute of Himalayan Bioresource Technology

use TIMESAT package (<http://web.nateko.lu.se/timesat/timesat.asp>)

Recommendation

Deleted profile

If you are looking for phenology then there is already an existing MODIS dataset: MCD12Q2:

daac.usgs.gov/dataset_discovery/modis/modis_products_table/mcd12q2

Your choice of R is good, just use the R raster package or a combination of R "gdalUtils" package and package to download the data and convert it to a 3D cube of yearly of n-day timeseries.

For you maybe to just the "raster" package and convert your 16 day files to a R raster brick or raster object and then do all analysis. Look into the R "raster" package documentation for further guidance.

Recommendation

[Tempi Satriya Adi Hendrawan](#)

23rd Aug, 2018

Uohoku University

[as](#) Thanks for your information and great answer!

Used TIMESAT to smooth my time series-raster stack data from MODIS and It works very well!

And other issues regarding extracting seasonal information. What my understanding is that TIMESAT extract maximum 2 season within 1 year (or certain time period), while I am willing to gain all of the season information within one year.

Have any idea how to extract all of the peak season information?

So glad if you can share your experiences.

U.

[Tempi Satriya Adi Hendrawan](#)

23rd Aug, 2018

Uohoku University

[as](#) I have also read your conference paper. It is really interesting! Instead of only using VI values, you use other meteorological information to build your model.

Would be good to see your other research!

[Anacleto Diogo](#)

29th May, 2019

Universidade Federal do Rio Grande do Sul

extract seasonal metrics of precipitation, evapotranspiration and vegetation indices in TIMESAT, for a series of 18 years. However, I'm doing a one-year test to see if it runs. I converted the 23 images into the (TIF) format, and created the textlist file to input the dataset into TIMESAT.

When I run the script that generates the curves, it is giving the following error:

- too many missing data points or constant data Pixel will be excluded - check data range and
 3.

you help me, please?



Can you help by adding an answer?

wer

d your answer

Add your answer

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ons and discussions

I extract seasonal metrics from NDVI time series by using R?

n 18 answers

th Apr, 2015

Bajocco

extract NDVI phenological parameters on pixel-basis according to the paper of Reed et al. (1994)
 1g phenological variability from satellite imagery".

the TIMESAT program developed by Jonsson & Eklundh and published in Computers & Geosciences
 only works in matlab-like environment... Thanks!

onlinelibrary.wiley.com/doi/10.2307/3235884/abstract

www.sciencedirect.com/science/article/pii/S0098300404000974

**anything similar to TIMESAT in R? I mean, some code to derive phenological metrics from
 image time series?**

n 4 answers

th Apr, 2018

Bendini

[TIMESAT - A program for analyzing time-series of satellite sensor data](#)

www.nateko.lu.se/TIMESAT/docs/TIMESAT32_software_manual.pdf

[TIMESAT: A Software Package for Time-Series Processing and A...](#)

to a Time Series analysis of NDVI from MODIS image ?

n 23 answers

1 Dec, 2014

ak Singh Bisht

do a time series analysis of NDVI using MODIS dataset. Now if I consider a time span of 12 years say, 4 with MOD13Q1 (250 m spatial resolution and 16 days temporal resolution), I will be having ately 288 images.

andle these many images, and how to present them in results ?

mage contains 11 subdatasets should I add them in GIS as RGB image or process them individually. Jing the whole of this as a RGB image I am getting pixel values as 2987, 2349,5756, 6345.... Do these rrespond to the number after decimal i.e, 0.2987, 0.2349, 0.5756, 0.6345...

Earth Engine: How to limit a layer to only show within the area of a polygon?

n 12 answers

th Apr, 2018

nes

veral layers in my overlay, but when I run it they show for the whole area they have data for (global), I would like them to display their results only within the area of a polygon I have created. Does anyone ideas as to the code required for this?

nks

Pixel-wise NDVI data extraction of given shape file in Google earth engine ?

n 8 answers

th Oct, 2018

Kumari

extract NDVI values on each pixel (like ASCII files in GIS) for every time step over the last 20 years r given catchments using Google earth engine. I don't know as how to proceed if I want all the tiff files y time step.

et Timesat output files in raster format?

n 19 answers

th May, 2017

di Ernst

ed MODIS MOD13Q1 NDVI times series (from 2000 to 2015) in Timesat. I specifically extracted start 1 data and for each year (growth season) I was able to produce an image showing the SOS across my 1 using the seas2img function. I was able to save these images as pictures but fail to understand how 1ges can be exported in a raster format that I will be able to use in ArcMAP in order to do further . Please advise if this is at all possible and what process I need to follow to get it done

Stack layers in Google Earth Engine (GEE)?

n 6 answers

1 Jan, 2019

hafira Nisa Shaharum

perform image classification in GEE, i want to select only 7 bands from landsat data and stack it with w to perform that?

ata: I need a guide to download MODIS data for southwest Africa or another method to extract the region.

n 10 answers

th Dec, 2015

ed Akanni Salami

ebody teach me or guide me on how to download MODIS data (NDVI) that covers southwest Africa so the data for Nigeria as a region of area of interest.

Atmospheric correction in sentinel-2 images?

54 answers

14th Sep, 2016

asked by Thomaz De Aquino Martins

I process the atmospheric correction in sentinel-2 images? (from TOA to surface reflectance)

What is the best version for this? Is DOS a good choice? Does proprietary commercial software (like QUAC or from ENVI) work?

I would like to advance!

Publications

Characterisation of macrophyte phenology in the Doñana marshland using MODIS NDVI time series from 2000 to 2015

Research Paper

F. Rodriguez-Galiano · Angel Fernandez-Carrillo · Esperanza Sánchez

Analysis of MODIS Vegetation Phenology Metrics

Recent Findings Full-text available

1

asked by Lennon

In the years 2001 and 2017, there were significant changes in the annual date of beginning of photosynthetic activity (start-of-season), date of end of photosynthetic activity (end-of-season), and growing season length (difference between the beginning and end of photosynthetic activity), which are observable in the time series of Normalized...

Estimation of phenological parameters from MODIS derived NDVI data using hidden Markov models

1

asked by A. García · Hassane Moutahir · Susana Bautista · Francisco Rodriguez-Mateos

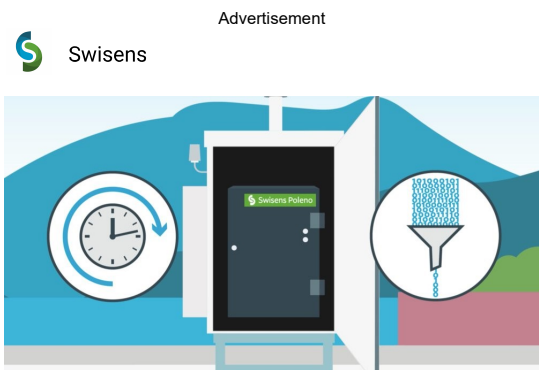
Phenological characteristics of the vegetation are key elements for understanding vegetation responses in climate change scenarios, as well as indicators of ongoing processes of increasing aridity.

Estimation of phenological parameters for different types of vegetation in large areas help evaluate current and future impacts of climate change.

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Video: Remote bioaerosol measurement



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