Remote sensing and fungal yields: a new approach

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The importance of mushrooms:

- medicinal
- commercial
- nutritional
- recreational

Global Change Biology

Increased evapotranspiration demand in a Mediterranean climate might cause a decline in fungal yields under global warming

Teresa Águeda, Beatriz Águeda, José M. Olano, Sergio M. Vicente-Serrano, Marina Fernández-Toirán

First published: 30 April 2015 | https://doi.org/10.1111/gcb.12960 | Cited by: 10

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Is silviculture able to enhance wild forest mushroom resources? Current knowledge and future perspectives

Antonio Tomas ² ³, José Antonio Bonet ² ³, Juan Martinez de Aragón ⁴, Sergio de-Miguel ⁵

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Site-specific variables:

Climatic variables:

An Improved Single-Channel Method to Retrieve Land Surface Temperature from the Landsat-8 Thermal Band

José Cristobal 1,2, Juan C. Jiménez-Muñoz 3, Anupma Paharia 2, Cristian Mattar 3, Danilo Sticovici 2 and José A. Sobrino 2

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Received: 6 February 2018; Accepted: 7 March 2018; Published: 10 March 2018

Increased evapotranspiration demand in a Mediterranean climate might cause a decline in fungal yields under global warming

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First published: 30 April 2015 | http://doi.org/10.1111/gcb.12980 | Cited by: 10
Site-specific variables:

Soil characteristics:

- ESA CCI SOIL MOISTURE

1. dielectric constant
2. surface roughness
Site-specific variables:

Topographical characteristics:

- LiDAR
- radar interferometry
- IGN
Stand structure variables:

Stand age, stand density and tree species composition:

multispectral imagen
hyperspectral imagen
spectral library
image classification
Variables:

Spectral index:

\[ \text{NDVI} = \frac{\text{NIR} - \text{Red}}{\text{NIR} + \text{Red}} \]

Images representing different seasons:
- Winter
- Spring
- Summer
- Fall

https://www.indexdatabase.de/
Mushroom harvest prediction:

- Data time series
- Remote sensing
- Weather data
Remote sensing and fungal yields: a new approach

Primary productivity and climate control mushroom yields in Mediterranean pine forests
José Miguel Olano\textsuperscript{1,2}, Raquel Martínez-Rodríguez\textsuperscript{1,2}, José Miguel Albalac\textsuperscript{1}, Teresa Águeda\textsuperscript{1}, Marina Fernández-Torres\textsuperscript{1}, Ana I. García-Cervigón\textsuperscript{1}, Francisco Rodríguez-Pueyo\textsuperscript{1,3}, Beatriz Águeda\textsuperscript{1,2}

climate data

Soil moisture data

mushroom yields

results

NDVI data
Remote sensing and fungal yields: a new approach

Global models:

- Explained variance (%)
- Type of model

**NDVI**
Remote sensing and fungal yields: a new approach

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