

Climatic suitability index modelling for tiger mosquito (Aedes albopictus) 2008-2009, Jan. 2020

This raster dataset provides the modelling of the climate suitability index values (0-100%) for tiger mosquito (Aedes albopictus) for 100 European cities for the years 2008-2009, with a resolution of 100 m.

Aedes Albopictus has become a common occurrence in Southern Europe and transmits diseases such as Zika, dengue and chikungunya. The climatic suitability for tiger mosquito depends on factors such as sufficient amounts of rainfall, high summer temperatures and mild winters. Climate change is anticipated to further facilitate the spread of tiger mosquitoes across Europe by changing temperature and precipitation patterns, thereby increasing the suitable habitat.

In the framework of the Copernicus Climate Change Service (C3S) SIS European Health, VITO has provided to the Climate Data Store 100m resolution hourly temperature data for 100 European cities, based on simulations with the urban climate model UrbClim (De Ridder et al., 2015). From this dataset, this climate suitability dataset has been generated based on annual precipitation and the average temperature in January and during the summer period (months June, July and August) for the years 2008-2009, following the methodology by European Centre for Disease Prevention and Control (ECDC, 2009).

The 100 European cities for the urban simulations were selected based on user requirements within the health community.

Simple

Date (Creation)	2019-09-11T00:00:00
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Edition	01.00
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Point of contact

No information provided

Maintenance and update frequency	Not planned
GEMET - INSPIRE themes, version 1.0	Human health and safety
Keywords	
Keywords	
GEMET	vector of human diseasesclimate
	climate change adaptation
	climate change impact
	• city
	• health
	urban environment, urban stress
Continents, countries, sea regions of the world.	Slovenia
	• Italy
	Austria
	Belgium
	Bosnia and Herzegovina

	Bulgaria
	Croatia
	Finland
	Iceland
	Lithuania
	Norway
	Serbia
	Sweden
	Germany
	United Kingdom
	Montenegro
	Luxembourg
	North Macedonia
	Portugal
	Albania
	Czechia
	Netherlands
	Poland
	Switzerland
	Hungary
	• France
	Slovakia
	• Greece
	Ireland
	Denmark
	Estonia
	Spain
	Latvia
	Romania
Spatial scope	European
EEA topics	Environmental health impacts
	Climate adaptation

Resource constraints

No information provided.

Access constraints	Other restrictions
Other constraints	no limitations to public access
Use constraints	Other restrictions
Other constraints	EEA standard re-use policy: unless otherwise indicated, re-use of content on the EEA website for commercial or non-commercial purposes is permitted free of charge, provided that the source is acknowledged (http://www.eea.europa.eu/legal/copyright).

Climate mitigation

	Copyright holder: European Environment Agency (EEA), Copernicus Climate Change Service (C3S).
Spatial representation type	Grid
Distance	100 m
Language of dataset	English
Topic category	Environment Health Climatology, meteorology, atmosphere
Begin date	2008-01-01
End date	2009-12-31





Algeria				
Coordinate reference system identifier	EPSG:3035			
Distribution format	• GeoTIFF()			
OnLine resource	Protocol	Linkage	Name	
	EEA:FILEPATH	https://sdi.eea.europa.eu/webdav/datastore/public /eea_r_3035_100_m_tiger-mosquito-modelling_p_2008- 2009_v01_r00/Suitability_maps_combined.tif		
	WWW:LINK-1.0-httplink	https://climate-adapt.eea.europa.eu/en/knowledge/tools/urban-adaptation		
	WWW:URL	https://sdi.eea.europa.eu/data/93070b8d-bb1a-4f4a-9b71- 531676496125	Direct download	
	ESRI:REST	https://climate.discomap.eea.europa.eu/arcgis/rest/services /UAMV/climatic_suitability_tiger_mosquito_cities_high_res /MapServer		
	OGC:WMS	https://climate.discomap.eea.europa.eu/arcgis/services/UAMV/climatic suitability tiger mosquito cities high res/MapServer/WMSServer?request=GetCapabilities&service=WMS		
Hierarchy level	Dataset			
Conformance result	·			
Title		Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services		
Date (Publication)	2010-12-08			
Explanation	See the referenced specification			
Statement	100m resolution hourly temperature data f Ridder et al., 2015). From this dataset, this average temperature in January and durin	te Change Service (C3S) SIS European Health, VITO has provided to the Climate in for 100 European cities, based on simulations with the urban climate model UrbClir is climate suitability dataset has been generated based on annual precipitation and the summer period (months June, July and August) for the years 2008-2009, followsease Prevention and Control (ECDC 2009).	n (De the	

This approach considers empirical suitability functions, which link a number of climate variables to the suitability of a habitat. The suitability for tiger mosquito is zero when the annual rainfall is lower than 450 mm, and maximum suitability is reached when the annual rainfall is higher than 800 mm. For summer temperatures, the suitability is zero when temperatures were lower than 15°C and higher than 30°C, and maximum suitability is between 20°C and 25°C. For January temperatures, the suitability is zero when temperatures were lower than -1°C and maximum when temperatures were higher than 3°C. The different suitability functions are then entered into a weighted linear combination approach and the results were rescaled to a range between 0 and 100.

References:

ECDC (2009): Development of Aedes albopictus Risk Maps, Technical Report 0905. See https://ecdc.europa.eu/sites/portal/files/media/en/publications/0905 TER Development of Aedes Albopictus Risk Maps.pdf

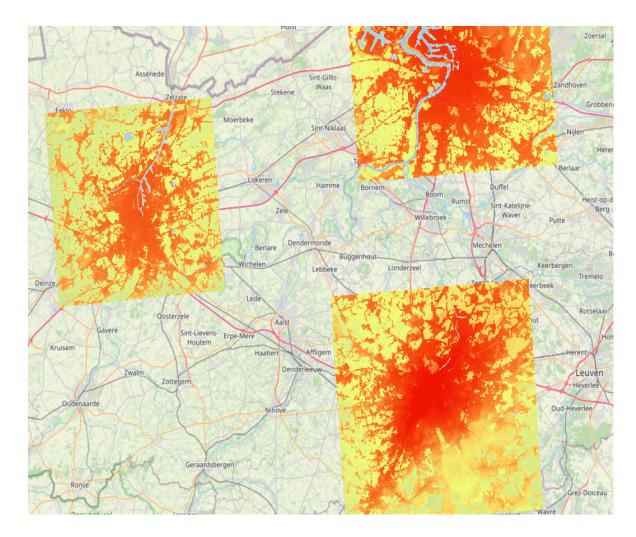
Copernicus Climate Change Service (2019): Web application: Climatic suitability of the Aedes albopictus mosquito in European cities from 2008 to 2017 derived from reanalysis (https://datastore.copernicus-climate.eu/c3s/published-forms/c3sprod/app-health-urban-aedes-albopictus-suitability-climatology/Web_Application_URBAN.3_v1_latest.pdf).

De Ridder, K, Lauwaet D. and Maiheu, B. (2015): UrbClim – A fast urban boundary layer climate model, Urban Climate, Vol. 12, pp. 21–48. https://doi.org/10.1016/j.uclim.2015.01.001.

Metadata

93070b8d-bb1a-4f4a-9b71-531676496125 XML			
English			
UTF8			
Dataset			
2021-08-23T14:43:29.029Z			
ISO 19115/19139			
1.0			
Organisation name	Individual name	Electronic mail address	Website Role
European Environment Agency		sdi@eea. europa.eu	Point of contact
	English UTF8 Dataset 2021-08-23T14:43:29.029Z ISO 19115/19139 1.0 Organisation name	English UTF8 Dataset 2021-08-23T14:43:29.029Z ISO 19115/19139 1.0 Organisation name Individual name	English UTF8 Dataset 2021-08-23T14:43:29.029Z ISO 19115/19139 1.0 Organisation name Individual name Electronic mail address European Environment Agency sdi@eea.

Overviews



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