Title	NSW Heat Vulnerability Index to ABS Statistical Area Level 1 2016

Abstract	The NSW Heat Vulnerability Index (HVI) dataset identifies areas to monitor where populations in the Sydney Greater Metropolitan Area are more vulnerable to the adverse effects of urban heat, as of Summer 2015-2016. HVI utilises indicators for exposure, sensitivity and adaptive capacity to calculate an overall heat vulnerability index. Expressed through the data, a vulnerability of 1 represents a combination of low exposure, low sensitivity and/or high adaptive capacity. A vulnerability of 5 represents high exposure, high sensitivity and/or low adaptive capacity. The calculation of HVI and the inputs to the exposure, sensitivity and adaptive capacity indicators are explained in the metadata. The HVI data is aggregated to the Australian Bureau of Statistics (ABS) Statistical Area Level 1 (SA1) polygon dataset to enable spatial analysis to support local policy and decision making. It can be used in conjunction with the NSW urban vegetation cover dataset for the same time period for broader analysis of the relationship of heat to green cover.

Resource locator

Data Quality Statement	Name: Data Quality Statement
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Data quality statement for NSW Heat Vulnerability Index to the ABS Statistical Area Level 1 (SA1) 2016
	Function: download
Estimation of Land Surface Temperature and Urban Heat Island effect for Australian urban centres (CSIRO EP173542)	Name: Estimation of Land Surface Temperature and Urban Heat Island effect for Australian urban centres (CSIRO EP173542)
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	The citation for this report is Devereux D and Caccetta PA (2017) Estimation of Land Surface Temperature and Urban Heat Island effect for Australian urban centres. Report CSIRO Data61, Australia. This report was used to derive this HVI dataset. The report was from work undertaken as part of Horticulture Innovation Australia (HIA) project NY16005 "Where Should All The Trees Go?", in collaboration with RMIT, CSIRO Data61 and the University of Western Australia.
	Function: download
User guide for OEH urban heat and green cover datasets	Name: User guide for OEH urban heat and green cover datasets
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Guidance and data description for use by NSW Local Government Areas for local environmental planning. This document contains detailed guiding information on the use conditions and descriptions for the NSW Office of Environment and Heritage (OEH) urban heat and vegetation cover datasets, especially for use in support of multi-scale analysis (i.e., local government areas and regional).
	Function: download
Download Package	Name: Download Package
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Data (Shapefile & Geodatabase)
	Function: download
ArcGIS Layer files for mapping Urban Heat Island and Heat Vulnerability Index	Name: ArcGIS Layer files for mapping Urban Heat Island and Heat Vulnerability Index
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Layer files for symbology when using ArcGIS/ArcMap v. 10.x for displaying the dataset. The compressed file (zip) contains two layer files, one for each Urban Heat Island

(manual classification of temperature ranges) and Heat Vulnerability Index (discrete attribute classes 0 to 5). Temperature ranges for UHI map degrees Celsius deviation from the reference, and include less than 0 (i.e., cooler than reference), 0 to 3 degrees warmer, 3 to 6 degrees warmer, 6 to 9 degrees warmer and warmer than 9 degrees from the reference. Two colour variations of the layer file are included.

Function: download

ArcGIS REST Service - Heat Vulnerability Index	Name: ArcGIS REST Service - Heat Vulnerability Index
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	An ArcGIS Server web service represents a GIS resource—such as a map, locator, or image—that is located on an ArcGIS Server site and is made available to client applications. Depending on the layers enabled, this web service allows a user to query its features and/or visualise the dataset. This service is aimed at advanced geographical information users, and will require access to geographical information system (GIS) software such as ArcGIS/ArcMap.
	Function: download
WMS - Heat Vulnerability Index	Name: WMS - Heat Vulnerability Index
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Web Map Service (WMS) is a standard protocol for serving georeferenced map images over the internet that are generated by a map server using data from a GIS Database (NSW Government - Spatial Web Services Register June 2015). WMS allows a user to spatially visualise the dataset, but not query its features. This service is aimed at advanced geographical information users, and will require access to geographical information system (GIS) software such as QGIS and ArcGIS/ArcMap
	Function: download
Urban Heat Island and Heat Vulnerability in Sydney Greater Metropolitan Area, 2016	Name: Urban Heat Island and Heat Vulnerability in Sydney Greater Metropolitan Area, 2016
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Methodology Report for Heat Vulnerability Index in Sydney Greater Metropolitan Area, utilising 2016 Urban Heat Island data, 2016 Urban Vegetation (Tree Canopy) data, and ABS SA1 level socio-economic and demographic data

Unique resource identifier

Code	3b59f3c4-51e2-40c3-af35-e7a7a63fd207

Presentation form	mapDigital

Edition	1

Dataset language	eng

Metadata standard

Name	ANZLIC Metadata Profile: An Australian/New Zealand Profile of AS/NZS ISO 19115:2005, Geographic information - Metadata
Version	1.1

Dataset URI	https://datasets.seed.nsw.gov.au/dataset/3b59f3c4-51e2-40c3-af35-e7a7a63fd207

Purpose	urban environmental planning, green infrastructure

Status	completed

Spatial representation

Type	vector

Spatial reference system

Authority code	GDA94 Geographic (Lat\Long)
Code identifying the spatial reference system	4283

Spatial resolution

1 m

Additional information source

The heat vulnerability index attribute value is modelled on three indices - exposure to heat (temperature classes), sensitivity to heat (vegetation area, road area, population density, elderly, very young, persons needing care) and adaptivity to heat (SEIFA-IRSD and SEIFA-IEO). Index data is provided at the SA Level.1. Each statistical area is rated for each index on a scale of 1 - 5. on a scale of 1 to 5 based on quintiles, 1 represents low exposure, low sensitivity or high adaptive capacity and 5 represents high exposure, high sensitivity or low adaptive capacity. A 0 (zero) indicates no population resides there (pop. density = 0).

Topic category

Keyword set

keyword value	HUMAN-ENVIRONMENT-Urban-Design
	HUMAN-ENVIRONMENT-Livability
	HUMAN-ENVIRONMENT-Planning
	CLIMATE-AND-WEATHER-Extreme-weather-events
	CLIMATE-AND-WEATHER-Temperature
	CLIMATE-AND-WEATHER-Climate-change
	HUMAN-ENVIRONMENT-Structures-and-Facilities

Originating controlled vocabulary

Title	ANZLIC Search Words
Reference date	2008-05-16

Geographic location

West bounding longitude	150.270996
East bounding longitude	152.006836
North bounding latitude	-34.597042
South bounding latitude	-32.87036
NSW Place Name	Sydney Greater Metropolitan Area, Greater Sydney Region

Vertical extent information

Minimum value	-100
Maximum value	2228

Coordinate reference system

Authority code	urn:ogc:def:cs:EPSG::
Code identifying the coordinate reference system	5711

Temporal extent

Begin position	2015-10-01
End position	N/A

Dataset reference date

Date type	publication
Effective date	2019-03-04

Resource maintenance

Maintenance and update frequency	None

Contact info

Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
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Email address	data.broker@environment.nsw.gov.au
Responsible party role	pointOfContact

Lineage

The dataset was developed through a contract with the Royal Melbourne Institute of Technology (RMIT). Data was developed following the methodology for "Estimation of Land Surface Temperature and Urban Heat Island effect for Australian urban centres", from Commonwealth Science and Research Organisation (CSIRO) (Report EP173542). The processed Landsat 8 imagery was integrated with the ABS Statistical Area Level 1 polygon dataset with the assistance of Western Australia University.

Limitations on public access

Scope	dataset

Responsible party

Contact position	Data Broker
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Responsible party role	pointOfContact

Metadata point of contact

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Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
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Responsible party role	distributor

Metadata date

2019-03-08

Metadata language

eng