Title	NSW Urban Heat Island to Modified Mesh Block 2016
Abstract	The Urban Heat Island (UHI) dataset measures the effects of urbanisation on land surface temperatures across Sydney Greater Metropolitan Area for the Summer of 2015-2016. UHI shows the variation of temperature to a non-urban vegetated reference, such as heavily wooded areas or national parks around Sydney. Derived from the analysis of thermal and infrared data from Landsat satellite, the dataset has been combined with the Australian Bureau of Statistics (ABS) Mesh Block polygon dataset to provide a mean UHI temperature that enables multi-scale spatial analysis of the relationship of heat to green cover.

Resource locator

Show on SEED Web Map	Name: Show on SEED Web Map Protocol: WWW:DOWNLOAD-1.0-http--download Description: Display dataset on SEED's map Function: download
Data Quality Statement	Name: Data Quality Statement Protocol: WWW:DOWNLOAD-1.0-http--download Description: Data quality statement for NSW Urban Heat Island to Modified Mesh Block 2016 Function: download
Estimation of Land Surface Temperature and Urban Heat Island effect for Australian urban centres. CSIRO Report EP173542.	Name: Estimation of Land Surface Temperature and Urban Heat Island effect for Australian urban centres. CSIRO Report EP173542. Protocol: WWW:DOWNLOAD-1.0-http--download Description: This report describes the generation of land surface temperature (LST) and urban heat island (UHI) estimates for major Australian urban centres. The research that led to this report was 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. A similar methodology was used for this dataset. Citation: Devereux D and Caccetta PA (2017) Estimation of Land Surface Temperature and Urban Heat Island effect for Australian urban centres. Report CSIRO Data61, 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 & Esri Database) Function: download
ArcGIS Layer	Name: ArcGIS Layer files for mapping Urban Heat Island and Heat Vulnerability Index

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 - Urban Heat Island	Name: ArcGIS REST Service - Urban Heat Island 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 - Urban Heat Island	Name: WMS - Urban Heat Island 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
Land surface temperature and urban heat island estimates for Australian urban centres 2015/16	Name: Land surface temperature and urban heat island estimates for Australian urban centres 2015/16 Protocol: WWW:DOWNLOAD-1.0-http--download Description: imagery data source for NSW/Metropolitan Urban Heat Island data. Land surface temperature (LST) maps, and urban heat island (UHI) maps, for Australian urban centres, calculated over summer 2015/16. Generated as part of an investigation into changes in urban greenspace. Function: download

Unique resource identifier

Code	97815860-d840-4e67-8f73-1bfc665cb310

Presentation form	Map digital
Edition	1
Dataset language	English

Metadata standard

Name	ISO 19115

Edition	2016
Dataset URI	https://datasets.seed.nsw.gov.au/dataset/97815860-d840-4e67-8f73-1bfc665cb310
Purpose	urban environmental planning, green infrastructure
Status	Completed

Spatial representation

Type	vector
Geometric Object Type	surface

Spatial reference system

Code identifying the spatial reference system	4283

Spatial resolution	3 m
Additional information source	The UHI attribute value is based on the average difference in Land Surface Temperature (LST) to baseline LST (non-urban vegetated reference). The COType (cluster/outlier type) was generated by Anselin Local Moran's using ArcGIS.

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

Resource maintenance

Maintenance and update frequency	Not planned
Contact info	
Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Telephone number	131555
Email address	data.broker@environment.nsw.gov.au
Web address	https://www.nsw.gov.au/departments-and-agencies/dcceew
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 modified Mesh Block polygon dataset with the assistance of Western Australia University. The modified Mesh Block consists of the ABS Mesh Block polygons modified with road and rail features from the NSW Digital Cadastral Database to add infrastructure.

Limitations on public access

Scope	dataset

DQ Completeness Commission

Effective date	2019-03-12
Explanation	The dataset has complete coverage for the Significant Urban Area of Sydney Greater Metropolitan Area. This includes the major urban, urban, peri-urban and other urban areas of the included Local Government Areas. The dataset has complete coverage for the SUA in the Greater Sydney Region and the Local Government Areas within it.

DQ Completeness Omission

Effective date	2019-03-12
Explanation	There is no obvious completeness omissions with the dataset. An explanation of potential omissions is explained in the attached CSIRO Report.

DQ Conceptual Consistency

Effective date	2019-03-12
Explanation	Local Government Area users of the data will need to double check that their known boundaries are correctly identified. In the dataset, the LGA name that is given to a Modified Mesh Block may be inaccurate, due to the modified Mesh Blocks boundaries not nesting within the LGA boundaries completely. The LGA boundaries were overlaid with the Modified Mesh Blocks polygons and the LGA names were assigned to the Mesh Block with the greatest area within it. Note 2017 LGA boundaries were used. The knock on effect is that the Mesh Block may not correspond to the correct District. This issue most likely occurs with more rural Mesh Blocks at the boundaries, such as near Campbelltown, Wollondilly or Sutherland. It may also occur where roads form a boundary between LGAs. As adequate data validation was performed, this issue is likely minor and not affecting every LGA. Other possible conceptual consistency matters may be addressed in the attached CSIRO Report.

DQ Topological Consistency

Effective date	2019-03-12
Explanation	There are no obvious topological inconsistencies in the dataset. An explanation of potential inconsistencies is explained in the attached CSIRO Report.

DQ Absolute External Positional Accuracy

Effective date	2019-03-12
Explanation	Positional accuracy is described in the attached methodology report.

DQ Non Quantitative Attribute Correctness

Effective date	2019-03-12
Explanation	Attribute accuracy is described in the attached methodology report.

Responsible party

Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Telephone number	131555
Email address	data.broker@environment.nsw.gov.au
Web address	https://www.nsw.gov.au/departments-and-agencies/dcceew
Responsible party role	pointOfContact

Metadata point of contact

Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Telephone number	131555
Email address	data.broker@environment.nsw.gov.au
Web address	https://www.nsw.gov.au/departments-and-agencies/dcceew
Responsible party role	pointOfContact

Metadata date

2024-09-17T00:14:56.113685

Metadata language