

Vegetation and heat datasets for Metropolitan Melbourne

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Environment, Land, Water and Planning

Vegetation Datasets

Vegetation Cover 2014

Field Name	Sample Value	Description	Calculation if relevant	Туре
OBJECTID_1*	1	system generated identifier		Integer
Shape *	Polygon			
OBJECTID	1	system generated identifier		Integer
gid	75674	system generated identifier		Integer
is_road	t	Binary field to identify roads ("t" or "f")		Text
key	7567401	Planning scheme zone		Integer
UniqueID	7567401	Unique Identifier (used as join field for Urban Monitor data).		Integer
MB_CODE16	20632001740	ABS Mesh Block Codes		Text
MB_RECLASS	Infrastructure	Reclassified Mesh Block Land Use classifi- cation to add in Infrastructure.		Text
MB_CAT16	Residential	ABS Mesh Block Categories		Text
LandType	Public	Land access type = Public, Private, Other.		Text
DataCover	Full	DataCoverage = description of level of data available for cadastral parcels. See Additional Information.		Text
CompDataYN	Υ	Indicator of whether DataCoverage > 0.9 (Y or N).		Text
FullArea	4958.776314	Area in sqm of non-null cells derived by Google Earth Engine Projection (EPSG 28355)		Double
areaSqM	4959.998291	Vector based area derived by Google Earth Engine (EPSG 28355).		Double
FulArRatio	0.993825	FullAreaRatio. Indicator of the level of data coverage within a feature. A ratio close to 1 indicates good data coverage. Areas with low ratio are usually at edge of study area. Where this is zero or null it implies no data.		Double
ArSQMRatio	0.99407	Area ratio to test consistency between Google Earth Engine generated feature area and ArcGIS generated feature area.	areaSQM / Shape_Area	Double
AreaGrass	532.06651	Area of Grass in sqm based on sum of cell areas (EPSG 28355)		Double
AreaShrub	100.294431	Area of Shrubs in sqm based on sum of cell areas (EPSG 28355)		Double
ArTr03_10m	296.112314	Area of Trees 3 to 10m based on sum of cell areas (EPSG 28355)		Double
ArTr10_15m	0	Area of Trees 10 to 15m in sqm based on sum of cell areas (EPSG 28355)		Double
ArTr15mPl	0	Area of Trees 15m plus in sqm based on sum of cell areas (EPSG 28355)		Double
ArAnyTree	296.112314	Total Area of Trees in sqm based on sum of cell areas (EPSG 28355)		Double
ArAnyVeg	928.473255	Area of Total Vegetation in sqm based on sum of cell areas (EPSG 28355)		Double
ArShrTree	396.406745	Area of trees and shrubs collectively based on sum of cell areas (ESPG 28355)		Double

Vegetation Cover 2014 continued

Field Name	Sample Value	Description	Calculation if relevant	Туре
PerGrass	10.729795	Percentage cover of vegetation < 0.5m (aka Grass)	AreaGrass/FullArea x 100	Double
PerShrub	2.022564	Percentage cover of vegetation 0.5m to 3m (aka Shrubs)	AreaShrub/FullArea x 100	Double
PerTr3_10m	5.97148	Percentage cover of vegetation 3 to 10m (aka Trees 3 to 10m)	ArTr03_10m/FullArea x 100	Double
PerTr10_15m	0	Percentage cover of vegetation 10 to 15m (aka Trees 10 to 15m)	ArTr10_15m/FullArea x 100	Double
PerTr15mPl	0	Percentage cover of vegetation over 15m high (aka Trees 15m plus)	ArTr15mPl/FullArea x 100	Double
PerAnyTree	5.97148	Percentage cover of any type of tree (where veg height > 3m)	ArAnyTree/FullArea x 100	Double
PerAnyVeg	18.723838	Percentage cover of any type of vegetation (where veg height > 0m)	ArAnyVeg/FullArea x 100	Double
PerShrTree	7.994044	Percentage cover of trees and shrubs collectively (i.e. where veg height > 0.5m)	ArShrTree/FullArea x 100	Double
Shape_Length	1224.165261			Double
Shape_Area	4989.585			Double

Vegetation Cover 2018

Field Name	Sample Value	Description	Calculation if relevant	Туре
OBJECTID_1 *	1	system generated identifier		Integer
Shape *	Polygon			
OBJECTID	1	system generated identifier		Integer
gid	75674	system generated identifier		Integer
is_road	t	Binary field to identify roads ("t" or "f")		Text
key	7567401	Planning scheme zone		Integer
UniqueID	7567401	Unique Identifier (used as join field for Urban Monitor data).		Integer
MB_CODE16	20632001740	ABS Mesh Block Codes		Text
MB_RECLASS	Infrastructure	Reclassified Mesh Block Land Use classifi- cation to add in Infrastructure.		Text
MB_CAT16	Residential	ABS Mesh Block Categories		Text
LandType	Public	Land access type = Public, Private, Other.		Text
DataCover	Full	DataCoverage = description of level of data available for cadastral parcels. See Additional Information.		Text
CompDataYN	Υ	Indicator of whether DataCoverage > 0.9 (Y or N).		Text
FullArea	4958.776314	Area in sqm of non-null cells derived by Google Earth Engine Projection (EPSG 28355)		Double
areaSqM	4959.998291	Vector based area derived by Google Earth Engine (EPSG 28355).		Double

Vegetation Cover 2018 continued

Field Name	Sample Value	Description	Calculation if relevant	Туре
FulArRatio	0.993825	FullAreaRatio. Indicator of the level of data coverage within a feature. A ratio close to 1 indicates good data coverage. Areas with low ratio are usually at edge of study area. Where this is zero or null it implies no data.		Double
ArSQMRatio	0.99407	Area ratio to test consistency between Google Earth Engine generated feature area and ArcGIS generated feature area.	areaSQM / Shape_Area	Double
AreaGrass	532.06651	Area of Grass in sqm based on sum of cell areas (EPSG 28355)		Double
AreaShrub	100.294431	Area of Shrubs in sqm based on sum of cell areas (EPSG 28355)		Double
ArTr03_10m	296.112314	Area of Trees 3 to 10m based on sum of cell areas (EPSG 28355)		Double
ArTr10_15m	0	Area of Trees 10 to 15m in sqm based on sum of cell areas (EPSG 28355)		Double
ArTr15mPl	0	Area of Trees 15m plus in sqm based on sum of cell areas (EPSG 28355)		Double
ArAnyTree	296.112314	Total Area of Trees in sqm based on sum of cell areas (EPSG 28355)		Double
ArAnyVeg	928.473255	Area of Total Vegetation in sqm based on sum of cell areas (EPSG 28355)		Double
ArShrTree	396.406745	Area of trees and shrubs collectively based on sum of cell areas (ESPG 28355)		Double
PerGrass	10.729795	Percentage cover of vegetation < 0.5m (aka Grass)	AreaGrass/FullArea x 100	Double
PerShrub	2.022564	Percentage cover of vegetation 0.5m to 3m (aka Shrubs)	AreaShrub/FullArea x 100	Double
PerTr3_10m	5.97148	Percentage cover of vegetation 3 to 10m (aka Trees 3 to 10m)	ArTr03_10m/FullArea x 100	Double
PerTr10_15m	0	Percentage cover of vegetation 10 to 15m (aka Trees 10 to 15m)	ArTr10_15m/FullArea x 100	Double
PerTr15mPl	0	Percentage cover of vegetation over 15m high (aka Trees 15m plus)	Artr15mPl/FullArea x 100	Double
PerAnyTree	5.97148	Percentage cover of any type of tree (where veg height > 3m)	ArAnyTree/FullArea x 100	Double
PerAnyVeg	18.723838	Percentage cover of any type of vegeta- tion (where veg height > 0m)	ArAnyVeg/FullArea x 100	Double
PerShrTree	7.994044	Percentage cover of trees and shrubs collectively (i.e. where veg height > 0.5m)	ArShrTree/FullArea x 100	Double
Shape_Length	1224.165261			Double
Shape_Area	4989.585			Double

Change in Vegetation Cover 2014 - 2018

Field Name	Sample Value	Description	Calculation if relevant	Туре
OBJECTID *	1	system generated identifier		Integer
Shape *	Polygon			
UniqueID	1	Unique Identifier (used as join field for Urban Monitor data).		Integer
MMB_CODE	20015400000_1	system generated identifier		Text
MB_CODE16	20015400000	ABS Mesh Block Codes		Text
MB_CAT16	Residential	ABS Mesh Block Categories		Text
MB_Reclass	Infrastructure	Reclassified Mesh Block Land Use classifica- tion to add in Infrastructure.		Text
UCL_Ind_YN	Y	Urban Centres and Localities Indicator ("Y" or "N")		Text
Туре	1	Based on the typology of the original cadastral parcel. (1 = Parcel, 2 = Road, 3 = Void*, 4 = Parcel, 5 = Rail. *voids occur due to gaps in the cadastre - usually rivers/water.		Text
LandType	Private	Land access type = Public, Private, Other.		Text
DatCover18	Full	DataCoverage = description of level of data available for cadastral parcels.		Text
ValData18	Y	Indicator of whether DataCoverage > 0.9 (Y or N).		Text
FullArea18	10599.8422	Area in sqm of non-null cells derived by Google Earth Engine Projection (EPSG 28355)		Double
areaSqM18	10600.06494	Vector based area derived by Google Earth Engine (EPSG 28355).		Double
FulArRat18	1.002214	FullAreaRatio. Indicator of the level of data coverage within a feature. A ratio close to 1 indicates good data coverage. Areas with low ratio are usually at edge of study area. Where this is zero or null it implies no data.		Double
arSQMRat18	1.002235	Area ratio to test consistency between Google Earth Engine generated feature area and ArcGIS generated feature area.	areaSQM / Shape_Area	Double
ArGrass18	461.655529	Area of Grass in sqm based on sum of cell areas (EPSG 28355)		Double
ArShrub18	895.325804	Area of Shrubs in sqm based on sum of cell areas (EPSG 28355)		Double
ArTrSml18	874.786196	Area of Trees 3 to 10m based on sum of cell areas (EPSG 28355)		Double
ArTrMed18	26.104941	Area of Trees 10 to 15m in sqm based on sum of cell areas (EPSG 28355)		Double
ArTrLge18	2.32	Area of Trees 15m plus in sqm based on sum of cell areas (EPSG 28355)		Double
ArTree18	903.211137	Total Area of Trees in sqm based on sum of cell areas (EPSG 28355)		Double
ArVeg18	2260.192471	Area of Total Vegetation in sqm based on sum of cell areas (EPSG 28355)		Double
ArShrTr18	1798.536941	Area of trees and shrubs collectively based on sum of cell areas (ESPG 28355)		Double
PerGrass18	4.355306	Percentage cover of vegetation < 0.5m (aka Grass)	ArGrass18/FullArea18 x 100	Double

Change in Vegetation Cover 2014 - 2018 continued

Field Name	Sample Value	Description	Calculation if relevant	Туре
PerShrub18	8.446596	Percentage cover of vegetation 0.5m to 3m (aka Shrubs)	ArShrub18/FullArea18 x 100	Double
PerTrSml18	8.252823	Percentage cover of vegetation 3 to 10m (aka Trees 3 to 10m)	ArTrSml18/FullArea18 x 100	Double
PerTrMed18	0.246277	Percentage cover of vegetation 10 to 15m (aka Trees 10 to 15m)	ArTrMed18/FullArea18 x 100	Double
PerTrLge18	0.021887	Percentage cover of vegetation over 15m high (aka Trees 15m plus)	ArTrLge18/FullArea18 x 100	Double
PerTree18	8.520987	Percentage cover of vegetation over 3m high (aka Trees)	AreaTree18/FullArea18 x 100	Double
PerVeg18	21.322888	Percentage cover of total vegetation	AreaVeg18/FullArea18 x 100	Double
PerShrTr18	16.967582	Percentage cover of vegetation over 0.5m high (aka Shrubs + Trees15)	ArShrTr18/FullArea18	Double
DatCover14	Full	DataCoverage = description of level of data available for cadastral parcels. See Addition- al Information.		Text
ValData14	Y	Indicator of whether DataCoverage > 0.9 (Y or N).		Text
areaSqM14	10600.06494	Area in sqm of non-null cells derived by Google Earth Engine Projection (EPSG 28355)		Double
FullArea14	10599.8422	Vector based area derived by Google Earth Engine (EPSG 28355).		Double
FulArRat14	1.002214	FullAreaRatio. Indicator of the level of data coverage within a feature. A ratio close to 1 indicates good data coverage. Areas with low ratio are usually at edge of study area. Where this is zero or null it implies no data.		Double
ArGrass14	340.422118	Area of Grass in sqm based on sum of cell areas (EPSG 28355)		Double
ArShrub14	846.736314	Area of Shrubs in sqm based on sum of cell areas (EPSG 28355)		Double
ArTrSml14	986.703686	Area of Trees 3 to 10m based on sum of cell areas (EPSG 28355)		Double
ArTrMed14	25.56	Area of Trees 10 to 15m in sqm based on sum of cell areas (EPSG 28355)		Double
ArTrLge14	3.2	Area of Trees 15m plus in sqm based on sum of cell areas (EPSG 28355)		Double
ArTree14	1015.463686	Total Area of Trees in sqm based on sum of cell areas (EPSG 28355)		Double
ArVeg14	2202.622118	Area of Total Vegetation in sqm based on sum of cell areas (EPSG 28355)		Double
ArShrTr14	1862.2	Area of trees and shrubs collectively based on sum of cell areas (ESPG 28355)		Double
PerGrass14	3.211577	Percentage cover of vegetation < 0.5m (aka Grass)	ArGrass14/FullArea14 x 100	Double
PerShrub14	7.988197	Percentage cover of vegetation 0.5m to 3m (aka Shrubs)	ArShrub14/FullArea14 x 100	Double
PerTrSml14	9.308664	Percentage cover of vegetation 3 to 10m (aka Trees 3 to 10m)	ArTrSml14/FullArea x 100	Double
PerTrMed14	0.241136	Percentage cover of vegetation 10 to 15m (aka Trees 10 to 15m)	ArTrMed14/FullArea14 x 100	Double

Change in Vegetation Cover 2014 - 2018 continued

Field Name	Sample Value	Description	Calculation if relevant	Туре
PerTrLge14	0.030189	Percentage cover of vegetation over 15m high (aka Trees 15m plus)	ArTrLge/FullArea14 x 100	Double
PerTree14	9.579989	Percentage cover of vegetation over 3m high (aka Trees)	ArTree14/FullArea14 x 100	Double
PerVeg14	20.779763	Percentage cover of total vegetation	ArVeg14/FullArea14 x 100	Double
PerShrTr14	17.568186	Percentage cover of vegetation over 0.5m high (aka Shrubs + Trees15)	ArShrTr14/FullArea14 x 100	Double
CA_Grass	121.233412	Change in area of grass.	ArGrass18 - ArGrass14	Double
CA_Shrub	48.58949	Change in area of shrubs.	ArShrub18 - ArShrub14	Double
CA_Tr03_10m	-111.91749	Change in area of trees 3 - 10m.	ArTrSml18 - ArTrSml14	Double
CA_Tr10_15m	0.544941	Change in area of trees 10 -15m	ArTrMed18 - ArTrMed14	Double
CA_Tr15mPl	-0.88	Change in area of trees 15m plus.	ArTrLge18 - ArTrLge14	Double
CA_AnyTree	-112.252549	Change in area of total tree cover.	AreaTree18 - AreaTree14	Double
CA_AnyVeg	57.570353	Change in area of total vegetation.	AreaVeg18 - AreaVeg14	Double
CA_ShrTree	-63.663059	Change in area of shrubs and trees collec- tively.	ArShrTr18 - ArShrTr14	Double
PP_Grass	1.143728	Percentage point change in grass.	PerGrass18 - PerGrass14	Double
PP_Shrub	0.458398	Percentage point change in shrubs.	PerShrub18 - PerShrub14	Double
PP_Tr03_10m	-1.055841	Percentage point change in trees 3 - 10m.	PerTrSml18 - PerTrSml14	Double
PP_Tr10_15m	0.005141	Percentage point change in trees 10 - 15m.	PerTrMed18 - PerTrMed14	Double
PP_Tr15mPl	-0.008302	Percentage point change in trees 15m plus.	PerTrLge18 - PerTrLge14	Double
PP_AnyTree	-1.059002	Percentage point change in total tree cover.	PerTree18 - PerTree14	Double
PP_AnyVeg	0.543125	Percentage point change in total vegetation.	PerVeg18 - PerVeg14	Double
PP_ShrTree	-0.600604	Percentage point change in shrubs and trees collectively.	PerShrTree18 - PerShrTree14	Double
PC_Grass	35.612672	Percentage change in grass	CA_Grass / ArGrass14 x 100	Double
PC_Shrub	5.738444	Percentage change in shrubs	CA_Shrub / ArShrub14 x 100	Double
PC_Tr03_10m	-11.342563	Percentage change in trees 3 - 10m.	CA_Tr3_10 / ArTrSml14 x 100	Double
PC_Tr10_15m	2.132008	Percentage change in trees 10 - 15m.	CA_Tr10_15 / ArTrMed14 x 100	Double
PC_Tr15mPl	-27.5	Percentage change in trees 15m plus.	CA_Tr15mPl / ArTrLge14 x 100	Double
PC_AnyTree	-11.054314	Percentage change in total tree cover.	CA_AnyTree / ArTree14 x 100	Double
PC_AnyVeg	2.613719	Percentage change in total vegetation.	CA_AnyVeg / ArVeg14 x 100	Double
PC_ShrTree	-3.418701	Percentage change in shrubs and trees collectively.	CA_ShrTree / ArShrTree14 x 100	Double
CompData18	Y	Indicator of whether Full Area Ratio > 0.9 for 2018.		Text
CompData14	Y	Indicator of whether Full Area Ratio > 0.9 for 2014.		Text
CompDataYN	Y	Indicator of whether Full Area Ratio > 0.9 for both 2014 and 2018.		Text
Shape_Length	467.077945			Double
Shape_Area	10576.43			Double

Mesh Block Reclassification

Modified Mesh Blocks are adapted from the original ABS Mesh Blocks to incorporate linear infrastructure such as roads, rail and waterways. The relationship between Mesh Block and Modified Mesh Block is strictly hierarchical. For each MB_CAT16 there will always be two different MB_ Reclass values.

MB_CAT16	MB_Reclass
Commercial	Commercial
Commercial	Infrastructure
Education	Education
Education	Infrastructure
Hospital/Medical	Hospital/Medical
Hospital/Medical	Infrastructure
Industrial	Industrial
Industrial	Infrastructure
Other	Other
Other	Infrastructure
Parkland	Parkland
Parkland	Infrastructure
Primary Production	Primary Production
Primary Production	Infrastructure
Residential	Residential
Residential	Infrastructure
Transport	Transport
Transport	Infrastructure
Water	Water
Water	Infrastructure

Land Type

LandType is used as an approximation of the nature of land in terms of its access type. Land can be classified as Public, Private or Other.

MB_Reclass	LandType
Commercial	Private
Education	Public
Hospital/Medical	Public
Industrial	Private
Infrastructure	Public
Other	Other
Parkland	Public
Primary Production	Private
Residential	Private
Transport	Public
Water	Public

Land Use Matrix

MB_CAT16	MB_RECLASS	FREQUENCY*
Commercial	Commercial	2980
Commercial	Infrastructure	2977
Education	Education	1206
Education	Infrastructure	1193
Hospital/Medical	Hospital/Medical	134
Hospital/Medical	Infrastructure	128
Industrial	Industrial	1526
Industrial	Infrastructure	1524
Other	Infrastructure	251
Other	Other	252
Parkland	Infrastructure	3808
Parkland	Parkland	4257
Primary Production	Infrastructure	187
Primary Production	Primary Production	189
Residential	Infrastructure	38993
Residential	Residential	39195
Transport	Infrastructure	427
Transport	Transport	384
Water	Infrastructure	39
Water	Water	92
* Frequency applicable to MMB2	014_Mel_UM2014_v2 only	99742

Heat Datasets

Heat Vulnerability Index 2014

Field Name	Sample Value	Description
SA1_MAIN16	20601110501	SA1 16 digits code
SA1_7DIG16	2110501	SA17 digits code
SA2_MAIN16	206011105	SA2 16 digits code
SA2_5DIG16	21105	SA2 7 digits code
SA2_NAME16	Brunswick	SA2 Name 2016
SA3_CODE16	20601	SA3 code 2016
SA3_NAME16	Brunswick - Coburg	SA3 Name 2016
SA4_CODE16	206	SA4 code 2016
SA4_NAME16	Melbourne - Inner	SA4 Name 2016
GCC_CODE16	2GMEL	GCC code 2016
GCC_NAME16	Greater Melbourne	GCC name 2016
HVI_2014	3	Heat Vulnerability Index

Heat Vulnerability Index 2018

Field Name	Sample Value	Description
SA1_MAIN16	20601110501	SA1 16 digits code
SA1_7DIG16	2110501 SA17 digits code	
SA2_MAIN16	206011105	SA2 16 digits code
SA2_5DIG16	21105	SA2 7 digits code
SA2_NAME16	Brunswick	SA2 Name 2016
SA3_CODE16	20601 SA3 code 2016	
SA3_NAME16	Brunswick - Coburg	SA3 Name 2016
SA4_CODE16	206	SA4 code 2016
SA4_NAME16	Melbourne - Inner	SA4 Name 2016
HVI_Index	2	Heat Vulnerability Index

Urban Heat 2018

Field Name	Sample Value	Description
MB_CODE16	20015400000	Mesh Block 16 digit code
SA1_MAIN16	20901119918	SA1 16 digits code
SA2_MAIN16	209011199	SA2 16 digits code
SA2_NAME16	Heidelberg West	SA2 Name 2016
SA3_CODE16	20901	SA3 code 2016
SA3_NAME16	Banyule	SA3 Name 2016
SA4_CODE16	209	SA4 code 2016
SA4_NAME16	Melbourne - North East	SA4 Name 2016
GCC_CODE16	2GMEL	Greater Capital City Statistical Area Code
PerAnyVeg	20.952135	Percentage of all vegetation (Grass, Shrubs, Trees)
PerShrbTre	15.827044	Percentage of Shrubs & Trees
PerGrass	5.125091	Percentage of Grass
PerShrub	6.15410281757	Percentage of Shrubs
PerTr3_10m	10.32746324530	Percentage of Tree with height from 3 to 10 metres
PerTr10_15	6.07691941556	Percentage of Tree with height from 10 to 15 metres
PerTr15mPl	1.04993984838	Percentage of Tree with height over 15 metres
UHI18_m	8.36109339158	Mean of Urban Heat Islands (UHI) 2015 to 2016 summer (°C), where UHI is the difference in Land Surface Temperature (LST) from a non-urban baseline.
PerAnyTree	17.45432250920	Percentage of all Tree types
LGA	Banyule (C)	LGA name 2016