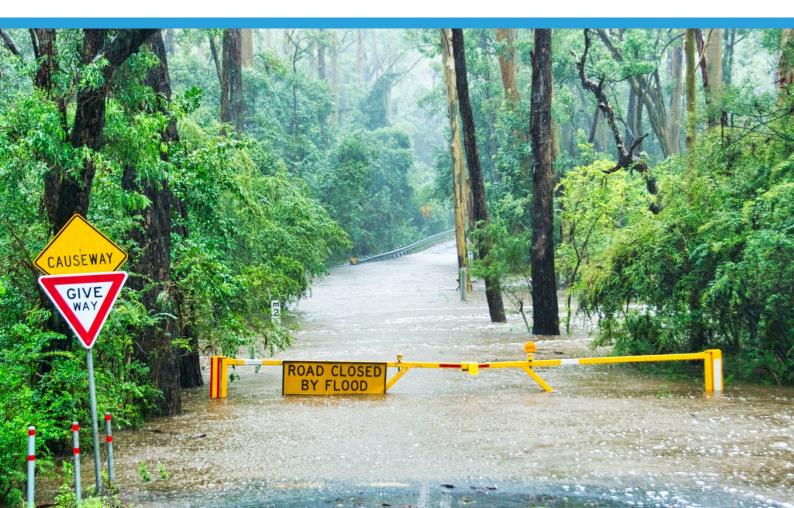


# Asset Vulnerability Assessment Project Stage 1 – Worked Example User Guide

Prepared for: South East Councils Climate Change Alliance (SECCCA)



**Final** 17/11/2021



## **About This Document**

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## 1. This Document

This worked example user guide has been provided to Council to assist in viewing data within a QGIS environment as part of the SECCCA AVA project.

Section 2 of this user guide provides a schematic representation of the Data Handover structure, with simple explanations for the various folders and the data they contain.

Section 3 provides background notes on the AVA outputs, including links to QGIS video recordings of the Climate Viewer, and definitions of key climate terms used throughout the project.

Section 4 outlines the structure and basic use of the QGIS Climate Viewer.

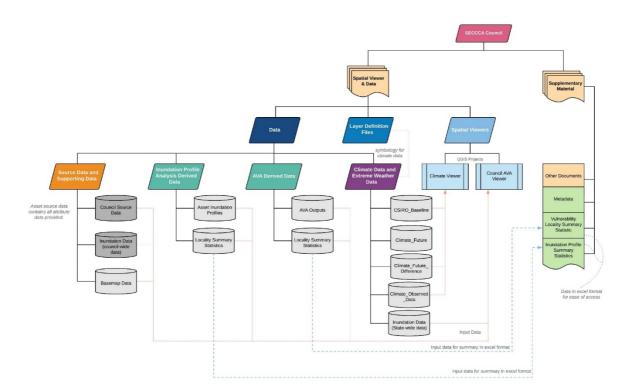
Section 5 provides step-by-step instructions for four worked examples on key user questions that the QGIS viewers can answer.

Note that Section 5 uses the Bass Coast AVA Viewer as the example (screenshots, etc.). However, the instructions presented in this User Manual are transferrable across all councils and any other QGIS project.

For further information regarding QGIS application, please refer to the provided QGIS training material (training notes, training data and recording), or access additional information here: <a href="https://qgis.org/en/docs/index.html">https://qgis.org/en/docs/index.html</a>.

## 2. Data Handover File Structure

The figure below presents a schematic representation of the data handover file structure. Each of the folders are described in Section 2.1.



## 2.1. Handover Structure Folder Explanation

#### Source Data and Supporting Data

The Source Data and Supporting Data folder contains the un-analysed data provided to Spatial Vision by the Council.

#### **Inundation Profile Analysed Derived Data**

This folder contains the outputs of the inundation profile analysis. The Asset Inundation Profiles contain the feature classes that identify the assets impacted by the three inundation scenarios:

- '\_FLD' = 1 in 100 year flooding event
- '\_SLR' = 82 cm Sea Level Rise
- '\_STM; = Storm Surge on 82 cm Sea Level Rise

The *Locality Summary Statistics* geodatabase contain geodatabase tables that identify the number of assets (per asset type) in each locality within the LGA impacted by the three inundation scenarios.

#### **AVA Derived Data**

This folder contains the outputs of the vulnerability assessment. The *AVA Outputs* geodatabase contains feature classes that identify the vulnerability of the assets (per asset type) to the climate variables. The table below identifies the climate variables for which vulnerability was determined for each asset type.

Asset Type	Unit
Buildings	Extreme Rainfall, Extreme Temperature, Standard Precipitation Index (SPI)
Roads	Extreme Rainfall, Extreme Temperature, Standard Precipitation Index (SPI)
Drainage (Pits and Pipes)	Extreme Rainfall, Standard Precipitation Index (SPI)

The *Locality Summary Statistics* geodatabase contains geodatabase tables that present the 'average asset vulnerability' score for a particularly climate model, RCP future, and time fame (e.g. ACCESS 1.0 RCP 8.5 2050 climate future) (%) for all assets that intersect locality.

#### **Climate and Extreme Weather Data**

This folder contains all climate and extreme weather-related data for the case study. The Sub-folders include:

- 1. CSIRO Baseline Data 5 km gridded climate data that the projections are based on. The baseline period is from 1981 to 2010.
- 2. Climate Future Data 5 km gridded climate projection data (absolute values) for the climate variables. This data is not presented in the QGIS Climate Viewer, but is provided as part of the data package.

- 3. Climate Future Difference Data 5 km gridded climate projection data, showing the change in values from the baseline for the climate variables.
- 4. Historic Climate Data this contains the 5 km gridded observed climate data (source: SILO) for the same variables mentioned above. These datasets contain observed historical climate data for the decades: 1970, 1980, 1990, 2000, 2010.
- 5. Inundation Data (state-wide) this folder contains data of the different inundation scenarios (Flooding Scenarios; storm surge at the different sea level rise increments) from various state-wide sources.

#### **Layer Definition Files**

The Layer Definition Files folder contains Layer files that can be brought directly into a QGIS environment, that refers to the data within the *Climate Data and Extreme Weather Data* folder, and has all symbology set.

#### **Spatial Viewers**

This folder contains the QGIS Projects that relate to:

- 1. The Council AVA viewer, with symbolised layers
- 2. Climate projected and observed polygrids, with symbolise layers

The purpose of these projects with pre-symbolised layers is to allow the user easy viewing of the data.

## 3. First Pass AVA Project Outputs Background Notes

In delivering the Asset Vulnerability Project, the Spatial Vision team have packaged the data outputs from the first pass assessment process into a spatial data viewer. The viewer used is QGIS.

The data outputs are aimed at assisting asset managers better understand the likely climate change under various climate futures, and the likely impacts.

The data is packaged in two separate viewers:

- one that displays climate information prepared by the CSIRO (and sponsored by the Victorian Department of Environment, Land, Water, and Planning under the Victorian Climate Futures Project (VCF19)); This viewer also includes historical climate observation data. This is referred to as the *Climate Viewer*.
- second that presents the inputs and outputs from the first pass asset vulnerability assessment (AVA) for building, roads and drains. This second viewer includes both the inundation profile for assets under various inundations scenarios, in addition to the full vulnerability assessment for assets based on three different climate models and futures, two carbon emission scenarios, and four different time points. This is referred to as the *AVA Council Viewer*.

### 3.1. Reference Videos

*Note*: the reference videos may show the QGIS viewer with slight variances to the final viewer.

#### Intro to QGIS

"This video is a brief overview and introduction to the council-specific QGIS viewer that presents the inundation profile and vulnerability analysis outputs.

This video was produced as part of the SECCCA Asset Vulnerability Assessment Project in May 2021.

See: Intro to QGIS: https://youtu.be/NKZ0Z073cuk

#### **Climate Viewer**

"This video presents an exploration of the QGIS climate data viewer (baseline, projected and historic climate data) for the SECCCA region, including how to compare views of different climate future models and timeframes.

This video was produced as part of the SECCCA Asset Vulnerability Assessment Project in May 2021.

See: *Climate Viewer*: <u>https://youtu.be/lxF9--U7iNk</u>

### 3.2. Key Climate Data Explanations

#### Inundation Climate Change Events

The overall first pass Asset Vulnerability Assessment will include consideration of the following three inundation events:

- Sea Level Rise of 82 cm
- Sea Level Rise of 82 cm with 1% Annual Exceedance Probability (AEP) Storm Surge Event
- 1 in 100 year Flood Event based on historical data

#### General Circulation Models (GCM) selected

- 1. ACCESS 1.0 CSIRO and BoM representing a maximum consensus future
- 2. HadGEM2-CC Met Office Hadley Centre representing a hotter and drier future
- 3. NorESM1-M Norwegian Climate Centre representing a warmer and wetter future

#### Representative Concentration Pathway (RCP) emissions scenarios

The carbon emission future scenarios used are RCP 4.5 and RCP 8.5 that represent low and high carbon emissions scenarios.

#### **Time Frames**

The time frames selected are those available in the VCP2019 projections and include the years of 2030, 2050, 2070 and 2090. This projection data is based on a baseline climate represented by the period from 1981 to 2010.

#### Project Climate Change and Climate Change Related Events

The first pass asset vulnerability assessment will include consideration of the following projected climate change variables that will be derived from the most recent climate modelling prepared by CSIRO and made available as part of the Victorian Climate Projections 2019 Project:

- Number of annual hot days (defined as days with a max temp greater than 35°C)
- Degree increase of annual extremely hot days (defined as change that occurs to top 1% of events)
- Number of annual heat waves (defined as three or more consecutive days greater than 35°C)
- Percentage change of annual extremely wet days (defined as change to events that occur top 1%)
- Number of months in a given year in which a dryness index measure falls below a threshold value (based on a Standard Precipitation Index approach)
- Percentage change in annual rainfall

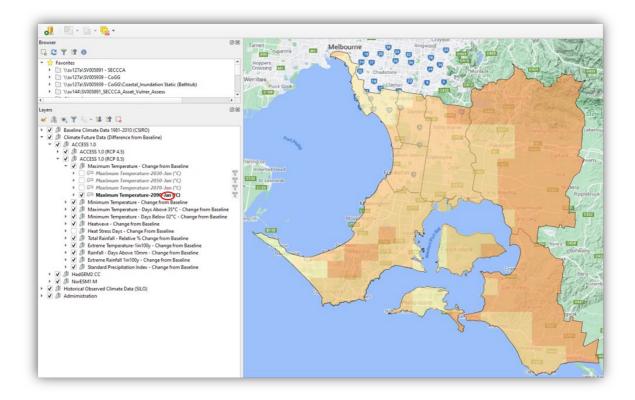
## 4. Climate Viewer - QGIS Environment

This section provides an understanding on the structure, navigation and use of the Climate Viewer, including instructions on changing the symbology for monthly data variables.

### 4.1. Structure

The figure below outlines the data presentation structure within the Climate Data QGIS viewer.

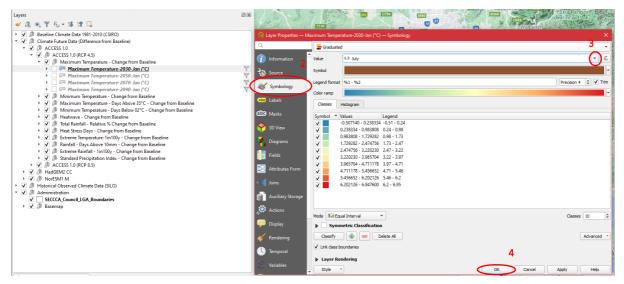
- The climate variables (e.g. "Maximum Temperature", "Rainfall Days above 10mm", etc.) are presented and symbolised for the baseline data, the projected data (for all models, RCP 4.5 and RCP 8.5, and all timeframes) and the historical data.
- For consistency, the Climate Viewer defaults monthly data to 'January' (see red circle in figure below). This can be changed by the user to any other month.
- For the climate future data, symbology for each climate variable is consistent across all climate future models, RCPs and timeframes. This allows for visual comparison of these different factors to assist decision making.



## 4.2. Changing Symbology for Monthly Data

Monthly climate variables are presented for January as the default, but can be altered to another month. Follow the instructions below on how this is done.

- 1. Identify the climate variable of interest, and right click to access 'Properties'
- 2. Navigate to the 'Symbology' tab in the pop-up Layer Properties box that appears
- 3. Change the month by navigating to the 'Value' dropdown and selecting the appropriate month.
- 4. Click 'OK' to reflect the change on the map view.



*Note*: The layer name in the Layers tree will not automatically change from 'Jan' to the correct month, despite the change being reflected on the map view. Ensure you manually change the layer name to the correct month

to avoid confusion.

*Note*: The attribute tables have all data in the attribute table for quick reference.

## 5. Worked Examples

It is suggested that viewers familiarise themselves to the Asset Vulnerability Assessment Project First Pass Methods Report prior to applying these worked examples to ensure they understand the concepts, definitions and data underpinning the examples.

*Note*: These worked examples are using a specific asset or focus area in Bass Coast to demonstrate the process involved, however the methodologies can be applied across any other asset or focus area.

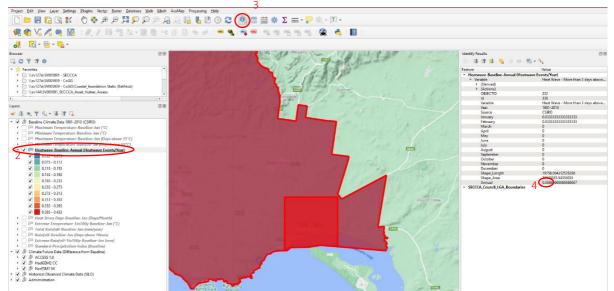
### 5.1. Climate Viewer – Worked Example #1

#### Worked Example Question

*"What's the relative change in the number of heatwaves per year in Inverloch expected to be over time?"* 

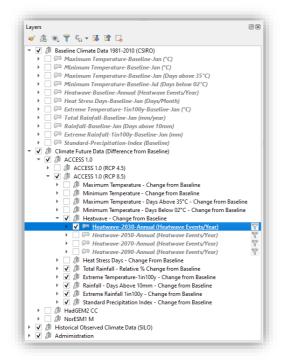
#### Steps

- 1. Navigate to the area of interest (in this example, Inverloch) in the map view.
- 2. Turn on the Heatwave layer in the Baseline grouping to determine what the current number of annual heatwaves are in the focus area.
- 3. Use the identify tool and click the area of interest to get the attribute information pop-up box ('identified' objects will be highlighted in red).
- 4. From the pop-up box that appears, note down the annual heatwave value. In this example, it is  $\sim$ 0.07 heatwaves per year.



- 5. Decide which climate model and RCP scenario you will initially look into. In this worked example, the Maximum Consensus Model (ACCESS 1.0) will be used, for an RCP scenario of 8.5.
- 6. Navigate to the appropriate layer grouping in the Layers tree, and turn on the layer for 2030 heatwaves. Use the identify tool again to click the area of interest and note down the annual heatwaves (change from baseline) from the pop-up box that appears.

*Hint*: make sure that you're noting down the value from the correct layer in the identify pop-up box that appears. The identify pop-up box will show results for all layers that are currently turned on in the Layers tree.



7. Repeat Step 6 for the other timeframes (2050, 2070 and 2090) to see how the number of annual heatwaves is expected to change over time from the baseline for the focus area. *Note: This worked example can also be repeated for the other climate models and RCP scenarios to see how the outputs vary.* 

Timeframe	Annual Heatwaves (ACCESS 1.0 RCP 8.5) (change from baseline)
Baseline (1981-2010)	0.07 heatwave events
2030	+0.13
2050	+0.2
2070	+0.67
Drainage (Pits and Pipes)	+1.27

The outputs for this worked example would be:

### 5.2. Council AVA Viewer - Worked Example #1

#### Worked Example Question

*"Will Building 'X' be impacted by different inundation scenarios?"* 

*Note*: This worked example will use the Inverloch Foreshore The Glades BBQ Shelter building in Inverloch, Bass Coast, but the method can be applied to any building or individual asset.

#### Steps

1. Open the attribute table for 'Buildings' in the Source Data to find and identify the

building of interest (in this example – "Inverloch Foreshore The Glades BBQ Shelter"). Note down the BuildingID key (or AssetID/etc.).

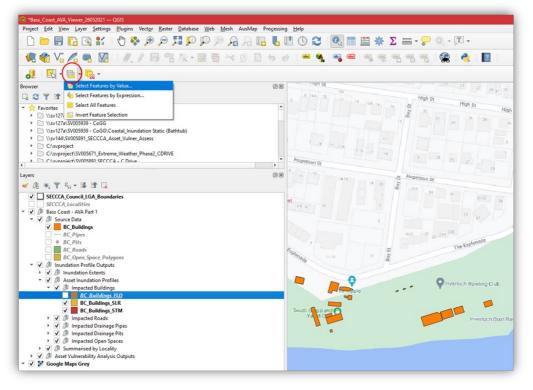
*Note*: Assets within these Inundation Profile Output layers are those that ARE impacted by the inundation scenario. If the asset is not in the layer, then it is not impacted by the inundation scenario.

ayers ✔ /组 ● ▼ ℓu = 15 11 □.	B 🗷 🕟 BC	_Buildings — Features Total: 49	3, Filtered: 493, Selected: 1		- (	⊐ ×
Image: I for the initial case   Image: I for the inititial case	/ 1	1 1 <b>C</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.		
		DBJECTID_12 BuildingID	Name	Bld_type	Roof_mat	Roof_co
	81	79 108226	Krowera Hall Shed	Community Fa	Galvanised Corr	
	82	78 108207	Kernot BBQ Area/Picnic Shelter	Community Fa	Colourbond Co	
	83	65 108064	Inverloch Transfer Station Shed "A"	Municipal Facili	Galvanised Corr	
	84	64 108179	Inverloch Foreshore Caravan Park Pump Shed	Tourist Facility	Galvanised Corr	
	85	67 108201	Inverloch Foreshore The Esp BBQ Shelter Rotary	Recreational Fa	Colourbond Co	
	86	66 108066	Inverloch Transfer Station Shed "B"	Municipal Facili	Colourbond Tri	
	87	69 108170	Inverloch Foreshore Ramsay Bvd Information Shelter	Community Fa	Colourbond Co	
	88	68 108169	Inverloch Foreshore the Esplanade The Glades Shelter	Community Fa	Galvanised Corr	
	89	71 108172	Inverloch Foreshore Bowling Club Rooms	Recreational Fa	Galvanised Corr	
	90	70 108019	Inverloch Bunorong Information Centre & Public To	Community Fa	Steel Deck & co	
	91	89 108112	Cowes Foreshore BBQ Shelter "B" Erehwon Point	Recreational Fa	Colourbond Co	
	92	88 108111	Cowes Foreshore BBQ Shelter "A" Erehwon Point	Recreational Fa	Colourbond Co	
	93	91 3256	Cowes Foreshore Thomspon Ave Toilet Block	Public Amenities	Concrete Slab	
	94	90 108124	Cowes Foreshore Band Rotunda	Community Fa	rendered brick	
	95	93 108090	Cowes Depot "C" Dog Pound	Municipal Facili	Colourbond Co	
	96	92 3255	Cowes Foreshore Findlay Street Toilet Block	Public Amenities	Concrete Slab	
	97	95 108078	Cowes Caravan Park Recreation Hall	Tourist Facility	Colourbond Co	•
	T She	w Al Features				31

*Hint.* right click feature in attribute table and select "zoom to feature" to navigate to the building on the map view.

*Hint.* Turn on the BC\_Building\_FLD layer to visually see whether the building is impacted by a 1 in 100 year flood event.

2. Ensure the *BC\_Building\_BC* layer is highlighted in the Layers tree, then click the 'Select Features by Value' symbol in the main toolbar.



3. In the popup box that appears, input the BuildingID number of the focus building, then click 'Select Features'.

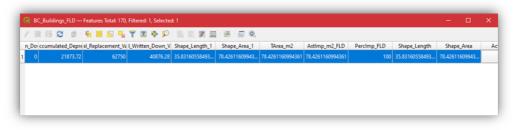
BC_Buildings_FLD — Select	Features	)
OBJECTID	Exclude Field.	1
Join_Count	Exclude Field.	ľ
TARGET_FID	Exclude Field.	
FID_BC_Buildings_copy	Exclude Field.	
BuildingID	D8172 Case sensitive Contains.	
Name	Case sensitive Exclude Field.	
Bld_type	Case sensitive Exclude Field.	
Roof mat	Case sensitive Fxclude Field	
Reset Form Flash Features	Zoom to Features Select Features 👻 Close	

4. Open the BC\_Building\_FLD attribute table and select the 'Show All Features' drop-down box in the bottom left corner to then select 'Show Selected Features'. This will change the attribute table to only present the selected asset

🍸 Show All Features	
T Show All Features	
▼ Show Selected Features	
👕 Show Features Visible On Map	
🝸 Show Edited and New Features	
Field Filter	•
T Advanced Filter (Expression)	
★ Stored Filter Expressions	•

*Hint:* the information in the attribute table includes

useful statistics such as the total absolute area of the asset impacted, and the percentage of the total asset impacted.



 Repeat this step for the other two inundation scenarios (82cm Sea Level Rise = SLR; Storm Surge on 82cm Sea Level Rise = STM) to see whether the asset is impacted. *Hint:* If the asset is not impacted by an inundation scenario, an error like the screenshot below will appear when doing the 'Select Feature by Value' step (Step 4).

Y	70	High St	17 13 134	16	
Park			High St	17 19	21A 21

### 5.3. Council AVA Viewer – Worked Example #2

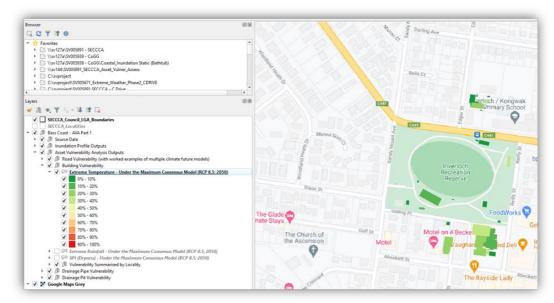
#### Worked Example Question

"Which building assets are the most vulnerable to extreme temperature in my LGA?"

#### Steps

1. Locate the outputs for building vulnerability to extreme temperature in the Layers tree and tick the box to view in the map area.

*Note*: the default future scenario in the QGIS viewer is set at the Maximum Consensus Model (ACCESS 1.0) RCP 8.5 for 2050.



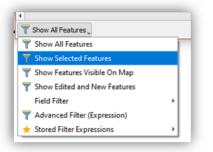
2. Open the attribute table of this layer and navigate to the future scenario field you are interested in. Click the field name twice to automatically sort from high-low.

	84 10	3 8 8	📕 🖸 🔩 🍸 🗷 🌣	👂 1 16 16 🕅 🚊 1	n (n) (R)			
	_21 CESS_1	_0_rcp852( AC	CESS_1_0_rcp85_2050	ACCESS_1_0_rcp85_2070	ACCESS_1_0_rcp85_2090	HadGEM2_CC_rcp85_2030	HadGEM2_CC_rcp85_2050	GEM2_CC_rcp85
1	60	20	60	80	100	60	100	10
2	48	16	48	64	80	48	80	٤
3	64	32	48	64	80	64	80	٤
4	64	32	48	64	80	64	80	٤
5	64	32	48	64	80	64	80	٤
6	48	16	48	64	80	48	80	٤
7	48	16	48	64	80	48	80	٤
8	48	16	48	64	80	48	80	٤
9	48	16	48	48	80	48	64	٤
10	64	32	48	64	80	64	80	٤
11	48	16	48	48	80	48	64	٤
12	48	16	48	64	80	48	80	٤
13	48	16	48	64	80	48	80	٤
14	64	32	48	64	80	64	80	E

3. Highlight the assets with the highest vulnerability by clicking the row '1' and dragging down to desired number.

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rESM1	_M_rcp45_2I CESS_	1_0_rcp85_2(	ACCESS_1_0_rcp85_2050 *	ACCESS_1_0_rcp85_2070	ACCESS_1_0_rcp85_2090	HadGEM2_CC_rcp85_2030	HadGEM2_CC_rcp85_2050
	60	20	60	80	100	60	100
	48	16	48	64	80	48	80
	64	32	48	64	80	64	80
	64	32	48	64	80	64	80
	64	32	48	64	80	64	80
	48	16	48	64	80	48	80
	48	16	48	64	80	48	80
	48	16	48	64	80	48	80
	48	16	48	48	80	48	64
0	64	32	48	64	80	64	80
1	48	16	48	48	80	48	64
2	48	16	48	64	80	48	80
3	48	16	48	64	80	48	80
	64	32	48	64	80	64	80

4. Click the 'Show All Features' drop-down option and select the 'Show Selected Features' to only view these selected high-vulnerability assets in the attribute table.



5. Scroll back to the left in the attribute table to view asset information for each highlyvulnerable asset (i.e. Building ID, Building name, etc).

*Note*: This information can be copied across to an excel/text document by selecting the 'Copy selected rows to clipboard' option in the toolbar

/ 1		8) 🗧 🗧 🛯	🔩 🍸 🌌 🗞 👂 🐘 🐘 🕅 🗮 🖷 🔍 .						
(	OBJECTID_12	BuildingID	Name	Shape_Length	Shape_Area	Exposure	Sensitivity	Adaptive_Capacity	A
	224	108281	Rhyll Foreshore Jetty Shed	19.95855880733	24.64982844094	1, 1, 2, 3, 3, 2, 3,	Field: SuperStru	Field: Walls_co	
0	228	108174	Inverloch Foreshore Bowling Club Shelters	23.88481137735	8.8875739398531	1, 1, 2, 3, 3, 3, 5,	Field: Roof_Typ	Field: Walls_co	
1	198	108127	Dalyston Rec Reserve Caretakers House	41.98627286146	105.0111534201	1, 1, 2, 3, 3, 2, 4,	Field: SubStruct	Field: SuperStru	
2	182	108237	Newhaven CP Washing up Shelter	16.78571284846	16.88044138264	1, 1, 2, 3, 3, 3, 4,	Field: Walls_ma	Field: Roof_Con	
3	353	CT059	Wonthaggi Mitchell House Community Centre Sand Pit Cover	17.16056814509	18.37512829006	1, 1, 2, 3, 3, 3, 4,	Field: SubStruct	Field: Roof_Con	
4	335	3273	Inverloch Foreshore "A" Toilet Block - Boat Ramp	32.40348660798	63.26606052191	1, 1, 2, 3, 3, 3, 5,	Field: Walls_ma	Field: Walls_co	
5	303	108286	San Remo Foreshore Marine Pde BBQ & Shelter 2	22.01980962103	34.98205110697	1, 1, 2, 3, 3, 3, 4,	Field: Roof_mat	Field: Roof_con	
6	313	108368	Wonthaggi Rec Reserve Table Tennis Pavilion	73.72614274745	306.1707545806	1, 1, 2, 3, 3, 3, 5,	Field: SuperStru	Field: Walls_co	
7	315	108366	Wonthaggi Rec Reserve Store Shed Oval 2	24.04687298700	36.1397837760171	1, 1, 2, 3, 3, 3, 5,	Field: SubStruct	Field: Roof_con	
в	457	CW080	Bass Recreation Reserve Old Scoreboard and Coaches Box	24.06525907221	23.23648421899	1, 1, 2, 3, 3, 3, 4,	Field: SubStruct	Field: Roof_Con	
	452	CW075	Bass Recreation Reserve Netball Rooms	77.82054332793	293.1029175718	1, 1, 2, 3, 3, 3, 4,	Field: SubStruct	Field: Roof_Con	
	441	CW056	Bass Community Hall	84.34202096773	299.6924151776	1, 1, 2, 3, 3, 3, 4,	Field: SubStruct	Field: SuperStru	
	106	BLDG10336	Cowes Blue Tonge Common Picnic Shelter	39.82745002242	71.55094350684	1, 1, 2, 2, 2, 2, 3,	Field: SuperStru	Field: Asset_Typ	
2	76	108301	Pound Creek Tennis Toilets	22.60592441233	31 58068086811	1123335	Field Walls ma	Field: Roof_Con	Ē

You have now identified the buildings with the highest vulnerability to extreme temperature for the future scenario of 'ACCESS 1.0 RCP 8.5, for 2050'. These steps can be repeated for any other climate future model, RCP scenario, or timeframe.

### 5.4. Council AVA Viewer – Worked Example #3

#### Worked Example Question

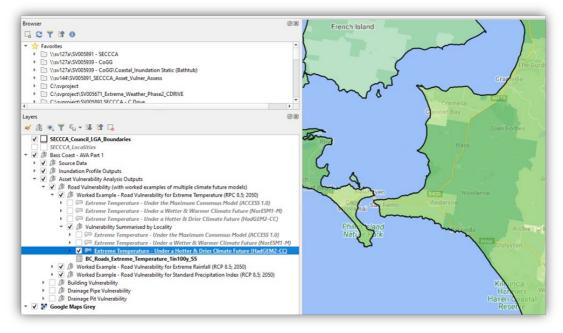
"Which localities in my LGA should I be most concerned about in regards to the vulnerability of roads to extreme temperature?"

*Note*: This question can also be answered by referring to the Vulnerability Locality Summary MS excel document.

#### **Steps**

1. Locate the outputs for road vulnerability (summarised by locality) to extreme temperature in the Layers tree and tick the box to view in the map area. Decide which model you want to view the results for.

*Note*: This worked example will focus on the HadGEM2-CC Climate Future Model, RCP 8.5 for 2050.



2. Open the attribute table and use the scroll bar to navigate to the desired climate future scenario (in this case – "MEAN\_HadGEM2\_CC\_rcp85\_2050"). Click the field name twice to automatically sort from high-low.

1		TISPER	1 🖩 🗇 🍳				
	MEAN_HadGEM2_CC_rcp85_2030	MEAN_HadGEM2_CC_rcp85_2050 🔹	MEAN_HadGEM2_CC_rcp85_2070	MEAN_HadGEM2_CC_rcp85_2090	NorESM1_M_rcp4	_NorESM1_M_rcp	4
	46.857142857142854	46.857142857142857	58.57142857142857	58.57142857142857	58.57142857142	23.42857142857.	
	40.06109785202863	40.04773269689736	50.06300715990454	50.0763723150358	50.0763723150358	20.03054892601.	
	34.361661341853065	33.344408945686936	41.93482428115016	42.95207667731629	42.95207667731	17.18083067092.	
	33.19148936170213	33.19148936170213	44.28936170212766	55.319148936170215	55.31914893617	22.12765957446.	
	41.462857142857146	31.09714285714286	41.53142857142858	51.82857142857143	51.82857142857	20.73142857142.	
	33.84390243902439	30.117073170731718	44	50.390243902439025	50.39024390243	20.039024390243	9
	29.696000000000005	29.69600000000005	37.12	37.12	37.12	14.8480000000.	
	28.342857142857145	28.342857142857145	35.42857142857143	35.42857142857143	35.42857142857	14.17142857142.	
	37.7869158878504	28.34018691588787	47.23364485981308	47.23364485981308	47.23364485981	18.893457943925	2
)	34.75916359163593	27.321033210332082	39.84157441574417	43.448954489544896	43.44895448954	17.37958179581.	
1	26.285714285714285	26.285714285714285	32.857142857142854	32.857142857142854	32.85714285714	13.14285714285.	
2	34.8662576687117	26.149693251533723	34.8662576687117	43.58282208588957	43.58282208588	17.43312883435.	
3	33.714285714285715	25.714285714285715	42.857142857142854	42.857142857142854	42.85714285714	17.14285714285.	
4	32.7260504201681	24.54453781512604	40.90756302521008	40.90756302521008	40.90756302521	16.36302521008.	

3. Repeat steps 3 to 5 from *Council AVA Viewer – Worked Example #2* to highlight required assets and copy out into excel/text format.

