

# CLIMATE VALUATION

## » Free Site Check

 **Prepared for:**  
test@gmail.com

 **For an analysis of:**  
42 Wallaby Way, Sydney, NSW 1234

 **Date:**  
26/02/2020



# » Introduction

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## About Climate Valuation

ClimateValuation.com is the first service in the world to help homeowners and homebuyers quantify the impacts of climate change to the long-term insurability and future value of their property. Our range of powerful yet intuitive data products provide the general public access to computational capabilities that have previously been only within the financial scope of governments and big business.

Climate Valuation's analysis is underpinned by the multi award-winning Climate Risk Engines. Originally designed for critical infrastructure stress testing, the Climate Risk Engines have been under continuous development for over 10 years and are currently being used to analyse climate risks to millions of physical assets around the world.

The Climate Valuation team are committed to ensuring that the general public have access to the best climate change science available at an affordable price. We believe that when people can quantify the dangers and costs of climate change, they are empowered to make informed decisions, and to adapt and plan for a more resilient future.

## About this report

The Climate Valuation Free Site Check provides an entry-level overview of the potential impacts of several climate change related hazards on the future insurability and value of a Representative Property placed at a specific address.

Using an expert selection of scientific methods and computational modelling techniques, Climate Valuation's proprietary analysis tool stress tests individual property design and construction elements against five types of climate related hazards to quantify the likely exposure, vulnerability and financial impacts of climate change over time. This covers future annual average damage costs, insurability and property value degradation caused by climate change.

## Overview Of Methodology

To conduct a Free Site Check, the system places a standardised, single-storey property (known as an archetype) at the specified address with pre-assigned settings for build year, design specifications and construction materials. This provides a quick and simple screening for basic climate risks. Users may upgrade to the paid reports to customise the specifications of the Representative Property for a more robust analysis.

## » Introduction continued...

### Climate Hazards Included

The following climate hazards are included in this analysis:



**Riverine Flooding** - Precipitation in a catchment that causes a river to exceed its capacity, inundating nearby areas. This does not include pluvial (surface) flooding.



**Coastal Inundation** - A high sea event that floods land, infrastructure and buildings. This does not include damage caused by coastal erosion.



**Forest Fire** - A destructive fire that spreads via trees and forest. This definition does not include grass fires.



**Soil Subsidence** - Soil movement as a result of drought, causing contraction of clay soils that can lead to the foundations of a property shifting. This does not include landslip or erosion.



**Extreme Wind** - High-wind conditions that may exceed a building's design specifications. This does not include cyclones, hurricanes, or typhoons.

The risks from each hazard are summed in the risk calculations and used to form the rating. The impacts of each hazard are not shown in this report but can be accessed in detail in the Climate Valuation Comprehensive Report.

### Climate Valuation Rating

Using an expert selection of scientific methods and computational modelling techniques (see methodology section of the website for more details), the Representative Property's climate risk profile is summarised in this Free Site Check as an overall Climate Valuation Rating. The Climate Valuation Rating provides an insight into the possible longer-term availability and cost of insurance for a Representative Property placed at the specified location.

The Climate Valuation rating is provided for three key time points; the current year, at the end of a standard mortgage term (30 years) and by the end a nominal property lifetime (year 2100).

#### Climate Valuation Ratings legend:

<b>C</b>	<b>High Risk</b>	Technical Insurance Premium is greater than 1.0% of building replacement costs for Representative Property	Insurance may be high cost or unavailable unless adaptation actions are undertaken
<b>B</b>	<b>Moderate Risk</b>	Technical Insurance Premium is between 0.2% and 1% of the building replacement costs for Representative Property	Risk may lead to higher insurance costs
<b>A</b>	<b>Low Risk</b>	Technical Insurance Premium is less than 0.2% of the building replacement costs for Representative Property	Risk may be insurable at reasonable cost

The Climate Valuation Ratings follow the Federal Emergency Management Agency (FEMA) designations that are used for pricing many insurance premiums in the USA. Climate Valuation has used FEMA's probability method and extended it to include a wider set of hazards and adjusted to account for differences in vulnerability. Actual risk of damage will depend on building design and construction. Cost of insurance for any real property should be obtained from a licensed commercial insurance provider.

# » Analysis Settings

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## Representative Property Settings



Below is a list of the default settings used for the analysis of the Representative Property placed at the nominated address. A Representative Property is a synthetic representation of a real or hypothetical property based on nominal industry design specifications. To customise these settings and define your Representative Property's building characteristics, upgrade to one of Climate Valuation's paid reports.

<b>Asset category:</b>	default	Building
<b>Asset archetype:</b>	default	House
<b>Lat Lon:</b>	geo-located address	(-27.51519, 153.01535)
<b>Build year:</b>	default	2016
<b>Value of the house and land:</b>	User estimate	\$1,410,000
<b>Replacement cost of the building:</b>	User estimate	\$430,000
<b>Mortgage duration:</b>	default	30 years
<b>Nominal interest rate (interest-only):</b>	default	5.2%
<b>Elevation above sea level (metres):</b>	3rd party source	1.3m
<b>Floor height above ground (metres):</b>	default	0.3m
<b>Wind speed design threshold:</b>	default	1 in 500
<b>Heat threshold (celcius):</b>	default	42
<b>Forest fire protection:</b>	default	None/normal

## » Analysis Settings Continued...

### Climate Change Model Settings

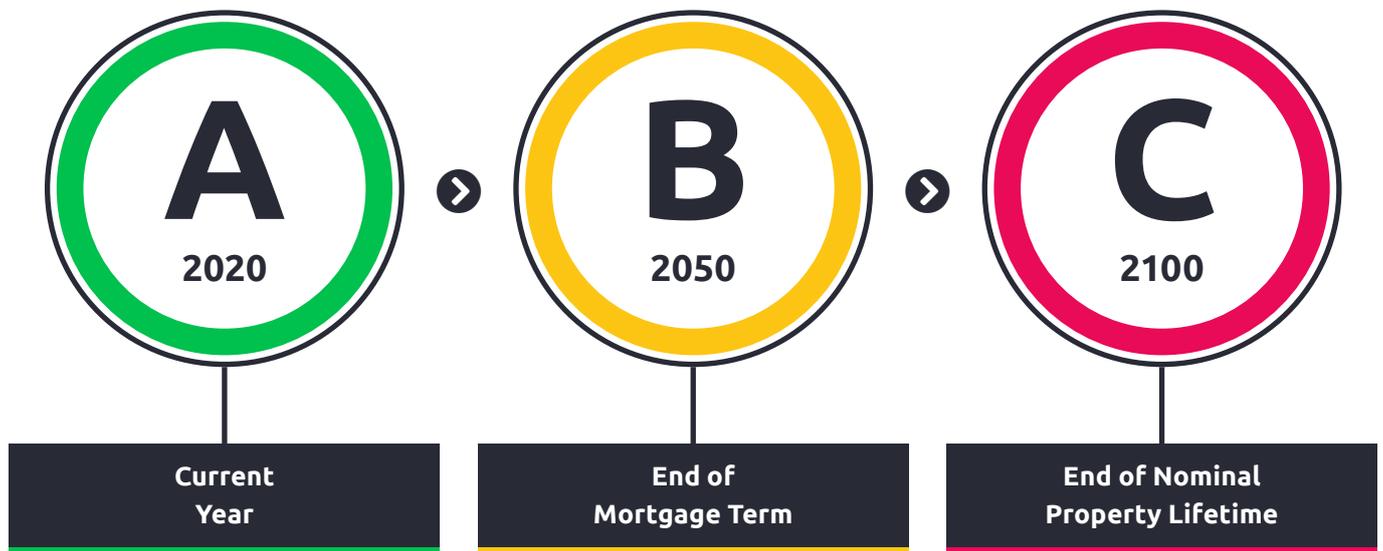
The following emissions scenarios and climate models have been used for the analysis of the Representative Property at the specific location. For more information on the climate settings used, see the Data & Methodology section of the website.

Hazard	Dataset	Details	
Riverine flooding	Projection	Description: Source: Dataset: Domain:	Annual maximum 24-hour precipitation NARcliM NARcliM NARcliM-d02
	Bias correction	Description: Source:	Annual maximum 24-hour precipitation GHCN-Daily
	Context data	Riverine Flood Depth: Flood defended areas:	30m_Australia AU_DefendedAreas_02-DefendedAreas_Australia_2016_WGS84
Coastal inundation	Projection	Description: Source:	Global Sea Level Haigh-et-al-2014
	Bias correction	Description: Source:	Global Sea Level CSIRO_Recons_gmsl_yr_2015
	Context data	Land rise (Glacial Isostatic Adjustment): Maximum annual tide height:	drad250.1grid.ICE5Gv1.3_VM2_L90_2012-global CANUTE-global
Heat failure	Projection	Description: Source: Dataset: Domain:	Annual maximum temperature NARcliM NARcliM NARcliM-d02
	Bias correction	Description: Source:	Annual maximum temperature GHCN-Daily
Forest fire	Not calculated	Reason:	No forest nearby
Wind damage	Projection	Description: Source: Dataset: Domain:	Annual maximum wind gust speed CORDEX CORDEX AUS-44
Soil movement due to drought	Projection	Description: Source: Dataset: Domain:	Annual total precipitation NARcliM NARcliM NARcliM-d02
	Context data	Soil Clay Content:	CLYPPT_M_sl5_250m_ll_06_16-06_16

# » Analysis Results

## Climate Valuation Rating

Based on the location entered, and certain assumptions made about the Representative Property's design and construction materials, the Climate Valuation Ratings for the Representative Property over three time periods are:



### Climate Valuation Ratings legend:

C	High Risk	Technical Insurance Premium is greater than 1.0% of building replacement costs for Representative Property	Insurance may be high cost or unavailable unless adaptation actions are undertaken
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The Climate Valuation Ratings follow the Federal Emergency Management Agency (FEMA) designations that are used for pricing many insurance premiums in the USA. Climate Valuation has used FEMA's probability method and extended it to include a wider set of hazards and adjusted to account for differences in vulnerability. Actual risk of damage will depend on building design and construction. Cost of insurance for any real property should be obtained from a licensed commercial insurance provider.

## » Upgrade Your Report

If these results indicate the Representative Property may be at some risk from climate change, you may choose to either:

### Upgrade Analysis to Express Report ~~\$60~~ \$30

A Climate Valuation Express Report allows customisation of the property settings which may effect the resilience and therefore the rating. The Express Report also includes specific projections for Technical Insurance Premiums and any degradation of value due to extreme weather and climate change.

### Upgrade Analysis to Comprehensive Report \$200

A Climate Valuation Comprehensive Report allows customisation of the property settings and shows Technical Insurance Premium and Climate Adjusted Value. It also provides detailed diagnostics for each of the individual climate hazards (flood, fire etc.) and the specific areas of vulnerability (foundation, roof, cladding etc.).

Report Comparison	Free Site Check	Express Report	Comprehensive Report
<b>Scope of Analysis</b> The number of properties that can be analysed with a single report.	1 Property	1 Property	1 Property
<b>Customisation of Analysis Settings</b> Customise the building type and specifications to ensure that the analysis results accurately represent a specific building or asset.			
<b>Climate Valuation Rating</b> An A-B-C rating that indicates the relative level of risk climate change hazards pose to the representative property.			
<b>Technical Insurance Premium</b> The effective cost of climate change represented in insurance premiums over the lifetime of the property.			
<b>Climate Adjusted Value</b> The value of the property over its lifetime adjusted by the potential costs of climate change risks.			
<b>Climate Hazard Breakdown</b> Includes the specific risks that each of the 5 hazards pose to a property over its lifetime (flooding, inundation, fire, subsidence and wind).			
<b>Vulnerability Diagnostics</b> Drill all the way down to the design elements in the representative property and view the relative impact that the climate risk hazards have on each element.			
<b>Single Report</b>	<b>Free</b>	<del>\$59</del> \$29 	<b>\$199</b>

## » Disclaimer

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All Climate Valuation products are powered by Climate Risk Engines.

To find out more see [climateriskengines.com](https://climateriskengines.com)

# CLIMATE VALUATION

## » Contact

Since 2006, organisations have turned to our team to help them analyse the physical impacts of climate change to their business operations. Climate Valuation's analysis is underpinned by the Climate Risk Engines, developed through extensive commercial engagement with industry and government. If this report identifies significant risk, we may be able to provide more detailed analysis through other products and services.

✉ Please contact us for more information at  
[\*info@climatevaluation.com\*](mailto:info@climatevaluation.com)

🖱 Or visit the website at  
[\*climatevaluation.com\*](http://climatevaluation.com)

