Worldwide Exposure LOCATION Profile

This report contains location-specific metrics on the environment and hazard exposure, including elevation, slope, contours, surface water flow directions, population and climate-warming trends. Such baseline data and insights are important for applications in emergency, insurance, news reporting, etc. when making informed location decisions. We produce similar reports for all worldwide locations.

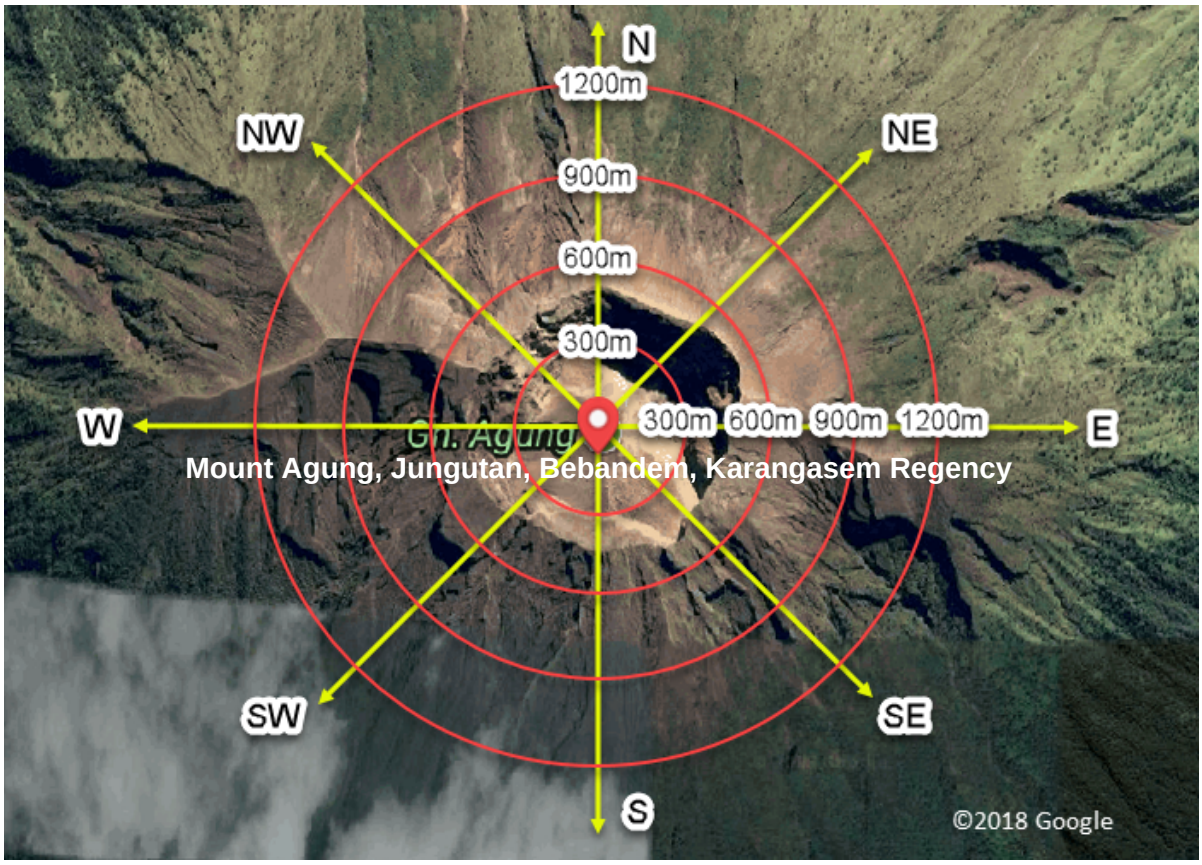
Location

Georeference Information:

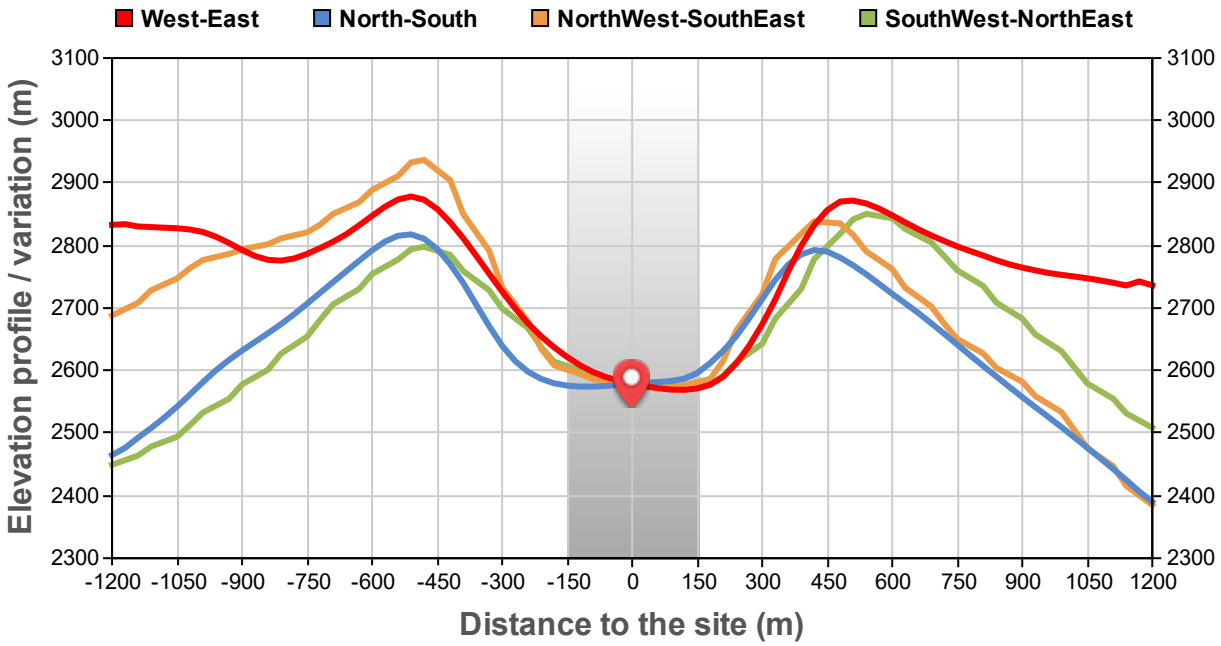
Mount Agung, Jungutan, Bebandem, Karangasem Regency
Bali
Indonesia
Location (longitude, latitude): 115.507058, -8.343311

Report Creator: https://www.PropertyLocation360.com (info@PropertyLocation360.com)
Report Date: Tuesday, April 17, 2018
Report Version: V4.30

Overview: Location Imagery & Elevation Profiles

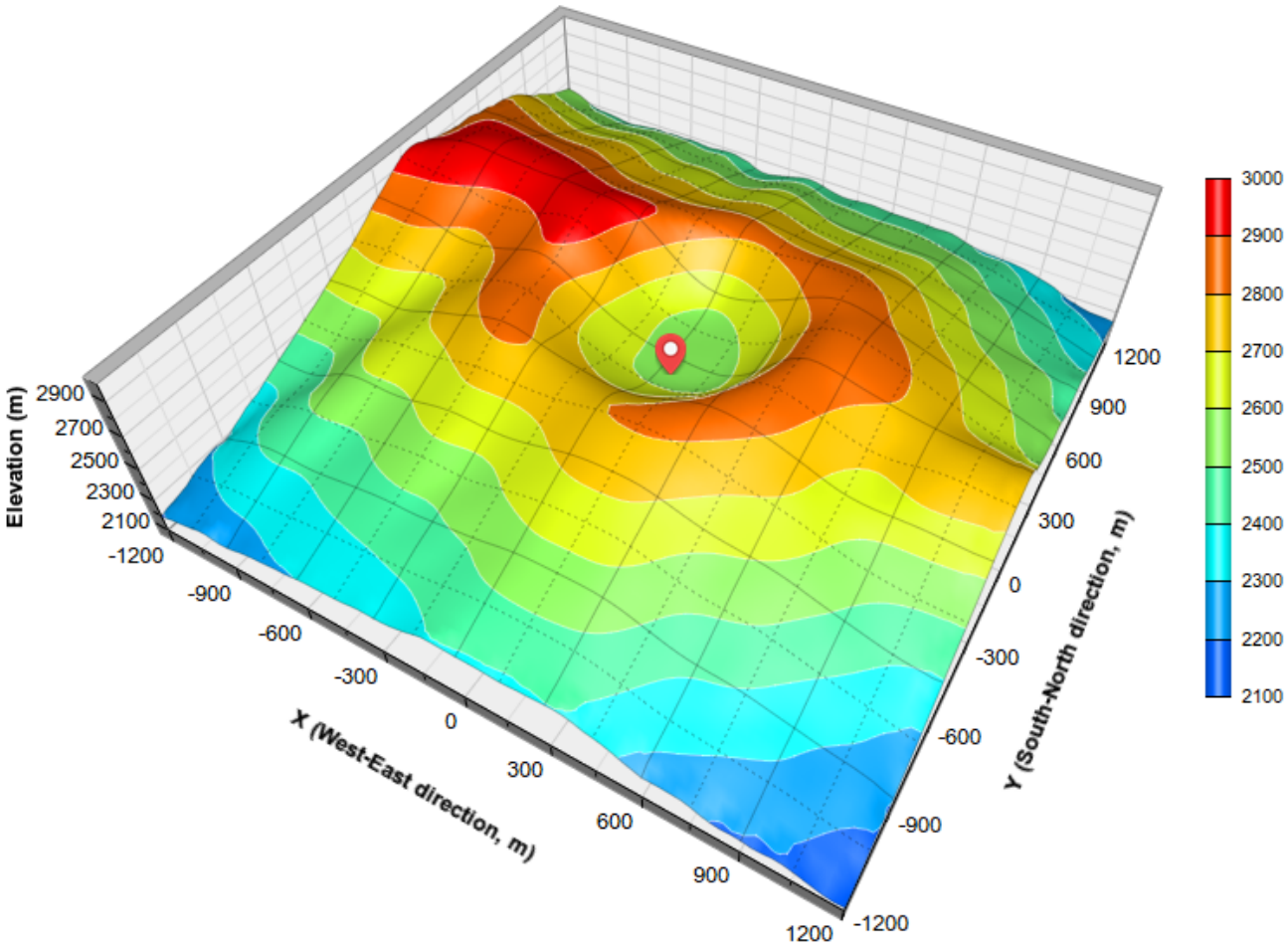


Links: This location in popular online mapping sites, e.g.
Google Maps Bing Maps OpenStreetMap

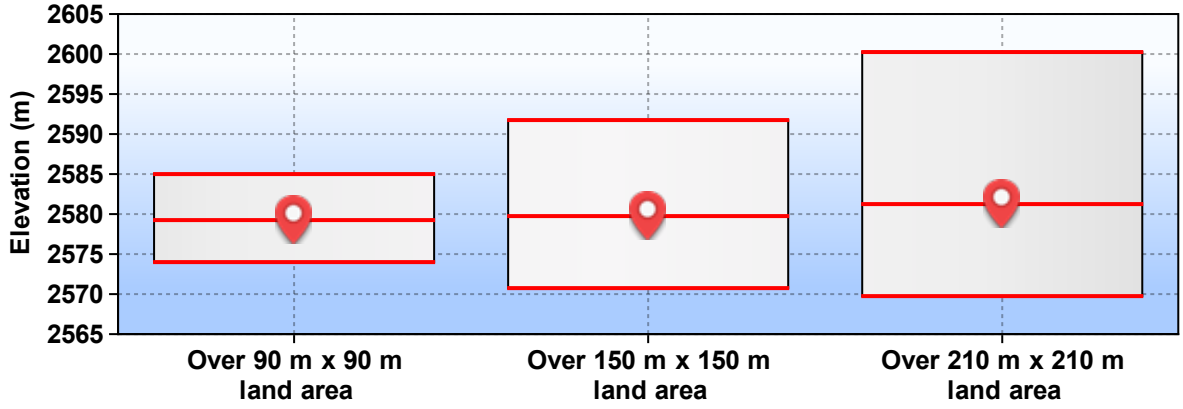


Site spot elevation: **2579.1 m**; Slope: **8.3 degrees** (**Moderately Sloping**, see **Note 1** for slope classification). Slope impacts site stability, surface water runoff and soil erosion.

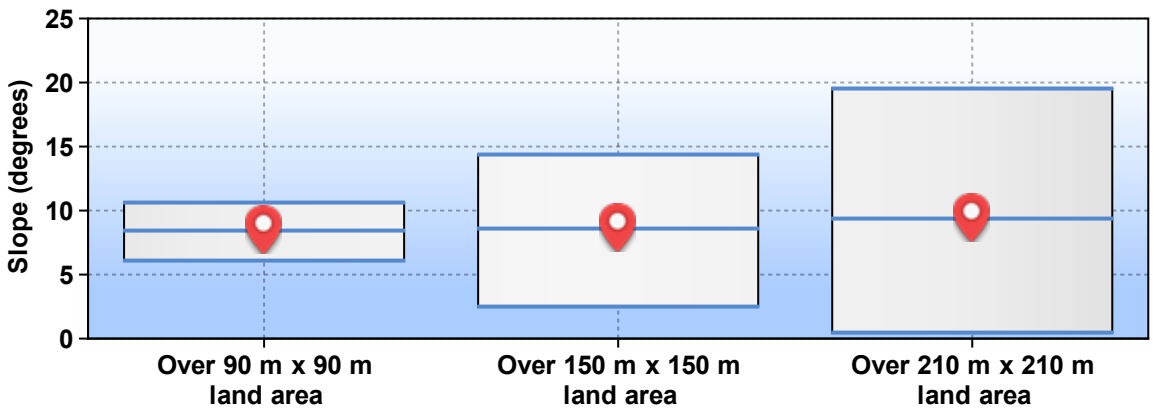
Terrain: Average Elevation & Slope Over Various Land Sizes



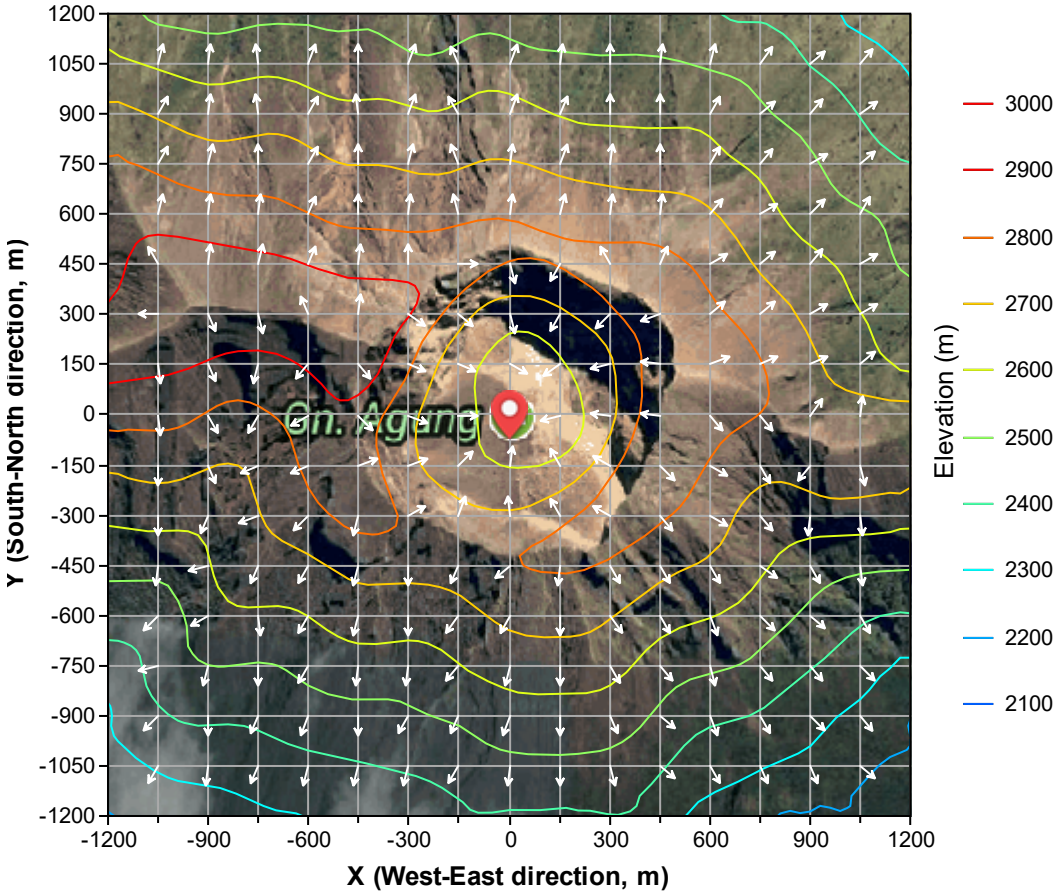
Elevation Variations: Max - Average (middle bar) - Min

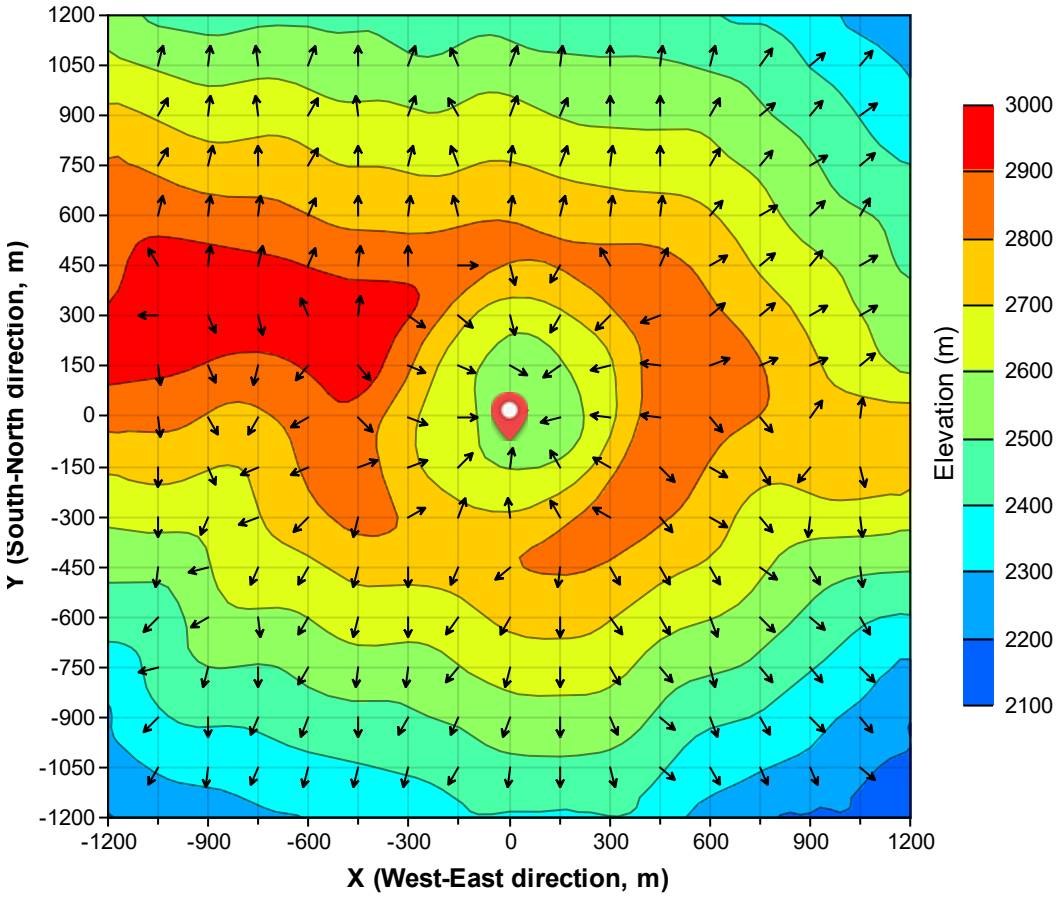


Slope Variations: Max - Average (middle bar) - Min



Flow Directions Related To Flood / Lava / Landslide etc.



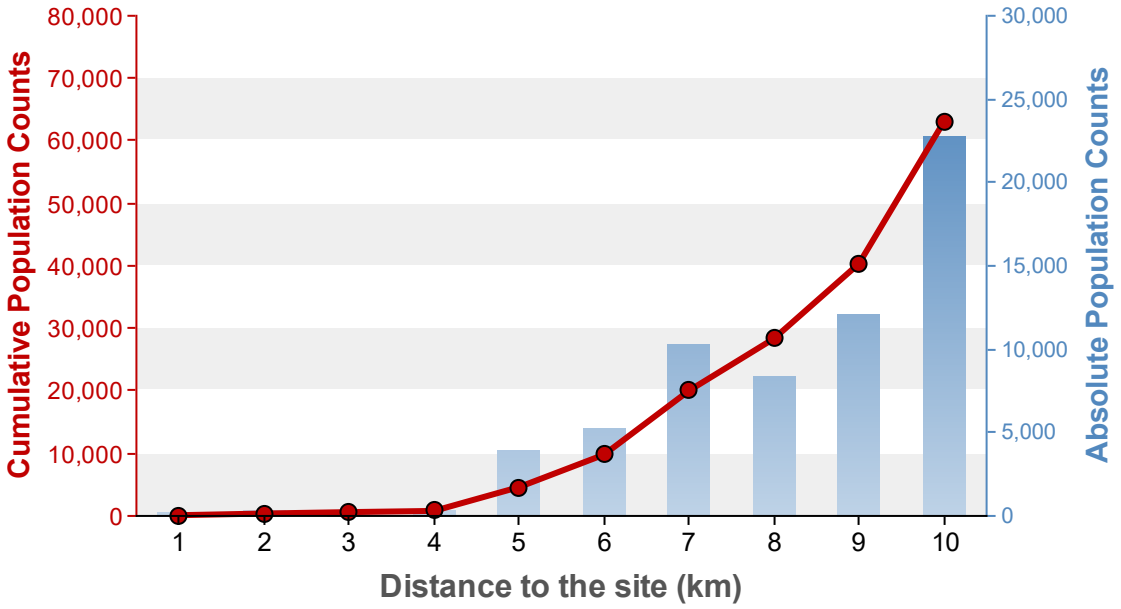


Estimating Exposure At Risk From Multiple Perspectives

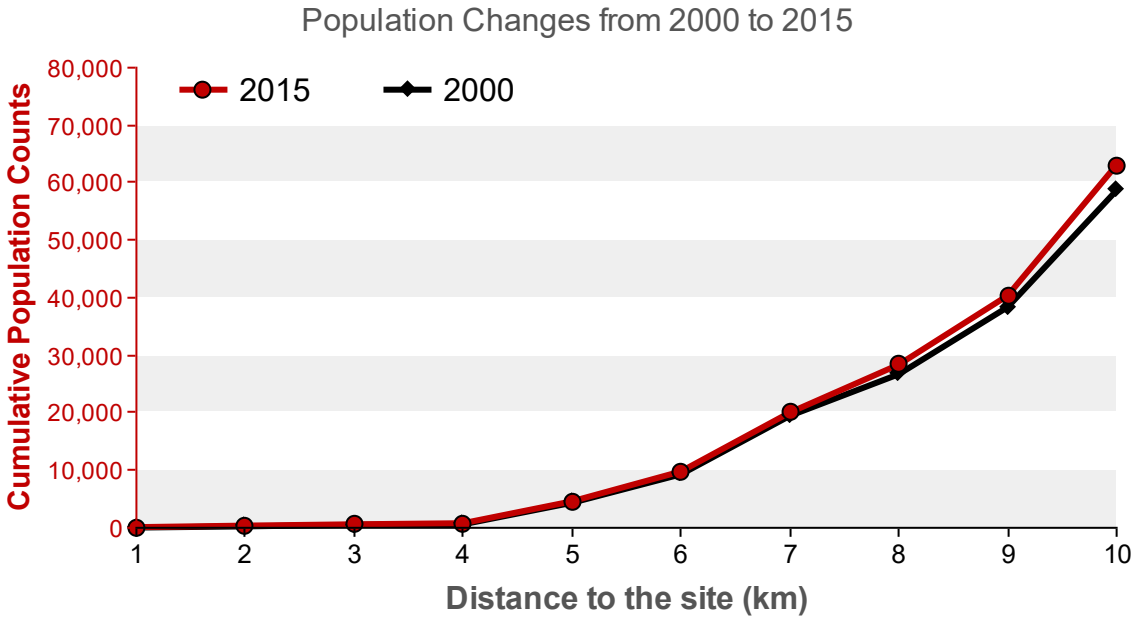
(Analysis Based On 2015 World Population Grids)

(a) Population Within 10km: All Directions

10km



10km

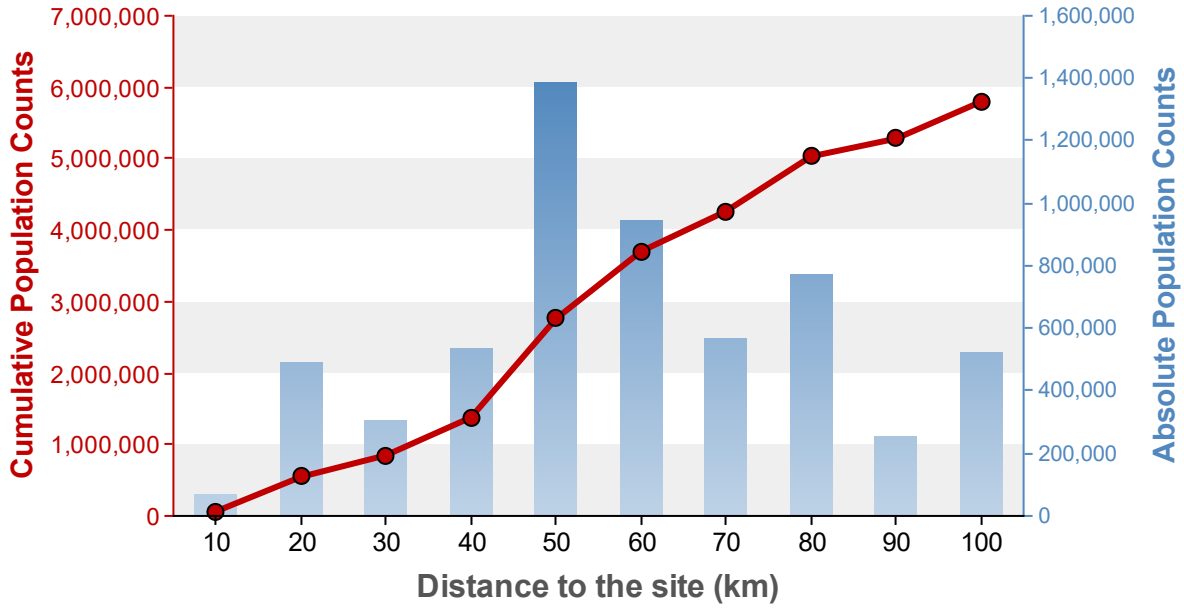


Distance (km)	1	2	3	4	5	6	7	8	9	10
2015 Absolute #	118	268	227	190	3,808	5,192	10,241	8,336	11,998	22,726
Cumulative #	118	386	613	803	4,611	9,803	20,044	28,380	40,379	63,105

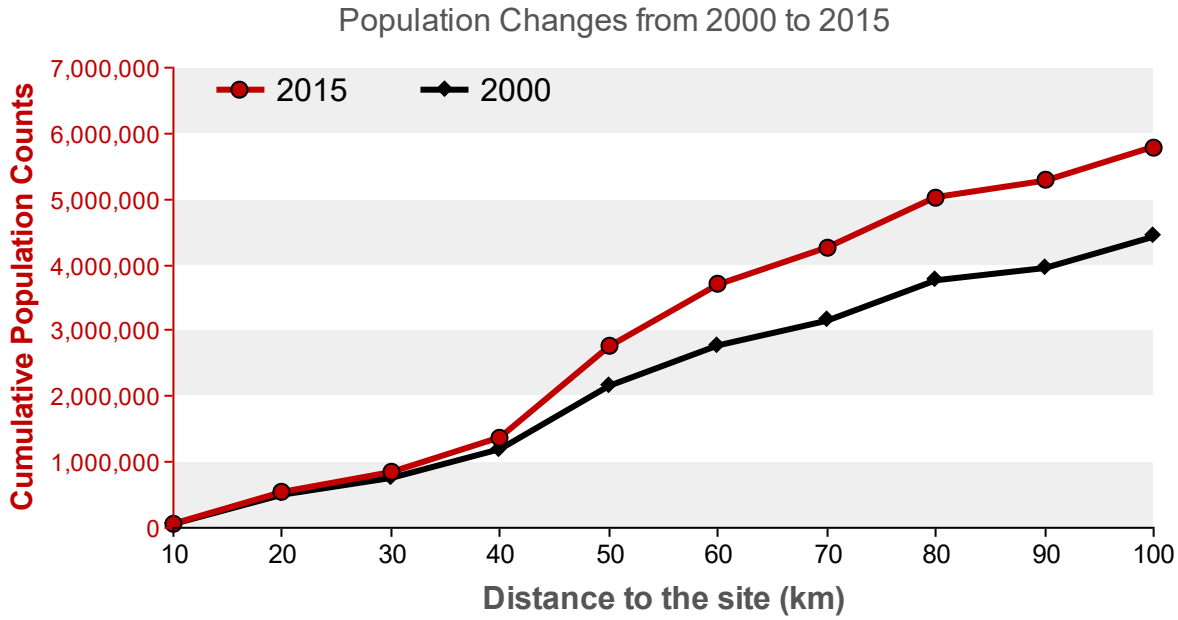
Distance (km)	1	2	3	4	5	6	7	8	9	10
2000 Absolute #	36	208	275	89	3,745	4,945	10,172	7,235	11,674	20,295
Cumulative #	36	245	520	608	4,354	9,298	19,470	26,705	38,380	58,675

(b) Population Within 100km: All Directions

100km



100km

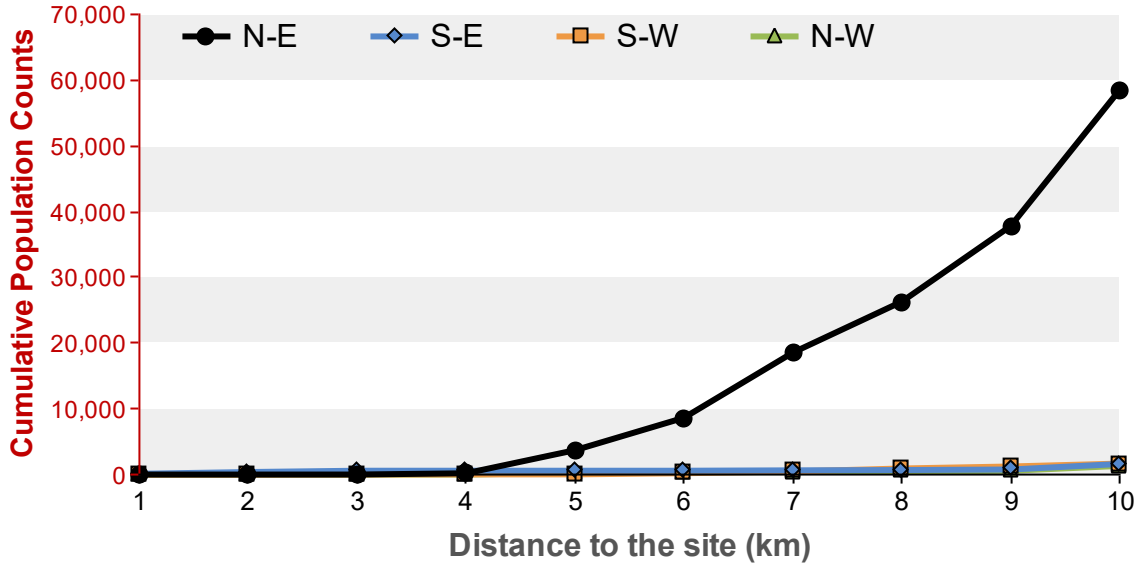


Distance (km)	10	20	30	40	50	60	70	80	90	100
2015 Absolute #	63,105	483,724	302,019	529,518	1,382,228	942,097	561,757	767,058	249,119	516,682
Cumulative #	63,105	546,829	848,847	1,378,365	2,760,593	3,702,691	4,264,447	5,031,505	5,280,625	5,797,306

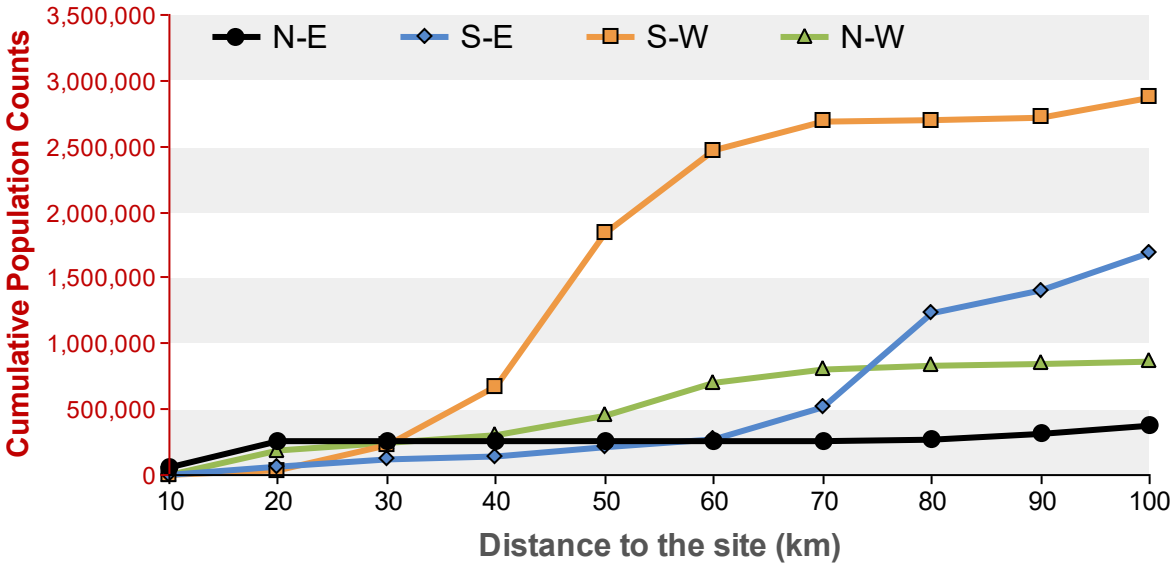
Distance (km)	10	20	30	40	50	60	70	80	90	100
2000 Absolute #	58,675	445,657	254,778	439,094	961,647	615,562	374,860	615,627	185,899	476,962
Cumulative #	58,675	504,332	759,110	1,198,204	2,159,851	2,775,413	3,150,273	3,765,901	3,951,800	4,428,762

(c) Population At Four Quadrants: Within 10km / 100km

10km



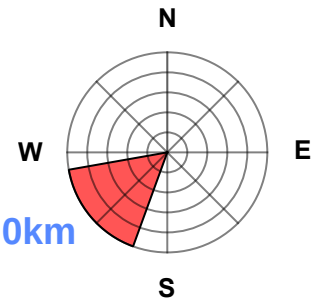
100km



2015 Cumulative Population Counts:

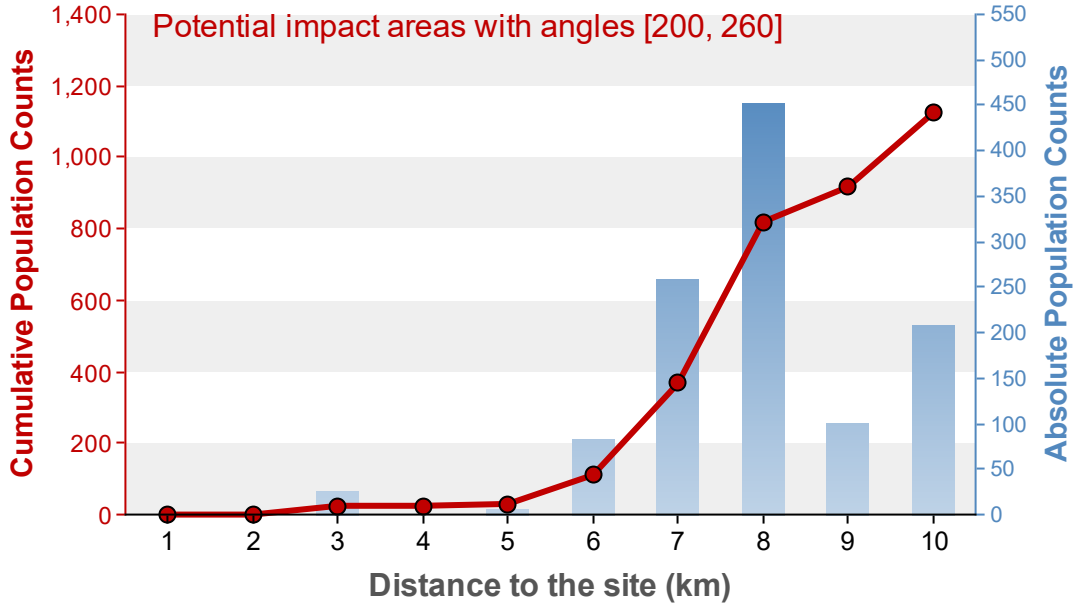
Distance (km)	1	2	3	4	5	6	7	8	9	10
# N-E	0	0	5	195	3,709	8,642	18,557	26,307	37,810	58,506
# S-E	118	386	583	583	583	583	642	689	767	1,613
# S-W	0	0	25	25	30	203	470	925	1,229	1,669
# N-W	0	0	0	0	289	376	376	460	573	1,316

Distance (km)	10	20	30	40	50	60	70	80	90	100
# N-E	58,506	258,132	258,132	258,132	258,132	258,132	258,132	269,204	313,065	375,615
# S-E	1,613	64,292	119,215	141,592	212,153	271,857	515,256	1,231,031	1,404,666	1,689,690
# S-W	1,669	37,129	226,928	675,005	1,839,462	2,470,928	2,688,456	2,699,848	2,717,947	2,869,364
# N-W	1,316	187,276	244,573	303,637	450,847	701,774	802,603	831,423	844,946	862,638

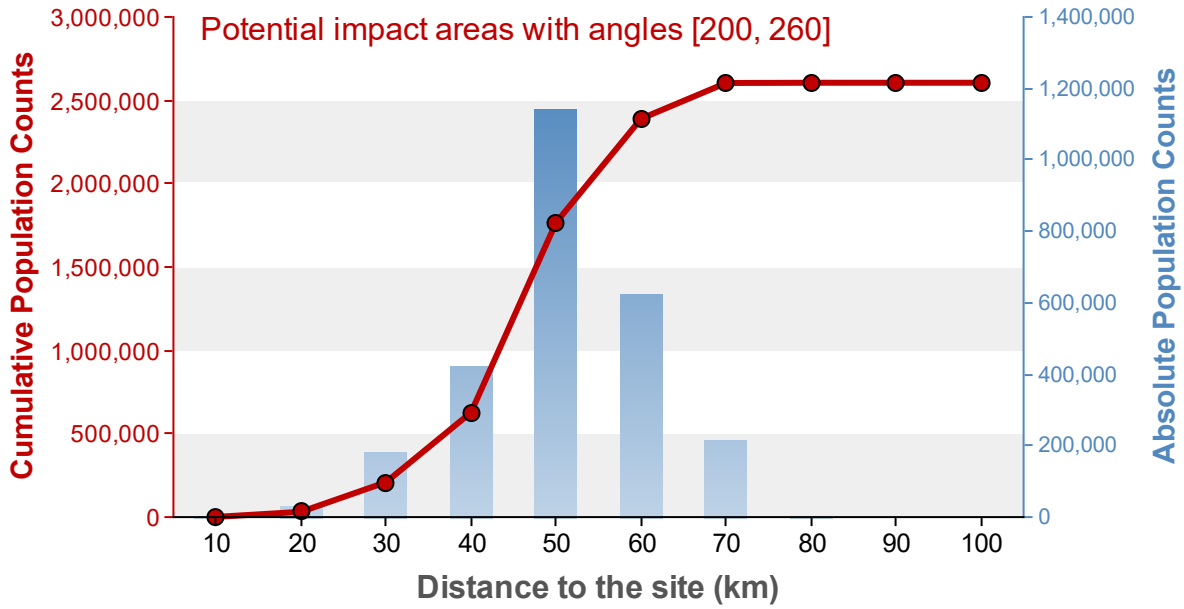


(d) Population At Directional Impact Area: Within 10km / 100km

10km



100km



Distance (km)	1	2	3	4	5	6	7	8	9	10
2015 Absolute #	0	0	25	0	5	81	256	452	98	207
Cumulative #	0	0	25	25	30	111	367	819	917	1,124

Distance (km)	10	20	30	40	50	60	70	80	90	100
2015 Absolute #	1,124	30,554	177,653	418,076	1,138,829	623,429	214,237	1,412	0	0
Cumulative #	1,124	31,679	209,331	627,407	1,766,237	2,389,666	2,603,903	2,605,315	2,605,315	2,605,315

Climate-Warming Trend for the Location

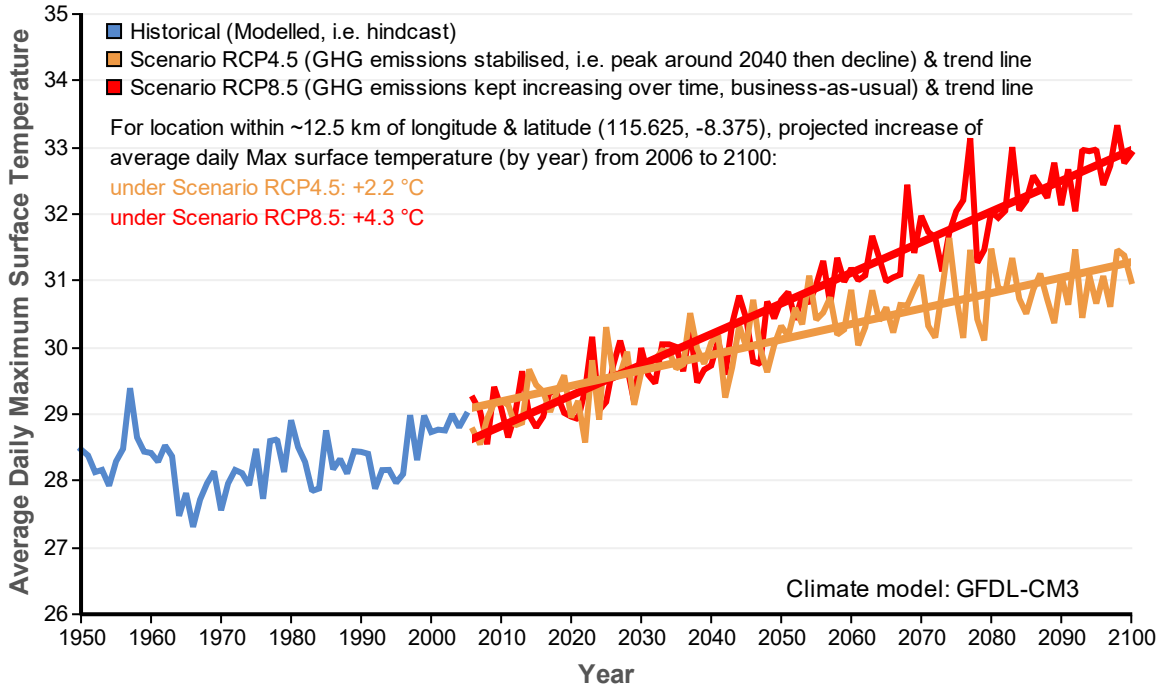
This part contains climate-warming projections for the location according to the new NASA climate dataset NEX-GDDP (2015), which is widely used for climate change impact studies and increasing public awareness / understanding of a warming climate. A rapidly warming climate has significant adverse impact on the occurrence (frequency, intensity and duration) of heatwaves, droughts, and wildfires that are directly driven by high surface temperatures.

Projected warming trends from two well-known global climate models, GFDL-CM3 (by NOAA GFDL, Princeton, NJ) and CCSM4 (by NCAR, Boulder, CO), under two greenhouse gas emissions scenarios, are presented for the property location. Average daily max and min surface temperatures (by year) are compared.

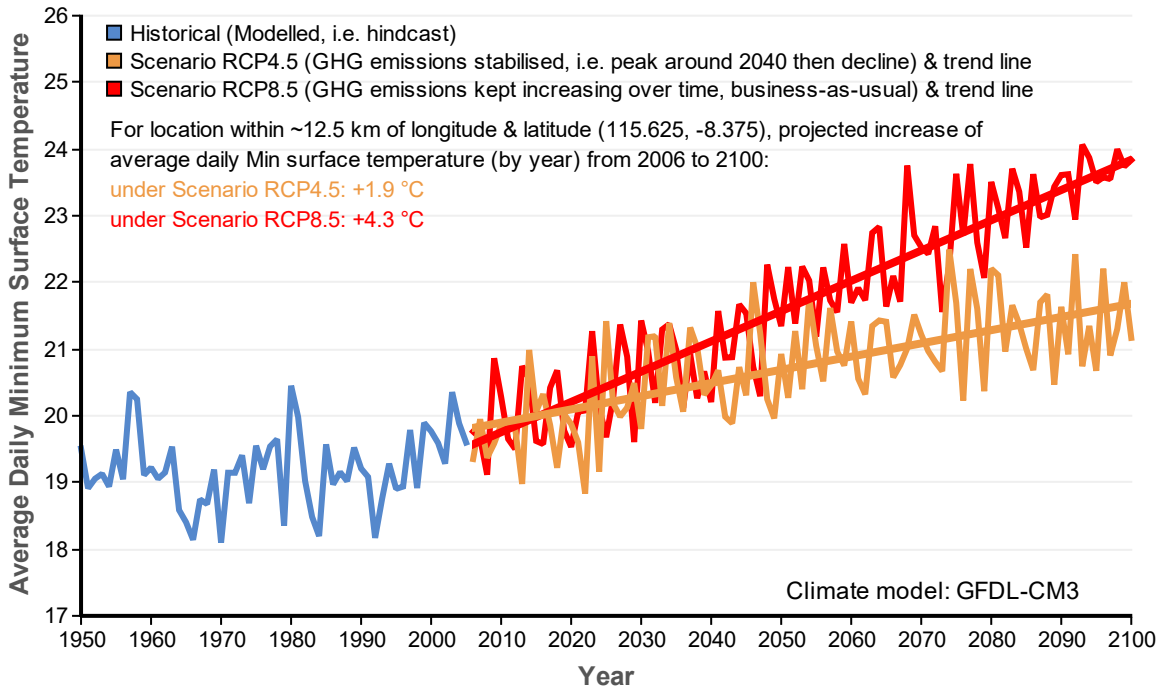
While there are variabilities from different models and their associated settings, it is important to observe consistent warming TRENDS for the same location across models, and ponder their implications for business and planning.

Report Creator: https://www.PropertyLocation360.com (info@PropertyLocation360.com)
Report Date: Tuesday, April 17, 2018

GFDL-CM3: Average Daily Max Surface Temperature (by year)

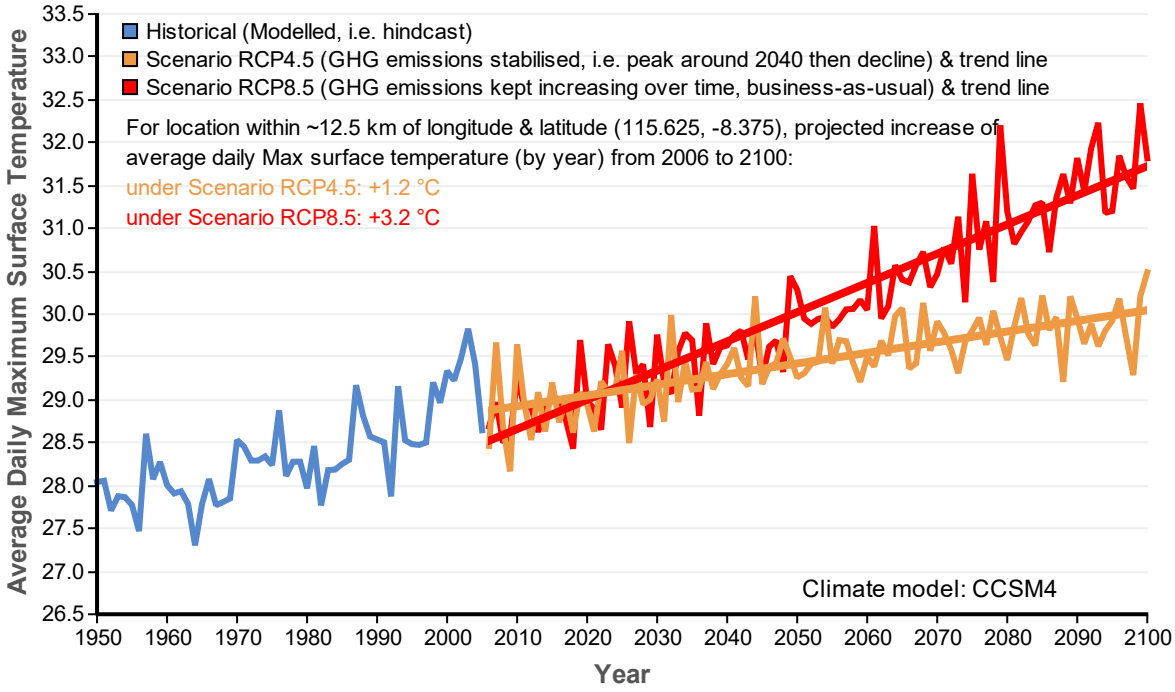


GFDL-CM3: Average Daily Min Surface Temperature (by year)

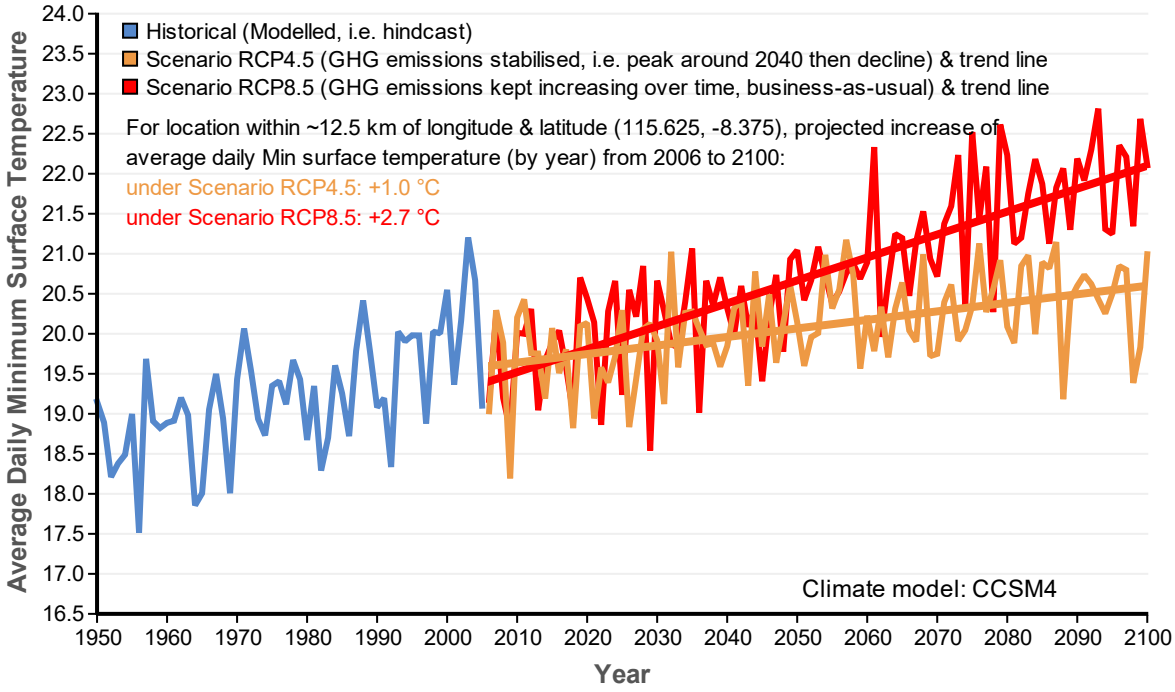


GFDL-CM3 climate model is developed by the NOAA Geophysical Fluid Dynamics Laboratory (Princeton, NJ, USA).

CCSM4: Average Daily Max Surface Temperature (by year)



CCSM4: Average Daily Min Surface Temperature (by year)



CCSM4 climate model is developed by the U.S. National Center for Atmospheric Research - NCAR (Boulder, CO, USA).

Notes

1. Slope Classes: Nearly Level (slope <3%, or <1.72 degrees); Gently Sloping (3-8%, or 1.72-4.57 degrees); Moderately Sloping (8-15%, or 4.57-8.53 degrees); Strongly Sloping (15-25%, or 8.53-14.04 degrees); Steep (25-35%, or 14.04-19.29 degrees); Very Steep (>35%, or >19.29 degrees).

Acknowledgements of Data Sources

This report contains analyses, maps and charts based on a range of open data sources from government agencies:

1. Elevation - Near-global, 30m-resolution SRTM digital globe models from NASA and USGS. Post-processing is performed by BigData Earth Pty Ltd.
2. Map - Hybrid basemap (imagery and roadmap) is accessed from Google Maps with API Key. ©2018 Google.
3. Population Data - European Commission, Joint Research Centre (JRC); Columbia University, Center for International Earth Science Information Network - CIESIN (2015): GHS population grid, derived from GPW4, multitemporal (1975, 1990, 2000, 2015). European Commission, Joint Research Centre (JRC).
4. Climate Data - Climate scenarios used were from the NEX-GDDP dataset, prepared by the Climate Analytics Group and NASA Ames Research Center using the NASA Earth Exchange, and distributed by the NASA Center for Climate Simulation (NCCS).
5. Satellite Imagery - Landsat-8 imagery from the NASA and USGS Landsat Program.
6. Satellite Imagery - Sentinel-2 imagery from the European Union Copernicus Sentinel Data and Service Information. The report contains modified Copernicus Sentinel data [2018].

Disclaimer

PropertyLocation360.com and GeoRisk360.com are brand of BigData Earth Pty Ltd (BigData Earth), and all data and information products from BigData Earth are subject to this disclaimer. The data and information contained in this report has been analysed and presented with all due care, however, BigData Earth does not warrant or represent that the data and information contained herein is free from errors or omissions, or that it is exhaustive. This report is distributed AS IS, with no warranties of any kind, whether expressed or implied, including without limitation, the implied warranties of merchantability, fitness for a particular purpose, and non-infringement. No oral or written information, advices or services given by BigData Earth shall create a warranty or in any way increase the scope of any warranty provided herein.

This report is based on geospatial big data analytics and image processing, and is not a site assessment with physical inspections. This report should not be used to replace any ground-based assessment by surveying professionals. You understand and expressly agree that the use of the report is at your sole risk. Under no circumstances, including without limitation the negligence of any party, shall BigData Earth be liable for any direct, indirect, incidental, special, consequential or other damages under any theory of law (including but not limited to, damages for economic loss, loss of profits, goodwill, revenue and anticipated savings, interruption of business activity, or loss of business information) arising out of the use or inability to use the report, whether or not such loss or damage was foreseeable and even if BigData Earth shall have been advised of the possibility of such loss or damages. You agree not to use the report in any state or country that does not allow the exclusion or limitation of liability for indirect, incidental or consequential damages.

There are references and links to the data sources used. Neither their websites nor the agencies or companies they belong to are operated or controlled by BigData Earth, and BigData Earth makes no representations about the information, products and services they have provided. You should research and assess the risks which may be involved. BigData Earth shall have no liability thereof.

BigData Earth reserves the right to vary, without notice, any information and policy presented.