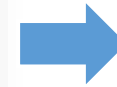
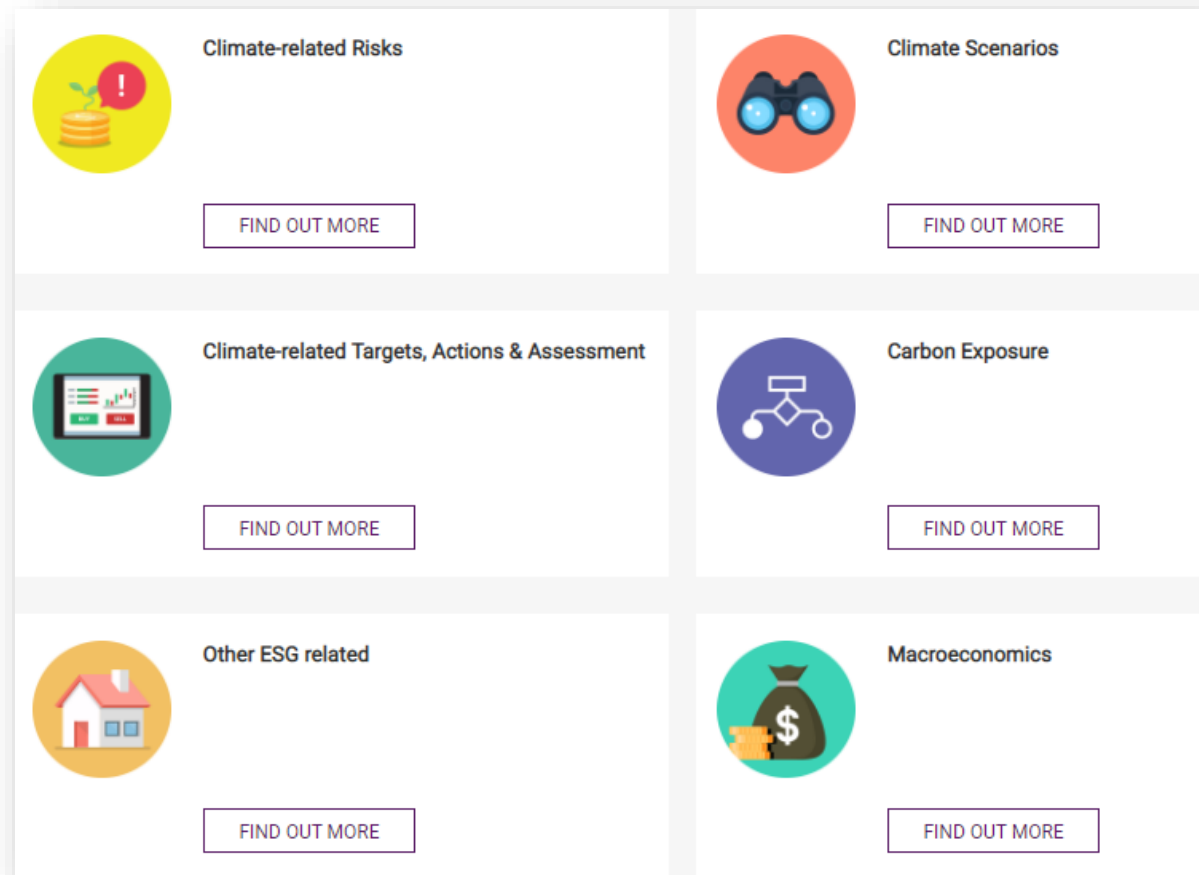


GSF Data Portal

User Guide

Jul 2023

GSF Data Portal



Possible use cases

- 1) Location Risk Assessment:** *Precise Geographical Information of Properties/Assets*
- 2) Physical Risk Assessment:** *Historical catastrophe damages, losses and storm surge data*
- 3) Stress Test:** *Historical climate data, damage data and storm surge projection for model development*
- 4) Risk Mitigation:** *Insurance costs and claims to determine whether property is insurable; resilience of building*

<https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/green-and-sustainable-finance/gsf-data-source-repository/>

Use cases

(for illustration purpose only)

Use case (1): General physical risk assessment of a building/ asset

Some useful reference data sources

1) Characteristics of the building

i. Precise geographical location of the building

Lands Department:

- *Hong Kong Map Service 2.0*
- *Hong Kong Geodata Store: Web-based Datum Transformation Tool*

ii. Terrain of the location

Lands Department:

- *Open Data (Geospatial) containing various geospatial data including Digital Terrain Model (DTM)*

iii. Address and age of the building

Hong Kong Building List in Rating and Valuation Department:

- *“Names of Buildings”*

iv. Building Resilience

Architectural Services Department:

- *“General Specification for Building 2022 Edition”*

Civil Engineering and Development Department:

- *“Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures – Feasibility Study”*

2) Historical data and District level micro-climate conditions

i. climate conditions

Drainage Services Department:

- *Flooding blackspots in Hong Kong*
- *Coastal low-lying/ windy residential areas in Hong Kong (including storm surge and overtopping wave spots)*

Civil Engineering & Development Department

- *Dataset of reported landslide incidents in Hong Kong (including information of reported year, location, scale of incident, consequences, etc.)*

ii. Financial or economic loss

Hong Kong Observatory:

- *Casualties and damage caused by tropical cyclones in Hong Kong*

Use case (1): General physical risk assessment of a building/ asset

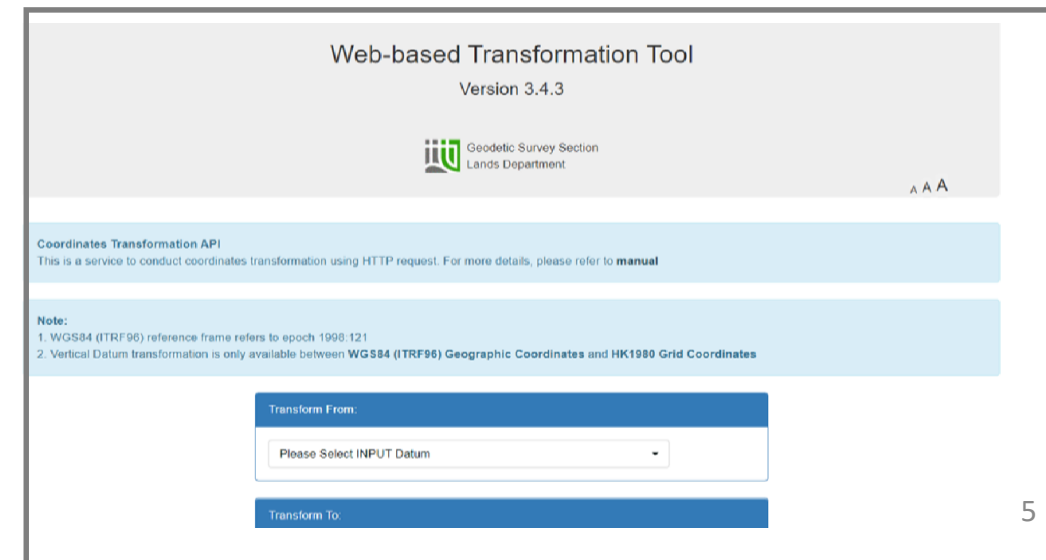
Getting the geographical location of a building

- Coordinates of specific locations can be obtained through Lands Department's Hong Kong Map Service 2.0

Lands Department, the Government of the Hong Kong Special Administrative Region:

- Hong Kong Map Service 2.0: Digital maps and datasets which provide coordinates of specific locations covering the whole territory of HK and can be downloaded <https://www.hkmapservice.gov.hk/OneStopSystem/home?locale=en> (Technical details of the digital map products: <https://open.hkmapservice.gov.hk/OpenData/resourcesIndex>)
- Hong Kong Geodata Store: Web-based Datum Transformation Tool provides an instant conversion between various coordinate systems / datum. Transformation by batch is allowed. Introduction: <https://www.geodetic.gov.hk/en/gi/transformation.htm> Tool: <https://www.geodetic.gov.hk/en/services/tform/tform.aspx>
- Hong Kong Geographic Data: <https://www.landstd.gov.hk/en/resources/mapping-information/hk-geographic-data.html#>
- Open Data (Geospatial) containing various geospatial data including Digital Terrain Model (DTM) which is the topography of terrain in 5-metre raster grid with an accuracy of $\pm 5\text{m}$: <https://www.landstd.gov.hk/en/spatial-data/open-data.html>
- Geodetic Survey Products and Services: https://www.geodetic.gov.hk/en/geod_services.htm
- Geodetic Survey Control Station Database: <https://www.geodetic.gov.hk/en/gi/geod-data.htm>
- Slope Maintenance Responsibility Information System (a Geographic Information System based inventory about the maintenance responsibility of existing slopes): <https://www2.slope.landstd.gov.hk/smr/smap>

- Lands Department's Web-based Datum Transformation Tool provides instant conversion between various coordinate systems / datum



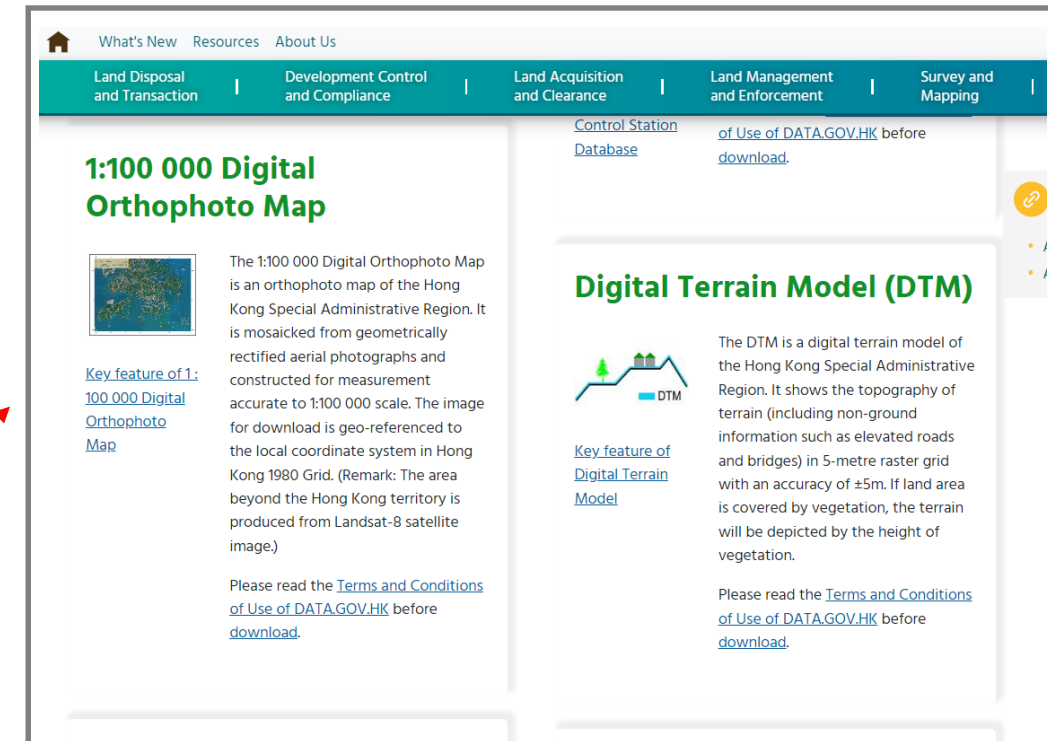
Use case (1): General physical risk assessment of a building/ asset

Getting topography of terrain of a location

- Elevation data of specific locations (in 5-metre raster grid) can be obtained through Lands Department's Digital Terrain Model (DTM)

Lands Department, the Government of the Hong Kong Special Administrative Region:

- Hong Kong Map Service 2.0: Digital maps and datasets which provide coordinates of specific locations covering the whole territory of HK and can be downloaded: <https://www.hkmapservice.gov.hk/OneStopSystem/home?locale=en>
(Technical details of the digital map products: <https://open.hkmapservice.gov.hk/OpenData/resourcesIndex>)
- Hong Kong Geodata Store: Web-based Datum Transformation Tool provides an instant conversion between various coordinate systems / datum. Transformation by batch is allowed.
Introduction: <https://www.geodetic.gov.hk/en/gi/transformation.htm>
Tool: <https://www.geodetic.gov.hk/en/services/tform/tform.aspx>
- Hong Kong Geographic Data: <https://www.landsd.gov.hk/en/resources/mapping-information/hk-geographic-data.html#>
- Open Data (Geospatial) containing various geospatial data including Digital Terrain Model (DTM) which is the topography of terrain in 5-metre raster grid with an accuracy of $\pm 5\text{m}$ <https://www.landsd.gov.hk/en/spatial-data/open-data.html>
- Geodetic Survey Products and Services: https://www.geodetic.gov.hk/en/geod_services.htm
- Geodetic Survey Control Station Database: <https://www.geodetic.gov.hk/en/gi/geod-data.htm>
- Slope Maintenance Responsibility Information System (a Geographic Information System based inventory about the maintenance responsibility of existing slopes): <https://www2.slope.landsd.gov.hk/smr/smap>




Use case (1): General physical risk assessment of a building/ asset

Getting address and age information of a building

- Addresses and years of completion of specific buildings can be obtained through Rating and Valuation Department's regular publications of "Names of Buildings"

Rating and Valuation Department, the Government of the Hong Kong Special Administrative Region:

- "Names of Buildings" (A publication which is updated quarterly to include names, addresses and years of completions of buildings in Hong Kong. The building list is by no means exhaustive but every effort has been made to ensure accuracy of this publication.) https://www.rvd.gov.hk/en/publications/other_publications.html



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Names of Buildings

"Names of Buildings" is updated quarterly to include names, addresses and years of completions of buildings in Hong Kong. The building list is by no means exhaustive but every effort has been made to ensure accuracy of this publication.

樓宇名稱

NAMES OF BUILDINGS

第一冊 港島及九龍

Volume 1 Hong Kong Island and Kowloon

四月 2023

APRIL

Names of Buildings (Hong Kong Island and Kowloon)

(pdf file)

Other format:

Excel for printing

Excel for sorting

樓宇名稱

NAMES OF BUILDINGS

第二冊 新界

Volume 2 The New Territories

四月 2023

APRIL

Names of Buildings (The New Territories)

(pdf file)

Other format:

Excel for printing

Excel for sorting

Building Name (1)	樓宇名稱 (一)	Building Name (2)	樓宇名稱 (二)	Building Name (3)	樓宇名稱 (三)	Address (1)	樓宇地址 (一)	Address (2)	樓宇地址 (二)	Address (3)	樓宇地址 (三)	Completion 落成年份	Owners' Corporation 業主立案法團	Remark	備註
A Hotel						123 Tung Choi St.	達基街123號					2013			
A. Kun Lock Building	均樂大廈					178 Nathan Rd.	彌敦道178號					1966			
A. Lei Wah Building	利華樓					8 Ashley Rd.	亞士厘道8號					1971	P		
A3 Hotel						129 Temple St.	廟街129號					2013			
ABBA Commercial Building	利華商業大廈					223 Aberdeen Main Rd.	香港仔大道223號					1983	P		
ABBA House	樓宇大廈											1983			
ABBA House	樓宇大廈	Block A	A座					225 Aberdeen Main Rd.	香港仔大道225號						
ABBA House	樓宇大廈	Block B	B座					227 Aberdeen Main Rd.	香港仔大道227號						
ABBA Shopping Mall	利華商場					223 Aberdeen Main Rd.	香港仔大道223號					1983			
Abdoolally House	禧街利華大廈					20 Stanley St.	士丹利街20號					1966			
Aberdeen Baptist Church	香港仔浸信會					11 Aberdeen Reservoir Rd.	香港仔水塘道11號					-			
Aberdeen Baptist Church Pak Kwong Kindergarten	香港仔浸信會白松幼稚園					11 Aberdeen Reservoir Rd.	香港仔水塘道11號					-			
Aberdeen Baptist Lui Ming Choi College	香港仔浸信會呂明才書院					18 Lei Tung Estate Rd., Lei Tung Estate	利東邨 利東邨道18號					-			
Aberdeen Boat Club	香港仔船會					20 Shum Yip Rd.	區華達20號					1980			

7

Use case (1): General physical risk assessment of a building/ asset

Assessing resilience of a building

- The reports provide useful information on standards, guidelines and metrics for buildings and infrastructure under extreme weather, as well as government's adaptation measures, which can be used as a reference point for assessing building resilience

Architectural Services Department, the Government of the Hong Kong Special Administrative Region:

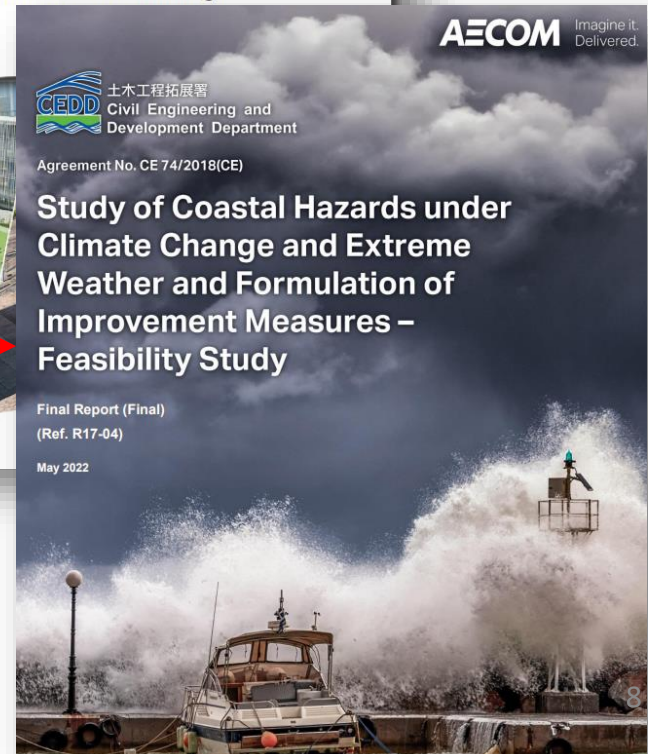
- General Specification for Building 2022 Edition (summarising the design of government buildings and infrastructures, including regulations, codes and guidelines in relation to extreme temperatures):
https://www.archsd.gov.hk/media/publications-publicity/general-specification-for-building/GS_2022.pdf

Civil Engineering & Development Department, the Government of the Hong Kong Special Administrative Region:

- Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures – Feasibility Study (providing details of coastal low-lying or windy residential areas, and government's improvement works and management measures to alleviate coastal hazards): <https://www.cedd.gov.hk/eng/our-projects/project-reports/index-id-24.html>
- Dataset of reported landslide incidents in Hong Kong (including information of reported year, location, scale of incident, consequences, etc.): <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Incident.aspx>
Data Dictionary: https://www.geomap.cedd.gov.hk/GEOOpenData/Data/Incident/Incidents_Dict.pdf
- Slope Information System (a Geographic Information System based inventory of the current man-made slopes): <https://hkss.cedd.gov.hk/hkss/en/facts-and-figures/slope-information-system/sis/index.html>
- Dataset of registered man-made slopes (including spatial polygons of the registered features in the Catalogue of Slopes and the mitigated hillside features with basic information pertinent to the features): <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Feature.aspx>
Data Dictionary: https://www.geomap.cedd.gov.hk/GEOOpenData/Data/Slope/Slope_Data_Dict.pdf



General Specification for Building
2022 Edition



CEDD
土木工程拓展署
Civil Engineering and
Development Department

Agreement No. CE 74/2018(CE)

Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures – Feasibility Study

Final Report (Final)
(Ref. R17-04)

May 2022

AECOM
Imagine it.
Delivered.

Use case (1): General physical risk assessment of a building/ asset


Getting historical data and district level micro-climate conditions

Civil Engineering & Development Department, the Government of the Hong Kong Special Administrative Region:

- Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures – Feasibility Study (providing details of coastal low-lying or windy residential areas, and government's improvement works and management measures to alleviate coastal hazards): <https://www.cedd.gov.hk/eng/our-projects/project-reports/index-id-24.html>
- Dataset of reported landslide incidents in Hong Kong (including information of reported year, location, scale of incident, consequences, etc.): <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Incident.aspx>
Data Dictionary: https://www.geomap.cedd.gov.hk/GEOOpenData/Data/Incident/Incidents_Dict.pdf
- Slope Information System (a Geographic Information System based inventory of the current man-made slopes): <https://hkss.cedd.gov.hk/hkss/en/facts-and-figures/slope-information-system/sis/index.html>
- Dataset of registered man-made slopes (including spatial polygons of the registered features in the Catalogue of Slopes and the mitigated hillside features with basic information pertinent to the features): <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Feature.aspx>
Data Dictionary: https://www.geomap.cedd.gov.hk/GEOOpenData/Data/Slope/Slope_Data_Dict.pdf
- Daily rainfall by raingauge location in HK 1980 Grid: <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Raingauge.aspx>
- Breakdown of landslide consequences by types of slope failures: <https://www.cedd.gov.hk/eng/publications/geo/geo-reports/index.html> (GEO reports such as Review of Landslides and Hong Kong Rainfalls and Landslides)
- Slope safety measures for addressing the increasing landslide risk due to climate change (including strengthening slopes against extreme rainfall to prevent landslides, enhancing emergency preparedness and response to cope with severe landslide events, and improving the community resilience against landslide risk): <https://hkss.cedd.gov.hk/hkss/en/slope-safety-in-hong-kong/slope-safety-system/preparedness-for-increasing-landslide-risk-due-to-/index.html>

Drainage Services Department, the Government of the Hong Kong Special Administrative Region:

- Flooding blackspots in Hong Kong: https://www.dsd.gov.hk/EN/Flood_Prevention/Our_Flooding_Situation/Flooding_Blackspots/index.html
- Coastal low-lying/ windy residential areas in Hong Kong (including storm surge and overtopping wave spots): https://www.dsd.gov.hk/EN/Flood_Prevention/Our_Flooding_Situation/Coastal_Low_lying_or_Windy_Residential_Areas/index.html
https://www.dsd.gov.hk/EN/Publicity_and_Publications/Publicity/DSD_Sustainability_Reports/index.html
- List of completed projects on flood prevention, sewerage and sewage treatment (including information of improvement work, project scope, location concerned, commencement and completion date etc.) (as of 2022/11/01) (excel file)



Location of Landslide Incidents

Spatial location of the confirmed landslide incident and basic information pertinent to the landslide, including the location, estimated scale of failure, date of failure, etc.

Update Frequency : Annually

Data Dictionary : Incidents_Dict.pdf

Metadata : Incident_CEDD.xml [English Version Only]

☐ Location of Landslide Incidents (CSV) [Download](#)

Flooding Blackspots

Home > Core Business > Flood Prevention > Our Flooding Situation > Flooding Blackspots

[Hide](#)

Flood Prevention

- Our Flooding Situation
- Flood Prevention Strategy
- Long Term Improvement Measures
- Keeping the Drainage System in Good Shape
- How to Reduce Flood Damage
- Land Use Management and Legislation

Sewerage

Environmental Management

Technology Employed

Flooding Blackspots

The Purpose

DSD established a systematic approach to identify flooding blackspots in the territory in 1994. The flooding blackspots list are produced based on drainage capacity, previous flooding records, complaints received and flood protection standards at the relevant location. Setting up flooding blackspots are effective for the planning of drainage improvement works. For the commissioned drainage improvement works, their effectiveness is being monitored.

- Flooding Blackspot Scales
- Review Mechanism
- List of Flooding Blackspots
- Blackspots Location Map

Number of Flooding Blackspots over the years

Number of Flooding Blackspots
水浸黑點數目

Use case (1): General physical risk assessment of a building/ asset

Getting historical data and district level micro-climate conditions



Physical Risk

Datasets that facilitate assessment in relation to exposure to physical risks under different emissions scenarios and time horizons.

Hong Kong Observatory:

- Tropical cyclone impact data (including cyclone warning signal records, key meteorological and tidal data at different stations, casualties, and socio-economic impact data): https://www.hko.gov.hk/en/informtc/tc_impact.html
- Tropical cyclones information, statistics and publications:
Main Page: <https://www.hko.gov.hk/en/informtc/tcMain.htm>
Annual Publications: <https://www.hko.gov.hk/en/publica/pubtc.htm>
- Hong Kong Heat Index: https://www.hko.gov.hk/en/wxinfo/ts/index_hkhi.htm
- Climate change information and projections: https://www.hko.gov.hk/en/climate_change/climate_change.htm
- Climate data/statistics: <https://www.hko.gov.hk/en/cis/climat.htm>

- Historical tropical cyclone impact data (including cyclone warning signal records, key meteorological and tidal data at different stations, casualties, and socio-economic impact data) can be obtained from HKO database

TC Basic Information					Damage in M						
Year	Name	Chinese Name	JMA ID	Highest TC Warning Signal Issued	Losses Reported by Government Departments, Public Utility Companies and other Organizations						Subtotal
					Agriculture	Public Works Facilities	Public Utilities	Private Property	Industry	Others	
1988	Susan	蘇珊	8802	1	NR	NR	NR	NR	NR	NR	NR
1988	Vanessa	雲妮莎	8805	1	NR	NR	NR	NR	NR	NR	NR
1988	Warren	華倫	8806	3	13.5000	0.2000	0.5000	NR	NR	NR	14.2000
1988	Kit	吉蒂	8821	3	NR	NR	NR	NR	NR	NR	NR
1988	Pat	帕特	8827	3	NR	NR	NR	NR	NR	NR	NR
1988	Ruby	露比	8828	3	NR	NR	NR	NR	NR	NR	NR
1989	Brenda	布倫達	8903	8	8.8000	NR	1.4230	NR	NR	NR	10.2230
1989	Dot	黛蒂	8905	3	NR	NR	NR	NR	NR	NR	NR
1989	Faye	菲爾	8907	1	NR	NR	NR	NR	NR	NR	NR
1989	Gordon	戈登	8908	8	0.3000	NR	0.2230	NR	NR	NR	0.5230
1989	Brian	布賴恩	8924	3	NR	NR	NR	NR	NR	NR	NR
1989	Angela	安琪拉	8923	3	NR	NR	NR	NR	NR	NR	NR
1989	Dan	丹尼	8926	3	NR	NR	NR	NR	NR	NR	NR
1990	Marian	瑪麗安	9003	3	NR	NR	NR	NR	NR	NR	NR
1990	Nathan	彌敦	9004	3	NR	NR	NR	NR	NR	NR	NR
1990	Percy	珀西	9006	1	NR	NR	NR	NR	NR	NR	NR
1990	Tasha	泰莎	9009	3	NR	NR	NR	NR	NR	NR	NR
1990	Becky	貝姬	9016	3	NR	NR	NR	NR	NR	NR	NR
1990	Ed	義德	9018	1	NR	NR	NR	NR	NR	NR	NR
1991	Zeke	澤奇	9106	3	NR	NR	NR	NR	NR	NR	NR
1991	Amy	愛媚	9107	3	NR	NR	NR	NR	NR	NR	NR
1991	Brendan	布倫登	9108	8	NR	NR	0.9440	NR	NR	NR	0.9440
1991	Fred	法雷德	9111	3	NR	NR	0.2650	NR	NR	NR	0.2650
1991	Joel	喬爾	9116	3	NR	NR	NR	NR	NR	NR	NR
1991	Nat	納德	9120	1	NR	NR	NR	NR	NR	NR	NR
1992	Chuck	查克	9204	3	NR	0.2000	NR	NR	NR	NR	0.2000
1992	Eli	艾里	9205	3	NR	NR	NR	NR	NR	NR	NR
1992	Faye	菲爾	9206	3	8.0000	1.3000	5.3000	NR	NR	NR	14.6000
1992	Gary	加里	9207	8	NR	NR	0.3000	NR	NR	NR	0.3000
1992	Mark	馬克	9212	1	NR	NR	NR	NR	NR	NR	NR
1993	Koryn	高蓮	9302	8	NR	1.6000	0.9000	NR	NR	NR	2.5000
1993	Lewis	路易斯	9303	1	NR	NR	NR	NR	NR	NR	NR
1993	Tasha	泰莎	9309	8	NR	0.6000	0.3000	NR	NR	NR	0.9000
1993	Winona	雲妮娜	9312	1	NR	NR	NR	NR	NR	NR	NR

Use case (2): Physical risk stress test

Some useful reference data sources

1) Characteristics of the building

<refer to use case 1>

2) Historical data and District level micro-climate conditions

<refer to use case 1>

3) Climate Scenarios and Projections

i. Climate change information and projections

Hong Kong Observatory:

- *Climate change information and projections*

Network of Central Banks and Supervisors for Greening the Financial System:

- *NGFS Scenarios Portal*

Intergovernmental Panel on Climate Change

- *IPCC Working Group 1 Interactive Atlas*

4) Economic Opportunities & Forecast

Network of Central Banks and Supervisors for Greening the Financial System:

- *NGFS Scenarios Portal*

IEA World Energy

- *World Energy Outlook 2022 Free Dataset*

5) Historical data of climate incidents in Hong Kong

Hong Kong Observatory:

- *Tropical cyclones information, statistics and publications*
- *Annual tropical cyclone statistics (including wind speed, direction and rainfall in each weather station, sea level and storm surge, tropical cyclone position and intensity data etc.)*

6) Financial or economic loss

Hong Kong Observatory:

- *Casualties and damage caused by tropical cyclones in Hong Kong*

Civil Engineering & Development Department:

- *Dataset of reported landslide incidents in Hong Kong (including information of reported year, location, scale of incident, consequences, etc.)*

Use case (2): Physical risk stress test

Getting climate change information and projections

- The HKO webpage provides global/domestic climate change information and projections (including but not limited to temperature, rainfall and mean sea level)



Physical Risk

Datasets that facilitate assessment in relation to exposure to physical risks under different emissions scenarios and time horizons.

Hong Kong Observatory:

- Tropical cyclone impact data (including cyclone warning signal records, key meteorological and tidal data at different stations, casualties, and socio-economic impact data): https://www.hko.gov.hk/en/informtc/tc_impact.html
- Tropical cyclones information, statistics and publications:
Main Page: <https://www.hko.gov.hk/en/informtc/tcMain.htm>
Annual Publications: <https://www.hko.gov.hk/en/publica/pubtc.htm>
- Hong Kong Heat Index: https://www.hko.gov.hk/en/wxinfo/ts/index_hkhi.htm
- Climate change information and projections: https://www.hko.gov.hk/en/climate_change/climate_change.htm
- Climate data/statistics: <https://www.hko.gov.hk/en/cis/climat.htm>

19 Jun 2023 (Mon) 30.7°C 75% (13:50) 繁體中文 Text Size

Weather | Climate | Geophysics | Astronomy and Time | Radiation Monitoring | Community | Learning | International & Regional Cooperation | Media and News | e-Services | About Us

Home > Climate > Climate Change

Climate Change Impacts

There is a 98% likelihood that at least one of the next five years (2023-2027) will be the warmest on record. [More](#)

[Global Climate Change](#) [Climate Change in Hong Kong](#) [Causes of Climate Change](#)

[Global Climate Projections](#) [Climate Projections for Hong Kong](#) [Educational Resources](#)

Vital indicators of climate change

Home > Climate > Climate Change > Climate Projections for Hong Kong

Climate Change

Climate Projections for Hong Kong

The United Nations Intergovernmental Panel on Climate Change (IPCC) released the Summary for Policymakers (SPM) of the Working Group I contribution to the Sixth Assessment Report (AR6) "Climate Change 2021: The Physical Science Basis" on 9 August 2021. A new set of [5 scenarios](#) taking into consideration different trends in greenhouse gas concentrations is employed in AR6 to generate climate projections for the 21st century.

- SSP3-7.0 and SSP5-8.5: High and very high greenhouse gas emissions, carbon dioxide emissions roughly double from current levels by 2100 and 2050 respectively.
- SSP2-4.5: Intermediate greenhouse gas emissions, carbon dioxide emissions remaining around current levels until the middle of the century.
- SSP1-1.9 and SSP1-2.6: Very low and low greenhouse gas emissions, carbon dioxide emissions decline to net zero around or after 2050, followed by varying levels of net negative carbon emissions.

It is important to note that climate projection is not weather or seasonal forecast. It aims at describing the plausible changes in future climate from a long-term perspective under prescribed greenhouse gas concentrations rather than depicting the "day-to-day" or "year-to-year" weather fluctuation. Climate projections will vary according to different [emissions scenarios](#). Besides, disparity in climate models' ability in simulating physical processes will also introduce uncertainties to climate projections.

[Temperature](#) [Rainfall](#) [Mean sea level](#)

Use case (2): Physical risk stress test

Getting climate change information and projections

- NGFS's and IPCC's established scenario models provide information of climate scenario parameters and pathway projections



Climate Scenarios and Projections

Scenarios models and projections that facilitate climate risk analysis and stress testing to assess the resilience of an entity's businesses, strategy and financial planning against different climate scenarios; or for research and policy purposes.

Network of Central Banks and Supervisors for Greening the Financial System (NGFS):

- Scenarios Portal: <https://www.ngfs.net/ngfs-scenarios-portal/data-resources/>

Paris Agreement Capital Transition Assessment (PACTA):

- Transition scenarios: <https://compass.transitionmonitor.org/>

International Energy Agency (IEA):

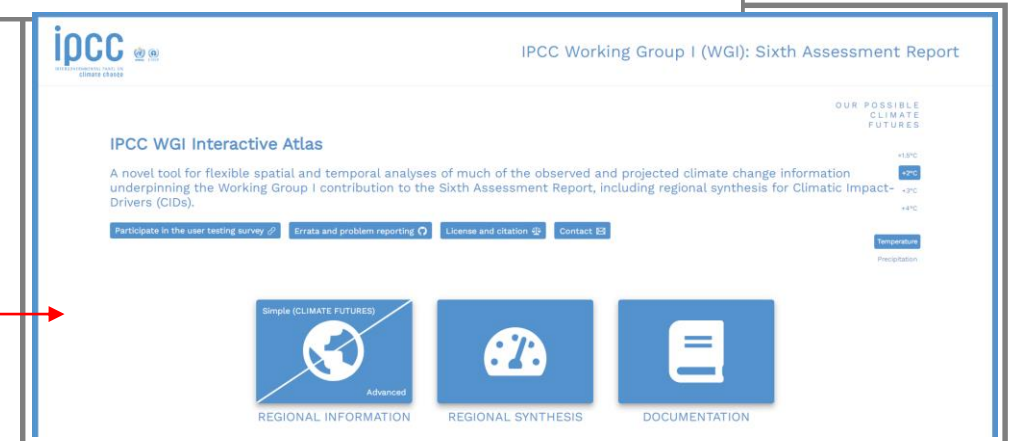
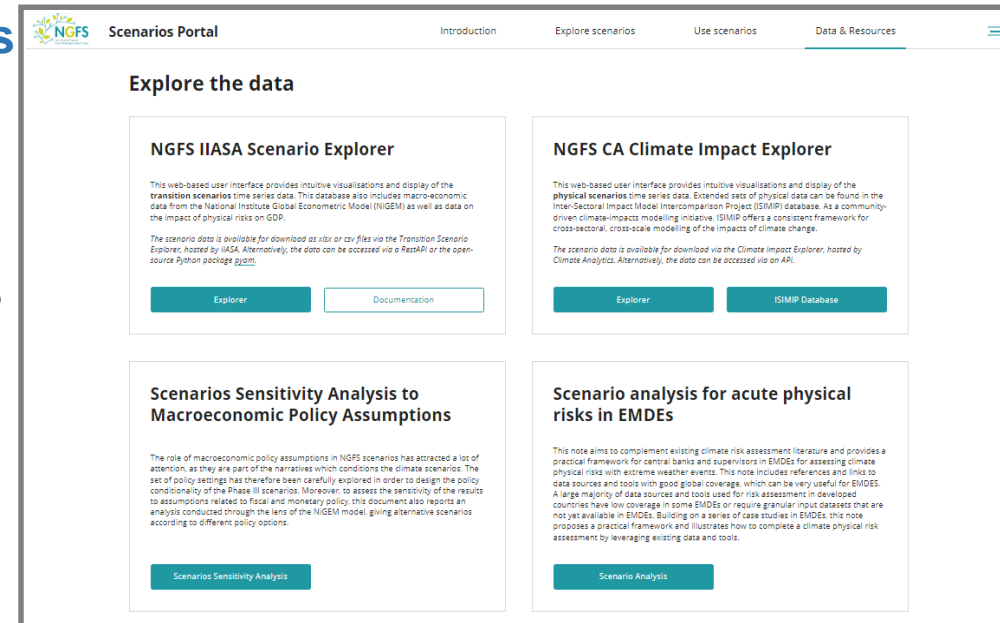
- Global Net Zero by 2050 scenario projections data: <https://www.iea.org/data-and-statistics/data-product/net-zero-by-2050-scenario>
- Energy Technology Perspectives (ETP) scenario and sectoral data: <https://www.iea.org/data-and-statistics/data-product/energy-technology-perspectives-2017-2>

Intergovernmental Panel on Climate Change (IPCC):

- IPCC Working Group 1 Interactive Atlas: <https://interactive-atlas.ipcc.ch/>

World Bank:

- Climate Change Knowledge Portal: <https://climateknowledgeportal.worldbank.org/>



Use case (2): Physical risk stress test

Getting information on economic opportunities & forecast

- Macro-economic data and impact data of physical risks on GDP can be obtained from the National Institute Global Econometric Model (NiGEM) and NGFS IIASA Scenario Explorer respectively



Climate Scenarios and Projections

Scenarios models and projections that facilitate climate risk analysis and stress testing to assess the resilience of an entity's businesses, strategy and financial planning against different climate scenarios; or for research and policy purposes.

Network of Central Banks and Supervisors for Greening the Financial System (NGFS):

- Scenarios Portal <https://www.ngfs.net/ngfs-scenarios-portal/data-resources/>



Transition Risk

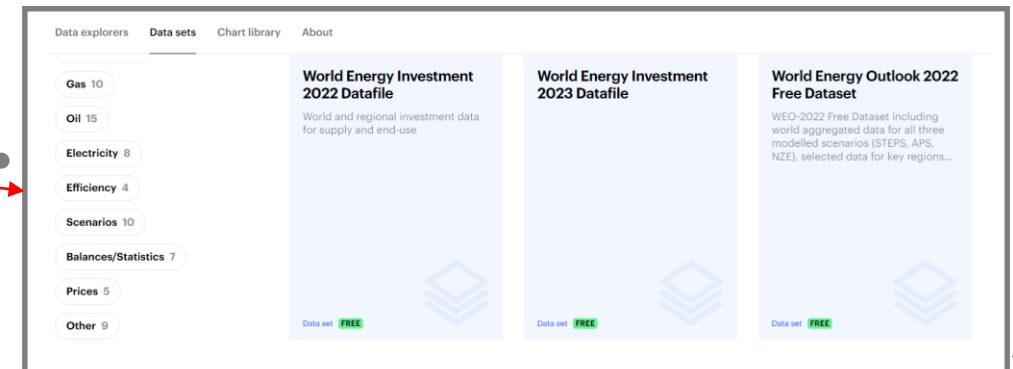
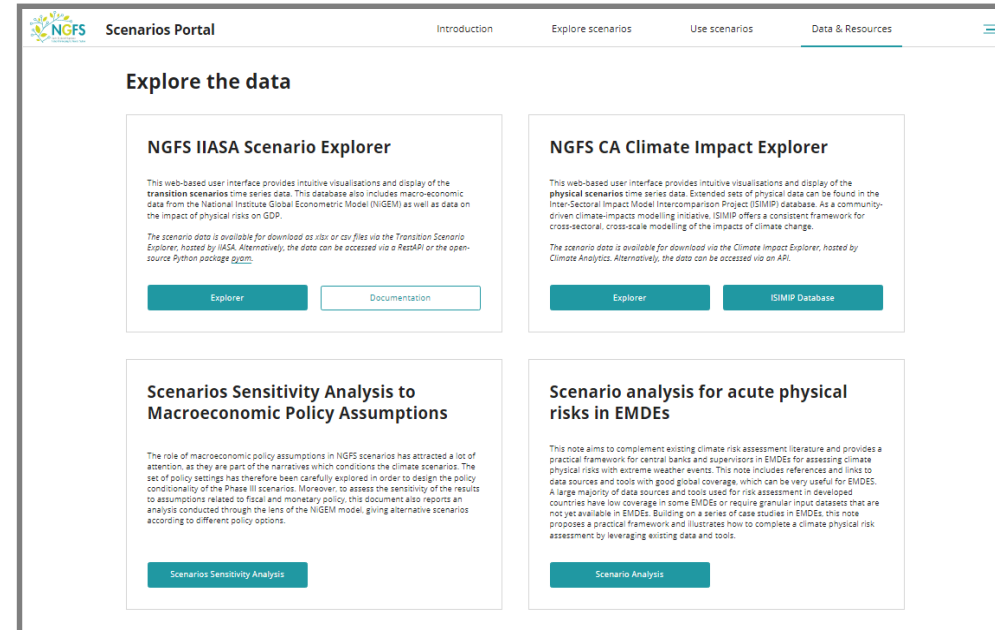
Datasets that facilitate assessment in relation to exposure to transition risks under different emissions scenarios and time horizons.

Network of Central Banks and Supervisors for Greening the Financial System (NGFS):

- Transition scenarios: <https://data.ene.iiasa.ac.at/ngfs/#/workspaces>

International Energy Agency (IEA):

- <https://www.iea.org/data-and-statistics/data-products?filter=free>



- The IEA's World Energy Outlook datasets provide projections for fossil-fuel production and demand by region, power sector overview by region, carbon-dioxide (CO2) emissions from fuel combustion and global average annual and cumulative energy investments by energy type

Use case (2): Physical risk stress test

Getting historical data of climate incidents in Hong Kong

- Historical tropical cyclone impact data (including cyclone warning signal records, key meteorological and tidal data at different stations, casualties, and socio-economic impact data) can be obtained from HKO database



Physical Risk

Datasets that facilitate assessment in relation to exposure to physical risks under different emissions scenarios and time horizons.

Hong Kong Observatory:

- Tropical cyclone impact data (including cyclone warning signal records, key meteorological and tidal data at different stations, casualties, and socio-economic impact data): https://www.hko.gov.hk/en/informtc/tc_impact.html
- Tropical cyclones information, statistics and publications:
Main Page: <https://www.hko.gov.hk/en/informtc/tcMain.htm>
Annual Publications: <https://www.hko.gov.hk/en/publica/pubtc.htm>
- Hong Kong Heat Index: https://www.hko.gov.hk/en/wxinfo/ts/index_hkhi.htm
- Climate change information and projections: https://www.hko.gov.hk/en/climate_change/climate_change.htm
- Climate data/statistics: <https://www.hko.gov.hk/en/cis/climat.htm>

Tropical Cyclone

Current Tropical Cyclone Warning and Related Information

- Tropical Cyclone Warning Bulletin (for local public)
- Tropical Cyclone Track and Positions
- Tropical Cyclone Track Probability Forecast
- Tropical Cyclone Warning for Shipping

Tropical Cyclone Warning System for Hong Kong

- 100 years of Numbered Typhoon Signals
- Classification of Tropical Cyclones
- Pamphlet on Tropical Cyclone Warning Signals
- Precautionary Measures when Tropical Cyclone Warning Signals are in force

TC Basic Information				TC Warning Signal Related Data						
Year	Name	Chinese Name	JMA ID	Highest TC Warning Signal Issued During this Passage	Times of Passages	Issuance Date of First TC Warning Signal During this Passage	Cancellation Date of all TC Warning Signal During this Passage	Duration of all Issued TC Warning Signals During this Passage (hh:mm)	Lifespan Max Intensity Classification	Estimated
1988	Susan	蘇珊	8802	1	1	31/05/1988	01/06/1988	28:30	T	
1988	Vanessa	雲妮莎	8805	1	1	28/06/1988	29/06/1988	17:30	TS	
1988	Warren	華倫	8806	3	1	18/07/1988	20/07/1988	42:00	SuperT	
1988	Kit	吉蒂	8821	3	1	21/09/1988	22/09/1988	24:25	T	
1988	Pat	帕特	8827	3	1	21/10/1988	22/10/1988	30:55	T	
1988	Ruby	露比	8828	3	1	25/10/1988	28/10/1988	60:50	SuperT	
1989	Brenda	布倫達	8903	8	1	19/05/1989	21/05/1989	46:30	T	
1989	Dot	黛蒂	8905	3	1	08/06/1989	10/06/1989	45:15	T	
1989	Faye	菲爾	8907	1	1	09/07/1989	10/07/1989	24:10	STS	
1989	Gordon	戈登	8908	8	1	16/07/1989	18/07/1989	52:00	SuperT	
1989	Brian	布賴恩	8924	3	1	30/09/1989	02/10/1989	42:50	T	
1989	Angela	安琪拉	8923	3	1	06/10/1989	09/10/1989	60:55	SuperT	
	Dan	丹尼	8926	3	1	11/10/1989	13/10/1989	34:30	T	
	Marian	瑪麗安	9003	3	1	17/05/1990	18/05/1990	26:30	T	
	Nathan	彌敦	9004	3	1	17/06/1990	18/06/1990	18:05	STS	
	Percy	珀西	9006	1	1	28/06/1990	29/06/1990	29:30	SuperT	
	Tasha	泰莎	9009	3	1	28/07/1990	31/07/1990	76:10	STS	
	Becky	貝姬	9016	3	1	27/08/1990	28/08/1990	38:10	T	
	Ed	義德	9018	1	1	14/09/1990	17/09/1990	56:45	T	
	Zeke	澤奇	9106	3	1	12/07/1991	13/07/1991	22:20	T	
	Amy	愛嫻	9107	3	1	18/07/1991	20/07/1991	35:25	SuperT	
	Brendan	布倫登	9108	8	1	22/07/1991	24/07/1991	41:00	STS	
	Fred	法雷德	9111	3	1	13/08/1991	16/08/1991	53:45	T	
	Joel	喬爾	9116	3	1	03/09/1991	07/09/1991	83:45	STS	
	Nat	納德	9120	1	1	16/09/1991	18/09/1991	39:45	ST	
	Nat	納德	9120	1	2	23/09/1991	25/09/1991	49:00	ST	
	Nat	納德	9120	1	3	29/09/1991	30/09/1991	24:55	ST	

Reference & Remark

Signal Data

Wind

Rainfall

Other Met Data

Casualty and Vessel Damage

Social Impact

Damage (Physical)

Damage (Monetary)

Use case (2): Physical risk stress test

Getting information for the estimation of financial or economic loss due to climate incidents



Physical Risk

Datasets that facilitate assessment in relation to exposure to physical risks under different emissions scenarios and time horizons.

Hong Kong Observatory:

- Tropical cyclone impact data (including cyclone warning signal records, key meteorological and tidal data at different stations, casualties, and socio-economic impact data): https://www.hko.gov.hk/en/informtc/tc_impact.html
- Tropical cyclones information, statistics and publications:
Main Page: <https://www.hko.gov.hk/en/informtc/tcMain.htm>
Annual Publications: <https://www.hko.gov.hk/en/publica/pubtc.htm>
- Hong Kong Heat Index: https://www.hko.gov.hk/en/wxinfo/ts/index_hkhi.htm
- Climate change information and projections: https://www.hko.gov.hk/en/climate_change/climate_change.htm
- Climate data/statistics: <https://www.hko.gov.hk/en/cis/climat.htm>

A	B	C	D	E	F	G	H	I	J	K	L	M
TC Basic Information					Damage in M							
Year	Name	Chinese Name	JMA ID	Highest TC Warning Signal Issued	Losses Reported by Government Departments, Public Utility Companies and other Organizations							F Bu
					Agriculture	Public Works Facilities	Public Utilities	Private Property	Industry	Others	Subtotal	
1988	Susan	蘇珊	8802	1	NR	NR	NR	NR	NR	NR	NR	
1988	Vanessa	雲妮莎	8805	1	NR	NR	NR	NR	NR	NR	NR	
1988	Warren	華倫	8806	3	13.5000	0.2000	0.5000	NR	NR	NR	14.2000	
1988	Kit	吉蒂	8821	3	NR	NR	NR	NR	NR	NR	NR	
1988	Pat	帕特	8827	3	NR	NR	NR	NR	NR	NR	NR	
1988	Ruby	露比	8828	3	NR	NR	NR	NR	NR	NR	NR	
1989	Brenda	布倫達	8903	8	8.8000	NR	1.4230	NR	NR	NR	10.2230	
1989	Dot	黛蒂	8905	3	NR	NR	NR	NR	NR	NR	NR	
1989	Faye	菲爾	8907	1	NR	NR	NR	NR	NR	NR	NR	
1989	Gordon	戈登	8908	8	0.3000	NR	0.2230	NR	NR	NR	0.5230	
1989	Brian	布賴恩	8924	3	NR	NR	NR	NR	NR	NR	NR	
1989	Angela	安琪拉	8923	3	NR	NR	NR	NR	NR	NR	NR	
1989	Dan	丹尼	8926	3	NR	NR	NR	NR	NR	NR	NR	
1990	Marian	瑪麗安	9003	3	NR	NR	NR	NR	NR	NR	NR	
1990	Nathan	彌敦	9004	3	NR	NR	NR	NR	NR	NR	NR	
1990	Percy	珀西	9006	1	NR	NR	NR	NR	NR	NR	NR	
1990	Tasha	泰莎	9009	3	NR	NR	NR	NR	NR	NR	NR	
1990	Becky	貝姬	9016	3	NR	NR	NR	NR	NR	NR	NR	
1990	Ed	義德	9018	1	NR	NR	NR	NR	NR	NR	NR	
1991	Zeke	澤奇	9106	3	NR	NR	NR	NR	NR	NR	NR	
1991	Amy	愛媚	9107	3	NR	NR	NR	NR	NR	NR	NR	
1991	Brendan	布倫登	9108	8	NR	NR	0.9440	NR	NR	NR	0.9440	
1991	Fred	法雷德	9111	3	NR	NR	0.2650	NR	NR	NR	0.2650	
1991	Joel	衛爾	9116	3	NR	NR	NR	NR	NR	NR	NR	
1991	Nat	納德	9120	1	NR	NR	NR	NR	NR	NR	NR	
1992	Chuck	蔡克	9204	3	NR	0.2000	NR	NR	NR	NR	0.2000	
1992	Eli	艾里	9205	3	NR	NR	NR	NR	NR	NR	NR	
1992	Faye	菲爾	9206	3	8.0000	1.3000	5.3000	NR	NR	NR	14.6000	
1992	Gary	加里	9207	8	NR	NR	0.3000	NR	NR	NR	0.3000	
1992	Mark	馬克	9212	1	NR	NR	NR	NR	NR	NR	NR	
1993	Koryn	高蓮	9302	8	NR	1.6000	0.9000	NR	NR	NR	2.5000	
1993	Lewis	路易士	9303	1	NR	NR	NR	NR	NR	NR	NR	
1993	Tasha	泰莎	9309	8	NR	0.6000	0.3000	NR	NR	NR	0.9000	
1993	Winona	雲妮娜	9312	1	NR	NR	NR	NR	NR	NR	NR	
1993	...	...	...	...	...	...	...	...	...	...	...
Signal Data					Casualty and Vessel Damage		Social Impact		Damage (Physical)		Damage (Monetary)	

- Historical tropical cyclone impact data (including cyclone warning signal records, key meteorological and tidal data at different stations, casualties, and socio-economic impact data) can be obtained from HKO database


Use case (2): Physical risk stress test

Getting information for the estimation of financial or economic loss due to climate incidents

- Historical landslide incidents impact data (including information of reported year, location, scale of incident, consequences) can be obtained from CEDD database

Civil Engineering & Development Department, the Government of the Hong Kong Special Administrative Region:

- Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures – Feasibility Study (providing details of coastal low-lying or windy residential areas, and government’s improvement works and management measures to alleviate coastal hazards): <https://www.cedd.gov.hk/eng/our-projects/project-reports/index-id-24.html>
- Dataset of reported landslide incidents in Hong Kong (including information of reported year, location, scale of incident, consequences, etc.): <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Incident.aspx>
Data Dictionary: https://www.geomap.cedd.gov.hk/GEOOpenData/Data/Incident/Incidents_Dict.pdf
- Slope Information System (a Geographic Information System based inventory of the current man-made slopes): <https://hkss.cedd.gov.hk/hkss/en/facts-and-figures/slope-information-system/sis/index.html>
- Dataset of registered man-made slopes (including spatial polygons of the registered features in the Catalogue of Slopes and



Location of Landslide Incidents

Spatial location of the confirmed landslide incident and basic information pertinent to the landslide, including the location, estimated scale of failure, date of failure, etc.

Update Frequency : Annually

Data Dictionary : Incidents_Dict.pdf

Metadata : Incident_CEDD.xml [English Version Only]

☐ Location of Landslide Incidents (CSV) [Download](#)

OBJECTID	INCID	OGDINCID	CALLFROM	CALLDATE	FAILDATE	EASTING	NORTHING	LOCATION	SLOPENUM	FEATTYPE	SCALE	FACAFF	CONSEC	CONSEC_DEATHNO	CONSEC_INJURYNO	CONSEC_EVACUATED	CONSEC_ROADCLOSED	Geometry	GeometryNorthing
1	2022/04/	-	GEO	#####	#####	817589	830759	Fuk Hang	-	Rock Cut	0.2	Access ro	-	-	-	-	-	817589	830759
2	2022/02/	-	Others	#####	-	831104	815558	Above Kei	11SW-A/C	Soil Cut	15	Nil	-	-	-	-	-	831104	815558
3	2021/12/	-	Public	#####	#####	837089	819041	Block B, M	11NW-D/I	Rock Cut	0.1	Nil	-	-	-	-	-	837089	819041
4	2021/12/	HyD/K/20	HyD	#####	#####	840492	823697	Shatin Pa	11NE-A/C	Rock Cut	0.7	Nil	-	-	-	-	-	840492	823697
5	2021/11/	-	GEO	#####	#####	842236	814832	Opposite	-	Soil Cut	0.06	Minor foo	-	-	-	-	-	842236	814832
6	2021/11/	HyD/NTE/	Public	#####	-	841132	823610	Fei Ngo Sh	11NE-A/C	Soil/Rock	0.6	Road	-	-	-	-	-	841132	823610
7	2021/11/	HyD/HK/2	Public	#####	#####	835758	813849	Nos. 12-1	-	Natural H	11	Road	-	-	-	-	-	835758	813849
8	2021/11/	-	DSD	#####	-	833470	813810	Mount Ke	-	Natural H	8	Other (DS	-	-	-	-	-	833470	813810
9	2021/11/	-	Public	#####	#####	817665	814661	Outside H	-	Soil Cut	1.3	Open are	-	-	-	-	-	817665	814661

Use case (3): Physical risk mitigation

Some useful reference data sources

1) Existing measures in climate change mitigation, adaptation and resilience

i. Flood prevention measures

Drainage Services Department:

- *Information of flood prevention measures, new project design and construction solutions and advanced maintenance technologies etc. performed by the Drainage Services Department*
- *Climate change considerations in drainage design - The Stormwater Drainage Manual*

ii. Slope safety measures

Civil Engineering & Development Department:

- *Preparedness for increasing landslide risk due to climate change*
- *“Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures – Feasibility Study”*

Use case (3): Physical risk mitigation

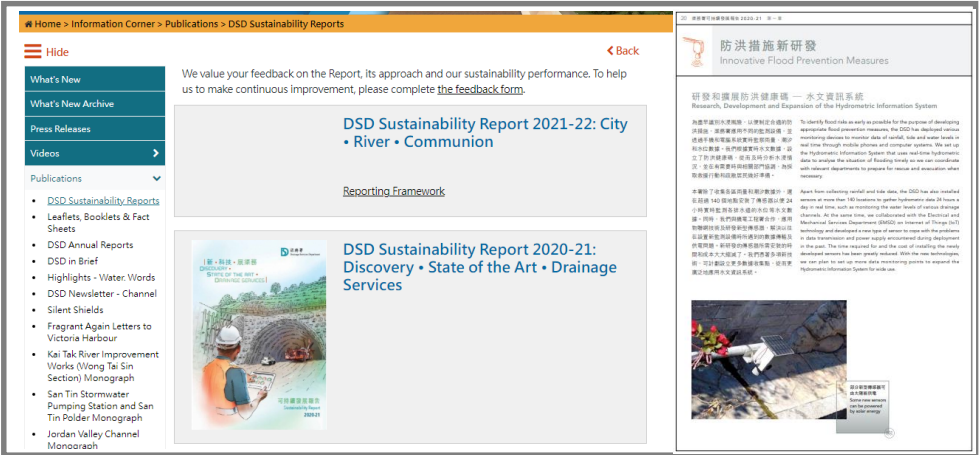
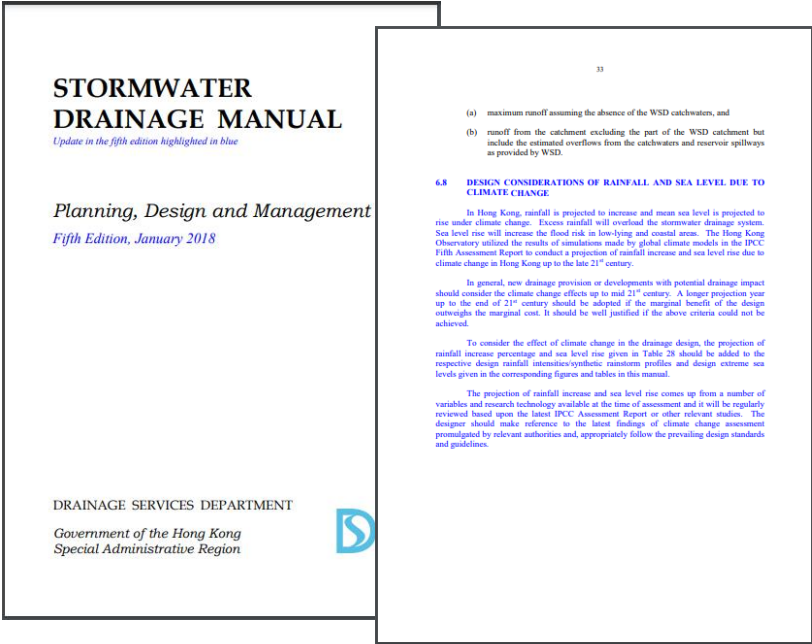
Getting information on flood prevention measures

- DSD's “Stormwater Drainage Manual” provides information on design considerations of rainfall and sea level due to climate change in drainage design

Drainage Services Department, the Government of the Hong Kong Special Administrative Region:

- Flooding blackspots in Hong Kong:
https://www.dsd.gov.hk/EN/Flood_Prevention/Our_Flooding_Situation/Flooding_Blackspots/index.html
- Coastal low-lying/ windy residential areas in Hong Kong (including storm surge and overtopping wave spots):
https://www.dsd.gov.hk/EN/Flood_Prevention/Our_Flooding_Situation/Coastal_Low_lying_or_Windy_Residential_Areas/index.html
https://www.dsd.gov.hk/EN/Publicity_and_Publications/Publicity/DSD_Sustainability_Reports/index.html
- List of completed projects on flood prevention, sewerage and sewage treatment (including information of improvement work, project scope, location concerned, commencement and completion date etc.) (as of 2022/11/01) (excel file)
- Climate change considerations in drainage design - The Stormwater Drainage Manual (Section 6.8):
https://www.dsd.gov.hk/EN/Files/Technical_Manual/technical_manuals/SDM_2018_5th.pdf
- Slope Information System (a Geographic Information System based inventory of the current man-made slopes):
<https://hkss.cedd.gov.hk/hkss/en/facts-and-figures/slope-information-system/sis/index.html>
- Information of flood prevention measures, new project design and construction solutions and advanced maintenance technologies etc. performed by the Drainage Services Department:
Sustainability Report: https://www.dsd.gov.hk/EN/Publicity_and_Publications/Publicity/DSD_Sustainability_Reports/index.html
Annual Report: https://www.dsd.gov.hk/EN/Publicity_and_Publications/Publicity/DSD_Annual_Reports/index.html

- DSD's Sustainability Reports provide information on government's flood prevention measures



Use case (3): Physical risk mitigation

Getting information on slope safety measures

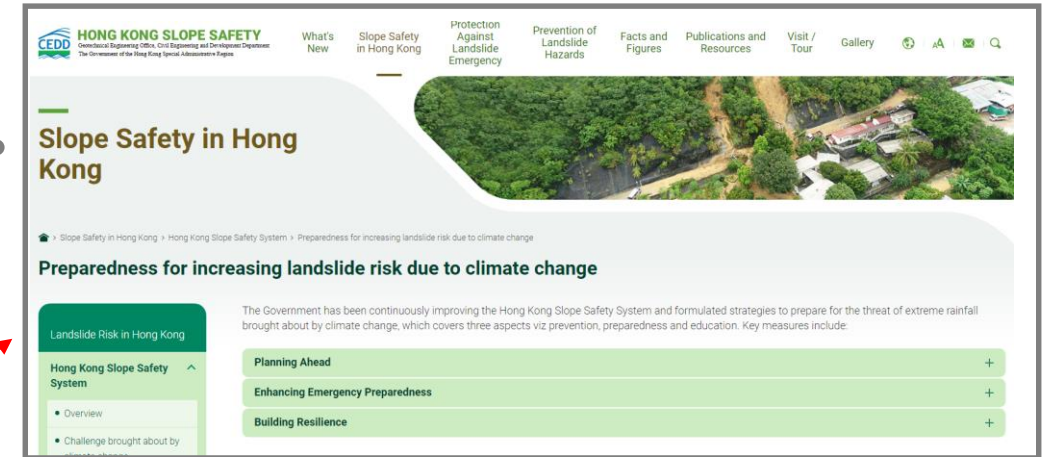
- The CEDD webpage provides information on slope safety measures for the prevention of landslides events and the mitigation of severe impacts if landslides happen

Civil Engineering & Development Department, the Government of the Hong Kong Special Administrative Region:

- Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures – Feasibility Study (providing details of coastal low-lying or windy residential areas, and government's improvement works and management measures to alleviate coastal hazards): <https://www.cedd.gov.hk/eng/our-projects/project-reports/index-id-24.html>
- Dataset of reported landslide incidents in Hong Kong (including information of reported year, location, scale of incident, consequences, etc.): <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Incident.aspx>
Data Dictionary: https://www.geomap.cedd.gov.hk/GEOOpenData/Data/Incident/Incidents_Dict.pdf
- Slope Information System (a Geographic Information System based inventory of the current man-made slopes): <https://hkss.cedd.gov.hk/hkss/en/facts-and-figures/slope-information-system/sis/index.html>
- Dataset of registered man-made slopes (including spatial polygons of the registered features in the Catalogue of Slopes and the mitigated hillside features with basic information pertinent to the features): <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Feature.aspx>
Data Dictionary: https://www.geomap.cedd.gov.hk/GEOOpenData/Data/Slope/Slope_Data_Dict.pdf
- Daily rainfall by raingauge location in HK 1980 Grid: <https://www.geomap.cedd.gov.hk/GEOOpenData/eng/Raingauge.aspx>
- Breakdown of landslide consequences by types of slope failures: <https://www.cedd.gov.hk/eng/publications/geo/geo-reports/index.html> (GEO reports such as Review of Landslides and Hong Kong Rainfalls and Landslides)
- Slope safety measures for addressing the increasing landslide risk due to climate change (including strengthening slopes against extreme rainfall to prevent landslides, enhancing emergency preparedness and response to cope with severe landslide events, and improving the community resilience against landslide risk): <https://hkss.cedd.gov.hk/hkss/en/slope-safety-in-hong-kong/slope-safety-system/preparedness-for-increasing-landslide-risk-due-to/index.html>

Architectural Services Department, the Government of the Hong Kong Special Administrative Region:

- General Specification for Building 2022 Edition (summarising the design of government buildings and infrastructures, including regulations, codes and guidelines in relation to extreme temperatures): https://www.archsd.gov.hk/media/publications-publicity/general-specification-for-building/GS_2022.pdf



- CEDD's "Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures – Feasibility Study" provides useful information on government's adaptation measures for coastal hazards under climate change and extreme weather

