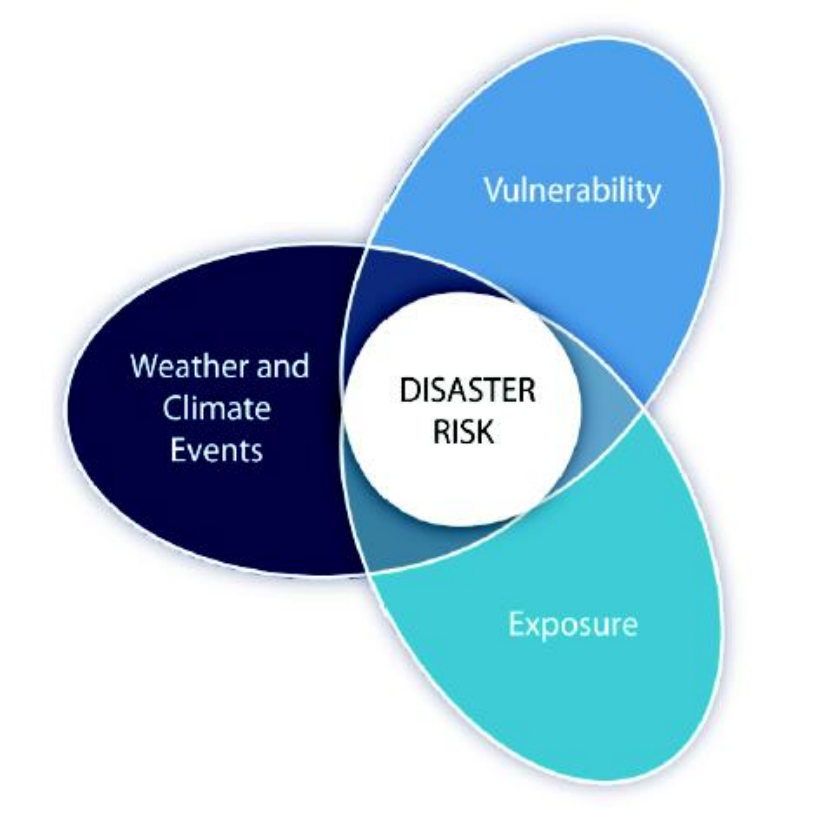
CLIMsystems

Decision making in a climate changed world

A Climate Risk Screening Tool
Leading to Asset Protection

Objective

Innovative concept to provide organizations with a screening tool to screen and assess climate risk to and on their facilities, operations and assets



Powered by:

The climate is changing, what can we expect

- Increasing sea and surface temperatures
- Increased frequency of storm events
- Impacts on water availability and quality
- Significant impacts from high intensity rainfall
- Increasing occurrence of droughts
- Threats to human health

Addressing climate risks reduces uncertainties by

- Promoting new market opportunities and expansions
- Development of climate friendly goods and services
- Potential cost savings by considering adaptation
- Climate proofing the supply chain
- Enhanced corporate social responsibility
- Emission reduction incentives

By not addressing climate risks brings

- Added risks to infrastructure
- Increased threats to resource availability
- Increasing costs to business operations and suppliers
- Legal and financial liabilities
- Decrease in investor confidence
- Loss of consumer markets

A Climate Risk Screening Tool assesses the impacts of climate change on assets

The Climate Screening Tool comprises

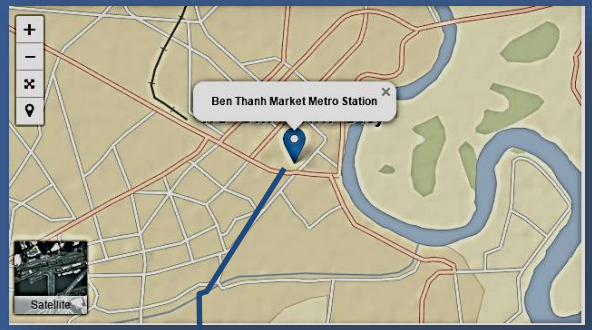
- An asset or site survey
- The generation of risk projections
- Initial cost implications

A Site / Asset Survey

Site / Asset Survey

Location

Key	Value
Climate Data Point	Ben Thanh Market Metro Station
Lat/Long	10.7726, 106.6980
RCP & Temporal Scale	8.5 baseline, 2030, 2050
Date of Assessment	14 May 2017



Geo-location of Site / Asset

1. Asset Details
2. Climate Change Impacts
3. Extreme Rainfall and Inland Flooding
4. Extreme Rainfall and Inland Flooding - Risk Profile
5. Mean Rainfall Change
6. Mean Rainfall Change - Risk Profile
7. Drought
8. Drought - Risk Profile
9. Storms
10. Storms - Risk Profile
11. Bushfire / Wildfire
12. Bushfire / Wildfire - Risk Profile

Extreme Rainfall And Inland Flooding - Risk Profile

Please assess the consequence of the following impacts on the asset: Low / Moderate / High

	Low	Moderate	High
Inundation of critical infrastucture, causing structural damage *	○	○	○
Inundation or extreme rainfall restricting operation or increasing the incidence of service disruption *	○	○	○
Extreme rainfall causing asset deterioration and increasing the need for maintenance *	○	○	○
Localised flooding preventing access/egress *	○	○	○
Increase in erosion/scouring of footings, leading to destabilisation *	○	○	○
Deterioration of structural integrity of roads, bridges, and tunnels due to increase in soil moisture levels *	○	○	○
Increase in landslides *	○	○	○

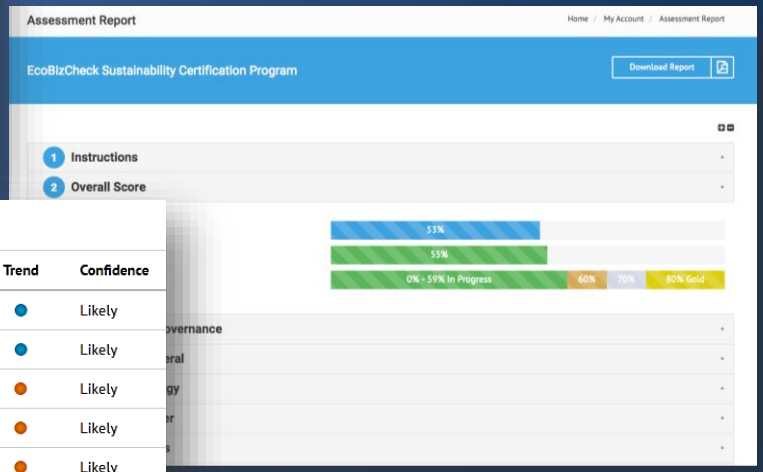
A Scorecard, Preliminary Action Plan & Possible Projections

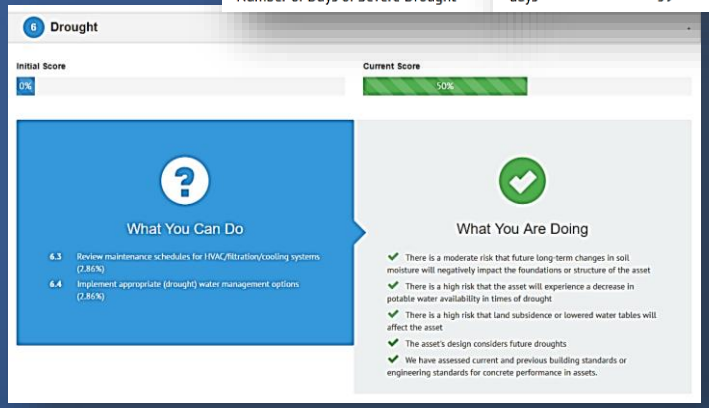
Temperature

	Units	Baseline	2030	2050	Trend	Confidence
Annual Temp.	°C	14.0	14.8	15.4	●	Very Likely
Change in Global Mean Temp.	±°C	-	0.74	0.94	●	Very Likely
Change in Regional/Local Mean Temp.	±°C	-	0.8	1.4	●	Very Likely
1/100yr Extreme Max Temp.	°C	41.8	42.6	43.2	●	Very Likely

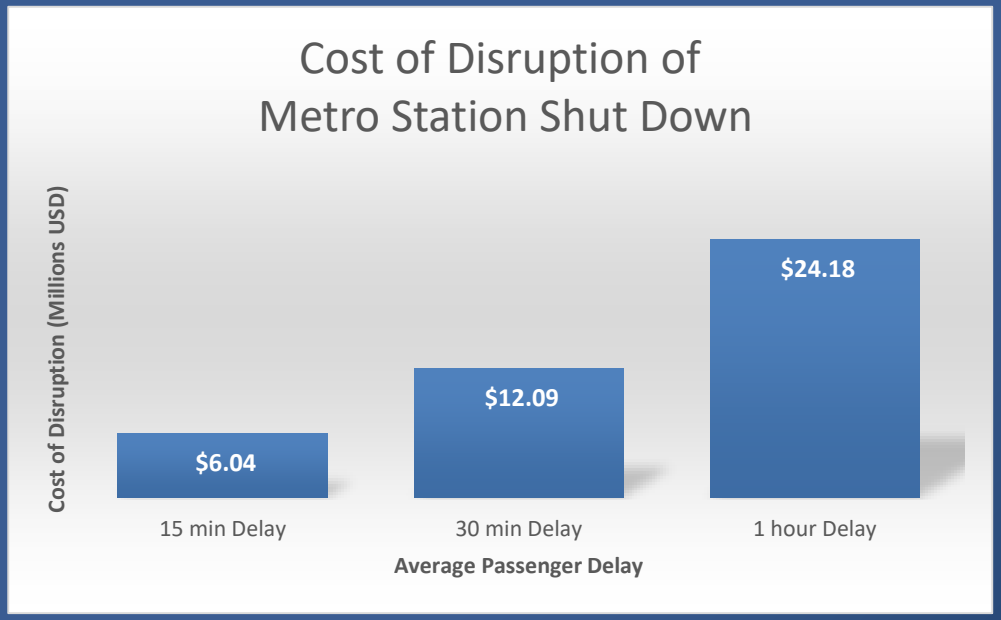
Precipitation

	Units	Baseline	2030	2050	Trend	Confidence
Mean Annual Precip.	mm	743	720	703	●	Likely
Change in Local Mean Annual Precip.	%	x	-3	-5	●	Likely
Intensity of a 1/100yr Event	mm	239	254	266	●	Likely
Intensity Changes of a 1/100yr Event	%	x	6	10	●	Likely
Number of Days of Severe Drought	days	59	60	59	●	Likely





An Example, Cost of Disruption



Cost of Disruption	
Assumption: Passengers will find another means of transportation	
Scenario 1: Closed Station/metro line will delay passengers an average of 1 hour	
Cost of Delay per Day	**$24,180,000**
Scenario 2: Closed Station/metro line will delay passengers an average of 30 min	
Cost of Delay per Day	**$12,090,000**
Scenario 3: Closed Station/metro line will delay passengers an average of 15 min	
Cost of Delay per Day	**$6,045,000**

Notes:
Disruption costs quantify the disruption to the metro line if the station is shut down. It does not include the cost of lost revenue from station businesses (shops, restaurants, etc.) Furthermore, all disruption costs are costs per day of metro station shut down.

Summary of Platform Functionality

CLIMATE RISK HEALTH CHECK SCREENING TOOL

- ✓ INCORPORATES HISTORICAL AND PREDICTIVE CLIMATE FORECASTS - UNIQUE
- ✓ ALLOWS FAST PRIORITISATION OF ASSET RISK TO CLIMATIC EVENTS
- ✓ GLOBAL APPLICABILITY
- ✓ FULLY CUSTOMISABLE

PARTNER WITH:

GREENBIZCHECK	IT and licensing
CLIMSYSTEMS	Climate data license fee
RESILIENT ANALYTICS	Economic risk
RAMBOLL	Customisation and consulting

The Screening Tool or Platform Covers

- ✓ **Any Asset Type** e.g. Building, Road, Railway, Airport, Bridge, Plant, Factory, Supply Chain and more

- ✓ **Projections for 32 climate metrics** including:
  - Extreme Rainfall
  - Extreme Heat
  - Sea Level Rise & Storm Surge
  - Humidity

Next Step

If you want more information or wish to see a demonstration of the Climate Risk Screening Tool

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