



# Resilience

# AI



**Resilience AI** started with Cyclone Yaas, which was a setback for People, Profit and Planet. Climate scenario based early warning, climate action plans, relief and recovery funding are conventional drills. This drill, however, doesn't prepare Earth's companies and governments.

The cost of inaction is at least 5X of the cost of proactive action.

**Resilience360** is the **first climate enterprise software** that prepares business and governments for climate risk as a lifecycle and not in silos.

## **Vision**

Building Resilience at every step

## **Mission**

The mission is to prepare and protect the 60% unaccounted business, assets, lives in climate crisis.

# Why Resilience360?

- Natural disasters have **almost doubled** in the last decade, whereby, **71%** of such climate events are **more likely or severe**
- Global disaster loss in 2023 stands at **US\$250 billion** and closer to home in India, we faced **US\$ 34 billion losses** from 2018-22
- India potentially suffered an **income loss of US\$ 159 billion** (5.4% of GDP) in service, manufacturing, agriculture, and construction sectors due to climate events in 2021
- While Earth will have 16-24% increase in heavy precipitation intensity by 2100, it remains unknown that **3200 flood incidents** have occurred worldwide
- During earthquakes, collapsing structures are responsible for **80% of casualties** (UNESCO)
- Even with the best case scenario , we are looking at these events to multiply and intensify (ex - 1.5° scenario will lead to **US\$ 2,400 billion** in estimated **productivity related losses due to heat stress** as per ILO)
- Expected annual losses in the **built environment is ~70% of the total losses**. Most banks rely on assumptions around property characteristics and academic studies of historic events, without information about how buildings they finance are constructed.
- Annually, there is a **need to invest USD\$ 2 trillion** towards adaptation measures



Demos conducted



Near-committment orders

**10+**

Team Size (Employees)

**100+**

Network of Fellows

# Footprint

A world map with a light blue background. Two red location pins are placed on the Indian subcontinent, one in the north and one in the south. The rest of the world is shown in a light grey color.

**15+**

Paid Pilots

**30+**

Cities where model has  
been run

# Resilience360

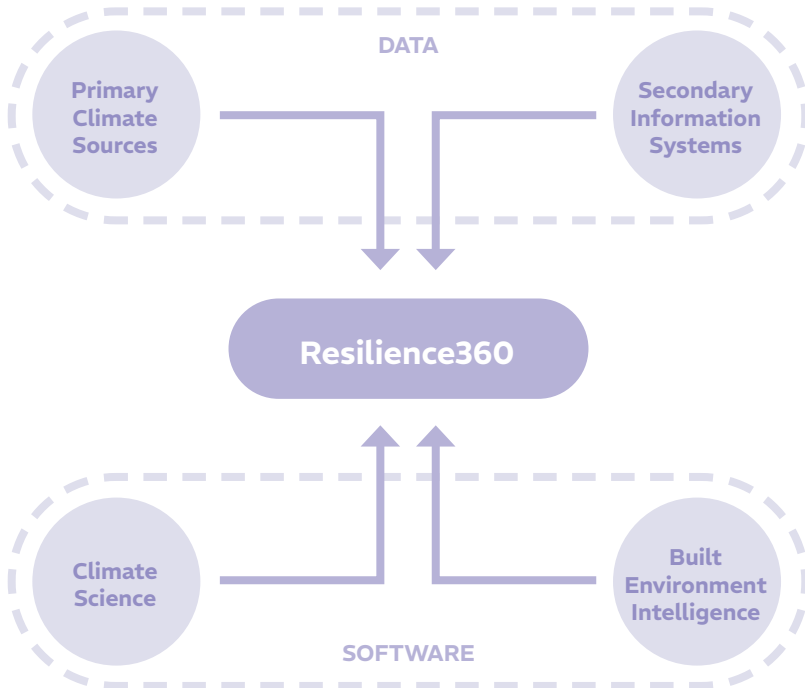
## **Climate risk measurement and management solution**

Resilience360 is a B2B, AI-based physical climate risk lifecycle management solution developed by a team of urban planners, AI engineers and climate-risk specialists.

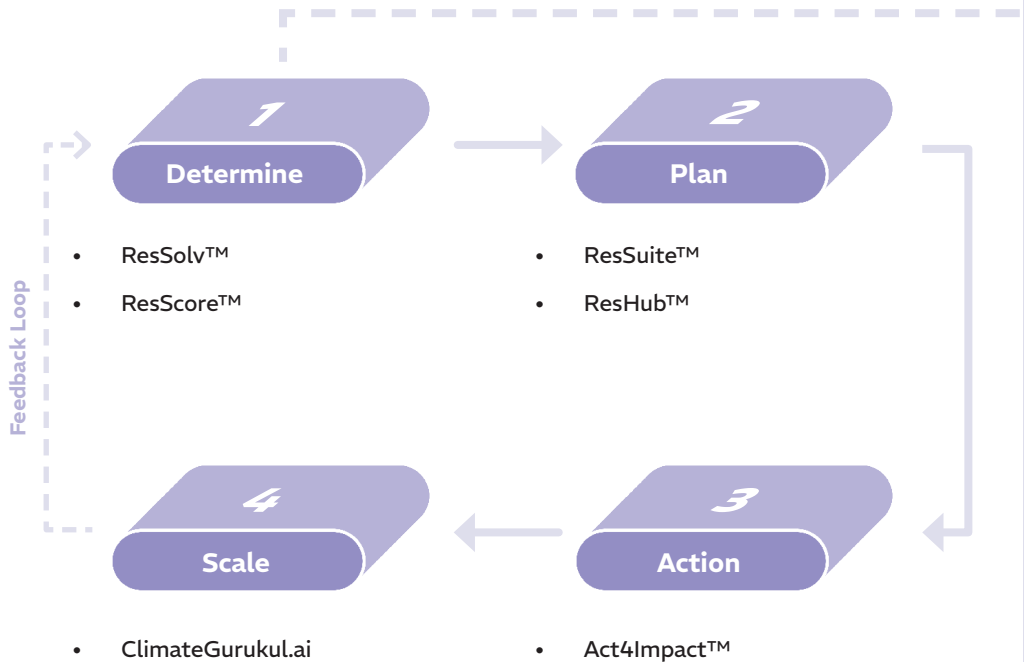
As climate change becomes more apparent and climate risk regulations become stricter, we are building a solution which leverages on-ground knowledge to build a reliable risk profile, while providing actionable interventions towards climate resilience at every step.

Resilience360 is solving climate adaptation at the intersection of 50 years of climate event and disaster response data, ground-truthed intelligence from 26 climate events and software enterprise architecture.





The four services of the Resilience 360 enterprise software are Determine, Plan, Action and Scale



# ResSolv™

ResSolv is a climate-risk determination module, which uses three decades of roof-top architecture, built environment, artificial intelligence (AI) and Machine Learning based classification.

**20+**

Factors applied using  
Machine Learning

**25+**

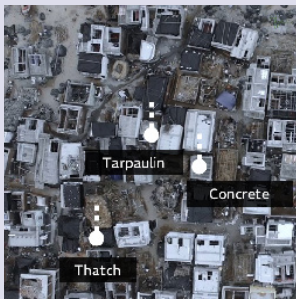
Realtime climate  
events

**415k+**

Verified building  
risk data

**>90%**  
Confidence

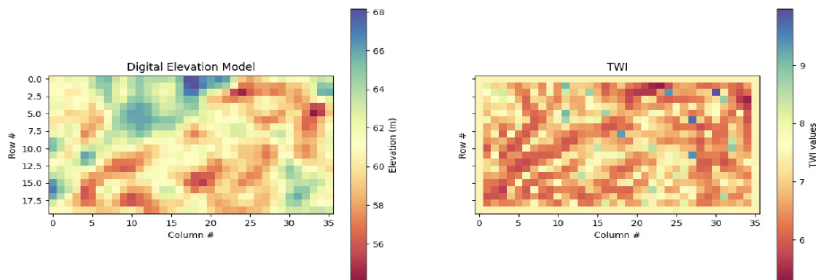
**<72 hr**  
Run-Time



Every roof is a unique fingerprint ... which translates to every building's unique climate risk profile

# ResSuite™

ResSuite™, is a Generative AI based report of analytics, which covers climate risk diagnosis (root cause analysis), biodiversity atlas, value at risk, composite vulnerability index.



#### Key Vulnerability Areas

##### Hot Spots

- Hot Spot Building:** These are maximum 100 buildings registered on grid for each building over given row and column. These buildings are particularly vulnerable to flooding event and they have maximum exposure for flood risk.
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##### Detailed Vulnerabilities

- Exposure of properties:** This is the exposure of properties and structures in building conditions that are in regular operations in coastal areas in flood and cyclone hazard. It is the exposure of properties and structures in regular operations in coastal areas in flood and cyclone hazard.
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## 8 centres of a global Sports and Athleisure entity

City	Location	Buildings (Nos.)	FLASH FLOOD		HEATWAVE	
			Score	Risk %	Score	Risk %
Ahmedabad	Location #1	348	5	99	4	54
	Location #2	2696	5	97	4	36
Bengaluru	Location #3	2654	4	57	4	20
	Location #4	912	5	92	4	9
Delhi NCR	Location #5	506	5	99	4	73
Punjab	Location #6	742	5	98	4	49
Chennai	Location #7	2634	5	78	2	1
	Location #8	2001	5	93	2	0.5

# ResScore™



ResScore™ is an index, which evaluates climate resilience, covering both sustainability and climate related risks based on **6 pillars**

**Institutionalized baseline assessment for companies intersecting across standards and frameworks**



**Digitised for ease of adoption**

Using hyperlocal database, it acts as a starting point to assess climate preparedness at an organization level with insights from **55+ vulnerability parameters**

## Strategy



## Physical



## Economic



## Social



## Environment



## Crisis



## CASE STUDY 01

# USBRL

The Konkan Railway Corporation Limited (KRCL) and Resilience AI worked together to draft a disaster risk report for the Udampur-Srinagar-Baramulla Railway Link (USBRL), a railway line of national importance that is built in a geographically challenging region.

**OPPORTUNITY** The USBRL is a vital transportation link in J&K and faces constant threats from natural disasters, posing significant risk to the railway line's infrastructure, stations, and surrounding communities.

**SOLUTION** Our AI-enabled tool, ResSolv, was run to utilize high-resolution satellite imagery, meteorological data, & other relevant parameters to assess vulnerabilities within a 1 km buffer zone around each of the railway stations.

- IMPACT**
1. Prioritized Risk Mitigation
  2. Infrastructure Protection
  3. Data-driven Decision Making

**2 years**

360° climate  
planning  
timespan

**13.5 hours**

Projected runtime  
from pilot order  
initiation



“ The ResSolv AI model empowers organizations to understand and proactively address potential risks, thereby enhancing the operational reliability of the USBRL in particular and the Indian Railways in general. ”  
Konkan Railway Corporation Limited

## CASE STUDY 02

# Vivekananda Camp

The Chintan Environmental Research and Action Group worked closely with Resilience AI to deploy innovative solutions at the climate-health nexus, particularly in implementing AI models for assessing heatwave impacts on vulnerable communities in Vivekanand Camp, Delhi.

**OPPORTUNITY** Hyper-local heat disparity. Low-income, highly dense areas such as Vivekanand Camp are up to 6° C hotter than the rest of the city.

**SOLUTION** AI for Extreme Weather - Resilience used the AI-generated maps to find high-risk homes, prioritize outreach for early warning and preparation, and demonstrate the significance of heat risks to locals.

**IMPACT** Once at-risk households were identified, the team began outreach to prepare for the upcoming heatwave and implement solutions. Cool roof prototypes were fabricated and tested, with one model resulting in 12°C lower indoor temperatures.

**3 years**

Product development timespan

**5 hours**

Projected runtime from pilot order initiation





“ It is true that the repercussions for heatwaves are long felt and there is pressing need for AI tools such as ResSolv to help understand the hyperlocal risks of communities. ”

**Bharti Chaturvedi**

Director, Chintan Environmental Research and Action Group

Gaya

15kms from Gaya



Bodhi Gaya

" BSDMA is the first SDMA to leverage an AI-based tool as part of a CDMP for the assessment of socio-economic vulnerability & risk at a hyper-local, building level. "

Bihar State Disaster Management Authority

## CASE STUDY 03

# Gaya CDMP

Resilience AI was engaged by the Bihar State Disaster Management Authority (BSDMA) to contribute to the City Disaster Management Plans (CDMP) for Gaya, an important tourist city in Bihar.

**OPPORTUNITY** Traditional disaster response mechanisms lack precision in identifying hyper-local risk zones, leading to generic alerts and inefficient evacuation plans. This results in longer recovery times and greater disruptions.

**SOLUTION** Resilience AI team worked with BSDMA to leverage ResSolv in the preparation of the Gaya City Disaster Management Plan. Advantages include enhanced Early Warning Systems (EWS) and optimized resource allocation, evacuation & recovery planning.

**IMPACT** The focal point of this output was the creation of a modern-day CDMP that works to reduce disaster risks at a household level, through a synergistic integration of advanced technologies and community-centric approaches.

**2 years**

360° climate  
planning  
timespan

**48 hours**

Projected runtime  
from pilot order  
initiation

# Founders Story

Resilience AI was officially incorporated in November 2023.

Samhita is from the northeastern belt of India, which experiences significant loss of assets and livelihood every year due to floods. “While nature may be seasonally unkind, resilience doesn’t need to be seasonal. Climate resilience should be a 365-day conversation.” She co-founded Resilience AI with the aim of building climate resilience with technology.

Sundeeep is a 5th generation farmer. Agriculture faces inevitable losses due to climate change. Over 18 years he has set up Climate and ESG business units and Data science centre of excellence to give future generations a fighting chance with nextGen climate solutions

Dr. Anshu and Dr. Manu are urban planners serving dignity in disaster globally for 30 years. They have been awarded the United Nation Sasakawa Award and the Subhas Chandra Bose Aapda Prabandhan Puraskar by the Government of India for building resilience in communities exposed to disasters and climate change impact.

Together, we aim to provide governments, climate agencies and private corporations with credible and co-owned intelligence to build their resilience to climate-induced events.



Write to us at [partnership@resilience360.ai](mailto:partnership@resilience360.ai)

Talk to us at +91 9717211677



[www.resilience360.ai](http://www.resilience360.ai)



Resilience AI

