Climate Change Exposure 2024

AstraZeneca

Selection of AstraZeneca sites and their exposure to climate change

Understanding the potential impact of future climate scenarios, together with proactive mitigation, intervention plans and targeted investment, will future-proof our business and build resilience to ensure our long-term financial sustainability and continued supply of medicines to patients. It is critical to understand the physical risks of climate change to our workforce, local communities, our assets and supply to patients.

Climate scenario analysis based on reliable models and predictions helps us to understand the potential impact of climate change on our business, to inform our business and financial planning. In line with the TCFD strategy guidance, we use a low/medium/high case scenario analysis based on Shared Socioeconomic Pathways (SSP) and Representative Concentration Pathways (RCP) shared by the Intergovernmental Panel on Climate Change (IPCC).

In this document, we share the results from SSP2-RCP 4.5 and what that means for a selection of AstraZeneca locations. SSP2-RCP 4.5 is an intermediate scenario with emissions peaking in 2040 and falling rapidly thereafter until 2080.

The climate scenarios are applied in deep dive risk assessments at certain sites.

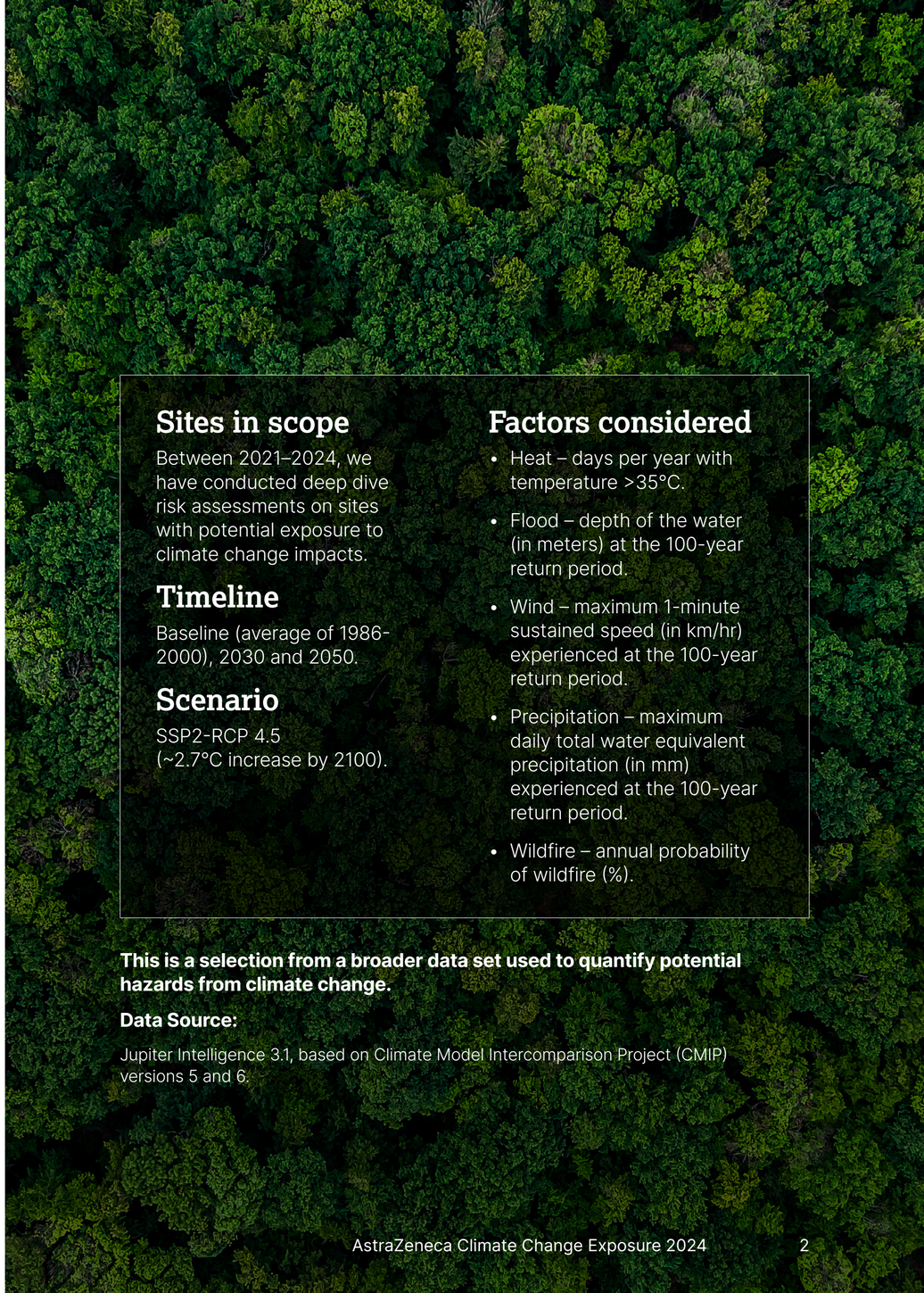
The assessments cover:

- Inventory of hazards.
- Risk analysis.
- Risk evaluation.
- Identification of mitigation measures.

Global subject matter experts coordinate these assessments together with local representation from the Manufacturing, Facilities Management, Safety, Health and Environment functions and the Risk Management Network. Where appropriate, the risk mitigation measures and management are captured in the local risk register. Measures and actions to address these risks are included in the site master plans and business continuity plans as they are developed, and captured under the mid- and long-term financial planning for that site and function.

Information about identified risks and potential impact on the business is disclosed in our Annual Report 2024.

Case studies from previous years' reporting are available on AstraZeneca's sustainability resources page.



Sites in scope

Between 2021–2024, we have conducted deep dive risk assessments on sites with potential exposure to climate change impacts.

Timeline

Baseline (average of 1986-2000), 2030 and 2050.

Scenario

SSP2-RCP 4.5
(~2.7°C increase by 2100).

Factors considered

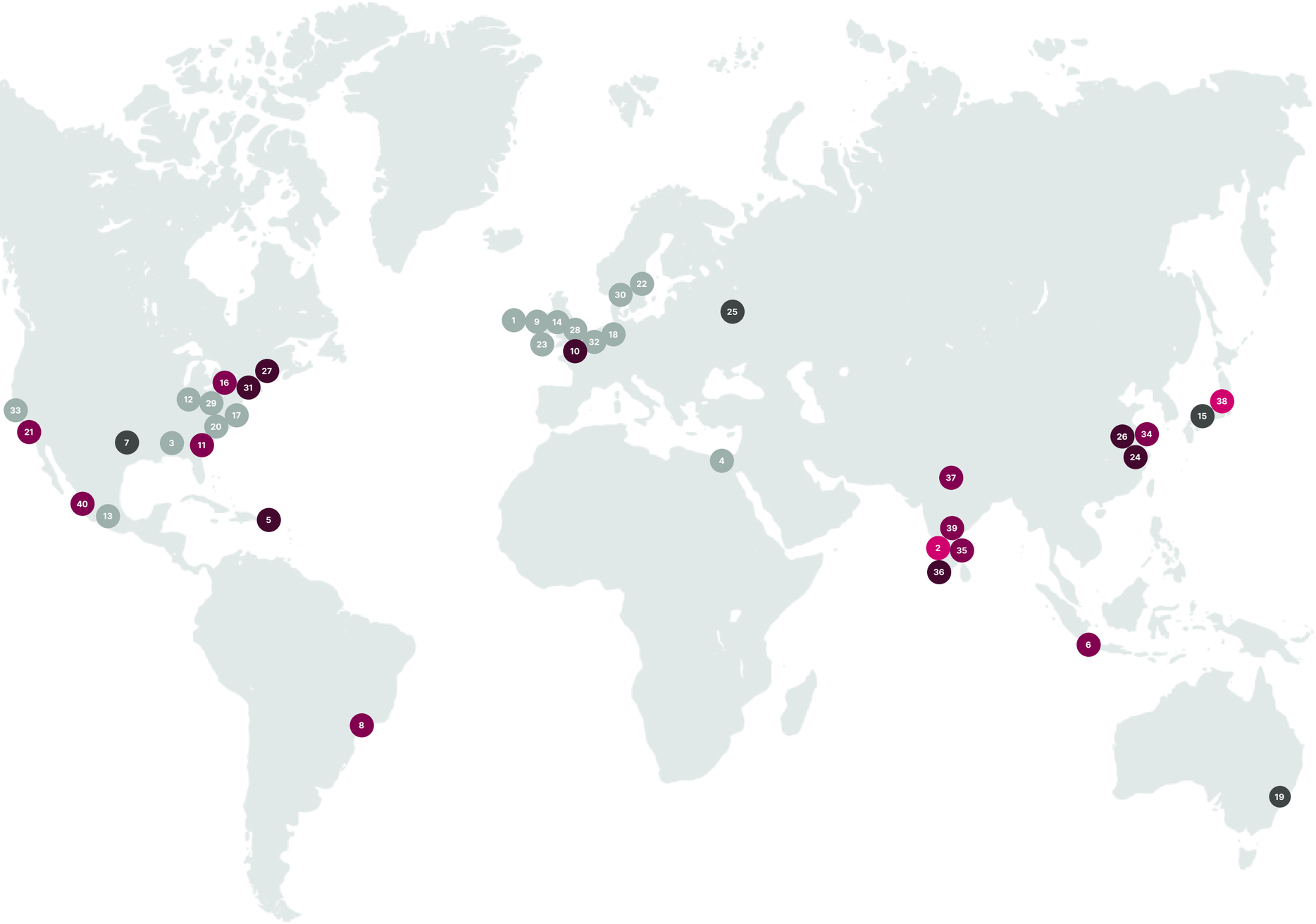
- Heat – days per year with temperature >35°C.
- Flood – depth of the water (in meters) at the 100-year return period.
- Wind – maximum 1-minute sustained speed (in km/hr) experienced at the 100-year return period.
- Precipitation – maximum daily total water equivalent precipitation (in mm) experienced at the 100-year return period.
- Wildfire – annual probability of wildfire (%).

This is a selection from a broader data set used to quantify potential hazards from climate change.

Data Source:

Jupiter Intelligence 3.1, based on Climate Model Intercomparison Project (CMIP) versions 5 and 6.

AstraZeneca locations where a detailed assessment of climate-related risks has been conducted



Exposure to climate change, overall score rating

- Highest Risk (>80)
- High Risk (>60)
- Medium Risk (>40)
- Low Risk (>20)
- Lowest Risk (<20)

Manufacturing

1 Athlone, Ireland
2 Bangalore, India
3 Bogart, United States
4 Cairo, Egypt
5 Canovanas, Puerto Rico
6 Cikarang, Indonesia
7 Coppell, United States
8 Cotia, Brazil
9 Dublin, Ireland
10 Dunkirk, France
11 Durham, United States
12 Frederick, United States
13 Lomas Verdes, Mexico
14 Macclesfield, United Kingdom
15 Maihara, Japan
16 Mount Vernon, United States
17 Newark, United States
18 Nijmegen, The Netherlands
19 North Ryde, Australia
20 Philadelphia, United States
21 Redwood City, United States
22 Södertälje, Sweden
23 Speke, United Kingdom
24 Taizhou, China
25 Vorsino, Russia
26 Wuxi, China

R&D

27 Boston, United States
28 Cambridge, United Kingdom
29 Gaithersburg, United States
30 Gothenburg, Sweden
31 New Haven, United States
32 Pivot Park, The Netherlands
33 San Francisco, United States
34 Shanghai, China

Distribution centre

35 Chennai - Silver Line, India
36 Kochi, India
37 New Delhi, India
38 Osaka, Japan

IT

39 Chennai - Campus, India
40 Guadalajara, Mexico

Manufacturing

	Site name	Ownership Type	Heat: Days per year with temperature >35°C			Flood: Depth of the water (in metres) at the 100-year return period*			Wind: Maximum 1-minute sustained wind speed (in km/hr) experienced at the 100-year return period			Precipitation: Maximum daily total water equivalent precipitation (in mm) experienced at the 100-year return period			Wildfire: Annual probability of wildfire (%)		
			Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050
1	Athlone, Ireland	Leased	0	0	0	0.0	0.0	0.0	136	134	132	96	101	107	0.0	0.0	0.0
2	Bangalore, India	Owned	21	33	43	0.0	0.0	0.0	170	176	179	229	235	255	0.0	0.0	0.0
3	Bogart, United States	Owned	16	30	39	0.0	0.0	0.0	110	114	114	219	246	258	0.0	0.0	0.0
4	Cairo, Egypt	Owned	81	110	123	0.0	0.0	0.0	148	147	147	85	90	92	0.0	0.0	0.0
5	Canovanas, Puerto Rico	Owned	2	6	11	0.0	0.0	0.0	172	173	173	365	390	380	0.0	0.0	0.0
6	Cikarang, Indonesia	Owned	24	52	78	0.1	0.1	0.1	125	127	127	306	338	360	0.0	0.0	0.0
7	Coppell, United States	Leased	50	78	89	0.0	0.0	0.0	118	123	124	243	271	285	0.0	0.0	0.0
8	Cotia, Brazil	Owned	5	10	14	0.0	0.0	0.0	144	154	155	194	214	235	0.1	0.1	0.1
9	Dublin, Ireland	Owned	0	0	0	0.0	0.0	0.0	134	133	131	109	123	128	0.0	0.0	0.0
10	Dunkirk, France	Owned	0	0	0	1.8	1.9	2.1	128	123	124	136	144	149	0.0	0.0	0.0
11	Durham, United States	Leased	15	28	36	0.4	0.4	0.4	118	122	123	210	224	235	0.0	0.0	0.0

Heat	
Highest	≥75 days
High	30-75 days
Medium	10-30 days
Low	2-10 days
Lowest	<2 days

Flood	
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High	1.0-2.0m
Medium	0.5-1.0m
Low	0.1-0.5m
Lowest	<0.1m

Wind	
Highest	≥209 km/h
High	178-209 km/h
Medium	154-178 km/h
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Lowest	<119 km/h

Precipitation	
Highest	≥325mm
High	250-325mm
Medium	200-250mm
Low	150-200mm
Lowest	<150mm

Wildfire	
Highest	≥0.7%
High	0.4-0.7%
Medium	0.2-0.4%
Low	0.1%-0.2%
Lowest	<0.1%

*Flood depth estimates assume no existing flood defence. In actuality, a number of these sites benefit from flood mitigation controls.

Manufacturing

	Site name	Ownership Type	Heat: Days per year with temperature >35°C			Flood: Depth of the water (in metres) at the 100-year return period*			Wind: Maximum 1-minute sustained wind speed (in km/hr) experienced at the 100-year return period			Precipitation: Maximum daily total water equivalent precipitation (in mm) experienced at the 100-year return period			Wildfire: Annual probability of wildfire (%)		
			Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050
12	Frederick, United States	Owned	9	19	26	0.0	0.0	0.0	110	115	116	184	197	206	0.0	0.0	0.0
13	Lomas Verdes, Mexico	Owned	0	1	2	0.0	0.0	0.0	145	155	157	274	312	331	0.0	0.0	0.0
14	Macclesfield, United Kingdom	Owned	0	0	0	0.0	0.0	0.0	131	127	127	105	111	119	0.0	0.0	0.0
15	Maihara, Japan	Owned	4	7	10	0.0	0.0	0.0	166	167	167	318	331	360	0.0	0.0	0.0
16	Mount Vernon, United States	Owned	12	27	34	0.7	0.8	0.8	120	114	114	197	208	222	0.0	0.0	0.0
17	Newark, United States	Leased	5	13	18	0.0	0.0	0.0	123	125	125	221	239	251	0.0	0.0	0.0
18	Nijmegen, The Netherlands	Owned	0	1	1	0.0	0.0	0.0	120	115	114	91	96	100	0.0	0.0	0.0
19	North Ryde, Australia	Owned	4	6	8	0.0	0.0	0.0	122	122	121	316	359	382	0.0	0.0	0.0
20	Philadelphia, United States	Owned	7	15	20	0.0	0.0	0.0	117	120	121	200	212	226	0.0	0.0	0.0
21	Redwood City, United States	Leased	1	2	3	0.1	0.2	0.3	115	118	119	139	147	156	0.1	0.1	0.1
22	Södertälje, Sweden	Owned/ Leased	0	0	0	0.0	0.0	0.0	122	127	128	91	100	103	0.0	0.0	0.0

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Manufacturing

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			Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050
23	Speke, United Kingdom	Leased	0	0	0	0.0	0.0	0.0	128	126	126	101	107	114	0.0	0.0	0.0
24	Taizhou, China	Owned	11	19	24	1.1	1.3	1.3	173	174	175	333	382	409	0.0	0.0	0.0
25	Vorsino, Russia	Owned	0	1	2	0.0	0.0	0.0	132	136	138	126	135	139	0.0	0.0	0.0
26	Wuxi, China	Owned/ Leased	14	23	30	1.5	1.6	1.6	180	181	184	279	328	353	0.0	0.0	0.0

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R&D

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			Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050
27	Boston, United States	Leased	3	6	9	0.9	1.0	1.0	135	137	138	214	236	248	0.0	0.0	0.0
28	Cambridge, United Kingdom	Owned/ Leased	0	0	0	0.0	0.0	0.0	130	121	120	98	104	108	0.0	0.0	0.0
29	Gaithersburg, United States	Owned/ Leased	7	14	20	0.0	0.0	0.0	111	115	116	202	214	223	0.0	0.0	0.0
30	Gothenburg, Sweden	Owned/ Leased	0	0	0	0.0	0.0	0.0	132	135	136	102	106	108	0.0	0.0	0.0
31	New Haven, United States	Owned	1	4	6	0.1	0.1	0.1	151	153	153	204	233	244	0.0	0.0	0.0
32	Pivot Park, The Netherlands	Leased	0	1	1	0.0	0.0	0.0	119	114	113	93	98	102	0.0	0.0	0.0
33	San Francisco, United States	Leased	0	0	0	0.0	0.0	0.0	119	123	124	153	160	171	0.1	0.1	0.1
34	Shanghai, China	Owned	8	15	19	1.0	1.1	1.1	181	169	186	302	349	374	0.0	0.0	0.0

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Distribution centre

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			Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050
35	Chennai - Silver Line, India	Leased	134	151	167	0.0	0.0	0.0	202	202	203	440	450	476	0.0	0.0	0.0
36	Kochi, India	Leased	25	46	66	0.0	0.0	0.0	165	176	179	371	423	465	0.0	0.0	0.0
37	New Delhi, India	Owned	115	133	147	0.0	0.0	0.0	148	151	150	292	321	347	0.0	0.0	0.0
38	Osaka, Japan	Leased	8	15	20	7.9	8.1	8.1	177	176	178	293	307	331	0.0	0.0	0.0

IT

	Site name	Ownership Type	Heat: Days per year with temperature >35°C			Flood: Depth of the water (in metres) at the 100-year return period*			Wind: Maximum 1-minute sustained wind speed (in km/hr) experienced at the 100-year return period			Precipitation: Maximum daily total water equivalent precipitation (in mm) experienced at the 100-year return period			Wildfire: Annual probability of wildfire (%)		
			Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050	Baseline	2030	2050
39	Chennai - Campus, India	Leased	85	105	122	0.0	0.0	0.0	220	220	222	511	519	523	0.0	0.0	0.0
40	Guadalajara, Mexico	Leased	11	25	36	0.0	0.0	0.0	136	152	153	155	171	183	0.0	0.0	0.0

*Flood depth estimates assume no existing flood defence. In actuality, a number of these sites benefit from flood mitigation controls.

Heat	Flood	Wind	Precipitation	Wildfire
Highest: ≥75 days	Highest: ≥2.0m	Highest: ≥209 km/h	Highest: ≥325mm	Highest: ≥0.7%
High: 30-75 days	High: 1.0-2.0m	High: 178-209 km/h	High: 250-325mm	High: 0.4-0.7%
Medium: 10-30 days	Medium: 0.5-1.0m	Medium: 154-178 km/h	Medium: 200-250mm	Medium: 0.2-0.4%
Low: 2-10 days	Low: 0.1-0.5m	Low: 119-154 km/h	Low: 150-200mm	Low: 0.1%-0.2%
Lowest: <2 days	Lowest: <0.1m	Lowest: <119 km/h	Lowest: <150mm	Lowest: <0.1%