Climate change exposure 2023

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.

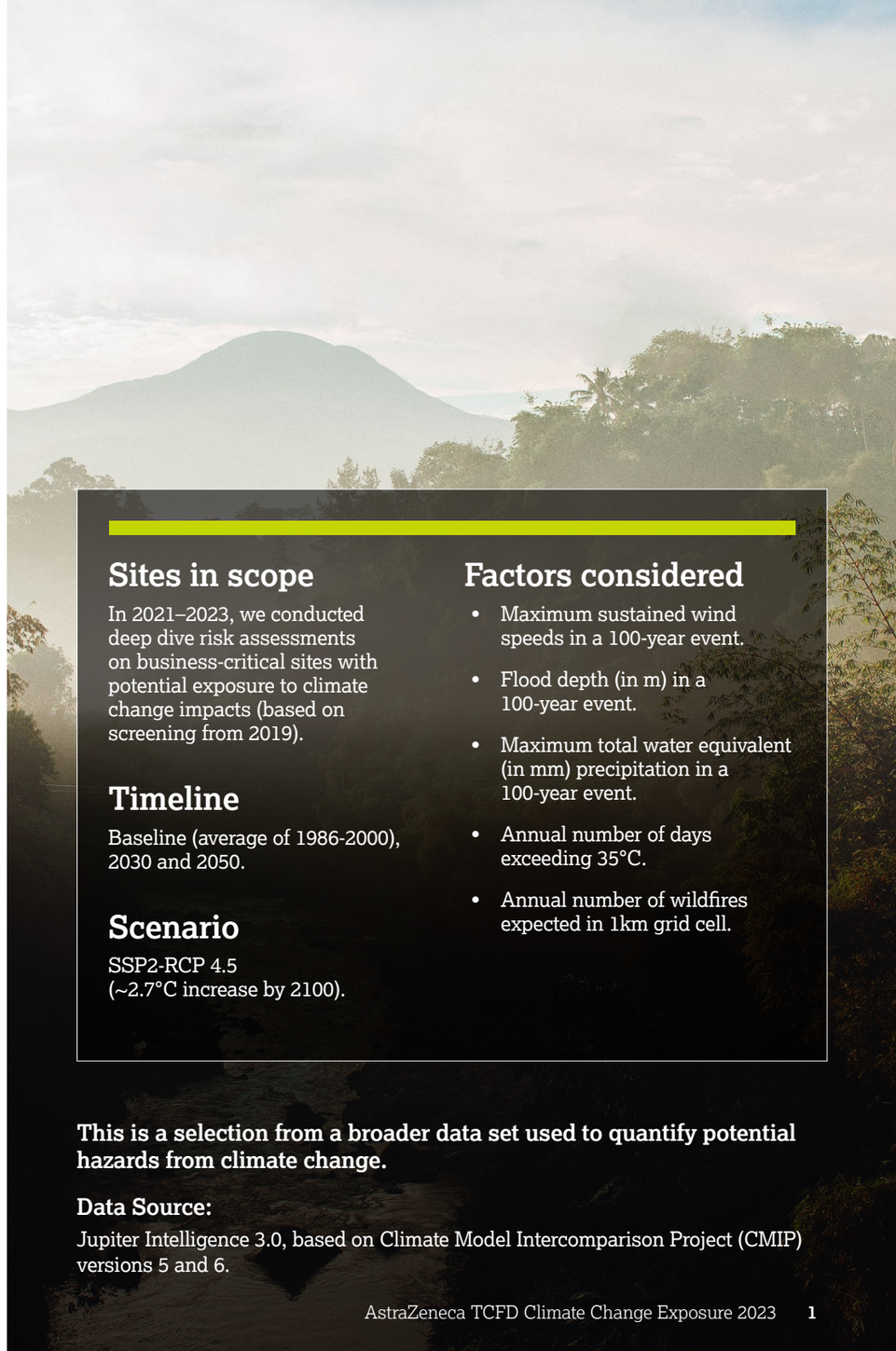
The climate scenarios are applied in 'deep dive' risk assessments at priority sites. The assessments cover:

- 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 TCFD reporting.

For further details, see case studies from previous years' reporting on our website sustainability resources page.



Sites in scope

In 2021–2023, we conducted deep dive risk assessments on business-critical sites with potential exposure to climate change impacts (based on screening from 2019).

Timeline

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

Scenario

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

Factors considered

- Maximum sustained wind speeds in a 100-year event.
- Flood depth (in m) in a 100-year event.
- Maximum total water equivalent (in mm) precipitation in a 100-year event.
- Annual number of days exceeding 35°C.
- Annual number of wildfires expected in 1km grid cell.

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

Data Source:

Jupiter Intelligence 3.0, based on Climate Model Intercomparison Project (CMIP) versions 5 and 6.

				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 Number of wildfires expected in a 1sq km grid cell (over 1,000 years)		
Site name	**Ownership Type**	**Country**	**Main Acvitity**	**Baseline**	**2030**	**2050**	**Baseline**	**2030**	**2050**	**Baseline**	**2030**	**2050**	**Baseline**	**2030**	**2050**	**Baseline**	**2030**	**2050**
Athlone (Alexion)	L		●	0	0	0	0.0	0.0	0.0	113.8	110.5	110.7	65.0	73.0	74.0	0.2	0.3	0.4
Bogart (Alexion)	O		●	13	26	34	0.1	0.1	0.1	88.1	86.9	87.2	218.0	242.0	246.0	0.5	0.5	0.6
Dublin (Alexion)	O		●	0	0	0	0.0	0.0	0.0	116.4	115.5	114.9	78.0	89.0	90.0	0.4	0.4	0.5
New Haven (Alexion)	O		⬢	1	4	6	0.1	0.1	0.1	147.0	149.5	149.2	191.0	210.0	218.0	0.0	0.0	0.0
Bangalore - Yelahanka	O		●	20	32	43	0.0	0.0	0.0	107.9	107.9	108.3	156.0	151.0	161.0	15.6	14.8	15.0
Cairo	O		●	82	111	124	0.0	0.0	0.0	73.5	71.5	72.1	30.0	31.0	33.0	19.8	20.9	21.7
Cambridge Biomedical Campus	O/L		⬢	0	0	0	0.0	0.0	0.0	110.2	109.7	109.7	63.0	66.0	70.0	0.5	0.7	0.8
Canovanas	O		●	2	6	11	0.0	0.0	0.0	169.0	170.1	170.4	266.0	292.0	304.0	1.0	1.1	1.2
Chennai - Campus	L		▲	85	105	122	0.8	0.8	0.8	208.0	208.3	209.4	510.0	519.0	523.0	6.5	6.3	6.3
Chennai - Silver Line	L		◆	94	115	132	0.0	0.0	0.0	203.5	203.9	205.1	495.0	505.0	511.0	5.6	5.5	5.5
Cikarang	O		●	24	52	78	0.0	0.0	0.0	57.5	57.1	57.2	183.0	191.0	201.0	3.9	4.7	6.0

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	Heat	Flood	Wind	Precipitation	Wildfire
Highest	>=75 days	>=2.0m	>178 km/h	>250mm	>20
High	30-75 days	1.0-2.0m	119-178 km/h	200-250mm	8-20
Medium	10-30 days	0.5-1.0-m	90-119 km/h	150-200mm	4-8
Low	2-10 days	0.1m-0.5m	63-90 km/h	100-150mm	2-4
Lowest	<2 days	<0.1m	<63 km/h	<100mm	<2

				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** Number of wildfires expected in a 1sq km grid cell (over 1,000 years)		
Site name	**Ownership Type**	**Country**	**Main Acvitity**	**Baseline**	**2030**	**2050**	**Baseline**	**2030**	**2050**	**Baseline**	**2030**	**2050**	**Baseline**	**2030**	**2050**	**Baseline**	**2030**	**2050**
Cotia	O		●	5	10	14	0.0	0.0	0.0	74.5	76.0	76.9	228.0	244.0	250.0	2.5	3.3	3.5
Dunkerque	O		●	0	0	0	2.3	2.4	2.5	112.0	111.7	111.9	69.0	71.0	74.0	0.8	1.0	1.1
Frederick	O		●	9	19	26	0.0	0.0	0.0	97.7	100.3	101.1	201.0	218.0	228.0	0.3	0.4	0.4
Gaithersburg	O/L		⬢	6	14	19	0.0	0.0	0.0	100.8	102.2	102.9	208.0	226.0	238.0	0.6	0.6	0.6
Gothenburg	O/L		⬢	0	0	0	0.0	0.0	0.0	112.8	111.0	110.8	63.0	68.0	72.0	0.9	1.2	1.3
Guadalajara	L		▲	10	23	33	0.0	0.0	0.0	95.1	99.0	101.8	99.0	111.0	121.0	22.4	24.4	26.2
Kochi	L		◆	23	43	62	0.0	0.0	0.0	133.0	133.0	133.5	325.0	354.0	383.0	4.4	4.6	4.6
Lomas Verdes	O		●	0	1	2	0.0	0.0	0.0	79.2	82.2	83.4	274.0	312.0	331.0	10.9	11.9	13.7
Macclesfield	O		●	0	0	0	0.0	0.0	0.0	111.0	109.7	110.0	61.0	69.0	69.0	0.2	0.3	0.3
Maihara	O		●	4	8	11	0.0	0.0	0.0	167.0	167.9	167.9	282.0	289.0	302.0	0.1	0.1	0.1
Mount Vernon	O		●	12	26	34	0.0	0.0	0.0	95.7	92.7	92.5	159.0	183.0	184.0	1.2	1.8	1.7

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Highest	>=75 days	Highest	>=2.0m	Highest	>178 km/h
High	30-75 days	High	1.0-2.0m	High	119-178 km/h
Medium	10-30 days	Medium	0.5-1.0-m	Medium	90-119 km/h
Low	2-10 days	Low	0.1m-0.5m	Low	63-90 km/h
Lowest	<2 days	Lowest	<0.1m	Lowest	<63 km/h

Highest	>250mm	Highest	>20
High	200-250mm	High	8-20
Medium	150-200mm	Medium	4-8
Low	100-150mm	Low	2-4
Lowest	<100mm	Lowest	<2

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New Delhi	O		◆	115	133	147	0.0	0.0	0.0	59.0	57.3	57.4	299.0	332.0	345.0	60.2	58.6	59.4
Newark	L		●	5	13	18	0.0	0.0	0.0	121.1	123.7	123.3	188.0	205.0	209.0	0.3	0.4	0.4
Nijmegen	O		●	0	1	1	0.0	0.0	0.0	115.5	113.9	116.7	55.0	56.0	60.0	0.4	0.7	0.7
North Ryde	O		●	4	6	8	0.0	0.0	0.0	117.9	117.9	117.8	230.0	222.0	242.0	1.2	1.4	1.4
Osaka	L		◆	8	15	20	7.9	8.1	8.1	174.9	174.5	176.2	272.0	294.0	305.0	0.5	0.6	0.7
Philadelphia	O		●	7	14	20	0.0	0.0	0.0	119.4	121.2	121.7	183.0	206.0	206.0	0.4	0.4	0.5
Pivot Park	L		⬢	0	1	1	0.1	0.1	0.1	113.8	112.6	115.6	54.0	55.0	59.0	0.5	0.7	0.7
Redwood City	L		●	1	2	3	0.9	1.0	1.1	109.7	109.4	107.6	94.0	99.0	105.0	10.3	11.2	11.6
San Francisco	L		⬢	0	0	0	0.0	0.0	0.0	102.5	102.4	100.7	95.0	100.0	106.0	6.2	6.9	7.1
Shanghai	O		✚	8	15	19	1.4	1.5	1.5	175.5	163.8	180.1	241.0	273.0	277.0	1.1	1.3	1.3
Speke	L		●	0	0	0	0.0	0.0	0.0	109.8	108.5	108.5	61.0	68.0	68.0	0.3	0.4	0.5

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Södertälje	**O/L**		●	0	0	0	0.0	0.0	0.0	91.0	89.7	91.2	64.0	71.0	72.0	1.0	1.2	1.2
Taizhou	**O**		●	12	20	26	0.0	0.0	0.0	158.0	161.1	161.5	300.0	343.0	345.0	1.0	1.2	1.2
Vorsino	**O**		●	0	1	2	0.0	0.0	0.0	80.0	78.6	79.2	70.0	74.0	75.0	0.4	0.6	0.7
Wuxi	**O/L**		●	14	23	30	1.5	1.6	1.6	177.5	178.6	181.8	252.0	284.0	285.0	0.7	0.9	0.9

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