Swansea Bay University Health Board Climate Change Risk & Opportunity Assessment

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Approved by: SBUHB Executives

Un Bae Ar y Cyd

One Bay Way

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Executive summary

Swansea Bay University Health Board (Health Board) instigated its' first 'Climate Change Risk and Opportunity Assessment (CCROA)' in 2025. This is in response to the publication, in October 2024, of documents detailing Welsh Government's approach to climate adaptation, including:

- Climate Adaptation Strategy for Wales 2024 | GOV.WALES
- Health and social care climate adaptation toolkit | GOV.WALES

Both documents were developed recognising the importance of preparing for the impacts of climate change, and lack of existing preparation. Future climates are expected to have:

Warmer, wetter winters, and hotter, drier summers, with more extreme weather events.

This is already reflected in weather from the past 12 months with the Health Board exposed to more frequent and stronger storms, followed by a significant number of heat days over the summer of 2025. Climate change is with us now; this is the new normal! 2024 also saw the first summer where global temperatures were 1.5°C higher, questioning whether global heating can be kept below 2°C. This is reflected in the letter to from UK's Climate Change Committee to the UK Government on 15th October 2025, to move the 2°C predictions for 2100 to 2050, a 50-year reduction!

The Climate Change Risk & Opportunity Assessment has sought to understand how we are being impacted currently and in the future. This provides the Health Board with a better understanding of what is needed to be done in the short, medium, and long term to ensure service resilience, and minimising impacts on our staff and population. The process has highlighted the potential to put service delivery at risk, as well as population health, staff, the way in which we work, and likelihood of widening existing inequalities. Investment in adaptation now can avoid significant costs in the future, however, this is challenged by the current financial position and capacity in the system available to meaningfully adapt.

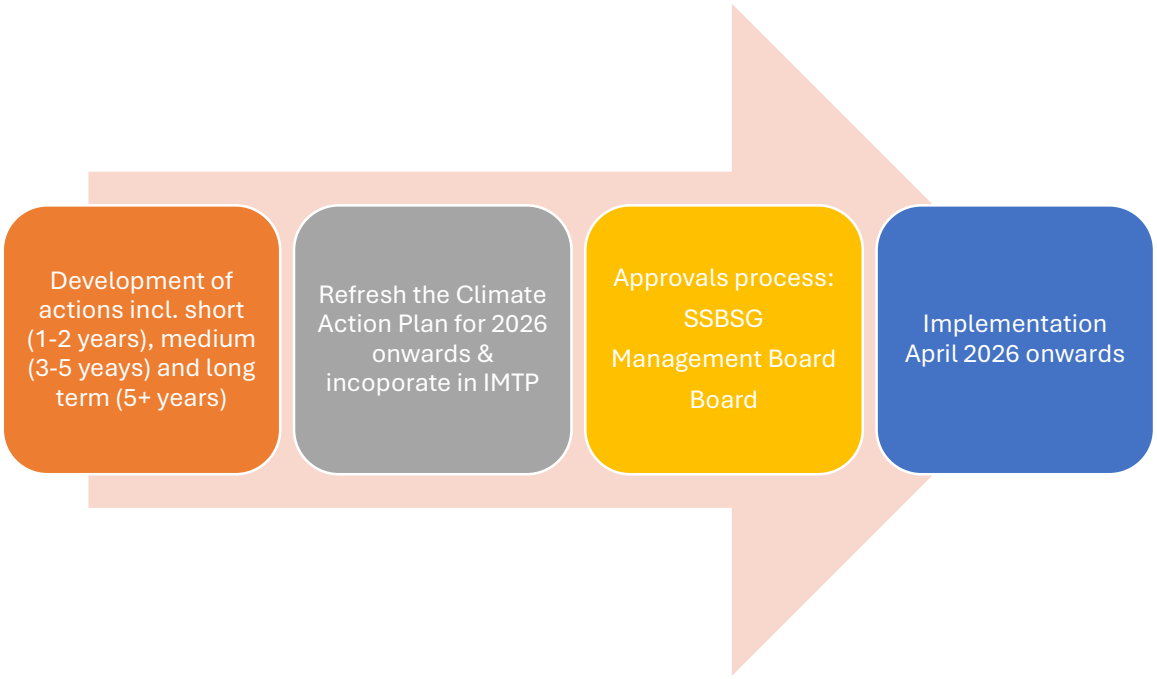
The first iteration of the Health Board's CCROA has focused on service delivery and some impacts we have as an employer on staff, this has been driven by the nominations from the Service Delivery Group's and their associated knowledge, where engagement occurred. Through this the assessment has highlighted:

- 135 different risks, 33 considered 'high' even with existing mitigation considered, these cover all staff, equipment & infrastructure, community-based risks, patients, buildings & estate, access and transport, systems issues e.g. supply chain, primary care specific, partnerships, and population health
- 8 areas requiring a 'deeper dive' to build an evidence based around what the impacts truly are, including clinical disciplines, delivery partnerships, infections and buildings
- 5 opportunities to utilise ability to be outside more during better weather and the positive impacts this can have on our health and wellbeing

This assessment is not 'finished', it is iterative and will grow as our understanding of the impacts increase, scenarios become more accurate, and our population changes. The most important outcome of this work is that the conversation around climate change impacts has started. It is now 'how' we manage these impacts and meaningfully adapt, not just as a Health Board, but as

a wider health system. Further efforts are required to understand what the Health Board's role in adaptation looks like in both the 'productive partner' and 'major local organisation'.

Action will now be developed to reduce the risks, build the evidence base and understanding, and utilise opportunities. These actions, and accompanying monitoring, will be built into the Climate Action Plan, alongside emissions reduction work and the adaptation work being undertaken with the Public Services Boards. Implementation will be managed through the existing Climate Action Plan governance. The assessment will be submitted to Welsh Government in December 2025. A summary of the process is provided below:



Thank you to all the contributors who have been involved especially representatives from Mental Health & Learning Disabilities Service Delivery Group; Primary Care, Community & Therapies Service Delivery Group – incl. buildings; GP contractor; Morriston Service Delivery Group; Singleton, Neath Port Talbot Service Delivery Group; Support Services; Workforce; Commissioning; Capital Planning; Estates; Digital; Public Health; Green Group; Climate Action Plan Implementation Group; and all attendees to the sessions.

1 Introduction

Swansea Bay University Health Board (Health Board) has instigated the first 'Climate Change Risk and Opportunity Assessment (CCROA)'. This is in response to publication of documents detailing Welsh Government's approach to climate adaptation in October 2024, including:

- Climate Adaptation Strategy for Wales
- Health and Social Care Climate Adaptation Toolkit

Both documents were developed recognising the importance of preparing for the impacts of climate change, and lack of existing adaptation. Climate change is associated with changes in weather patterns, with the UK's future climate predicted to include:

Warmer, wetter winters, and hotter, drier summers, with more extreme weather events.

The speed at which this change is now occurring was highlighted in a letter from the UK's Climate Change Committee to the UK Government on 15th October 2025, acknowledging that "*Objectives should, at a minimum, prepare the country for the weather extremes that will be experienced if global warming levels reach 2°C above preindustrial levels by 2050*[1]". This 50-year shift in timeframe, from 2100 to 2050, highlights how important adapting now is and how our understanding of climate change is shifting.

The CCROA links with the wider climate work in NHS Wales, which has historically focused on reducing emissions, since the publication of the 'NHS Wales Decarbonisation Strategic Delivery Plan' in 2021. This plan sought to reduce emissions by 16% by 2025 and 34% by 2030, recognising the health sector's role in mitigating climate change.

This CCROA is the first step in the Health Board developing local actions to ensure we are proactively adapting to climate change, whilst supporting the most vulnerable groups in our region.

1.1 What is climate adaptation?

Climate change 'adaptation' is a term used to describe actions taken to address climate risks and amplify opportunities that increase an organisation's climate resilience. This is through:

- Understanding how climate change will impact us now and into the future
- Making changes to the way we live, work, make and do things
- Making adjustments to our natural and built environments
- Working to reduce risks and maximise opportunities[2]

Approaches to climate change are aligned with the prevention agenda:

- Primary: Efforts to prevent the onset of disease / creating the conditions so problems don't arise in the future – emissions reduction / decarbonisation
- Secondary: Early detection of disease, followed by interventions to improve outcomes / targeting action on high-risk areas – adaptation

[1] Letter: CCC letter to Minister Hardy - advice on the UK's adaptation objectives - Climate Change Committee

[2] LCAT-Introduction-to-Local-Climate-Adaptation-May-2024.pdf

- Tertiary: Treatment or rehabilitation of people already affected / intervening once there is already a problem to stop it getting worse – adaptation / Emergency Preparedness Resilience & Response (EPRR)

This approach is evident in A Healthier Wales - Action refresh 2024-25.

1.2 Why do we need to adapt?

Climate change is with us now with Figure 1 highlighting how average temperatures in Wales have changed since 1884. The summer of 2024 saw global temperatures surpass the 1.5°C target for controlling temperature increases, as agreed in the Paris Agreement. This was followed by five named storms over autumn/winter 2024/25 resulting in a red alert for wind and multiple flooding events across South Wales (Ashley, 20-21 October 2024; Bert, 22-25 November 2024; Conall, 27 November 2024; Darragh, 6-7 December 2024; and Éowyn, 24 January 2025).

Summer 2025 then saw four heatwaves, each relatively short-lived and interspersed with near-average conditions. In Swansea and Neath Port Talbot there were more than 13 days exceeding 25°C, becoming one of the hottest summers on record[3]. A heat wave in this area is 3 days or more above 25°C.

Figure 1: Temperature change in Wales between 1884 and 2024 (Source: #ShowYourStripes)

This creates a complex landscape highlighted by the fact insurers recognising that flooding, windstorms, and subsidence are now more frequent, more damaging, or less predictable due to climate change[4]. This has led to an observation that the '*climate crisis has contributed to driving up insurance payouts to the highest level in seven years, after a sharp rise in damage to households and businesses from weather events*'[5]. Climate change, under the current policy scenario, could lead to costs of 3.3% and 7.4% of GDP, by 2050 and 2100 respectively[6]. Putting pressure on wider social systems, including health with potential reductions in funding available.

Public Health Wales Climate Change Health Impact Assessment (PHW HIA) highlighted how climate change will impact population health and equity, including[7]:

- *'Potential major, multifaceted, co-occurring and inequitable impacts across a range of determinants of health for example, nutrition and food security, community resilience and cohesion, displacement of people, access to healthcare, damage to housing, transport and infrastructure, environmental determinants including water supply, biodiversity and the economy.'*
- Impact '*the health and wellbeing of the whole population of Wales, and some population groups are likely to experience disproportionate negative impacts. For example, those on*

[3] Summer 2025 is the warmest on record for the UK - Met Office

[4] Climate change and the rising cost of UK home insurance - WTW

[5] UK: Climate crisis helped drive payouts to seven-year higH | PreventionWeb

[6] Climate-costs-UK-policy-brief.pdf

[7] PHW-Climate-Change-HIA-Summary-Report-English-Final-10_2023-002.pdf

low incomes, children and young people, older adults, farmers, fishers and those who live in coastal areas. Settings such as education, workplaces, and health and social care facilities are also impacted by climate change and extreme weather events. Therefore, population and place-based vulnerability should be integrated into adaptation and resilience planning as much as sectoral and service-based risks.'

- *'The impact on mental wellbeing should be explicitly considered as part of climate change plans and adaptation. Anxiety about the future, sense of control, democratic participation, and trauma from extreme weather and flooding are key factors influencing mental health and wellbeing'*

The Health Board has been reducing emissions from 2012, however, 2024/25 saw the Health Board's highest carbon emission return to Welsh Government. Whilst these reductions are critical to reduce the impacts of climate change, there is a level of change that cannot be avoided, and this is what the Health Board needs to adapt to.

If there is no adaptation the Health Boad will be unable to deliver on its' objectives to the population of Swansea and Neath Port Talbot. Following the Marmot principles of population health, it is essential the Health Board address environmental sustainability and health equity together. A summary of climate risks and interactions with the organisation's objectives is provided in Figure 2.

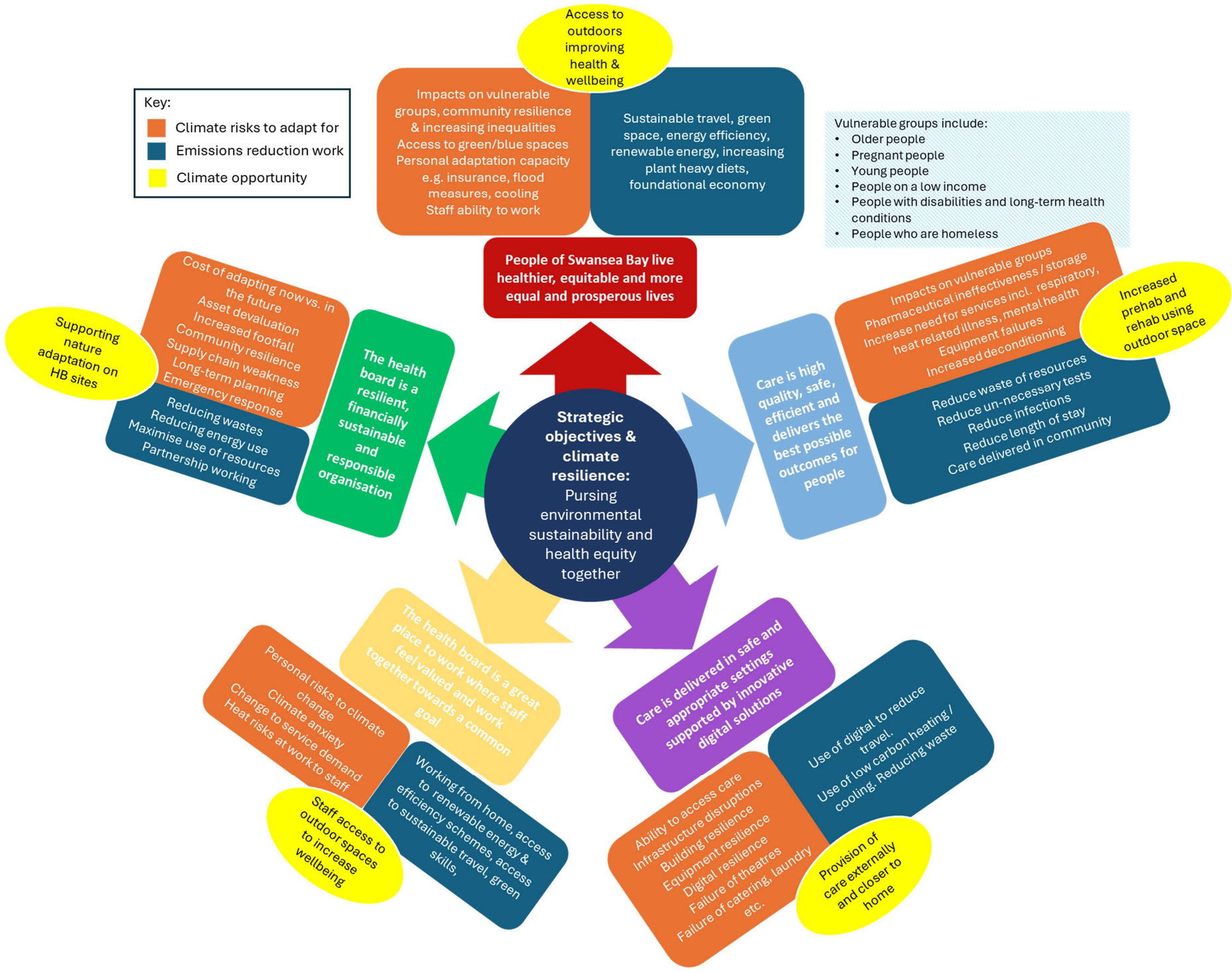


Figure 2: Interactions with organisational objectives

1.3 Aim and objectives

AIM: To undertake a CCROA, identifying and prioritising risks, as well as developing risk treatments to be built into the next Climate Action Plan. This will start to move climate risks and response to become part of our routine work plans, rather than being dealt with as an emergency.

This will be achieved through the following objectives:

- Undertake a first assessment with all Service Delivery Groups (SDGs) and key Corporate areas with nominated leads, building a baseline of knowledge
- Identify existing work/processes that are already treating climate change risks
- Develop an understanding across the organisation of climate impacts and the ways in which the Health Board can build resilience
- Get acknowledgement/approval from each area where an assessment is undertaken by the Senior Leadership Team in that space
- Develop an approach to reviewing, updating, and developing the Health Board's understanding for the future

2 Methodology

Climate change adaptation work has been undertaken internally by staff at the Health Board, interpreting the 'Health and Social Care Climate Adaptation Toolkit' published in October 2024.

2.1 Getting started

In January 2025 information was shared with nominated representatives from the SDGs, alongside an invite to an 'Adaptation Literacy Session' held in March 2025. This session sought to define key terms; start discussions around what climate change impacts have already been felt at the Health Board; and what this has meant to our staff. This investigation was supported by a scoping questionnaire and further questions during the session.

2.2 Current climate vulnerability

During several sessions examples of current climate vulnerability was investigated with staff from across the organisation. This included workshops, team-based sessions, and a questionnaire. Details were compiled and shared back with participants through a 'Climate Adaptation Pack'. Where possible, data was sought to back-up the impacts shared. Impacts were from both staff members work areas, as well as from personal experience. Particularly in the storms from September 2024 to January 2025.

2.3 Future climate vulnerability

Understanding vulnerability to future climate impacts is key when assessing risk and opportunities. This required the Health Board to prepare for a 2°C rise, and risk assess for a 4°C rise. Section 4 shows the Health Board's understanding of future climate impacts. This was communicated to staff during the development of the CCROA, in both SDGs and Corporate areas. Each area worked through a template to capture risks they foresaw in their area. One critical aspect was understanding the existing mitigation measures that are in place to ensure duplication is reduced and best practice shared to those teams with similar risks. This led to an understanding of the residual risk, which is how the risks were then prioritised with the highest risks being focused on by the Health Board.

All risks were scored using the Health and Social Care's Climate Adaptation Toolkit, initially with the 3x3 grid and then updated to a 5 x 5 grid.

Each area was asked to gain approval from their local Senior Leadership Team, to start building that understanding of risk and opportunity from climate change across the Health Board. This was achieved by half the participants.

The other element that required extensive discussion was who owns the risk, recognising that risks and opportunities could be owned by the Health Board, wider NHS Wales organisations, wider public/private/third sectors, as well as by the population the Health Board serves.

2.4 Adaptation options

The highest residual risks (scoring over 12) were prioritised, and where the Health Board is the owner, 'Risk treatments' developed to understand what can be done to build resilience. If a cost is associated with this risk treatment an estimate has been provided. During this process it was

also recognised where further evidence was required, with actions developed to support building that understanding. These were divided into Health board led actions, All Wales actions, and partnership actions (beyond NHS Wales).

2.5 Monitoring & evaluation

To ensure there is evidence of progress a monitoring and evaluation framework will be established, as the actions are finalised during the next phase of this work. Actions developed will also incorporate the wider 'asks' of Welsh Government's 'Adaptation Strategy for Wales'.

2.6 Challenges and limitations

Whilst it is acknowledged this is a good start, there have been several challenges and limitations experienced during the development of the CCROA, including:

- **Focus on service delivery:** The nominated representatives all have a service delivery background, this has become the focus of this iteration's CCROA – focusing on 'Care is delivered in safe and appropriate settings supported by innovative digital solutions', the other strategic objectives will be covered through the further investigation work.
- **Gaps:** Areas requiring further investigation has been identified.
- **Relevant indicators:** Majority is qualitative and based on opinions on what could happen. Evidence has been sought to clarify claims, including the areas considered for further investigation.
- **Limited clinical input:** There has been limited clinical input from majority areas, this will be sought through future iterations and the further investigation work.
- **Limited engagement:** In some areas engagement was challenging due to operational pressures resulting in less complete CCROA elements.

2.7 Collaboration

The initial CCROA has been conducted with input from a variety of staff, including nominated representatives from SDGs, Corporate leads involved with the Climate Action Plan's implementation, Green Group, and members of the Sustainable Swansea Bay Steering Group. CCROAs were developed for the following areas, before consolidation into a single CCROA due to the duplication across the multiple assessments:

- Mental Health & Learning Disabilities SDG
- Primary Care, Community & Therapies SDG – including buildings
- GP contractor
- Morriston SDG
- Singleton, Neath Port Talbot SDG
- Support Services
- Workforce
- Commissioning
- Capital Planning
- Estates
- Digital

Alongside this, it is recognised climate adaptation also links with suppliers, partnerships, and delivery partners and has been proposed as an area of 'Further Investigation'.

3 Where we are

The discussions, workshops and questionnaires highlighted a complex system. This section seeks to summarise some of these complexities and how they interact with climate change, as well as historical impacts on the Health Board from climate change.

3.1 Policy context

Climate related policy in Wales is dominated by emissions reduction / mitigation with ambitious public sector wide targets and annual emissions reporting. The move to incorporate adaptation more formally is new and does not have the same level of focus/traction in the Welsh public sector.

The Well-Being of Future Generations (Wales) Act 2015 is central to Wales approach to climate change mitigation and adaptation. It mandates public bodies to act sustainably, considering long-term impacts and promoting resilience. The Act's goals—such as creating a "resilient Wales" and a "globally responsible Wales"—explicitly support climate action by encouraging biodiversity, low-carbon development, and global environmental responsibility. It also underpins adaptation strategies, requiring integration, collaboration, and prevention in planning. This legal framework ensures climate resilience is embedded in public policy, guiding initiatives like "Prosperity for All: A Climate Conscious Wales" to address climate risks proactively, and climate resilience included in A Healthier Wales - Action refresh 2024-25.

With the publication of the 'Adaptation Strategy for Wales' in October 2025, there was a direct ask for the healthcare sector to:

- Build climate considerations into planning, procurement, and service delivery across health systems.
- Implement actions that target emissions reduction, infrastructure resilience, and climate-related health risks.
- Build collaboration across sectors, through the Public Services Boards, which support adaptive planning, knowledge sharing, and equitable protection for vulnerable groups, ensuring both current and future climate challenges are effectively addressed.

This has been supported by the establishment of 'Climate Adaptation Accelerator Programme' by Welsh Government, with the Technical Services Manager (Estates) and Sustainability Planning Manager (Planning & Partnerships) attending on behalf of the Health Board. Broader Welsh Government asks are included in Appendix 5.

3.2 Our population

The Health Board has responsibility for assessing the health needs of our population to enable commissioning, planning, and delivering healthcare for those people. Recognising the responsibility for improving the health and wellbeing of our diverse communities. It is recognised that the Health Board is part of a broader social, economic, environmental and health economy in the region. The lives and health of people in our communities are impacted by wider determinants of health and as an anchor institution we have a role in addressing and responding to these in all that we do.

	Approx. population: 396,000		Unemployment: 9% of 16+ in Swansea and 10% in NPT are long-term unemployed
	20% of children in Swansea Bay are living in poverty		Ethnicity: 9% in Swansea and 3% in NPT are from non-white ethnic groups.
	1 in 6 children aged 4 years old are not fully up to date with vaccinations.		Healthy Behaviours: 14% Adults currently smoke 16% Adults drink above guidelines 64% Working age adults not a healthy weight
	Life Expectancy: • Female: 81.5 years • Male: 77.3 years		
	9% of the population in Swansea and 4% of the population in NPT were born outside the UK. 5% and 1% of our population's main language is not English.		
	Gap in Life Expectancy (Most vs Least deprived): • Female: Healthy years – 19.9; Gap – 6.8 years • Male: Healthy years – 14.6; Gap – 7.9 years		Standard of health • 79% in Swansea and 76% in NPT report Good/Very Good health • 1 in 14 report Bad/Very Bad health.

Climate change poses significant health impacts which exacerbate existing inequalities if both emissions reduction and adaptation are not considered through the 'just transition' lens.

3.3 Our region

SBUHB covers Swansea and Neath Port Talbot Local Authority areas. This includes urban and rural areas, with extensive coastline and hills. Both regions have predominantly industrial heritage, including past coal mining and metal smelting, with several coal tips at risk in the Neath Valley. The coastal corridors support economic hubs and regeneration projects, while the valleys retain a mix of rural settlements, forestry, and natural landscapes.

Strategic plans aim to balance housing growth, employment land provision, and environmental protection, reflecting the region's transition from heavy industry to a more diversified economy. Future projects include increased tourism through the Skyline project at Kilvey and Wildfox Adventure Resort at Afan Valley, as well as the development of a freeport in Port Talbot.

The Health Board covers a large geographical area, with building locations in the footprint, as well as in Hywel Dda, Cwm Taf, Powys and Cardiff and Vale University Health Boards.

3.4 System challenges

3.4.1 Existing areas of work

Climate adaptation is already supported by existing systems and work at the Health Board, including but not limited to:

- Population Health Strategy:
    - Objective 5: Creating healthy and sustainable places and communities

    - Cross-cutting theme 2: Pursue environmental sustainability and health equity together
- Climate Action Plan (CAP) 2024-2026
- Environmental Management System facilitated by the Estates Team
- Our role as a 'Productive Partner' and 'Anchor Institution' with the Public Services Boards (PSB) will support and inform the Health Board's wider approach, PSB work includes:
    - Swansea PSB's Climate and Nature Working Group: Swansea Adaptation and Mitigation Strategy and Action Plan, due to be completed by end of March 2025
    - Neath Port Talbot's PSB's Climate and Nature Working Group: Climate Change Risk Assessment, completion date to be confirmed
- EPRR

3.4.2 Buildings

The Health Board has over 80 locations across South Wales, ranging from large acute sites to small house type units for Mental Health and Learning Disabilities. Within this, there is a mix of buildings that are owned or leased by the Health Board. Climate adaptation in leased buildings can be more challenging, as there may be costs associated with building work. However, there are opportunities that can be utilised too, including not leasing buildings in high-risk flood areas in the future.

The Health Board's high risk backlog maintenance is estimated at £10.3 million and £9 million from Morriston and Singleton Hospitals, respectively. Whilst this is a challenge there could also be opportunity in building climate adaptation to maintenance projects at the Health Board. However, this would rely on Welsh Health Technical Memorandums providing this guidance.

3.4.3 Commissioning

As a Health Board we do not just provide care, but commission it, from other NHS organisations in England and Wales, the private sector and the third sector. Understanding how their responses to climate change will impact service delivery to Health Board patients is challenging, requiring extensive consultation and outreach in timeframes beyond this summary report.

3.4.4 Primary Care

Primary care is a key aspect of the healthcare system. General practitioners (GPs), nurses, pharmacists, and allied health professionals provide first access to care. Unlike secondary care, GP practices operate as independent contractors to NHS Wales, meaning ownership structures vary, with partners carrying both clinical and business responsibilities.

This impacts the extent to which the Health Board can bring Primary Care into climate adaptation. Currently it is feasible through cluster planning, Health Board owned buildings, and those entities using the Greener Primary Care framework. However, it is unfeasible for the Health Board to coordinate or facilitate the whole of Primary Care's contractors' climate adaptation response. This highlights the need for a more dedicated approach to supporting these contractors across the whole of Wales.

3.4.5 Partnerships

Climate related work is being undertaken at multiple levels too:

- National: United Kingdom Government, Climate Change Committee, Welsh Government, NHS Wales wide opportunities
- Regional: PSBs (Swansea & Neath Port Talbot); Local Resilience Forum (South Wales Police footprint); Corporate Joint Committee (South West Wales – NPT, Swansea, Carmarthen, Pembrokeshire)
- Organisational: Health Board

The way these approaches support each other or duplicate is complex and requires a high level of involvement from within the Health Board. It is also recognised that there are opportunities to build a more collaborative systems wide approach if it was brought within the scope of the Regional Partnership Board, a space bridging interaction between health and social care, and/or the South West Wales Regional Joint Committee (between Hywel Dda University Health Board and the Health Board).

3.4.6 Perception of climate impacts

Discussions with staff across the Health Board has highlighted how we interpret impacts from climate change. There was evidence there was a negative association with storms, flooding, and increased rainfall, but a positive association with hotter weather. This has been acknowledged in Wales with the Future Generations Commissioner[8] calling for heatwaves to be 'named like storms', issuing a statement highlighting:

"If we keep treating extreme heat like good news for a beach day, we're putting our heads in the sand when we should be protecting lives."

This was also recognised in the levels of preparedness, with flooding regularly discussed but heat seen as less of a challenge.

3.5 Current vulnerability

The Health Board is already experiencing and actively managing impacts from climate change (see Section 5.2). These were identified during conversations across the Health Board. Other aspects highlighted during the discussion phase highlighted challenges around understanding risk and risk appetite, and barriers that limit proactive management of risks.

3.5.1 Historical impacts

Staff identified multiple ways the Health Board has been impacted by climate related events, some examples include:

- Staff experiences of fatigue, dehydration and difficulty concentrating in excessive heat
- Failure of fridge/freezer facilities, storing samples / pharmaceuticals during heat
- Increased stress and anxiety for staff due to increased utility bills for heating and cooling when working from home
- Fluctuations in food prices from impacts of climate change incl. olive oil, coffee, chocolate, vegetables, fruits etc

[8] 'Name heatwaves like storms' says Future Generations Commissioner for Wales, Derek Walker, as Met Office forecasts soaring temperatures again - Future Generations Wales

GP surgery closed after damage sustained during multiple storms, impacted services

Perceived water scarcity during hotter weather and in particular access to water during heatwaves

Outpatient cancellations across SBUHB from Storm Darragh

Seasonal increases in fractures when there is better weather

The delivery of plasma giving sets from Costa Rica were delayed due to hurricanes

Tonna Hospital operated on emergency power for 18 hours during Storm Darragh

Reports of bed closures in ITU due to rain ingress

Difficulties in community staff delivering care to flooded communities

Whilst there were a significant number of people reporting being uncomfortable at work during the heat, this was not supported by formal reporting e.g. raised at the Estates Helpdesk.

3.5.2 Current response example

A significant amount of work is already occurring across the Health Board to address risks from climate change. Understanding these has been key in recognising there is a response in place and considering how this can be supported to ensure the impacts from climate change are managed proactively.

EMERGENCY PREPAREDNESS, RESILIENCE AND RESPONSE

This team, part of Planning and Partnerships, is there to plan for, and respond to, a wide range of incidents and emergencies that could affect the Health Board, in-line with the Civil Contingencies Act (2004). A range of scenarios are covered from industrial action, hazardous materials, and pandemics to severe weather including cold, heatwave and flooding[9]. Through these processes all areas of the Health Board have a Business Continuity Plan that could cover how the Health Board responds to some impacts from climate change, in particular heat, flooding, and other extreme weather events.

This team is also part of the 'South Wales Local Resilience Forum', a space which ensures emergency responders and other key agencies collaborate to assess risks, plan, and prepare for emergencies that could significantly impact communities. They work together to develop emergency plans to prevent or mitigate the impact of incidents like flooding, industrial accidents, or health crises, and to coordinate a more effective response and recovery.

HIGH TEMPERATURES – MAY, JUNE, JULY & AUGUST 2025

An example of how existing work supports and challenges climate adaptation is provided below considering some of the heat events in Summer 2025:

- No upper temperature limit for work under the Health and Safety at Work Act
- Business continuity work led by the EPRR in Planning and Partnerships, some examples specified heat with others putting a more generic 'extreme weather' example

[9] NHS England » Emergency preparedness, resilience and response (EPRR)

- Severe weather procedure: SBUHB Severe Weather Procedure v3.1.docx with a section on heat events
- Heat guidance: Hot weather – staff information, however, this contradicts Estates advice regarding bringing in own items
- Comfort cooling will only be provided to patient areas
- Ad-hoc responses by staff to manage heat impacts
- Discussions with staff highlighting problems with heat, which is not evident in formal reporting routes e.g. raised at the Estates Helpdesk

Not all responses to climate impacts align with wider NHS Wales approaches, one example of a mal-adaptation is around provision of ad-hoc bottles of water during heat periods. This is costly and damaging to the environment when alternate plumbed cold-water systems could provide better provision without increases in plastic and waste during hot water periods. It also contradicts NHS Wales approaches to staff wellbeing, climate mitigation and reducing single use plastic waste, as well as waste reduction and how circular economy is implemented.

Further detail on current responses (existing mitigation) is provided in Section 5.2.

3.5.3 Attitude to risk

Attitude to risk varied across the Health Board, with some groups aware of risks already faced from climate change impacts and seeking to manage them, whilst others dismissed the risks. This has the potential to make climate adaptation more challenging if there is a reluctance to acknowledge these risks exist.

4 Future climate hazards and impacts

The UK's Climate Change Risk Assessment 3 (CCRA3) highlights:

Warmer, wetter winters and hotter, drier summers with more extreme weather events.

Key hazards from this include heat, wildfires & drought; flooding; storms; air quality fluctuations; and coastal erosion & sea level rise. The potential impacts on health systems, facilities, and outcomes are summarised in Figure 3.

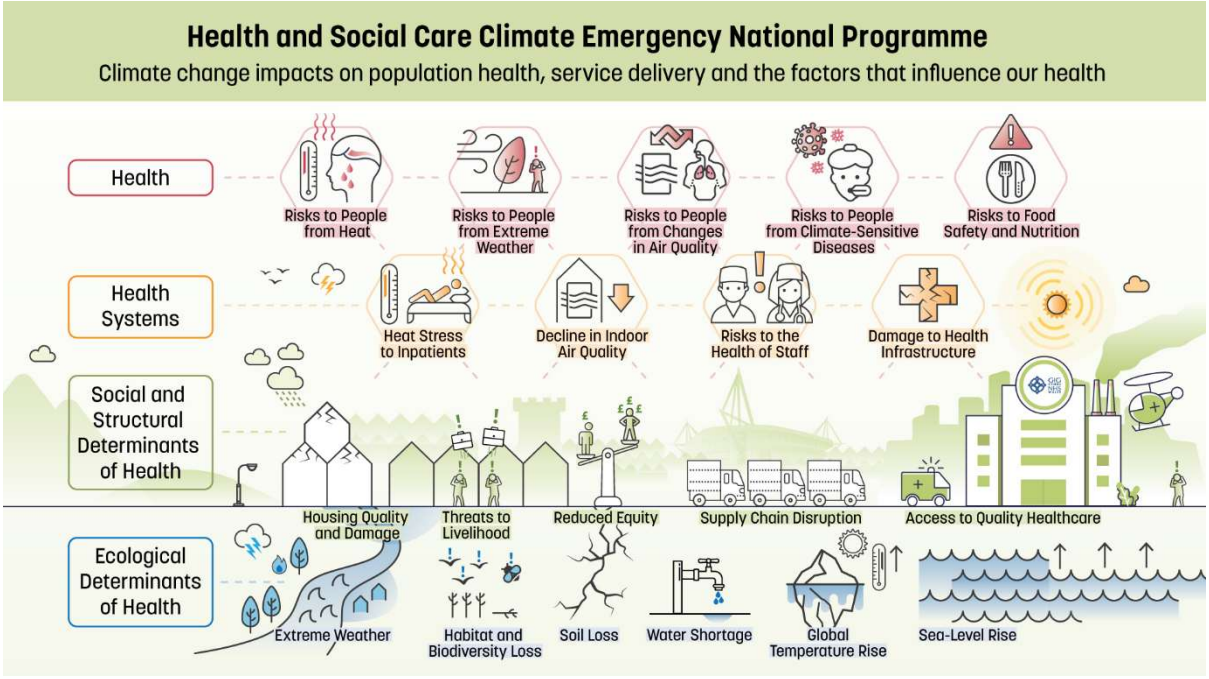


Figure 3: Impacts from climate change on health

4.1 Hazards

A climate hazard refers to a physical event or trend resulting from climate variability or change. It is the trigger, the environmental condition, that poses a potential threat. Examples from the UK CCRA3:

- Increased frequency of heatwaves
- Heavy rainfall and flooding
- Sea level rise
- Drought conditions
- Coastal erosion

These are natural phenomena which are intensified by climate change.

4.2 Impacts

A climate impact is the effect that a climate hazard has on people, ecosystems, infrastructure, and the economy. It is the consequence of the hazard interacting with vulnerability and exposure. Examples from the UK CCRA3:

- Heatwaves: increased mortality and morbidity, especially among vulnerable populations (e.g. elderly, people with chronic illnesses)
- Flooding: damage to homes, transport networks, and businesses
- Drought: reduced water availability for agriculture and public supply
- Sea level rise: increased risk to coastal communities and infrastructure
- Coastal erosion: loss of habitats and heritage sites

These impacts depend on how exposed and vulnerable a system is to the hazard.

4.3 What this looks like: 2050 and 2100

Hazard predictions are focused on the long-term, with most looking at what climate impacts will be like by 2100. Predictions use scenarios based on both a 2°C rise and a 4°C rise by the end of the century. However, on 15th October 2025 the UK Government was advised by the independent Climate Change Committee (CCC) to prepare for the 2°C scenario by 2050.

This would mean by 2050 the Health Board will see:

- Warmer summers:
    - An average of 20 days above 25°C (range of 17 to 27)
    - An average of 2 days above 30°C (range of 1 to 3)
    - 13% decrease in precipitation (ranging from -27 to -8%)
- Wetter winters:
    - 11% increase in precipitation (ranging from +1 to +17%)

Full details of the predictions for heat and precipitation are shown in Appendix 2. It demonstrates what the end of century (2100) could look like under two scenarios, firstly where warming is limited to 2°C and the second where warming is not limited and increases to 4°C. This reflects the methodology for planning for a 2°C and risk assessing for a 4°C rise.

4.4 Heat, wildfires & drought

Temperature is expected to increase with both 2°C and 4°C rises, however, the difference between the two is drastic. Temperature increases are associated with heat, wildfires, and drought. 2025 has seen an increase of all three incidents across Wales including:

- Three exceedances of 30°C, under a 4°C scenario this rises to an average of 10 exceedances every summer.
- Drought declared in North Wales[10].
- Increase in frequency of wildfires with Mid and West Wales Fire Service (MAWWFRS) recording its highest number of call outs at 134 incidents by 30th August 2025, with over half of those happening in March[11]. It should be noted that some of these will be deliberate land clearances or 'controlled burns' that got out of control.

Impacts from heat, drought and wildfires will be felt in diverse ways across the population. PHW HIA has highlighted population groups that are most at risk from these impacts, including:

- Babies, children & young people

[10] Drought declared in north Wales by environmental watchdog

[11] 'Massive' wildfire spike after Wales' long and hot summer - BBC News

- Older adults
- Pregnant women
- Occupational groups, including outdoor workers, manufacturing, transport workers, health and social care staff and emergency services, prison, and education staff
- People with long-term health conditions and/or disabilities
- People who are homeless
- Areas of multiple disadvantage

A summary of key impacts is shown in Figure 4.

Figure 4: Health and wellbeing impacts from climate change (PHW HIA)

Further to this it has been investigated that it is estimated that over 80% of UK homes are liable to overheating[12]. Temperature has had and will have significant impacts on the population. This will be 'felt' by the Health Board through the types of impact, shown in Table 1.

Table 1: Climate impacts on health and community from heat and drought

Climate change impact pathway	Health and community impacts
Heat and drought	• Respiratory diseases • Injury • Infections caused by bacteria, viruses, fungi, and worms • Vector-borne disease • Cardiovascular diseases

[12] UEL study finds 80% of UK homes overheat in summer | University of East London

Climate change impact pathway	Health and community impacts
	• Public transport disruption • Urban Heat Island effect • Building performance • Outdoor air quality • Reduction in water availability and quality • Biodiversity and ecological balance disruption

Source: LCAT: Local Climate Adaptation Tool

Even now the impacts of heat in urban areas is more extreme, through Urban Heat Island Effect. Figure 5 shows the impact this had on Swansea in 2023 with increases of up to 7°C when compared to the average temperature, this is due to the materials and absorption of heat in those areas as well as the amount of natural shading from trees available. Morriston and Singleton Hospitals are impacted by these increases, as are other sites. Currently this data is only available for Swansea.

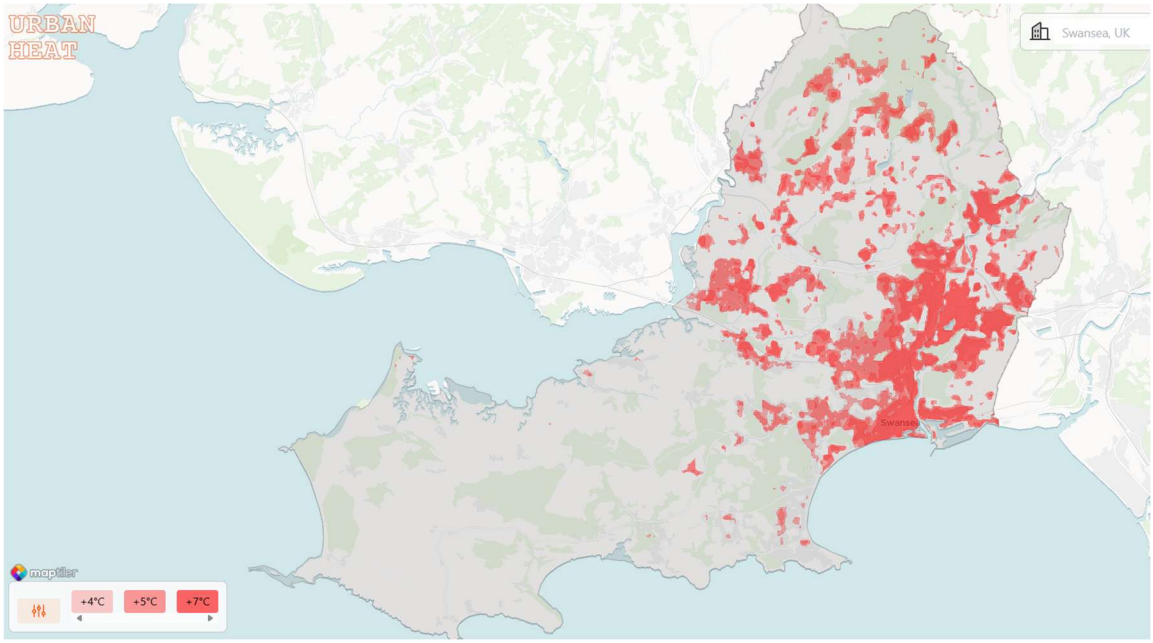


Figure 5: Urban Heat Island Effect on Swansea region (source: Urban Heat in Swansea, UK)

4.5 Flooding

Error! Reference source not found. shows the changes in precipitation, with increases over the winter that do not counteract the summer reductions. The challenge with flooding is from the increase in intense weather events. This was seen from September 2024 to January 2025, and then further local flooding in September 2025 in Penclawdd and Cwmbrwla (Figure 6).

Figure 6: Sarah Nichols - South Wales Police says it has closed Carmarthen Road, which is one of the main routes into Swansea, September 2025 (Source: Flooding hits Swansea roundabout after heavy rain across Wales - BBC News)

There are two types of flooding that can be considered across the Health Board region, this includes:

- River and sea: Risks associated with river and sea flooding from increased rainfall and interactions at the coast
- Surface water: Risks from surface water flooding from increased rainfall

Appendix 2 summarises the approach by Natural Resources Wales in incorporating climate predictions into the flood mapping for both aspects.

Groups most at risk to flooding include those living within 'flood risk level 3' for surface water and/or river and sea, particular groups include:

- Babies, children, and young people
- Older adults
- Pregnant women
- People with long-term health conditions and/or disabilities
- People who are homeless
- Low-income groups

In 2024, with current defences in place, there were 1,534 properties in Neath Port Talbot and 317 in Swansea still at high risk of flooding. If the defences were not suitably maintained this could rise to 3,714 and 851, respectively[13]. A summary of health and community impacts from flooding and drought are summarised in Table 2.

Table 2: Climate impacts on health and community from flooding

Climate change impact pathway	Health and community impacts
Flooding	• Respiratory diseases • Infections caused by bacteria, viruses, fungi, and worms • Illness or injury caused by exposure to chemicals, heavy metals, and microplastics • Drowning or flood-related accidents • Transport disruption

[13] Properties at risk of flooding 2024 by local authority

Climate change impact pathway	Health and community impacts
	• Building and structural damage • Biodiversity and ecological balance disruption

Source: LCAT: Local Climate Adaptation Tool

4.6 Storms

It is predicted there will be an increase in extreme weather events, which includes storms. Features of this will be potentially include increased wind damage and flooding. A recent example of this was Storm Darragh on 7th and 8th December 2024, which saw over 90mph winds and significant rain, resulting in:

- Rare red warning
- Approximately 95,000 homes were without power on 7 December, with 500 customers still without power on 12th December, and all regaining power by 14th December 2024.
- 150-year-old Llandudno pier suffering an estimated £250k worth of damage
- Substantial number of trees down, with further at risk in woodland across Wales posing safety risks to those using the forests[14]

Geographically it is hard to predict where will be most impacted, however, it is likely to be exposed areas that are windier. However, as with Storm Darragh, the overriding wind direction can shift and cause substantial damage. A summary of health and community impacts from extreme storms are shown in Table 3.

Table 3: Climate impacts on health and community from extreme storms

Climate change impact pathway		Health and community impacts
	Extreme storms	• Respiratory diseases • Injury • Infections caused by bacteria, viruses, fungi, and worms • Illness or injury caused by exposure to chemicals, heavy metals, and microplastics • Damage or loss of possessions and/or home • Damage or loss of coastal defences • Damage or loss of the built and natural environment • People requiring care to maintain wellbeing

Source: LCAT: Local Climate Adaptation Tool

4.7 Air quality

The whole of the UK will experience changes to both indoor and outdoor air quality, driven by climate change impacts. This includes:

[14] Natural Resources Wales / The impact of Storm Darragh on NRW's woodland estate

Table 4: Climate change impacts on health and community associated with air quality

Indoor air quality	Outdoor air quality
Dependent on: • Individual building performance. • Emissions from indoor sources like air fresheners and cookers. • Damp and mould. • External air quality	Impacted by: • Higher temperatures which can exacerbate the build-up of air pollution. • Drought can increase the amount of dust particles. • Wildfire smoke. • Thunderstorms and windstorms can increase allergens like pollen and fungal spores.

Predictions for what localised impacts in Swansea and Neath Port Talbot looks like are not feasible due to the wide-ranging factors that influence this, including:

- Uncertainty of the future emissions sources that may exist in the area, for example the Tata transition in Port Talbot, development of a freeport and associated industries.
- Uncertainty around human activities including shifts to electrified heating over gas, whether electric vehicles or hydrogen will be adopted, and wider socio-economic trends that could alter emissions

Whilst there is not a clear map of areas that will be most impacted, through the PHW HIA, the following groups are identified:

- Babies, children, and young people
- People with long-term health conditions and/or disabilities
- Occupational groups, including outdoor workers, manufacturing, transport workers, health and social care staff and emergency services, and prison and education staff
- Those living in proximity to former and current industrial areas
- Those living in urban areas

4.8 Coastal erosion & sea level rise

Swansea and Neath Port Talbot are at risk from sea level; with estimates this will continue to rise in the 21st century even if greenhouse gas emissions are reduced rapidly. Sea level rise predictions are shown in Figure 7, with the biggest impacts in north Gower and the Lougher Estuary, as well as along River Neath. Of these the PHW HIA highlights the following vulnerable groups:

- Babies, children, and young people
- Older adults
- Pregnant women
- People with long-term health conditions and/or disabilities
- People who are homeless
- Low-income groups

A summary of health and community impacts from coastal security and marine health hazards are shown in Table 5.

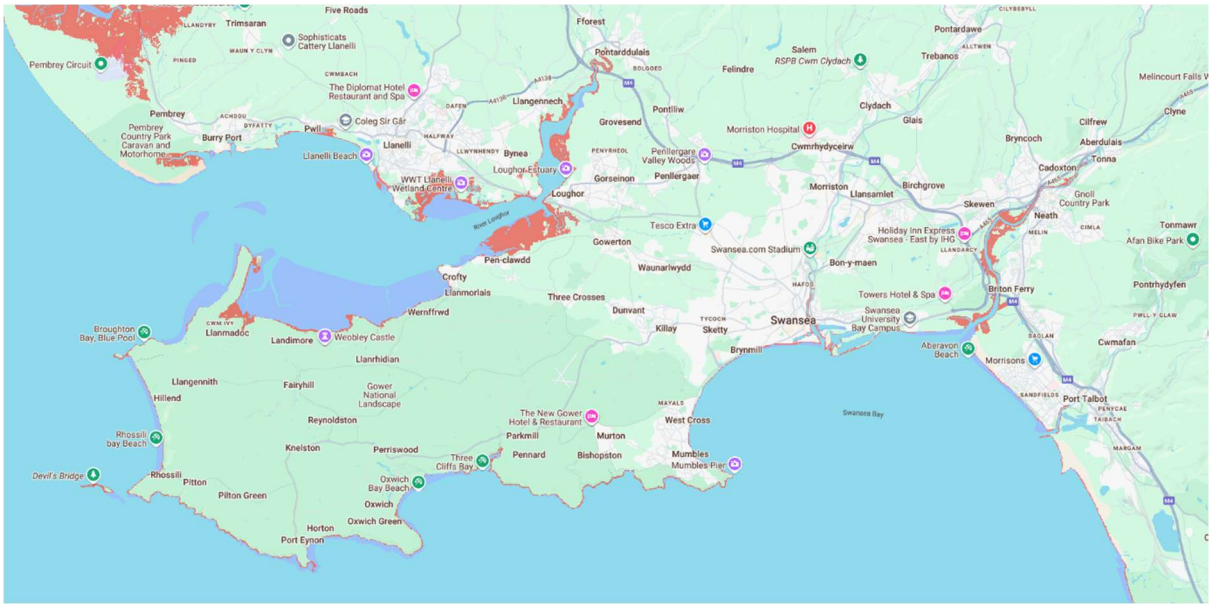


Figure 7: Land projected to be below the tideline by 2100 (sea level rise) (Source: [Climate Central | Land projected to be below tideline in 2100])

Table 5: Climate change impacts on health and community from coastal erosion and sea level rise

Climate change impact pathway	Health and community impacts
 Coastal security	• Injury • Illness or injury caused by exposure to chemicals, heavy metals, and microplastics • Illness and mortality due to damp • Vector-borne diseases • Damage or loss of coastal defences • Damage or loss of the built and natural environment • Damage to local economy • Marine and coastal biodiversity and ecological balance disruption
 Marine health hazards	• Respiratory diseases • Infections caused by bacteria, viruses, fungi, and worms • Antimicrobial resistance • Adverse health outcomes associated with naturally produced toxins in marine environments • Fertility and endocrine function • Marine and coastal biodiversity and ecological balance disruption • Damage to local economy • Reduction in water availability and quality • Adaptation and/or mutation of microorganisms to antibiotics, chemicals, and environmental stressors

Source: [LCAT: Local Climate Adaptation Tool]

4.9 Food

A further area of significant impact, related to the hazards above, is food security. By 2050, on the 4°C scenario, there could be a 34% increase in food price in the UK[15], driven by climate change. In the UK it is estimated over 7 million adults are facing food insecurity and the health inequalities between the richest and poorest communities are staggeringly wide[16].

Changes in rainfall and increased droughts have already seen cocoa, coffee, oranges, bananas, rice, and olive oil impacted, just to name a few. The use of a global supply chain has allowed diets to incorporate wider choice, however, with the weather becoming more unpredictable shortages and increases in costs are going to be more likely.

Nearly 50% of food is imported into the UK, meaning global supply could be disrupted with costs increased. Domestic agriculture will also be challenged by the changing climate with hotter summers and wetter winters, with some of the most vulnerable crops including wheat, barley, and oilseed rape, which are all staples[17]. This will disproportionately impact the lower-income households though food-based inflation, with heatwaves alone having the potential to "*result in an annual average household loss of £917–£1,247 by 2050, increasing poverty and food insecurity*"[13]. This could also push between 824,285 and 951,383 people into poverty[13].

A summary of health and community impacts from food and personal security are shown in Table 6.

Table 6: Climate change impacts on health and community from food and personal security

Climate change impact pathway	Health and community impacts
 Food and personal security	• Respiratory diseases • Infections caused by bacteria, viruses, fungi, and worms • Vector-borne diseases • Adverse health outcomes and malnutrition associated with an unhealthy diet • Reduction in water availability and quality • Food security • Negative impacts on agricultural and livestock production • Negative impacts on the fishing industry

Source: LCAT: Local Climate Adaptation Tool

4.10 Equity

The impacts of climate change have the potential to increase existing inequalities. Impacting the Health Board's ability to deliver healthcare services and increasing key burdens of disease, including cardiovascular disease, respiratory disease, mental health and cancer, as examples.

[15] On the horizon: climate-induced inflation and the price of food - The Autonomy Institute

[16] Climate-change induced food price shocks and the impact on UK diets | Food Foundation

[17] On-the-horizon-climate-induced-inflation-and-the-price-of-food.pdf

The statement in Section 3.4 acknowledges that heatwaves affect our health, economy, and environment. The statement also links to social justice with evidence that low-income people are far more likely to die during extreme heat events. Figure 8 shows that shade, a common recommendation during heat, is more likely to be available in areas with higher incomes, making shade and natural cooling an inequitable luxury.

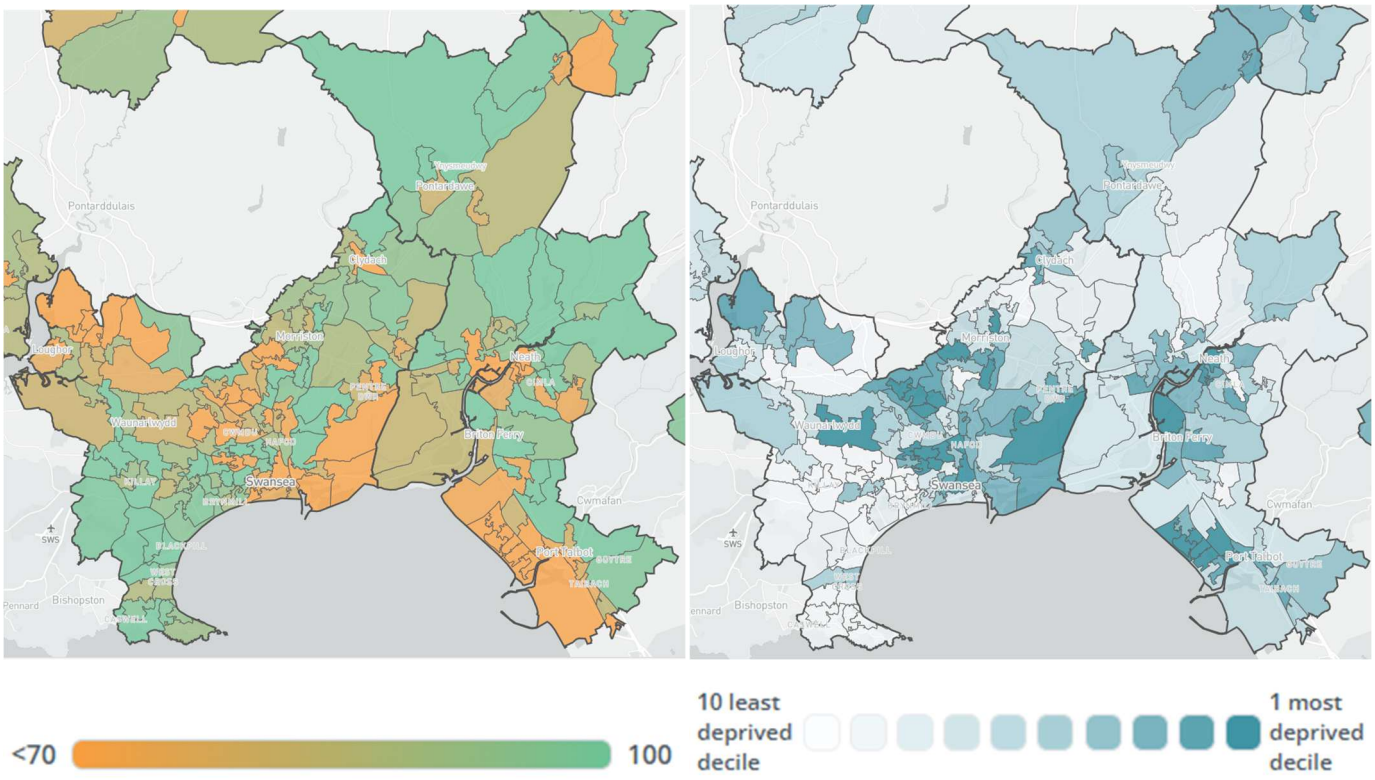


Figure 8: Tree Equity score vs. income ranking (Tree Equity Score UK Map)

Flooding is another area where there are significant inequalities, Figure 9 shows Neath and Briton Ferry with the impacts from flooding in pink and most 20% from the Multiple Deprivation Index in blue.

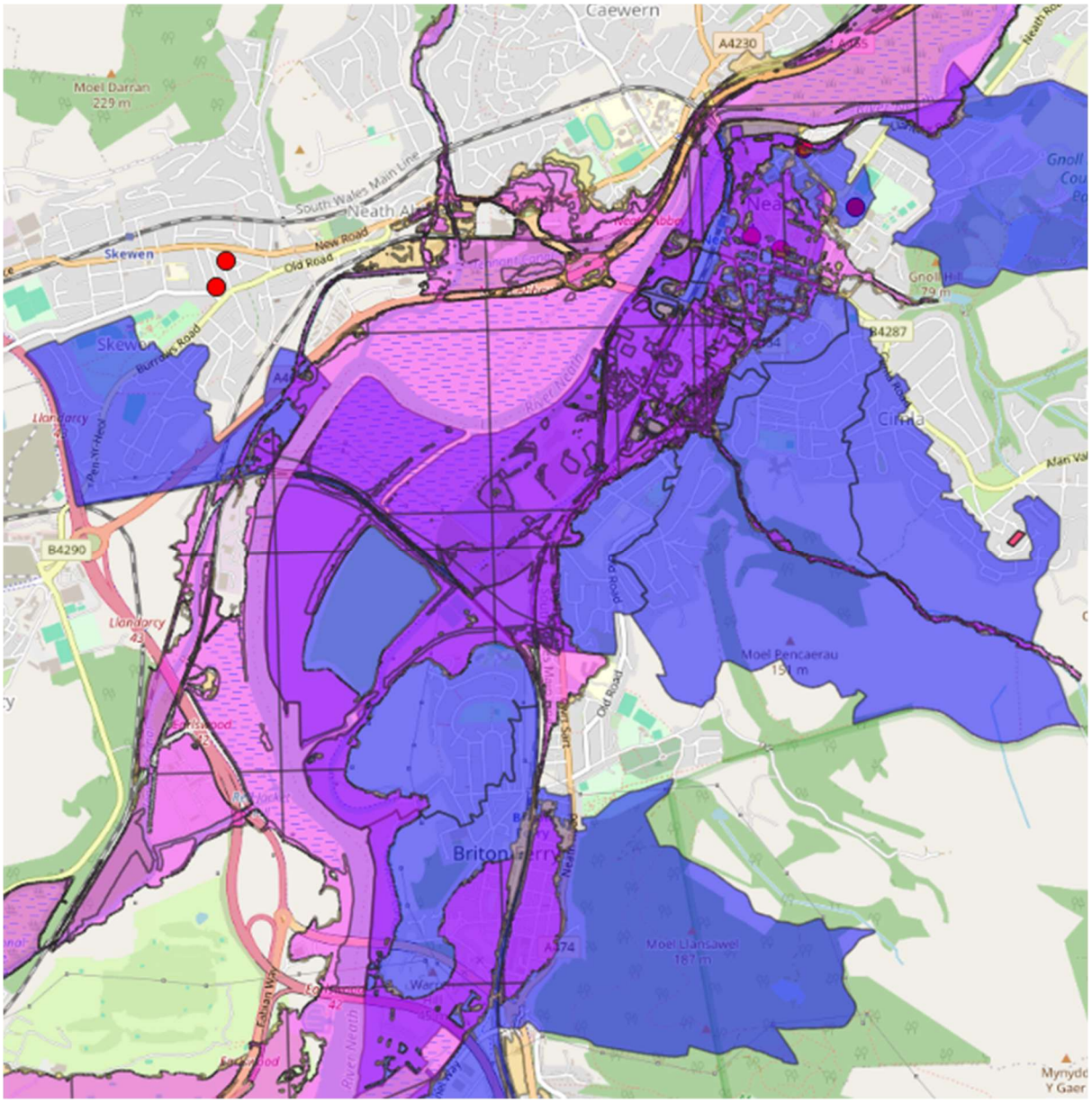


Figure 9: Neath & Briton Ferry areas NRW flood risk map (Pink = flood zone risk 3 river/sea; blue = 20% most deprived – 2019 Multiple Deprivation Index)

Our processes must be more just, with poverty being a critical factor in climate adaptation. Poverty is an '*important determinant of how well people can prepare for, respond to and recover from events like flooding and heatwaves*'[18]. Therefore, involving people and recognising nature's role in adaptation, so action is effective for everyone, not just the few.

[18] People on low incomes | Climate Just

5 Risks

Determining 'risk' is complex, and relies upon interactions between:

- Hazard: something that is dangerous and likely to cause damage
- Vulnerability: conditions determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards
- Exposure: The situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas
- Existing response: Actions taken directly before, during or immediately after a disaster to save lives, reduce health impacts, ensure public safety, and meet the basic subsistence needs of the people affected.

During this investigation with SDGs and Corporate areas it was understood some operational risks were already being treated. This section summarises the risks that may have some existing risk treatments but are not believed to be sufficient when considering the impacts of climate change. These are the risks that require a climate adaptation response.

This is an initial understanding and will be reviewed on a regular basis as our understanding of climate hazards, vulnerability, and exposure increases.

5.1 Health Board wide risks

The first iteration of the Health Board's CCROA has focused on service delivery, this has been driven by the nominations from the SDG's and their associated knowledge. All the risks, that after consideration of existing risk treatments, remain high are interlinked and cannot be seen in isolation.

The full CCROA can be viewed in Appendix 3. Below provides a summary of risks remaining as high, considering what the identified risk is, any existing risk treatments, key roles, and responsibilities in managing the risk, what potential actions can reduce this further. Figure 10 shows the different themes evident in the CCROA.

Figure 10: Health Board climate risks themes

5.2 Existing risk treatments

When working with staff on risks they were asked to consider anything that was already happening to reduce this risk, these are the existing risk treatments. One of the most prominent existing risk treatments at the Health Board is business continuity plans, which highlights the importance of formal procedures to maintain service delivery during climate related disruptions. These plans cover a wide range of areas that support our climate adaptation agenda; from service delivery continuity, patient safety and care, staffing arrangements, communications protocols and supply chain management, to IT and Digital resilience and actions to protect and adapt building, equipment and infrastructure. However, the extent to which climate impacts were covered did vary by plan.

Some risk treatments are delivery group specific, such as 111 Press 2 within mental health service or, how digital security risks are managed, but the majority are general or procedural.

When looking at the existing risk treatments within the Health Board, the reliance of digital solutions was also highlighted, including the ability for staff to work remotely and access to remote consulting tools when access to a site is restricted. Whilst working from home is not available to everyone it did come with its own challenges, including increased stress and anxiety of staff having to manage the cost of living in addition to sufficiently heating and cooling their homes, that may not be built to support this.

The Estates Team have systems and guidelines that support adaptation in buildings and wider sites, from the preventative maintenance programme, inspections, back-up power checks and guidance from the Welsh Health Technical Memorandums (WHTMs). This shows a more mature system that is seeking to be more preventative than reactionary. However, due to our current financial position and the lack of comfort cooling within our Health Board, lower cost physical adaptations have been used as risk treatments. This includes adding glass film to windows to reduce heat, planting trees near the building to provide natural shading, and opening more windows where able to.

There were also examples of risk treatments that were problematic. This included the use of fans in clinical areas that did not align with the Infection Prevention & Control Team's requirements, and the use of bottled water which results in significant waste.

This initial CCROA is unlikely to capture all existing risk treatments as they may be informal and limited to pockets of the organisation, be in an area that hasn't been engaged, or be delivered by our partners which we are unaware of. In addition, there are multiple risks that require further investigation, suggesting that these risks do not have sufficient risk treatments.

Current understanding of existing mitigation can be seen in Appendix 3.

5.3 Highest risks

The CCROA process identified 135 risks across the Health Board. To ensure there is a managed approach, the highest risks will be targeted initially, this includes risks scoring 12 or more totalling 33 risks. The highest risks not requiring further investigation are shown in Table 7 Of these 33, 22 fell into areas requiring 'Further Investigation', Table 8 shows the highest risks, Section 6 areas of further investigation, and see Appendix 3 for the full risk assessment and the highest 33 risks.

Table 7: Actions scoring 12 or above, without requiring further investigation

#	Risk	Type	Proposed owner	Score
H01	Staff unable to work during periods of high temperatures - resulting in increased heat-related stress, illness, and sickness absence among staff as well as cancellations of services / treatments for patients	INTERNAL	All areas	15
H02	Staff working from home suffering from heat induced illness due to overheating of homes and increased energy costs from cooling (estimate 80% of homes overheat in England and Wales)	INTERNAL	All areas	15
H03	Failure of specialist equipment provided/ required as part of intervention, medical devices from heat in domestic environments such as homes e.g. orthotic devices left in the sun (material becomes pliable and shapes altered) leading to more	SHARED	Health Board: Head of Therapies & Health Science Patient	15

#	Risk	Type	Proposed owner	Score
	demand for new items and pressure on the team and impacts patient Heat related orthotic devices left in the sun and the material becomes pliable and shapes altered, this leads to more demand for new items and pressure on the team and impacts on the patient			
H04	Existing dispensaries in secondary care not fit for purpose and potentially made worse by extreme heat / flooding	INTERNAL	Pharmacy	15
H06	Overheating of on-site server rooms leading to failure due to extreme heat - Neath Port Talbot - units have gone down	INTERNAL	Digital	12
H12	Heat leading to deconditioning if patients experience dehydration during their stay requiring support from Physio and other services	INTERNAL	Head of Therapies and Health Science	15
H14	Higher risk of damage to older estate due to increased frequency of severe weather (e.g., storms, flooding).	INTERNAL	Estates	15
H15	Dining halls at risk of becoming unbearable during heat events as already considerably warm	INTERNAL	Support Services	16
H22	Increase cyber-attacks from increasing global conflicts associated with climate change / water / food scarcity - exacerbating the already high risk	SHARED	Digital & DHCW	15
H23	Inability to deliver adaptation programme due to lack of resources including personnel, knowledge, funds putting Health Board service delivery at risk	INTERNAL	Exec Director Planning & Partnerships	20

6 Further investigation

6.1 Areas for further investigation

Various aspects have been highlighted during the work as requiring further investigation to establish expert knowledge and a rigorous evidence base for understanding climate impacts. A summary of these key areas and who the owner is, is provided in Table 8.

Table 8: Identified areas for further investigation

#	Gap	Why?	Owner
FI1	Clinical disciplines e.g. diabetes, renal, ED, older adults, neurology, oncology, maternity, haematology, radiotherapy, respiratory, nuclear medicine, rheumatology, community, children & young people, mental health	Lacks clear evidence base of impacts on different disciplines. Requires a coordinated approach to understand the impacts on each discipline including potential increase of demand and ways to manage. Learning from other countries would be applicable. If conducted by each Health Board, there would be substantial duplication and waste of resource. Could link with NHS Wales Performance and Improvement clinical networks / groups.	Owner: All Wales Health Board Lead: Planning & Partnerships
FI2	Population health	Understand areas where there may be increased demand from different demographic groups, and how these are spread across the Health Board / Clusters.	Owner: All Wales Health Board Lead: Public Health team
FI3	Service delivery partners including commissioned services from public sector/ private sector / other HBs, and delivery partners' e.g. social care, as well as collaborative spaces incl. Regional Partnership Board, Public Services Boards, Regional partnership etc.	The way in which our partners adapt to climate change will impact delivery of our services and potentially limit or elevate the Health Board's response.	Varies: wider systems approach required Health Board Lead: Planning & Partnerships
FI4	Suppliers' resilience	The way in which our partners adapt to climate change will impact delivery of our services and potentially limit or elevate the Health Board's response.	Potential for All Wales: led by NWSSP for national contracts, Health Board responsible for local contracts
FI5	Pharmaceuticals & heat including: • Storage (onsite, in staff vehicles, in homes) • Impacts on body temp/temperature regulation • Effectiveness of pharmaceuticals	The impacts of heat on pharmaceuticals will not vary across Wales. This will reduce duplication and provide centralised information/resources for use across Wales.	Potential for All Wales: raise with Welsh Government Health Board Lead: Pharmacy
FI6	Some areas not considered due to limited availability / traction	Better understand the risks and opportunities faced by the Health Board.	Health Board owned – Planning & Partnerships

#	Gap	Why?	Owner
FI7	IPC & increased microbes/pathogens	Lacks clear evidence base of impacts. Addressing this centrally will reduce duplication and provide centralised information/resources for use across Wales / UK.	Public Health Wales Potential for All Wales response
FI8	Buildings • Devaluation of assets • Flood risk and how to adapt • Increase in lease costs	It is acknowledged there is a risk to buildings, however, further investigation is required based on level of risk, lifespan of building and cost of adaptations required. It will also consider ease of relocating services and links to business continuity plans.	Health Board owned – Capital Planning Potential for All Wales response through NWSSP Specialist Estates Services

6.2 Actions to address areas for further investigation

6.2.1 Owned by the Health Board

Initially actions will be focused on closing gaps owned by the Health Board. These are shown in Table 9, detailing what the Health Board will do and by when. This will be developed and agreed with action owners during the refresh of the Climate Action Plan.

Table 9: Health Board owned actions to reduce climate adaptation gaps

#	Gap	Action	Owner	Timeframe
FI2	Population health	Develop an understanding of what climate change impacts could look like on Swansea and Neath Port Talbot's populations	Public Health	2026/27
FI6	Limited traction	Community nursing	Primary Care Community Therapies SDG	Apr to Sep-26
		Theatres	TBC	Oct-26 to Mar-27
		Laboratories (in collaboration with All Wales lab sustainability network, led by PHW)	TBC	TBC
		Emergency Department	Morriston SDG	Oct-27 to Mar-28
		Other areas identified as understanding improves	Planning & Partnerships	Mar-28 to Mar-30
FI8	Buildings	Building specific flood risk assessment • Assessment template • Undertaking the assessment	Capital Planning & Estates	2026-2030 2026 2027 - 2030
		Increase in lease costs	Capital Planning	2030-2035
		Devaluation of assets	Capital Planning	2030-2035

6.2.2 All Wales approach

There are some gaps that could be addressed more effectively. These are shown in Table 10. Upon discussion with Welsh Government's Health and Social Care Climate Emergency Programme's Adaptation Lead, FI5 will be taken as a pilot to commence discussion at an All-Wales level to understand:

- Extent to which Welsh Government 'experts' agree this is an issue
- Existing work that supports climate adaptation
- Collaborative All Wales forums already in existence that could lead / coordinate the work and/or disseminate

In addition, the Health Board will be raising the need for an All-Wales approach through the Directors of Planning Group, particularly around FI1, FI5 and FI7.

This will be developed and agreed during the refresh of the Climate Action Plan.

Table 10: Opportunities for All Wales approaches to address climate risk & opportunities

#	Gap	Owner / Lead	Timeframe
FI1	Clinical disciplines	Potential for All Wales – unsure of coordination	Further investigation required – To be defined by owner once identified
FI2	Population Health	Public Health Wales	Further investigation required
FI4	Suppliers' resilience	NWSSP	Further investigation required – To be defined by owner and replicated for local procurement
FI5	Pharmaceuticals	Potential for All Wales – unsure of coordination	Further investigation required – To be defined by owner once identified
FI7	IPC & increased microbes/pathogens	Potential for All Wales – unsure of coordination	Further investigation required – To be defined by owner once identified
FI8	Buildings	NWSSP Specialist Estates Services	Further investigation required

6.2.3 Wider partners

A further gap is how the Health Board interacts with Service delivery and strategic partners, these can be from the public, private or third sectors. A different approach will be required for each different actor. Initially this will require the Health Board to map partners, Table 11.

Table 11: Partnership based actions to reduce climate adaptation gaps

#	Gap	Action	Owner	Timeframe
FI3	Service delivery and wider strategic partners	Map partners and purpose of partnership	TBC	2027-2030

7 Opportunities

7.1 Findings

Opportunities were identified during the discussions. However, these do not compensate for the risks that health and healthcare are facing. These opportunities included:

1. Use of nature / outdoor spaces to support staff wellbeing
2. Use of nature / outdoor spaces to support patient wellbeing, rehabilitation & condition management
3. Further developing and utilising the role of greener prescribing
4. Improvements to population health through being outside more from warmer weather
5. Collaboration and work in partnership spaces e.g. social care

7.2 Examples of existing initiatives

Use of outdoor spaces in health is not new, the Health Board is already actively doing this in several areas, including:

- **Gwelfor Ward, Cefn Coed:** Occupational Therapists, led by Annie Hill (Occupational Therapist), have been utilising outside space with patients. Examples have included undertaking litter picks with patients and taking patients to Cae Felin to be in nature and get involved with the growing process.
- **Cae Felin Community Supported Agriculture:** Cae Felin offers therapeutic, nature-based interventions for diverse groups including people who are Not in Education, Employment, or Training (NEETs), Gwelfor Ward patients (adult mental health rehabilitation), and patients from the Brain Injury Unit. Through its activities and volunteering programme, Cae Felin supports mental health recovery, builds confidence, and fosters social inclusion through structured activities like gardening, food growing, and community engagement. The project also provides educational programmes for school children, as well as supporting wellbeing through the staffs' Men's Health Group.
- **3rd Sector Commissioning:** The Health Board commissions a range of services from the 3rd sector to support healthcare in the region. Some elements of this involves social prescribing and use of green space, however, it is not understood to what the full extent of this is.

Figure 11: Selection of existing Health Board initiatives (a) Cae Felin outreach work with schools (b) Biophilic Wales working with staff and volunteers (c) Men's Wellbeing Forum at Cae Felin

Opportunities with nature were also recognised in the PHW HIA:

7.3 Future actions

It has been recognised that there are opportunities to utilise outdoor spaces and nature in the treatment of patients at the Health Board.

There are three opportunities that can be 'owned' by the Health Board:

- O1: Use of nature / outdoor spaces to support staff wellbeing
- O2: Use of nature / outdoor spaces to support patient wellbeing, rehabilitation & condition management
- O3: Further developing and utilising the role of greener prescribing

Whilst these have been recognised as opportunities there is further work required to understand how these are utilised.

Some opportunities cannot be utilised by the Health Board in isolation and require collaboration with partners.

- O4: Improvements to population health through being outside more from warmer weather
- O5: Collaboration and work in partnership spaces e.g. social care

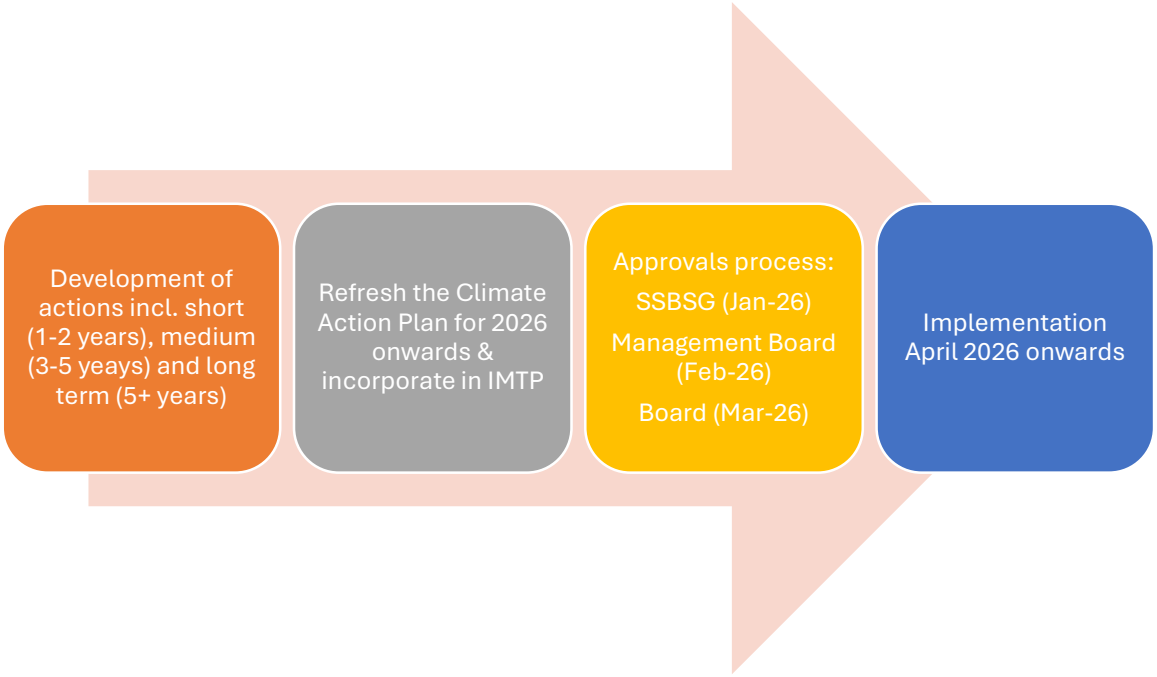
One action is proposed for 2026/27:

- Map how nature and outdoor space is already utilised and potential mechanisms to expand this, both internally and in partnership.

This will be developed and agreed during the refresh of the Climate Action Plan.

8 Next steps

The CCROA has identified a substantial number of risks, opportunities and aspects that require further information. For the Health Board to move from a reactionary approach to preventative there is a requirement to build adaptive capacity within the organisation, this will allow climate adaptation to be seen as part of business as usual. This is key with 'adverse weather events' becoming normal weather events as the frequency and intensity increases. These events are no longer exceptional.



8.1 Actions

8.1.1 Health Board

Potential actions identified in the CCROA (see Appendix 4) will be further developed with the action owners and built into the Climate Action Plan that will run from 2026, this includes:

- Risk treatments (to the highest risks, Appendix 3)
- Actions to address areas for further investigation
- Actions to utilise climate opportunities

These actions will sit alongside the Health Board led actions in the refreshed NHS Wales Decarbonisation Strategic Delivery Plan (due to be approved by NHS Wales CEOs on 21st October 2025). This will ensure the Health Board's Climate Action Plan is building climate resilience through the different levels of prevention (Section 1.2) with emissions reduction (primary) and adaptation (secondary).

8.1.2 Co-benefits

During action development the team will seek to understand co-benefits of the action, this could include, but is not limited to:

- Supporting service resilience

- Proactive management of biodiversity and nature
- Emissions reductions
- Support of wider Health Board objectives
- Support of Welsh Government targets
- Actively building prevention (primary or secondary) into the approach
- Ensuring a just transition for all members of our population

The PHW HIA recognises the strong links between prevention and climate resilience including:

- Enhancing mitigation and adaptive capacity via long-term investment in preventive action
- Enhancing prevention and public involvement via targeted communications and education
- Enhancing public involvement
- Enhancing integration and collaboration
- Investing in co-benefits for health

8.1.3 Partners

Where feasible, wider work with partners, will be built into the Climate Action Plan. This will include the climate adaptation work occurring with the PSBs in Swansea and Neath Port Talbot.

The role of All Wales collaboration is going to be critical to having a resilient system. Understanding how the Health Board can advocate for this and be involved as required will be further investigated. Two initial ways the Health Board is seeking to do this includes:

- Pharmacy and heat: Working with Welsh Government on a pilot to see how better engagement and information can be achieved in a 'once for Wales approach'
- Directors of Planning meetings: Executive Director of Planning and Partnerships is raising All Wales opportunities in the Directors of Planning meeting.

8.1.4 Additional Welsh Government ask

Further 'asks' of the public sector were included in the 'Adaptation Strategy for Wales' these will be reviewed and incorporated into the Climate Action Plan as appropriate. A list of the asks and potential owners is provided in Appendix 5.

8.2 Monitoring and measuring

Welsh Government will be outlining monitoring requirements in 2026, with a proposed approach going to the Health and Social Care Climate Emergency Programme Board in December 2025. It has been requested this monitoring align with the IMTP quarterly reporting process.

Measurements will be determined as the actions are refined and developed with the action owners.

8.3 Review

Risks will be reviewed every 3-5 years by the risk owners, or sooner where:

- An extreme weather event, heat event, or flooding occurs
- Updated data impacts understanding of the risk

- Significant change to the existing risk treatments occurs

8.4 Approvals

8.4.1 CCROA

The full excel CCROA will be submitted to Welsh Government by 31st December 2025, with the accompanying report detailing the approach and findings.

Welsh Government will then share all CCROAs with NHS Wales Performance and Improvement for consideration.

8.4.2 Actions

Refined and agreed actions will be incorporated into the Climate Action Plan, with the following proposed approvals process:

- Sustainable Swansea Bay Steering Group: January 2026
- Management Board: February 2026
- Board: March 2026

9 Glossary

Term	Meaning
Air quality	Air quality is a measure of how much stuff is in the air, which includes particulates and gaseous pollutants Source: What is Air Quality? - NASA
Climate adaptation	Adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change. Source: Introduction | UNFCCC
Climate change	Climate change refers to long-term shifts in temperatures and weather patterns. Such shifts can be natural, due to changes in the sun's activity or large volcanic eruptions. But since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil, and gas. Burning fossil fuels generates greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures. Source: What Is Climate Change? | United Nations
Climate emergency	a situation in which urgent action is required to reduce or halt climate change and avoid potentially irreversible environmental damage resulting from it
Climate hazard	A climate hazard refers to a physical event or trend resulting from climate variability or change. It is the trigger — the environmental condition that poses a potential threat. Examples from the UK CCRA3: • Increased frequency of heatwaves (e.g. 2019 and 2022 UK heatwaves) • Heavy rainfall and flooding (e.g. Storm Christoph in 2021) • Sea level rise • Drought conditions • Coastal erosion These are natural phenomena intensified by climate change.
Climate impact	A climate impact is the effect that a climate hazard has on people, ecosystems, infrastructure, and the economy. It is the consequence of the hazard interacting with vulnerability and exposure. Examples from the UK CCRA3: • Heatwaves → increased mortality and morbidity, especially among vulnerable populations (e.g. elderly, people with chronic illnesses) • Flooding → damage to homes, transport networks, and businesses • Drought → reduced water availability for agriculture and public supply • Sea level rise → increased risk to coastal communities and infrastructure • Coastal erosion → loss of habitats and heritage sites These impacts depend on how exposed and vulnerable a system is to the hazard.
Climate mitigation	Human efforts and actions taken to reduce or prevent the emission of greenhouse gases into the atmosphere and to enhance carbon sinks (like forests) that absorb these gases. The goal is to lessen the severity of climate change by limiting the increase of global warming, thereby preserving ecosystems and human civilization.

Term	Meaning
Climate vulnerability	The propensity or predisposition of a system—which can be a community, ecosystem, or even a person—to be adversely affected by climate change
Clinical	Activities related to the delivery of clinical services
Coastal erosion	Coastal erosion is the loss or displacement of land along the coastline due to the action of waves, currents, tides, wind-driven water, or other storm-related impacts.
Coastal security	Coastal security in relation to climate change is the protection of coastal areas from climate-driven threats like sea-level rise, flooding, and erosion, ensuring the safety of ecosystems, infrastructure, and communities.
Current vulnerability	A vulnerability is a weakness in software or hardware that, when exploited, can negatively impact confidentiality, integrity, or availability.
Decarbonisation	Decarbonisation is the process of reducing and removing carbon dioxide and other greenhouse gases from the atmosphere, either by reducing emissions or capturing and storing carbon.
Drought	Drought is a prolonged absence of water, often developing gradually, and is categorized into meteorological, hydrological, agricultural, and socioeconomic types based on its impacts.
Emergency Preparedness, Resilience & Response	Emergency preparedness involves planning and readiness for potential disasters. Resilience refers to the ability of communities to adapt and recover from shocks. Response includes immediate actions taken during or after an emergency to protect life and property.
Exposure	Exposure is the presence of people, infrastructure, housing, and other assets in areas that could be adversely affected by hazards.
Extreme storms	Extreme storms are intense meteorological events characterized by strong winds, large waves, and high-water levels (storm surges), often causing coastal flooding, erosion, and infrastructure damage.
Food security	Food security exists when all people, always, have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and preferences for an active and healthy life.
Future generations	All those who are not yet born and will inherit the planet, and for whom current decisions have long-term consequences.
Future vulnerability	Susceptibility of systems, communities, or ecosystems to climate-related risks, based on anticipated changes in exposure, sensitivity, and adaptive capacity.
Heatwave	A UK heatwave threshold is met when a location records a period of at least three consecutive days with daily maximum temperatures meeting or exceeding the heatwave temperature threshold. Temperature threshold is 25°C in Swansea & Neath Port Talbot Source: https://weather.metoffice.gov.uk/learn-about/weather/types-of-weather/temperature/heatwave
Marine health hazards	Risks to human and ecosystem health arising from climate-driven changes in marine environments, such as harmful algal blooms, ocean acidification, and the spread of waterborne diseases.

Term	Meaning
Nature emergency	While not universally defined, a "nature emergency" typically refers to a critical situation where natural ecosystems face severe degradation or collapse, often due to biodiversity loss, climate change, or pollution. It is sometimes used interchangeably with "biodiversity crisis" or "ecological emergency."
Opportunity	An occasion or situation that makes it possible to do something that you want to do or must do, or the possibility of doing something
Population health	Population health is an interdisciplinary approach that focuses on improving health outcomes of groups of individuals by addressing a wide range of factors including social, economic, and environmental determinants.
Precipitation	Precipitation is any form of water—liquid or solid—that falls from the atmosphere to the Earth's surface, including rain, snow, sleet, hail, and freezing rain. It is a key component of the water cycle.
Primary Care	The first point of contact for individuals within the healthcare system, providing accessible, community-based services such as general practice, dental care, pharmacy, and optometry, focused on prevention, diagnosis, and management of health conditions.
Qualitative	Qualitative research involves collecting and analysing non-numerical data (e.g., text, audio, images) to understand concepts, opinions, or experiences. It is exploratory and often used to gain insights into underlying reasons or motivations.
Resilience	Resilience is the process and outcome of successfully adapting to difficult or challenging life experiences through mental, emotional, and behavioural flexibility and coping strategies.
Risk	Risk is a measure of the extent to which an entity is threatened by a potential circumstance or event, typically a function of the adverse impacts and the likelihood of occurrence.
Sea level rise	Sea level rise is the increase in global average sea level caused by the addition of water from melting glaciers and ice sheets and the thermal expansion of seawater as it warms.
Storm	A storm is a violent atmospheric disturbance marked by strong winds and usually rain, thunder, lightning, or snow. It can also refer to any intense weather event or emotional outburst.
Water security	The reliable availability of clean water for health, livelihoods, and ecosystems, while managing risks from climate-related impacts such as droughts, floods, and changing precipitation patterns.

Appendix 1: Engagement summary and findings

- Tonna Hospital had to operate on emergency power for 18 hours during Storm Darragh, and some outpatient appointments across SBUHB were cancelled.
- Reports of bed closures in ITU due to rain ingress.
- Storm damage to staff members homes including fences, windows, lost roofs and the worry of insurance claims processes, leading to increased stress, anxiety and reduced ability to perform duties.
- Reports of increased staff workload in terms of preparedness, response & recovery when facing adverse weather conditions and in terms of covering colleagues when unable to travel to work.
- One GP surgery closed after roof damaged sustained during multiple storms, impacted services.
- The delivery of plasma giving sets from Costa Rica were delayed due to hurricanes.
- Seasonal increases in fractures when there is better weather.
- Increase of patient DNA/CNAs in nicer weather and during wetter, windier conditions.
- Perceived water scarcity during hotter weather and in particular access to water in ED during heatwaves.
- Increased admissions with dehydration or urinary tract infections during warmer weather.
- Fluctuations in food prices from wider geographical impacts of climate change incl. olive oil, coffee, chocolate, vegetables, fruits etc.
- Increased stress and anxiety for staff due to increased utility bills for heating and cooling when working from home.
- Periods of raised temperature compromised the performance of Health Board fridge/freezer facilities, storing samples/pharmaceuticals during heat
- Staff reports of comfort, wellbeing, morale, productivity, and health being affected by hot weather conditions. Feedback included experiences of fatigue, dehydration and difficulty concentrating in excessive heat.
- Community-based staff face exposure to the elements, limited access to climate-controlled environments, travelling in cars without air conditioning in extreme heat and increased physical strain for those that carry equipment.
- Community staff have faced difficulties in delivering care to flooded communities and ability to travel across sites. Due to storms, some local areas were also left without power for more than 3 days, which further impacted delivery of care in the community.

Outcomes from the questionnaires are available on request.

Appendix 2: Future climate

Key sources for establishing what our future climate looks like included:

- Local Authority Climate Report | Swansea | Report Builder for ArcGIS
- Local Authority Climate Report | Neath Port Talbot | Report Builder for ArcGIS
- LCAT: Local Climate Adaptation Tool
- Sea level rise and coastal flood risk maps -- a global screening tool by Climate Central

Temperature and precipitation predictions

Heat projections for Swansea and Neath Port Talbot (Source: Met Office Explore the Climate of your Local Authority)

Aspect	Location	0.6°C GWL Baseline 1981-2000	1.0°C GWL Recent Past 2001-2020	1.5°C GWL Paris Agreement (mid-century)	2°C GWL Guidance: Prepare (end century)	4°C GWL Guidance: Assess risks (end century)
Summer days: Max temp >25°C	Swansea	7 7 to 8	15 13 to 18	16 13 to 22	20 17 to 27	43 36 to 55
	Neath Port Talbot	6 6 to 7	13 11 to 17	14 12 to 21	18 15 to 25	39 34 to 53
Hot summer days Max temp >30°C	Swansea	0 0 to 0	1 1 to 2	2 1 to 3	2 1 to 3	10 8 to 18
	Neath Port Talbot	0 0 to 0	1 1 to 2	1 1 to 3	2 1 to 3	9 7 to 17
Extreme summer days Max temp >35°C	Swansea	0 0 to 0	0 0 to 0	0 0 to 0	0 0 to 0	1 1 to 4
	Neath Port Talbot	0 0 to 0	0 0 to 0	0 0 to 0	0 0 to 0	1 1 to 4

Note: 2°C scenario should now be prepared for by 2050 NOT 2100

Precipitation projections

Aspect	Location	0.6°C GWL Baseline 1981-2000	1.0°C GWL Recent Past 2001-2020	1.5°C GWL Paris Agreement (mid-century)	2°C GWL Guidance: Prepare (end century)	4°C GWL Guidance: Assess risks (end century)
		mm/day	mm/day	% change	% change	% change
Summer precipitation rate	Swansea	3.00 2.99 to 3.03	2.87 2.38 to 3.16	-6 -22 to 0	-12 -26 to -6	-35 -49 to -26
	Neath Port Talbot	3.75 3.74 to 3.77	3.58 2.94 to 3.87	-8 -25 to -1	-13 -27 to -8	-37 -50 to -27
Winter precipitation rate	Swansea	4.45 4.44 to 4.46	4.66 4.32 to 5.25	+6 -2 to +19	+10 +3 to +16	+27 +20 to +37
	Neath Port Talbot	6.01 5.99 to 6.03	6.41 5.85 to 7.11	+7 -3 to +20	+11 +1 to +17	+25 +20 to +31

Note: 2°C scenario should now be prepared for by 2050 NOT 2100

Flood risk

The flood map for planning shows estimated flood extents over the next 100 years considering the impacts of climate change, the map shows the potential extent of flooding assuming no defences are in place.

- Flood Map for Planning Flood Zones 2 and 3 | DataMapWales

The allowances used were based on Welsh Government guidance on climate change (2017)

Peak River Flows

A 'central estimate' ('50th percentile) of projected increase in river flows was applied for each of the three river basin districts in Wales. Using a baseline year of 2020, allowances were applied for a 100-year lifetime of development. The following allowances were used:

- Severn – 25% increase
- West Wales – 30% increase
- Dee – 20% increase

Sea Level Rise

A single allowance was applied for sea level rise along the Welsh coastline. Using a baseline of 2020, a total allowance of 1.1m sea level rise was applied for a 100-year lifetime of development.

Surface Water and small watercourses

A 'central estimate' (50th percentile) of projected increase in rainfall intensity was applied for river catchments that are 3km^2 or smaller. Using a baseline of 2020, a total allowance of 20% increase in rainfall was applied for a 100-year lifetime of development.

Properties at risk

This is the dataset to determine properties at risk in 2120:

- Available at Properties at Risk of Flooding 2024 for the local authority level

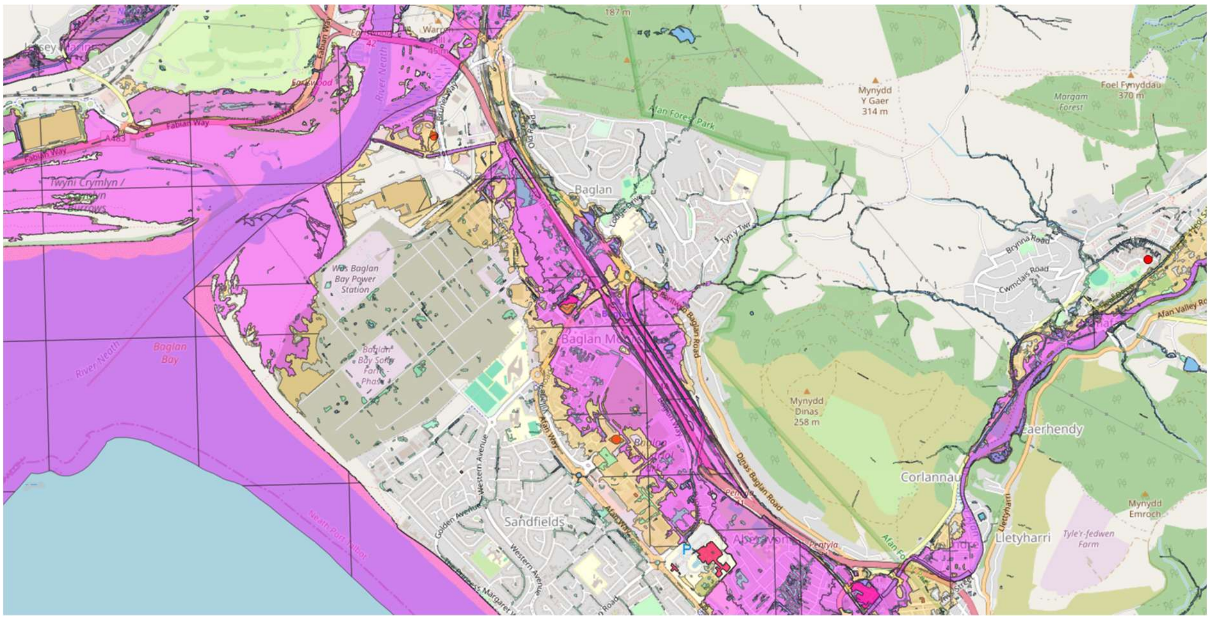
Flood map examples

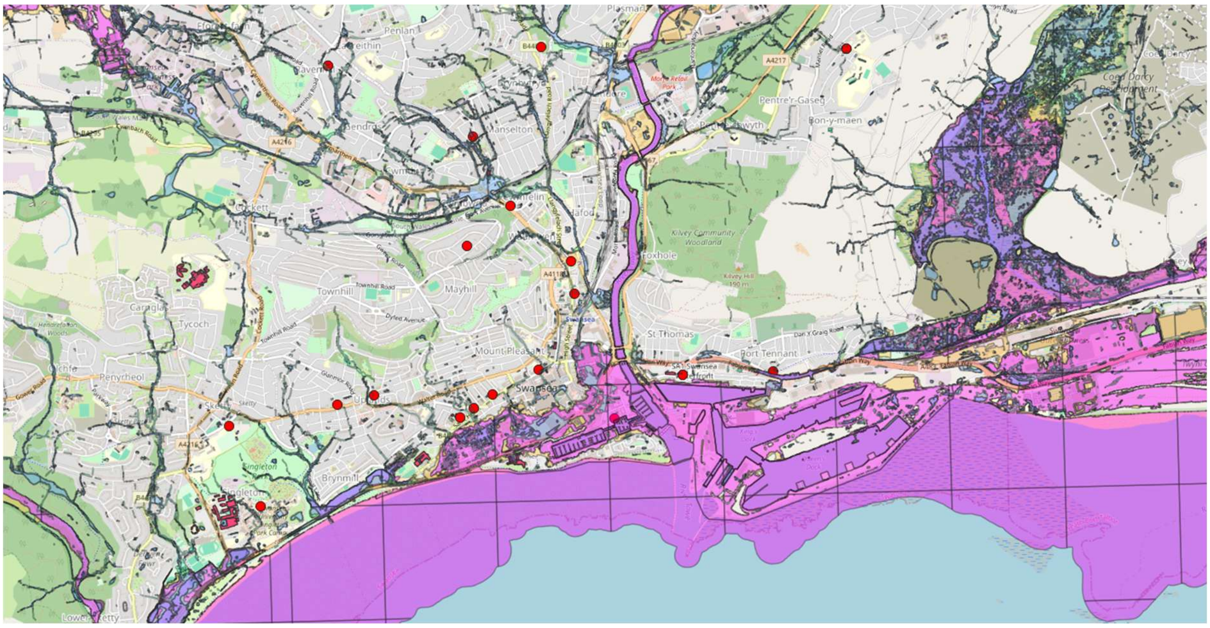
Examples of flood risk maps in:

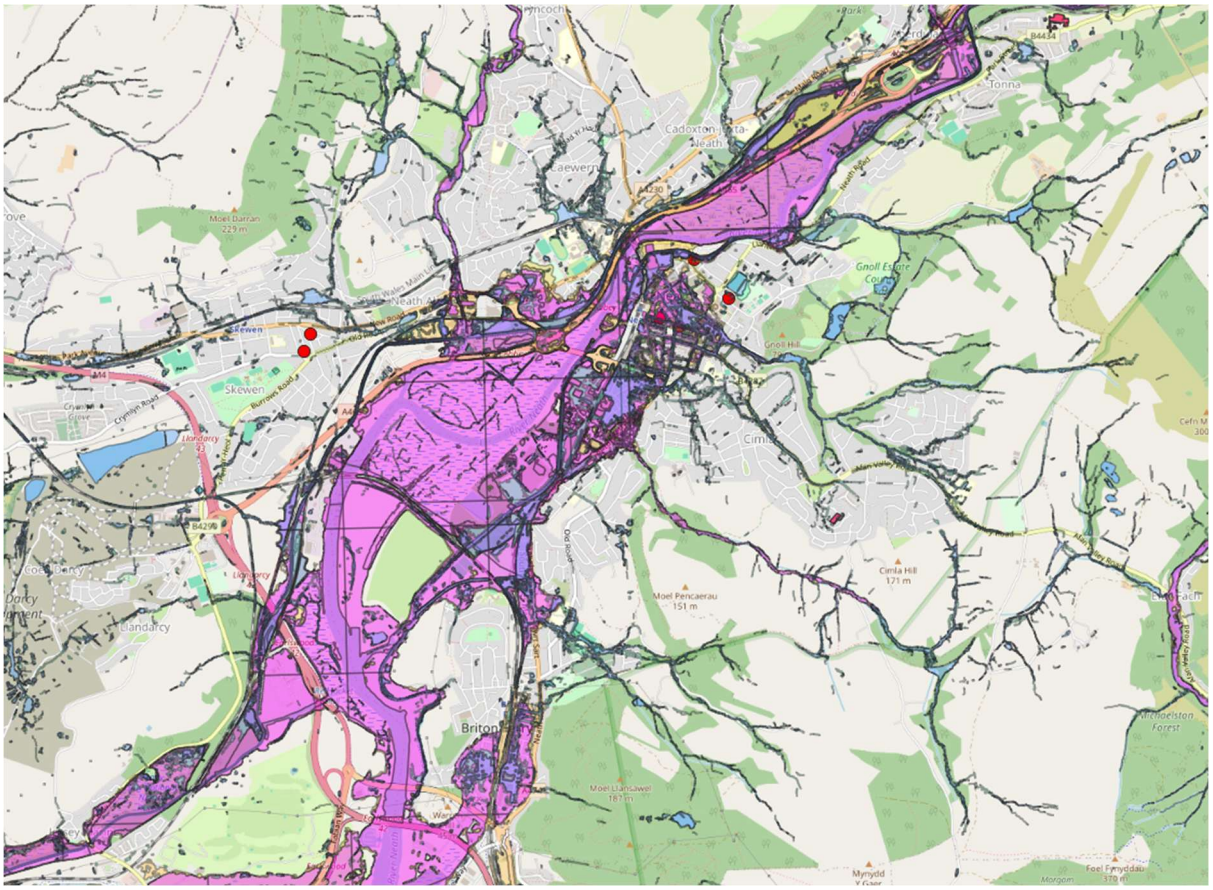
- Baglan Moors area
- Swansea City Centre
- Neath

KEY:

	River & Sea Flood Zone Risk 3
	River & Sea Flood Zone Risk 2
	Surface water Flood Zone Risk 3
	Surface water Flood Zone Risk 2
	Health Board building OR GP site (circle)


Baglan
Baglan Bay
Sandfields
Corlannau
Lletyharri
Mynydd Dinas 258 m
Mynydd Y Gaer 314 m


Townhill
Mayhill
Mount Pleasant
St Thomas
Port Tennant
Foxhole
Brynmill
Tycoch
Singleton



A request can be made for the flood risk in your work area by emailing SBU.Sustainability@wales.nhs.uk

Appendix 3: Climate Change Risk & Opportunity Assessment

SBUHB Corporate - Climate Adaptation_ri

#	Risk	Type	Raised by	Proposed owner	Score	Potential actions (risk treatment AND/OR further investigation) to be explored during the Climate Action Plan development phase
H01	Staff unable to work during periods of high temperatures - resulting in increased heat-related stress, illness, and sickness absence among staff as well as cancellations of services / treatments for patients	INTERNAL	All groups	All areas	15	- Questionnaire to be released during heat periods to identify areas of highest impact and lived experience of Health Board staff - Review air-conditioned areas - Review water availability - Provide staff training and increased awareness of risks and mitigation plans due to climate change - Identify at risk staff e.g. pregnant or those manging health conditions, and increase contingency plans within BCP's - Ensure heat is built into local risk assessments and business continuity processes - Undertake all actions detailed in Heat Wave actions in SBUHB Severe Weather Procedure v3.1.docx - Promote public health campaigns FUNDING DEPENDENT: Provision of cooler uniforms - cost associated and no funding available
H02	Staff working from home suffering from heat induced illness due to overheating of homes and increased energy costs from cooling (estimate 80% of homes overheat in England and Wales) https://www.uel.ac.uk/about-uel/news/2025/april/uel-study-finds-80-uk-homes-overheat-summer	INTERNAL	All groups	All areas	15	- Questionnaire to be released during heat periods to identify areas of highest impact and lived experience of Health Board staff - Identify at risk staff e.g. pregnant or those manging health conditions, and increase contingency plans within BCP's - Provide staff training and increased awareness of risks and mitigation plans due to climate change. - Ensure heat is built into local risk assessments and business continuity processes - Include information in agile working guidance - Promote public health campaigns Undertake all actions detailed in Heat Wave actions in SBUHB Severe Weather Procedure v3.1.docx
H03	Failure of specialist equipment provided/ required as part of intervention, medical devices from heat in domestic environments such as homes e.g. orthotic devices left in the sun (material becomes pliable and shapes altered) leading to more demand for new items and pressure on the team and impacts patient Heat related orthotic devices left in the sun and the material becomes pliable and shapes altered, this leads to more demand for new items and pressure on the team and impacts on the patient	SHARED	Therapies	Health Board: Head of Therapies & Health Science Patient	15	- Identify specific at-risk equipment, most vulnerable populations and increase contingency plans for failure within BCP's Staff training and increased awareness of risks due to climate change.
H04	Existing dispensaries in secondary care not fit for purpose and potentially made worse by extreme heat / flooding	INTERNAL	Pharmacy	Pharmacy	15	- Linked to existing "Morriston Hospital Pharmacy location on site" (Risk Register reference 4290) but applicable to all secondary care sites FUNDING DEPENDENT: Design and build to ensure the space are fit for purpose and climate resilient
H05	Potential overheating of Theatres leading to cancellations of surgery (Source: https://researchbriefings.files.parliament.uk/documents/POST-PN-0723/POST-PN-0723.pdf)	INTERNAL	Sustainability Clinical Lead	Theatres	12	- Ensure heat is built into local risk assessments and business continuity processes - Undertake all actions detailed in Heat Wave actions in SBUHB Severe Weather Procedure v3.1.docx FURTHER INVESTIGATION into impacts on theatres – see Section 6
H06	Overheating of on-site server rooms leading to failure due to extreme heat - Neath Port Talbot - units have gone down	INTERNAL	Digital / Estates data	Digital	15	- FUNDING DEPENDENT: Upgrading cooling to data centre levels FUNDING DEPENDENT: Move to cloud-based system to reduce reliance on local data centres
H07	Risk to staff in patient homes from overheating and manual handing during extreme heat	INTERNAL	Therapies and GP	Community	15	FURTHER INVESTIGATION into impacts on community staff – see Section 6
H08	Unknown impacts on infections from climate change, especially warmer / wetter weather	SHARED	All SDGs	Public Health Wales / All Wales	12	FURTHER INVESTIGATION into impacts on IPC and infections and how to respond to changing infectious disease epidemiology – see Section 6
H09	Pharmaceuticals (incl. medications and vaccinations) impacted during heat including:	SHARED	All SDGs	All Wales	12	FURTHER INVESTIGATION into impacts on pharmaceuticals and heat – see Section 6

#	Risk	Type	Raised by	Proposed owner	Score	Potential actions (risk treatment AND/OR further investigation) to be explored during the Climate Action Plan development phase
	• Storage - In primary and secondary care, in staff vehicles in community-based roles, and the way patients store, including homes, care homes etc. • Medication – efficacy, stability, interactions, chronic disease management • Products that reduce temperature regulation • Products that are not as effective or are more effective in heat					
H10	Increased problems with pharmaceuticals overheating in domestic environments due to overheating of homes (>80% of homes liable to overheating in UK)	SHARED	All SDGs	All Wales Patients	12	FURTHER INVESTIGATION into impacts on pharmaceuticals and heat – see Section 6
H11	Heat and extreme weather exacerbating conditions and / or restricting appointments for those with existing health conditions - diabetes, renal, ED, older adults, neurology, oncology, maternity, haematology, radiotherapy, nuclear medicine, rheumatology, community, children & young people, mental health, respiratory - leading to increased admissions to hospitals / increased heat related mortality	SHARED	All SDGs	All Wales	15	FURTHER INVESTIGATION into impacts on clinical disciplines – see Section 6
H12	Heat leading to deconditioning if patients experience dehydration during their stay requiring support from Physio and other services	INTERNAL	All SDGs	Head of Therapies and Health Science	15	- Questionnaire to be released during heat periods to identify areas of highest impact and lived experience of Health Board staff - Prioritisation of workload within Therapies - May require staff deployment or additional resources and service redesign to meet patient need - Develop universal resources/include in existing information around deconditioning and heat - Increased collaborative working with partner organisations e.g. third sector, education to reduce deconditioning from heat - Promote public health campaigns
H13	Patients with lower immune systems (oncology) being exacerbated by heat through further inflammation and reductions in immune system	SHARED	All SDGs	All Wales & Oncology / other areas with immuno-suppressed patients	15	FURTHER INVESTIGATION into impacts on clinical disciplines – see Section 6
H14	Higher risk of damage to older estate due to increased frequency of severe weather (e.g., storms, flooding).	INTERNAL	All groups	Estates	15	- Continue with existing maintenance programmes - Session with Swansea Council / NRW on Green Infrastructure Utilise TEF funding to replace aged and weather roofing systems in line with building control and planning requirements
H15	Dining halls at risk of becoming unbearable during heat events as already considerably warm	INTERNAL	Catering	Support Services	16	- Questionnaire to be released during heat periods to identify areas of highest impact and lived experience of Health Board staff FUNDING DEPENDENT: In-built cooling/ventilation system and design of the servery and wider delivery area
H16	Devaluation of asset from flood risk and/or damage from extreme weather	INTERNAL	All groups	Director of Finance	12	- Increase building design external ambient temperature limit during design phase – currently 28°C to an agreed higher temperature - Consider climate related flood risk in all future buildings' leases and purchases - Undertake all actions detailed in flood actions in SBUHB Severe Weather Procedure v3.1.docx FURTHER INVESTIGATION into impacts on buildings – see Section 6
H17	Potential lease increase cost from other cost increases for building owner associated with climate change and extreme weather	INTERNAL	GP	Director of Finance	12	FURTHER INVESTIGATION into impacts on buildings – see Section 6

#	Risk	Type	Raised by	Proposed owner	Score	Potential actions (risk treatment AND/OR further investigation) to be explored during the Climate Action Plan development phase
H18	Buildings at risk from river/sea flooding (Zone 3 - highest risk)	INTERNAL	Mapping work	Director of Finance	15	- Consider climate related flood risk in all future buildings' leases and purchases FURTHER INVESTIGATION into impacts on buildings – see Section 6
H19	Buildings at risk from river/sea flooding (Zone 2)	INTERNAL	Mapping work	Director of Finance	15	- Consider climate related flood risk in all future buildings' leases and purchases FURTHER INVESTIGATION into impacts on buildings – see Section 6
H20	Buildings at risk from surface water flooding	INTERNAL	Mapping work	Director of Finance	15	- Consider climate related flood risk in all future buildings' leases and purchases FURTHER INVESTIGATION into impacts on buildings – see Section 6
H21	Damage and disruption to travel and transport incl. roads, highways, rail, public transport preventing access to patients, staff, emergency services etc.	EXTERNAL	All groups	Highways & Councils, Pub. transport	12	- Undertake all actions detailed in flood actions in SBUHB Severe Weather Procedure v3.1.docx FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H22	Increase cyber-attacks from increasing global conflicts associated with climate change / water / food scarcity - exacerbating the already high risk	SHARED	Literature review	Digital & DHCW	15	NO FURTHER ACTION: Managed through existing Health Board risk
H23	Inability to deliver adaptation programme due to lack of resources including personnel, knowledge, funds putting Health Board service delivery at risk	INTERNAL	Planning & Partnerships	Exec Director Planning & Partnerships	20	- Build into Integrated Medium-Term Plan, Clinical Strategic Plan and Planning and Finance Assurance Group processes - Consider building into the integrated impact assessment
H24	Health Courier Services - NWSSP - patient notes, theatre equipment, pathology samples etc. reduced working leads to delay inpatient treatment	EXTERNAL	All groups	NWSSP	12	FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H25	Commissioned services/Third Sector reduced due to disruption from adverse weather leading to delays to care, patient flow and discharge, as well as increases in waiting lists	SHARED	Commissioning & All SDGs	Clinical area & commissioned services	15	- Any contract in the future to include climate resilience in business continuity plans FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H26	Increased admissions from care homes, community sites and domestic dwellings flooding - vulnerable people having to be relocated, leaving prescriptions behind, and requiring therapies in new locations	SHARED	All SDGs	Health Board, local authority, third sector	15	- Identify specific groups at risk equipment and increase contingency plans for failure within BCP's. - Staff training and increased awareness of risks due to climate change. FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H27	Non-emergency patient transport unable to transport patients from extreme weather events, impacting on patient care	EXTERNAL / SHARED	All SDGs	JCC / WAST	12	FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H28	Extreme weather (heat, storms, flooding) exposing patients dependent on planned domiciliary care visits which could have varied impact by either requiring extended time slots for those who are not accessing drinks themselves, leading to lack of fluids or patients who are impacted by flooding and homes are inaccessible to staff	EXTERNAL	All SDGs	Domiciliary care providers	15	- Provide staff training and increased awareness of risks and mitigation plans due to climate change - Increase awareness and access to information for patients/ their families and carers FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H29	Flooding of partner server rooms leading to failure e.g. DHCW - Church Village and Newport	EXTERNAL	Digital	DHCW	12	FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H30	Overheating of partner server rooms leading to failure e.g. DHCW	EXTERNAL	Digital	DHCW	12	FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H31	Failure of DHCW procured cloud-based software due to extreme weather (in 10 years, most services should be cloud based)	EXTERNAL	Digital	DHCW	12	FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6
H32	Commissioned service sites, external to SBU, at risk from overheating and/or flooding leads to impacts on delivery of services / access for patients/staff including in ability to fulfil contract and underperforming leading to increased demand on SBU provision of services	SHARED	Commissioning & All SDGs	Commissioned services	12	FURTHER INVESTIGATION into impacts on service delivery partners – see Section 6

#	Risk	Type	Raised by	Proposed owner	Score	Potential actions (risk treatment AND/OR further investigation) to be explored during the Climate Action Plan development phase
H33	Shortages in stock / higher prices of food leading to inadequate intake of fruit, vegetables and some essential micronutrients exacerbating chronic conditions in population's health	SHARED	All groups	TBC	12	FURTHER INVESTIGATION into impacts on population health – see Section 6

Appendix 4: Potential actions for the Climate Action Plan

Potential actions to be included in the Climate Action Plan – to be investigated and agreed with the 'Owner' before inclusion

#	Aspect	Risks	Approach	Action	Owner	Deadline	CAP section
A01	Risk	H01, H02, H12, H15	Adaptive capacity	Questionnaire to be released during heat periods to identify areas of highest impact and lived experience of Health Board staff	Planning & Partnerships	TBC	Culture & Ways of Working
A02	Risk	H01	Adaptive capacity	Review air-conditioned areas	Estates	TBC	Buildings & Estate
A03	Risk	H01	Adaptive capacity	Review water availability	TBC	TBC	Buildings & Estate
A04	Risk	H01, H02, H03, H05	Adaptive capacity	Ensure heat is built into local risk assessments and business continuity processes	Health & Safety EPRR	TBC	Culture & Ways of Working
A05	Risk	H01, H02, H05, H16, H21	Adaptive capacity	Undertake all actions detailed in Heat Wave action score cards in SBUHB Severe Weather Procedure v3.1.docx	EPRR	TBC	Culture & Ways of Working
A06	Risk	H01, H02	Adaptive capacity	Identify at risk staff e.g. pregnant or those manging health conditions, and increase contingency plans within BCP's	All Line Managers	TBC	Culture & Ways of Working
A07	Risk	H01, H02, H03, H26, H28	Adaptive capacity	Provide staff training and increased awareness of risks and mitigation plans due to climate change	TBC	TBC	Culture & Ways of Working
A08	Risk	H02	Adaptive capacity	Include information in agile working guidance	Workforce & OD	TBC	Culture & Ways of Working

#	Aspect	Risks	Approach	Action	Owner	Deadline	CAP section
A09	Risk	H03, H25	Adaptive capacity	Identify specific at-risk equipment, most vulnerable populations and increase contingency plans for failure within BCP's	Service delivery managers	TBC	Sustainable Healthcare
A10	Risk	H12	Adaptive action	Prioritisation of workload within Therapies: May require staff deployment or additional resources and service redesign to meet patient need	Therapies	TBC	Sustainable Healthcare
A11	Risk	H12	Adaptive capacity	Develop universal resources/include in existing information around deconditioning and heat	TBC	TBC	Sustainable Healthcare
A12	Risk	H12	Adaptive capacity	Increased collaborative working with partner organisations e.g. third sector, education to reduce deconditioning from heat	TBC	TBC	Sustainable Healthcare
A13	Risk	H12	Adaptive capacity	Promote public health campaigns on heat impacts and health	DICE / Public Health	TBC	Sustainable Healthcare
A14	Risk	H01, H02, H12, H28	Adaptive action	Continue with existing maintenance programmes	Estates	TBC	Buildings & Estates
A15	Risk	H14	Adaptive capacity	Session with Swansea Council / NRW on Green Infrastructure	Estates & Capital Planning	TBC	Buildings & Estates
A16	Risk	H14	Adaptive capacity	Utilise TEF funding to replace aged and weather roofing systems in line with building control and planning requirements	Capital Planning	TBC	Buildings & Estates
A17	Risk	H14	Adaptive action	Increase building design external ambient temperature limit during design phase – currently 28°C to XX°C	Capital Planning	TBC	Buildings & Estates
A18	Risk	H16	Adaptive action	Consider climate related flood risk in all future buildings' leases and purchases	Capital Planning	TBC	Buildings & Estates

#	Aspect	Risks	Approach	Action	Owner	Deadline	CAP section
A19	Risk	H16, H18	Adaptive capacity	Build into Integrated Medium-Term Plan, Clinical Strategic Plan and Planning and Finance Assurance Group processes	Planning & Partnerships	TBC	Culture & Ways of Working
A20	Risk	H23	Adaptive capacity	Build climate change into the integrated impact assessment	DICE	TBC	Culture & Ways of Working
A21	Risk	H23	Adaptive capacity	Any contract in the future to include climate resilience in business continuity plans	Procurement	TBC	Procurement
O1-O5	Opportunity	N/A	Utilise	Investigation of how to utilise nature in health better	TBC	Undertake 2026/27	Culture & Ways of Working
FI2	Further investigation	Population health H33	Adaptive capacity	Develop an understanding of what climate change impacts could look like on Swansea and Neath Port Talbot's populations	Public Health	Undertake 2026/27	Sustainable Healthcare
FI6	Further investigation	Limited traction H07	Adaptive capacity	Deep dive into community and climate change	Community Nursing	Undertake 2026/27	Sustainable Healthcare
FI6	Further investigation	Limited traction H05	Adaptive capacity	Deep dive into theatres and climate change	Theatres	Undertake 2026/27	Sustainable Healthcare
FI6	Further investigation	Limited traction	Adaptive capacity	Deep dive into laboratories and climate change	Laboratories	Undertake 2027/28	Sustainable Healthcare
FI6	Further investigation	Limited traction	Adaptive capacity	Deep dive into the Emergency Department and climate change	Emergency Department	Undertake 2027/28	Sustainable Healthcare
FI8	Further investigation	Buildings H18, H19, H20	Adaptive capacity	Building specific flood risk assessment • Assessment template • Undertaking the assessment	Capital Planning & Estates	2026-2030 2026 2027 - 2030	Buildings & Estate

#	Aspect	Risks	Approach	Action	Owner	Deadline	CAP section
FI8	Further investigation	Buildings H17	Adaptive capacity	Increase in lease costs	Capital Planning	2030-2035	Buildings & Estate
FI8	Further investigation	Buildings H16	Adaptive capacity	Devaluation of assets	Capital Planning	2030-2035	Buildings & Estate
FI1 FI5 FI7	Further investigation	All Wales H11, H13 H09, H10 H08	Adaptive capacity	Advocate for a joined up All Wales approach to reduce duplication and streamline responses: • Clinical disciplines • Pharmaceuticals • IPC & increased microbes/pathogens	Exec. Director Planning & Partnerships	Undertake 2026/27	Sustainable Healthcare
FI4	Further investigation	All Wales H24	Adaptive capacity	Undertake national assessment	NWSSP	TBC	Procurement
				Using NWSSP methodology, undertake an assessment of local procurement	TBC	Undertake 2028 onwards	Procurement
FI3	Further investigation	Partnership H21, H25, H26, H27, H28, H29, H30, H31, H32	Adaptive capacity	Map partners, purpose of partnership, and links with climate adaptation	Planning & Partnerships	TBC	CROSS-PLAN
Fu1	Funding required	H01	Adaptive action	Provision of cooler uniforms - cost associated and no funding available	Various	TBC	Sustainable Healthcare
Fu2	Funding required	H04	Adaptive action	Design and build to ensure the space are fit for purpose and climate resilient	Pharmacy / Capital Planning	TBC	Sustainable Healthcare
Fu3	Funding required	H06	Adaptive action	Upgrading cooling to data centre levels	Digital / Capital Planning	TBC	Sustainable Healthcare
Fu4	Funding required	H06	Adaptive action	Move to cloud-based system to reduce reliance on local data centres	Digital	TBC	Sustainable Healthcare

#	Aspect	Risks	Approach	Action	Owner	Deadline	CAP section
Fu5	Funding required	H15	Adaptive action	In-built cooling/ventilation system and design of the servery and wider delivery area	Support Services / Capital Planning	TBC	Sustainable Healthcare

Appendix 5: Additional Welsh Government asks

Strategy area	Action required	Aspect	Responsibility	Applicable work programme (if any)
Nature	Restore and sustainably manage habitats and peatlands within own estate and ensure policies relating to land use and development control support this.	Internal	Capital Planning / Estates	Biodiversity Action Plan
	Full participation in achieving the objectives of our Natural Resources Policy (including our biodiversity strategy).	Internal	Capital Planning / Estates	Biodiversity Action Plan
	Contribute to the delivery of our statutory biodiversity targets.	Internal	Capital Planning / Estates	Biodiversity Action Plan
	Meet the duty under s.6 of the Environment (Wales) Act 2016 to seek to maintain and enhance biodiversity, and in so doing promote the resilience of ecosystems, in carrying out their functions.	Internal	Capital Planning / Estates	Biodiversity Action Plan
	Set objectives designed to maximise their contribution to achieving the goal of a Resilient Wales under the WFG Act and take all reasonable steps to meet those objectives. A "Resilient Wales" is defined as "a nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems".	Internal	Capital Planning / Estates	Biodiversity Action Plan
	Adhere to and acknowledge the actions in the Plant Biosecurity Strategy, GB INNS Strategy and UK National Action Plan for the Sustainable Use of Pesticides (once published).	Internal	Capital Planning / Estates	Biodiversity Action Plan
	Participate in existing and developing local nature and coastal partnerships, to ensure communities and broader stakeholders are engaged and capacity is developed and joined up.	External	PSB	Climate & Nature Working Groups
	Actively engage with communities to encourage participation, awareness raising and citizen science to maintain, expand and manage habitats.	External	PSB	Climate & Nature Working Groups

Strategy area	Action required	Aspect	Responsibility	Applicable work programme (if any)
	Work to build public awareness and engagement with nature as an essential part of good health and well-being.	External	PSB	Climate & Nature Working Groups
			Public Health Wales	TBC
Agriculture	Local Authorities, NHS and other Public Bodies to explore how they can support their farms, land and estates to adapt to climate change.	Internal	Capital Planning / Estates	Cae Felin Community Supported Agriculture
Fisheries and aquaculture	Support the sustainable management of fish stocks.	Shared	Catering/NWSSP	TBC
Food security	Consider food supply resilience and sustainability in their operations e.g. procurement of food for schools, hospitals, canteens etc.	Shared	Catering/NWSSP	TBC
	Public bodies and Public Service Boards to consider the local food system in their statutory well-being plans.	Shared	Public Health Team PSB	WSA Team, Public Health
Water quality and supply	Incorporate water efficiency measures into their policies, including innovative water re-use and recovery measures where relevant.	Internal	Capital Planning / Estates Services	Environmental Management System
Business	Work with business and industry to help make premises and operations resilient in the face of more extreme weather events.	Internal	Capital Planning – leasing team	TBC
	Ensure land use management plans consider the risks of climate change impacts to businesses (and others).	Internal	Capital Planning – leasing team	TBC
	Ensure climate resilience plans are in place for transport infrastructure and services. To ensure development planning for business premises takes account of the potential impacts of flooding and other severe weather impacts.	External	Council / Public Transport Provider	N/A
Buildings	Factor climate change and flood risk adaptations into new capital projects and expenditure.	Internal	Capital Planning Primary Care	TBC

Strategy area	Action required	Aspect	Responsibility	Applicable work programme (if any)
	Healthcare providers to support groups who may be more vulnerable to climate impacts, to ensure they can cope with the impacts of climate change.	Internal	TBC	TBC
Towns, cities and rural communities	Consider flooding risk within new capital projects and expenditure.	Internal	Capital Planning / Primary Care	TBC
	Consider the increased risks from climate change when planning for future emergency scenarios.	Internal	EPRR	TBC
Energy	Continue to engage with local resilience fora to prepare for emergency situations arising from power failures in extreme weather.	Internal	EPRR	TBC
Telecoms and ICT	Report issues to their service provider	Internal	Digital	TBC
	Escalate issues via the UK Government	External	DHCW	N/A
	Plan for potential disruption to digital services due to the consequences of severe weather.	Shared	Digital/EPRR/DHCW	TBC
Finance	Longer term budgeting cycles	External	Welsh Government	N/A