



# ONE PLANET PROSPERITY OUR FLOODING SERVICES STRATEGY

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## OUR FLOODING SERVICES STRATEGY

## Foreword

Scotland is renowned for its beautiful coastlines and freshwater rivers. Much of Scotland's prosperity is built on the value of our water and our connection with the sea.

But it brings challenges. Flooding from our coasts, rivers and rainfall can devastate our communities, businesses and essential services and, in the worse cases, lead to the loss of life.

We have always lived with the danger of flooding but it is getting worse due to climate change. This is happening now. Already we are experiencing change.

The science is clear and predicts that we will have an increase in all types of flooding, but flooding arising from increased rainfall intensity and from sea level rise are a particular concern. As I write this message, the year 2020 has already seen some of the worst coastal flooding of the century (January), four times the average rainfall (February) and a devastating series of unprecedented thunderstorms (August).

Scotland has some of the most ambitious climate change targets in the world and we need the same level of ambition to tackle future flood risk. To make this happen, we need to build on and create new partnerships across the organisations and people that have a role to play in reducing flood risk. By working together, local authorities, emergency services, Scottish Water, Scottish Government, research institutes, insurance companies, community groups and members of the public can minimise the impacts of flooding and respond quickly when a flood is happening.

SEPA is just one organisation in this collective effort. Our role is specific and important. We help Scotland to improve the understanding of flood risk and provide evidence to enable the development of sustainable places for people to live and work. We work with partners to ensure that communities at flood risk learn to adapt to the risk of future flooding and in the areas where this is not possible, we provide warnings when flooding is expected, giving communities time to prepare and take action to protect their property.

We are determined to make sure we carry out this role as well as possible. That is why we have developed this strategy and it will steer our most strategic decision making.

In particular, we have invested in creating a valuable flooding skills base at SEPA so we can tackle the challenges of today and tomorrow. We have an expert, experienced and skilled group of staff and their work in Scotland's flooding system is critical. Alongside our colleagues in other organisations, we have helped the nation make major strides over the past decade to tackle Scotland's flooding challenges. We are setting out to give them more support and an even stronger basis to use their skills. We are developing new skills to work with a wider range of partners on urban regeneration, managed adaptation, placemaking and green finance.

So, this draft strategy maps out our ideas for how we can do our flooding work in the tougher future that Scotland faces. We have developed this strategy by engaging with our partners, listening to our stakeholders and understanding the needs of Scotland's communities and businesses. We want to give you a chance to reflect on the strategy and see how we have taken forward the insights we developed throughout its development as well as get your feedback on the direction we have set out for the future.

We look forward to implementing the strategy and pushing ourselves to help Scotland become as safe as possible from future flooding.

**Terry A'Hearn**  
Chief Executive



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If you are a user of British Sign Language (BSL) the Contact Scotland BSL service gives you access to an online interpreter enabling you to communicate with us using sign language.

<https://contactscotland-bsl.org/>

# 1. WHY DOES SEPA NEED A FLOODING SERVICES STRATEGY?

The climate is changing and we face a crisis that will affect all people, the environment and sectors in Scotland:

- Nine of the ten warmest years in the UK have occurred since 2002.
- Seven of the ten wettest years have happened since 1998<sup>1</sup>.
- The Intergovernmental Panel on Climate Change (IPCC) states that we cannot rule out an increase in global mean sea level of 2m in 2100.

The science on climate change is clear and flooding is likely to increase in the future, particularly due to rising sea levels, increased surface water and from rivers. To be ready for the future and adapted to the impacts of climate change, SEPA is acting now to plan and adapt to a high emissions climate scenario.

Flooding is devastating for those affected – the potential loss of life, the emotional impact of losing possessions, the cost of moving out of homes and cleaning up afterwards. While property can be replaced after floods, the impact on people's health and wellbeing, and on the wider community, can be much longer-lasting. There are currently around 284,000 homes, businesses and services at medium to high risk of flooding in Scotland and, by the 2080s, this could increase by around 110,000 if little or no action is taken to tackle climate change (SEPA, 2018)<sup>2</sup>.

## RISK OF FLOODING FROM RIVERS, SEA AND SURFACE WATER

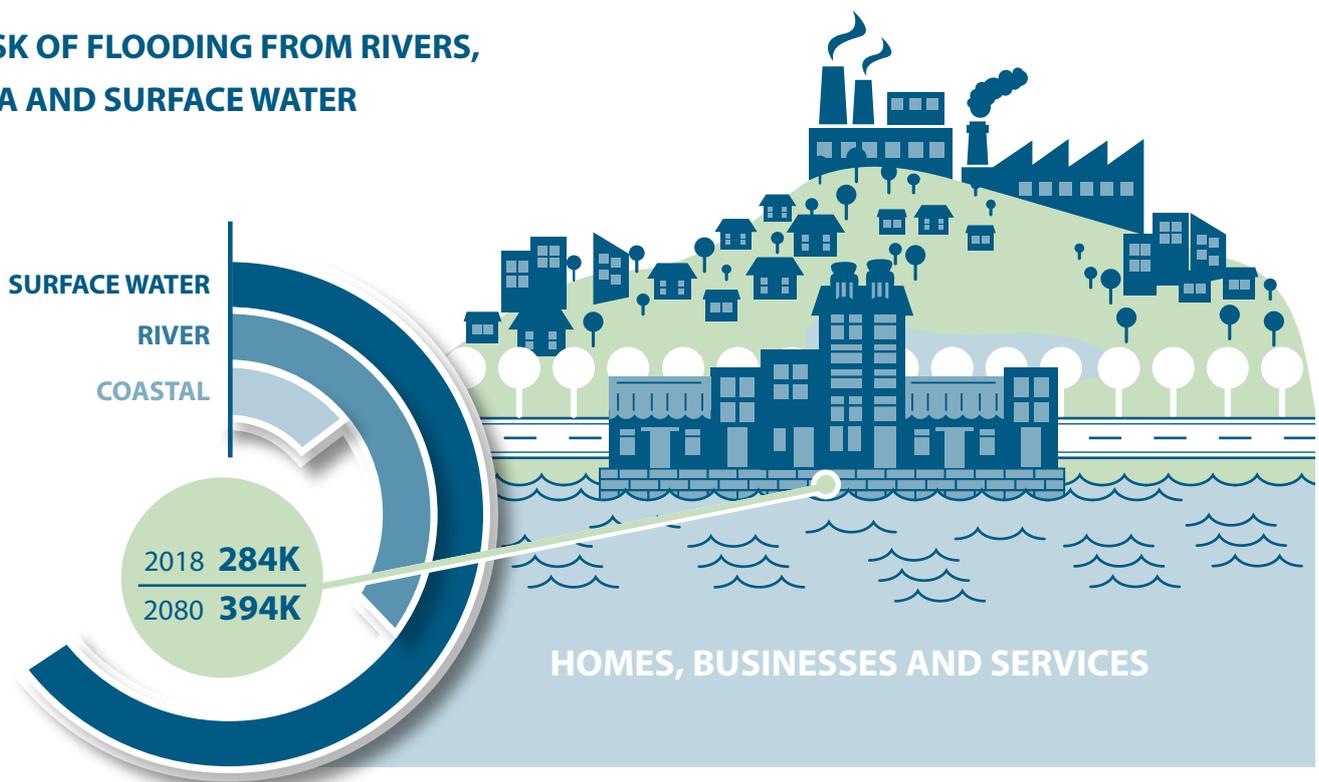


Figure 1: Breakdown of flood sources for properties at flood risk in Scotland (NFRA, 2018)

1 Royal Meteorological Society, State of the UK Climate 2017: <https://rmets.onlinelibrary.wiley.com/toc/10970088/2018/38/S2>

2 SEPA, National Flood Risk Assessment (2018): <https://www.sepa.org.uk/data-visualisation/nfra2018/>

## 2. SUSTAINABLE FLOOD RISK MANAGEMENT

The Flood Risk Management (Scotland) Act 2009 ensured Scotland moved to an active and collaborative, planned approach to flood risk management. This was a significant change but the climate emergency means we need to go further to adapt.

Our One Planet Prosperity Flooding Services Strategy sets out how we will refocus our flooding services in response to the emergency. By doing so we will be ready to tackle the challenges of future flood risk.



Figure 2: Evolution of Flood Risk Management

Scottish Government's [Delivering Sustainable Flood Risk Management Guidance](#)<sup>3</sup> provides statutory guidance and policy direction for our flood risk management work. Our Strategy transforms our policy direction to focus on the challenge of adapting to a changing climate.

## 3. OUR FLOODING ROLE

Our role is to support communities to avoid flood risk where they can, adapt where they cannot and act when warned of flooding. We:

- Provide Scotland's flood forecasting and warning service;
- Are the strategic flood risk management authority;
- Are a statutory consultee and key agency in the planning process and;
- Regulate the safety of Scotland's reservoirs.

**In delivering our services, our key aims are:**

- Improving understanding of flooding;
- Developing and sharing quality information and data with all;
- Enabling the development of sustainable places for people to live and work in, and;
- Working with communities, partners and other agencies to enable sustainable social and economic development.

3 <https://www.gov.scot/publications/flood-risk-management-scotland-act-2009-delivering-sustainable-flood-risk-management/pages/10/>

## 4. OUR VISION

Scotland's people and places are resilient to flooding.

To achieve our vision we will:

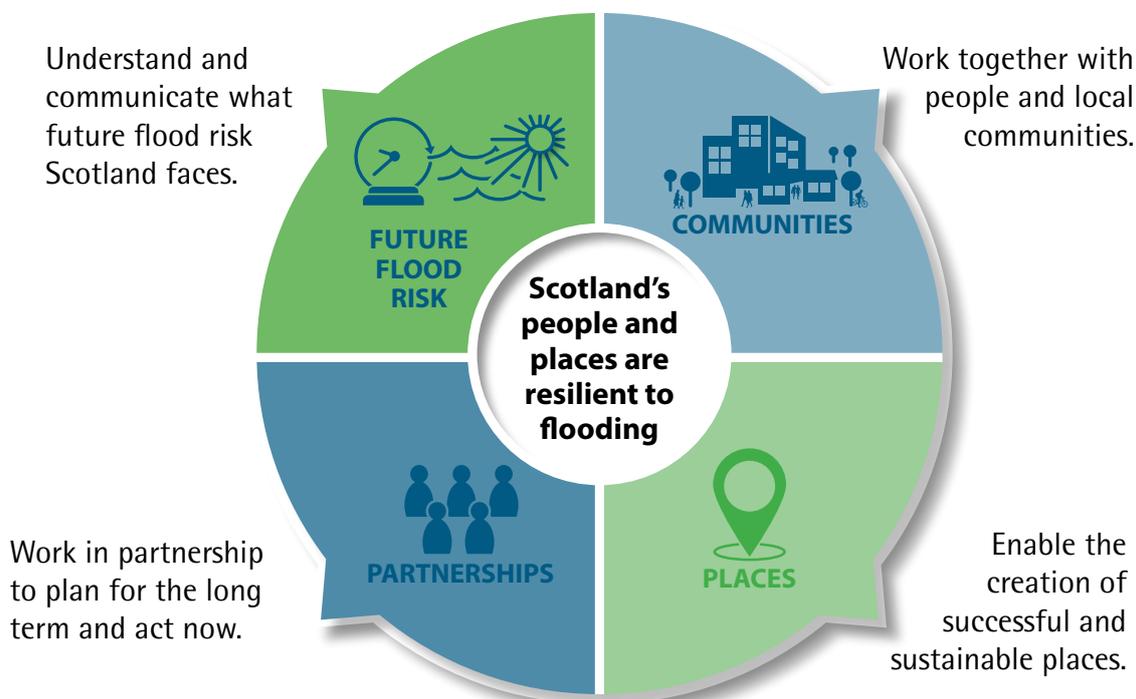
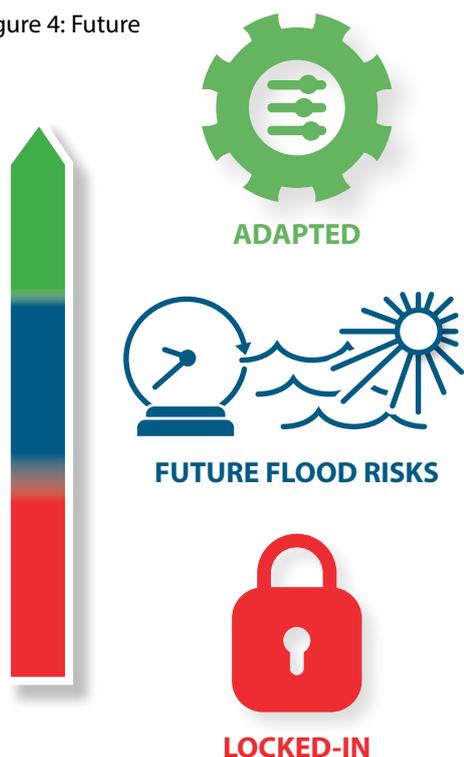


Figure 3: Our vision

We know the future climate will be stormier, warmer and wetter but by exactly how much depends on how well we tackle climate change. Climate uncertainties influence flood risk and we are now moving to plan for a range of possible futures. We need to be ready for anything.

Figure 4: Future



Successful, resilient places will have infrastructure that is well adapted to the changing climate and where communities are able to collaborate with agencies and public bodies to enhance their environment. By openly and actively sharing our quality information we will support positive, no-regret actions now so that communities can act without locking-in future generations to decisions that prevent adaptation (Figure 4).

We will work in partnership with communities so they have information tailored to their local needs and the support required to act positively in response to the challenge of future flood risk (Figure 5).

We recognise that we cannot be successful working alone. Strong existing and new partnerships will be essential to achieving our aim that Scotland's people and places are resilient to flooding.



Figure 5: Working in partnership

## 5. WHAT ARE WE GOING TO DO?

**We will enable thriving places that are adaptable and resilient now and in the future.**

We are a statutory consultee and key agency on land use planning. This is one of our most powerful levers to support sustainable place-making and avoid inappropriate development on the floodplain. We will work with other agencies to create a resilient Scotland that avoids development in flood risk areas. We will be strong and clear in our advice to support confident long-term investment in resilient places.

With increased flooding in future, existing communities must adapt to thrive. We will work with partners to understand the adaptation needs for our communities. Flooding adaptation plans will require a balanced approach where measures may include a combination of flood infrastructure, natural flood management, individual property resilience or the relocation of community assets. Operating in combination, a suite of adaptation measures will enable our communities to be successful in the face of future flood risks.

## **We will ensure our urban, natural environment and flood plain assets are integral to flood resilience.**

Our floodplains, coasts, lochs and wetlands are key features that help store water and reduce flood risk. Our [Water Supply and Wastewater Sector Plan](#)<sup>4</sup> recognises that Scotland's blue-green infrastructure is hugely valuable, must be protected and restored where required. We will work with rural land managers, Scottish Water, local authorities and marine planners to integrate these features into the design of urban and rural landscapes and provide a range of benefits, including flood resilient places that are also resilient to coastal erosion and other extremes of heat and drought.

## **We will ensure the most disadvantaged communities have a voice in informing flood risk management.**

Climate change disproportionately affects those who are most disadvantaged. Our Strategy puts people at the heart of decision-making about their places. We will continue to embed the latest information on flood disadvantage to ensure action is directed to where it is most needed in a fair and just way.

Through our community engagement, we will have more conversations with communities on their flood resilience. We will provide great information to educators, businesses and communities to support public understanding of flood risk and what they can do to reduce it. We will support local communities to fully engage and influence flood risk management planning in their area.

**The National Flood Risk Assessment and Flood Risk Management Strategies embed the Scottish Government's Mapping Flood Disadvantage project outputs.**



## **We will warn and inform people so they are prepared for flooding.**

Flood forecasting and warning is our essential, frontline community service. It enables people to know when a flood might happen and helps them to act to minimise the impacts. Our [Flood Warning and Development Framework](#)<sup>5</sup> sets out our commitments to develop our service. We will continue to work with partners, invest in developing our forecasting capability and seek innovative approaches to ensure our flood forecasting and warning service constantly improves.

4 <https://sectors.sepa.org.uk/water-supply-and-waste-water-sector-plan/>

5 <https://www.sepa.org.uk/media/219818/sepa-flood-warning-development-framework-2017-2021.pdf>

## We will strengthen existing partnerships and develop powerful new ways of working.

We have a strong, collaborative relationship with our local authority and Scottish Water partners. As we implement each new flood risk management strategy, we will continue to develop even closer partnerships. We will support a public sector transformation to meet the adaptation and mitigation challenges of climate change impacts on flood risk.

## We will use our sector approach to build transformative partnerships.

Our [sector plans](#)<sup>6</sup> explicitly consider flood risk so that, in achieving full regulatory compliance, organisations are also developing their flood adaptation plans and ensure they are resilient to climate change.

We will engage with the **finance sector** to access alternative funding for flood risk management action. We will work closely with the **insurance** industry to explore future flood damage liability and the sector's role in funding actions to enhance property resilience. We will also improve data sharing between SEPA and the sector to strengthen local actions on flood resilience.

We will work with the finance sector to unlock green and alternative financing and investment for flood risk management such as community bonds.



## We will provide high quality, trusted information that people use to make powerful decisions.

Our data and information – water levels, flood maps, assessments and flood risk management strategies – underpin our vision of successful, flood resilient places and people. We will invest in the quality and range of our data and information to improve confidence in our understanding of future flood risk for a range of climate scenarios to 2100 and beyond. We will especially focus on a high emissions scenario to ensure we plan to adapt to a 4° increase in global temperature. In this way, we will help transform local decisions and integrated action to adapt across all sectors.

Our data supports and benefits Scotland and is valuable across sectors. We will ensure that our data and information will be open to all users. We will make it is accessible across all platforms to support efficient decisions by partners and confidently inform individual property and community resilience.

Our flood maps will indicate the flood hazard & risk due to high emissions climate change scenarios and use these to inform our advice and guidance to partners, stakeholders and the public.



6 <https://sectors.sepa.org.uk/>

## 6. WHAT DOES SUCCESS LOOK LIKE BY 2030?

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**We will know we are making progress towards flood resilient places and people when we have:**

### **Improved our evidence:**

- Our evidence is open, trusted and easily shared with everyone.
- Our flood maps show future flood risk to 2100 and beyond. Using an effective evaluation and monitoring programme we know we are on track to reduce overall flood risk now and for future generations.
- We have radically improved surface water flood forecasting, flood mapping and have informed the development of blue-green cities.

### **Improved our engagement:**

- Our sector approach and all available levers across land-use planning and urban development have future flood risk considered up front in every new development. Flood risk is a fundamental consideration at the outset of planning, influencing site selection and design of every new development in Scotland.
- Insurance and finance sectors are engaged in encouraging resilient places.
- Scottish communities have a suite of adaptation measures in place enabling them to be successful in the face of future flood risks.
- New flood risk management measures are developed with responsible authorities and existing measures are improved in quality and resilience as required by flood risk management strategies.
- Communities understand their flood risk and know what to do about it, especially concerning emergency response.

### **Improved our understanding:**

- We understand the value, effectiveness and condition of Scotland's flood protection assets.
- Our staff have the necessary skills in innovation, collaboration, communication and flood risk modelling, mapping, appraisal and assessment.

### **In addition to delivering of the aims of this Strategy, we will continue to:**

- Develop and operate the Scottish Flood Forecasting and Warning Service with the Met Office.
- Continue to maintain and deliver a resilient hydrometric network of gauging stations to support delivery of the flood warning service and other flood risk management actions.
- Continue to update our Flood Maps.
- Produce 6-yearly flood risk management strategies in collaboration with our partners.
- Regulate and risk assess reservoir safety in Scotland.