Flood Risk Management What it is, and how we are changing

Tom Dauben – Flood & Coastal Risk Management Senior Advisor

Kate Pearson – Flood Risk Engagement Advisor

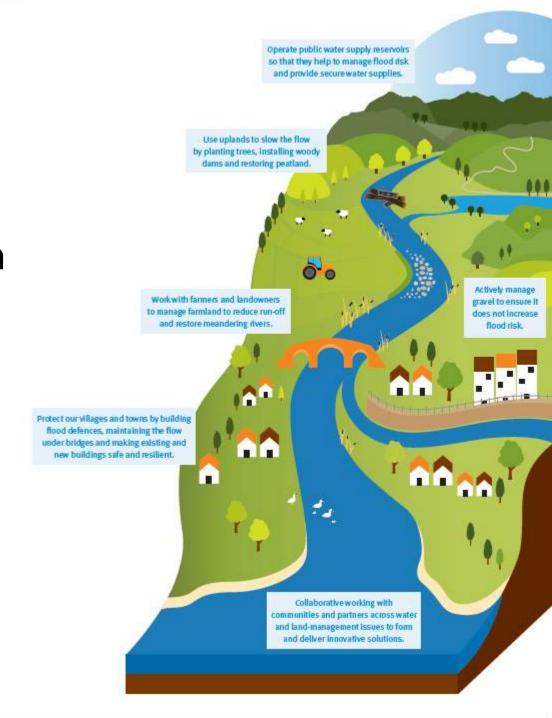
27th November 2019





Content

- Why care about flooding
- How we are changing our approach
- Roles and responsibilities
- What we can all do



Which of these is a flood defence?







Flooding: Why care?

<u>Immediate impacts</u>:



Risk to life



Transport disruption



Damage to structures, habitats, businesses



Erosion of soils

Long term impacts



Protracted recovery (1yr plus)



Mental health issues



Damage to local economy

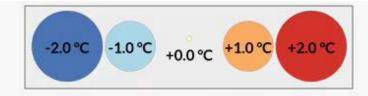


Increased insurance



Temperature Anomalies by Country Years 1880 - 2017



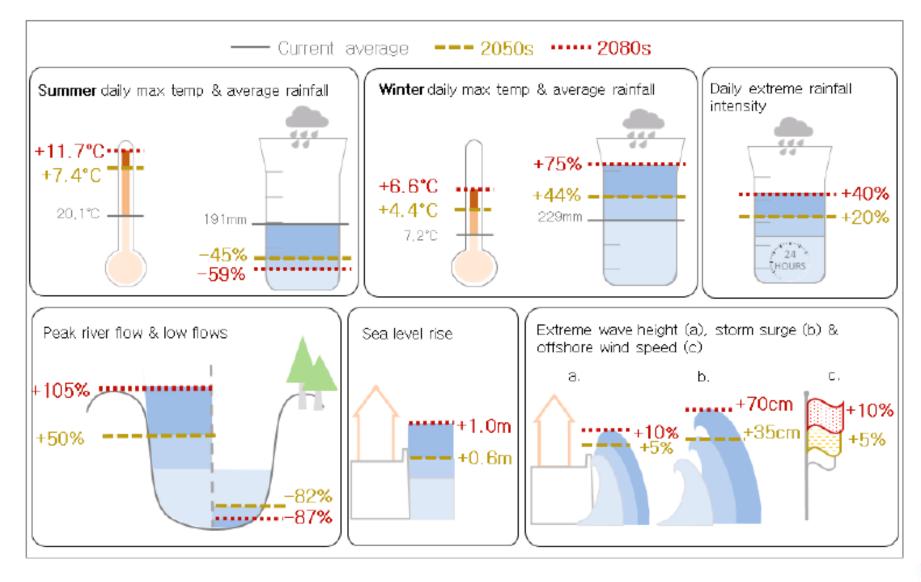


Afghanistan	Albania	Algeria	Andorra	Angola	Antarctica	Argentina	Armenia	Australia	Austria	Azerbaijan	Bahamas, The	Bahrain	Bangladesh	Barbados	Belarus
Belize	Benin	Bhutan	Bolivia	Bosnia and H.	Botswana	Brazil	Brunei	Bulgaria	Burkina Faso	Burundi	Cabo Verde	Cambodia	Cameroon	Canada Co	entral African Rep.
Chad	Chile	China	Colombia	Comoros	Congo, DR	Congo, R	Costa Rica	Croatia	Cuba	Cyprus	Cz <mark>ec</mark> hia	Côte d'Ivoire	Denmark	Djibouti	Dominica
Dominican Repub	olic Ecuador	Egypt, Arab Rep.	El Salvador I	Equatorial Guinea	Eritrea	Estonia	eSwatini	Ethiopia	Fiji	Finland	France	Gabon	Gambia, The	Georgia	Germany
Ghana	Greece	Grenada	Guatemala	Guinea	Guinea-Bissa	Guyana	Haiti	Honduras	Hungary	Iceland	India	Indonesia	Iran, Islamic Rep	. Iraq	Ireland
Israel	Italy	Ja <mark>mai</mark> ca	Japan	Jordan	Kazakhstan	Kenya	Kiribati	Korea, DPR	Korea	Kosovo	Kuwait	Kyrgyz Republi	ic Lao PDR	Latvia	Lebanon
Lesotho	Liberia	Libya	Liechtenstein	Lithuania	Luxe <mark>mb</mark> ourg	g Macedonia, FYR	Madagascar	Malawi	Malaysia	Maldives	Mali	Malta	Marshall Islands	Mauritania	Mauritius
Mexico	Micronesia	Moldova	Monaco	Mongolia	Montenegro	Morocco	Mozambique	Myanmar	Namibia	N <mark>aur</mark> u	Nepal	Netherlands	New Zealand	Nicaragua	Niger
Nigeria	Norway	Oman	Pakistan	Palau	Panama	Papua New Guine	a Paraguay	Peru	Philippines	Poland	Portugal	Qatar	Romania	Russia	Rwanda
Samoa	San Marino	Sao Tome and P.	Saudi Arabia	Senegal	Seychelles	Sierra Leone	Singapore	Slovak Republic	Slovenia	Solomon Islands	Somalia	South Africa	South Sudan	Spain	Sri Lanka
St. Kitts and Nev	ris St. Lucia	St. V. and the G.	Sudan	Suriname	Sweden	Switzerland	Syria	Talwan	Taji <mark>kis</mark> tan	Thailand	Timor-Leste	Togo	Tonga Tri	nidad and Toba	ago T <mark>unis</mark> ia
Turkey	Turkmenista	n Tuvalu	Uganda	Ukraine Unit	ted Arab Emi	rates Uruguay	USA	Uzbekistan	Vanuatu	Venezuela, RB	Vietnam	Yemen, Rep.	Zambia	Zimbabwe	

NASA GISS, GISTEMP Land-Ocean Temperature Index (LOTI), ERSSTv5, 1200km smoothing

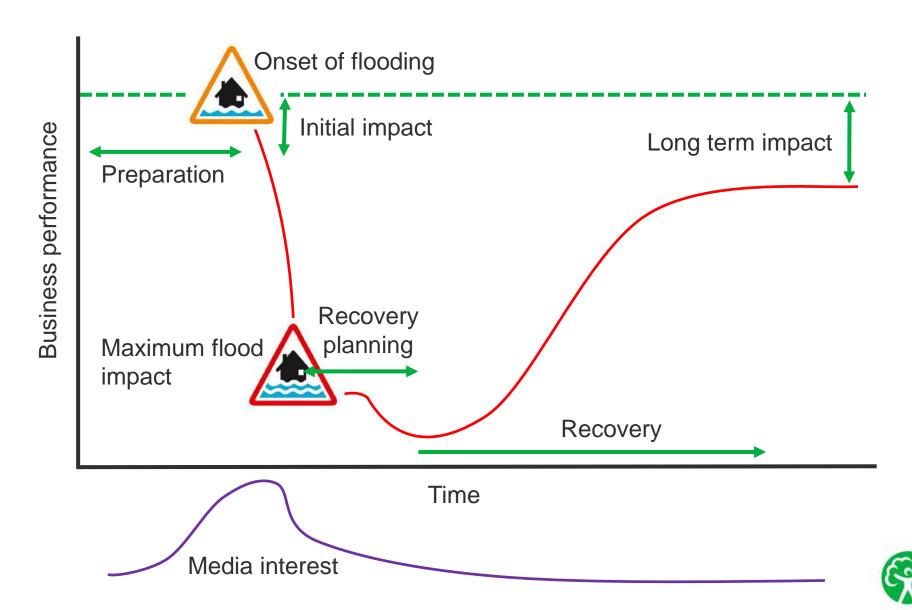
https://data.giss.nasa.gov/gistemp/ Average of monthly temperature anomalies. GISTEMP base period 1951-1980. Global Temperature Anomalies from 1880 to 2017 (NASA) Antti Lipponen (@anttilip)

Flooding: Why care?





Flooding: why care?



Environment

Roles in Flood Risk Management





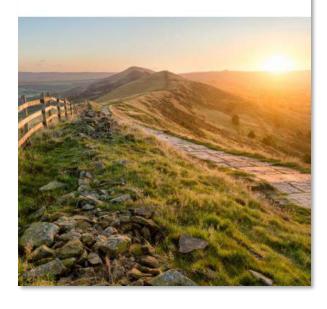


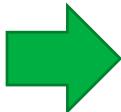


National Strategic drivers



A Green Future: Our 25 Year Plan to Improve the Environment







Draft National Flood and Coastal Erosion Risk Management Strategy for England



Vision: a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100.

... a nation ready for, and resilient to, flooding and coastal change; today, tomorrow and to the year 2100.







National Strategy Themes



Climate Resilient Places

 Working with partners to explore and develop the concept of standards for flood and coastal resilience as well as a national suite of tools to deliver flood and coastal resilience in places.



Today's Growth & Infrastructure in Tomorrow's Climate

 Getting the right kind of development in the right places to deliver sustainable growth and work with partners and other agencies to enable infrastructure resilient to flooding and coastal change.



A Nation of Climate Champions

 Better preparing society through education and accessible digital information as well as being a world leader in flood and coastal resilience



Approaches to reducing flood risk

Evidence based decisions

Photos, records, gauges, models

Stronger place based visions

Strategic plans, summaries, programmes

Achieve more through others

Partnership, planning system, contributing

Work with natural processes

Dealing with the source, not the symptom

Maintain key existing assets

Keeping defences where needed

Warning and informing

Community groups, wardens, warning service

Promote new defences

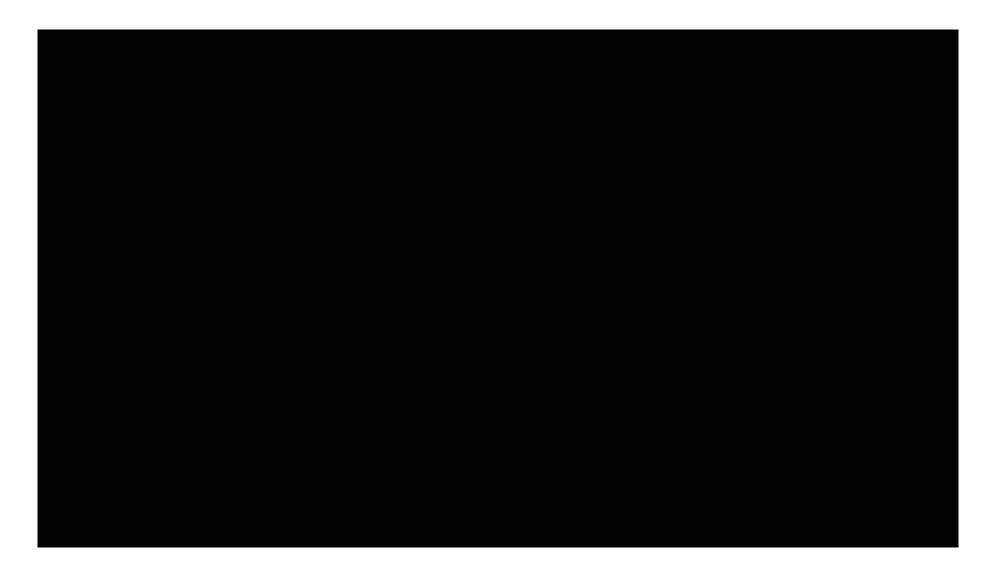
Hard engineering where needed

Residual risk management

Communicate and plan for remaining risk



Evidence Based Decisions







Stronger Place Based Visions

Flood Plan Explorer search by place name or post code



Department for Environment Food & Rural Affairs

Home / South West

River Basin District

The South West river basin district covers 21,000km2 and includes Cornwall, the Isles of Scilly, Devon, Dorset, Somerset, and parts of North Somerset, Hampshire and Wiltshire.

River catchments in the South West river basin district vary considerably, leading to lots of different types of flood risk. Somerset has predominantly flat catchments with wide rivers that take a long time to respond to rainfall. Devon, Cornwall and West Dorset have smaller, steep catchments with fast-flowing rivers that respond rapidly to rainfall. Rivers in the Avon Hampshire management catchment receive large flows from chalk aquifers (where water is stored underground). These rivers react relatively slowly to rainfall but long periods of wet weather can result in prolonged flooding.

ments	
Cornwall West and the Fal	
Devon South	
North Cornwall Seaton Looe and Fowey	
Somerset South and West	
Tamar	
	Devon South North Cornwall Seaton Looe and Fowey Somerset South and West





Achieve More Through Others

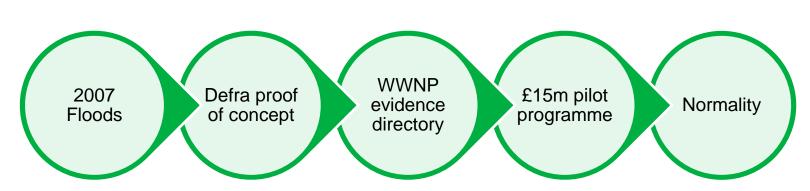






Work With Natural Processes

"taking action to manage flood and coastal erosion risk by protecting, restoring and emulating the natural regulating function of catchments, rivers, floodplains and coasts"











Warning & Informing



Plympton Sidbury Sidford Sidmouth South Molton Sticklepath **Tavistock Teignmouth** Torquay Tuckenhay Uplyme West Buckland Paignton Parracombe









Maintain Key Assets

Palmer's Dam











Promote New Defences











Residual Risk Management

Undefended risk

1:50 flood level

Now defended to a 1:50 standard

1:75 flood event

Residual risk is the risk of flooding from:

- any flood event greater than 1:50 probability, or;
- failure of the defence in <u>any</u> flood event







What can communities do?

- Find out if your, or your community are at risk
- Sign up to our flood warning service
- Understand and own your risk
- Form a flood group to plan actions
- Think about what you could do for those downstream, as well as yourself
- Seek help from professional partners
- Help deliver and drive projects



Which of these is a flood defence?







Why we are doing this



tom.dauben@environment-agency.gov.uk kate.pearson@environment-agency.gov.uk

