





Defence systems adopted in the United Kingdom

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1953 Surge Levels

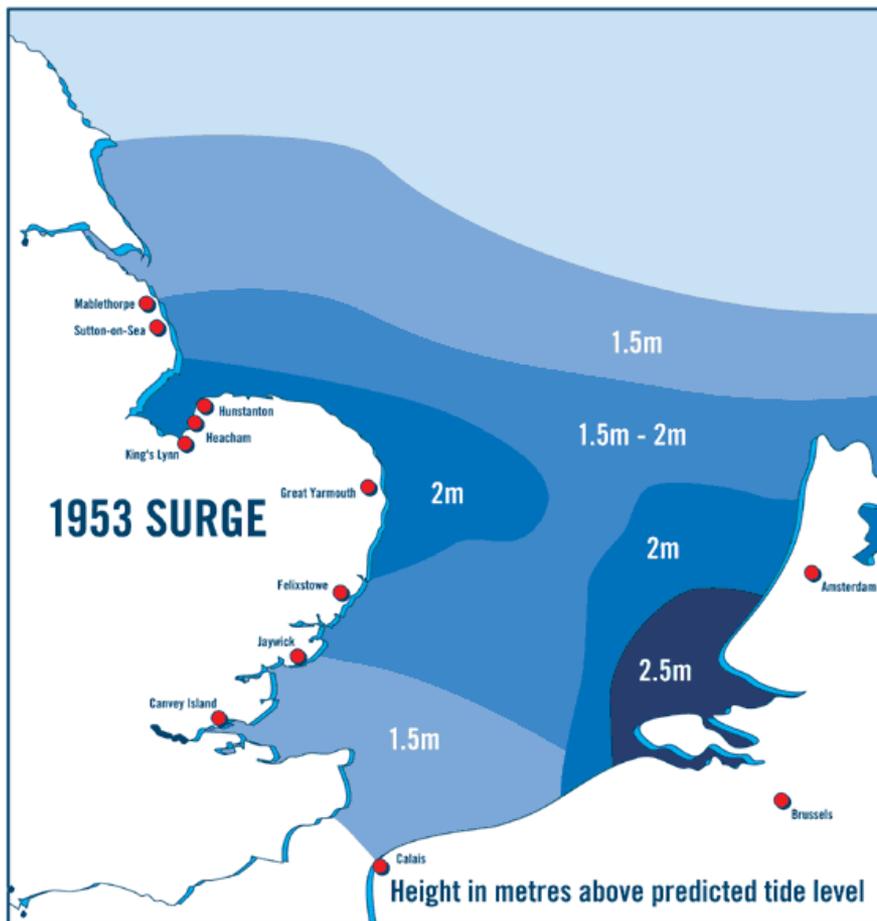


Diagram shows open sea mathematically modelled surge heights. Local levels recorded may differ from these modelled figures

Communities mark 70th anniversary of East Coast Tidal Surge – January 2023

Communities along the east coast of England marked the 70th anniversary of the East Coast Tidal Surge which devastated parts of the country.

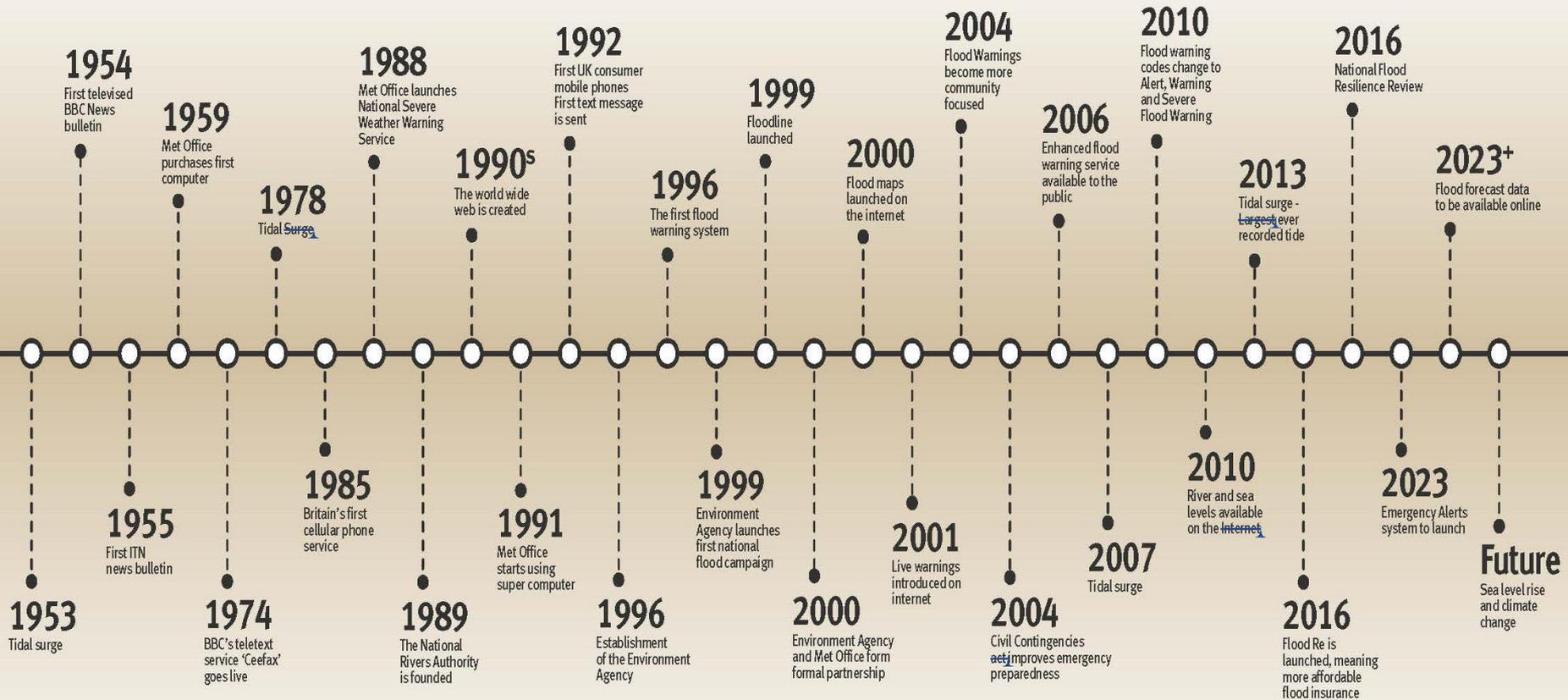
In January 1953, the coastline was hit by the worst flooding in living memory:

- 307 people tragically killed
- 24,500 homes damaged or destroyed, and
- over 30,000 people evacuated.

A number of extreme weather events – high natural tides, a major coastal surge on the North Sea and very high winds - combined over an 8-hour period on 31 January and 1 February 1953.

The flood surged along the coast, from Yorkshire to Kent, as well as other parts of Northern Europe, resulting in 1,800 deaths in the Netherlands and 19 in Scotland.

SEVENTY YEARS



COMMERCIAL VEHICLE REPAIRS
BOTWOODS LTD.

EAST ANGLIAN DAILY TIMES

Price 2d.

COWELLS
 Electric Household Appliances
 TRASTERS, ARTICLES
 CORDS, PROTECTORS, etc.
W. S. COWELL LTD.
 RUTTER MARKET, IPSWICH.

No. 26,315

IPSWICH, MONDAY, FEBRUARY 2, 1953

BRITAIN'S GALE DEATH TOLL EXCEEDS 250

OVER 130 DEAD IN GREAT FLOODS

East Anglia Suffers Worst Losses

WITH the death-toll steadily mounting, more than 250 people were known last night to have died in the flood which swept across East Anglia.

The death-toll in East Anglia is believed to be the highest since the 1952-53 winter, in Scotland, 20 are believed to have died in the North Sea, and another 20 in Scotland, and 100 in the North Sea.

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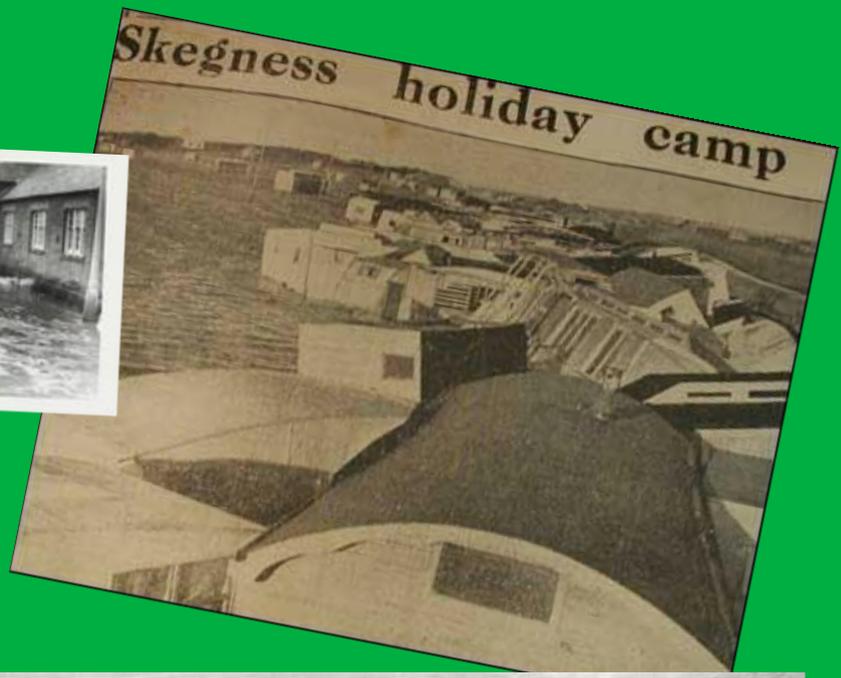
QUEEN "GREATLY DISTRESSED"

OUR FIRST JET TRANSPORT
 Vikings Also Plan Civil Version

BEVAN ATTACKS REPORTED U.S. POLICY CHANGE
 MUST HEED VIEWS OF OTHERS

MORE FEARED DROWNED

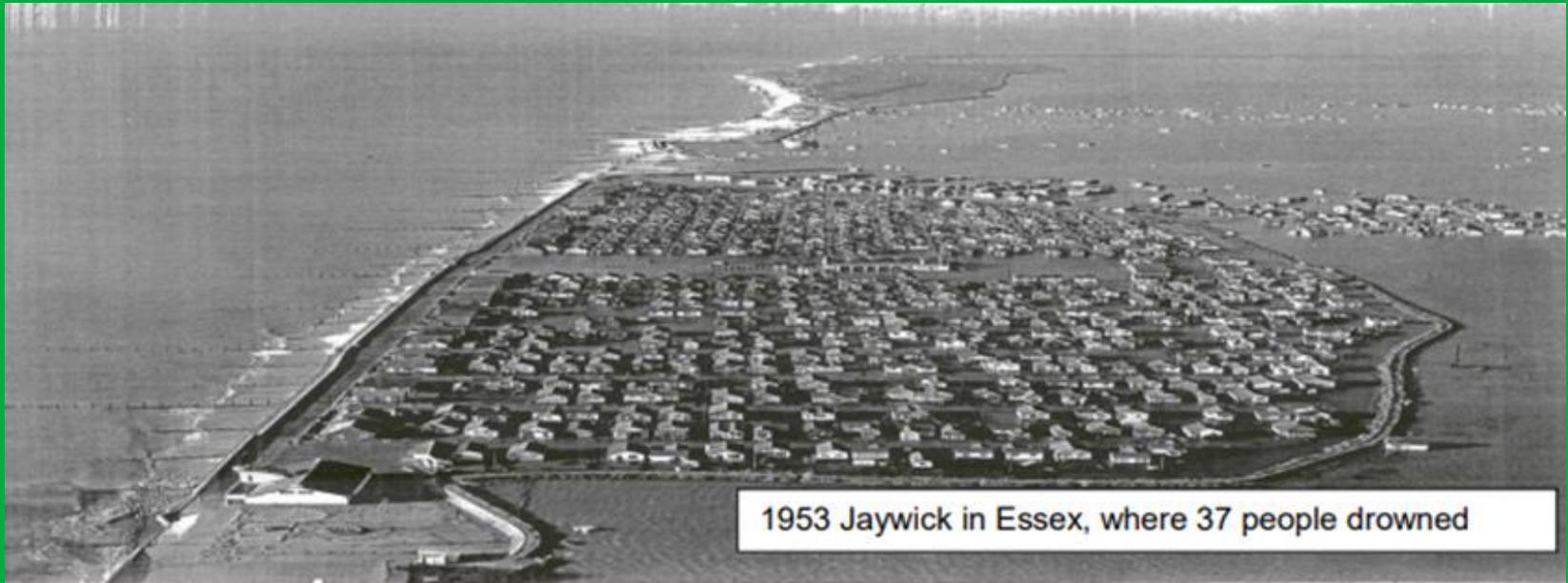
Church Rescue



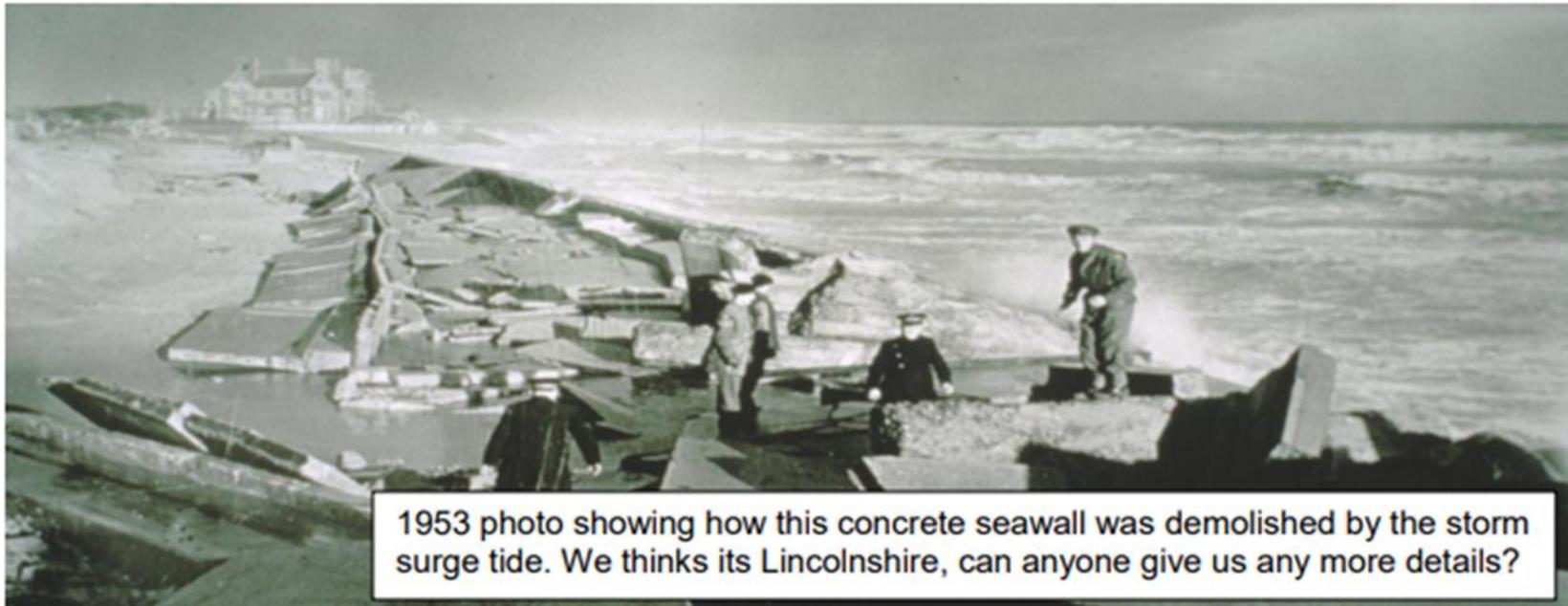
Sandilands. The Aore Gap.

Nottingham Guardian Photo





Following the wake-up call of 1953, the nation has improved flood and coastal defences, developed forecasting and warning services, exercised and tested integrated emergency management, and engaged with local communities. But the risk of flooding from the sea on the East Coast remains a threat which has a high impact even if it has a low probability. This risk is recognised by Government and is the most geographically specific risk on the “National Risk Assessment”





1953 Sutton on Sea. 41 people drowned on the Lincolnshire coast. By working day and night, 25,000 tons of material was placed in the breach every 24 hours by the troops and workmen.

This is one of the photos from 1953 that we have from the Institution of Civil Engineers for our use. In the ICE report, it's shown as at Dersingham, where workmen and the Military are repairing breaches to the defences.

15 people drowned in King's Lynn and a further 66 people at this location in Snettisham and Heacham

The highest number of fatalities anywhere on the coast in 1953

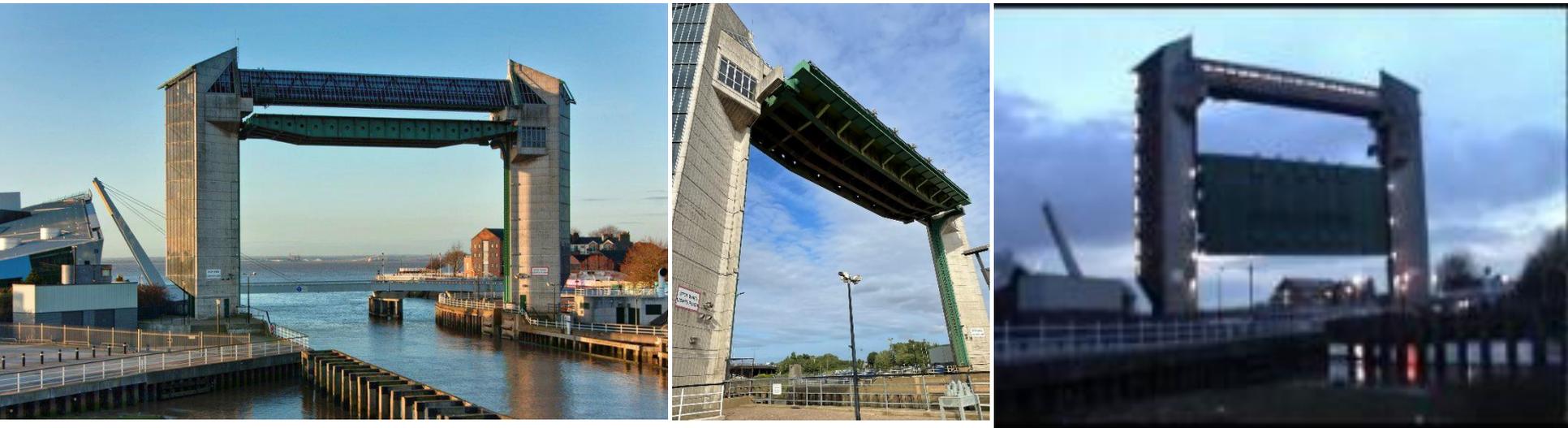


In response to the 1953 event the UK Government has invested heavily in the East Coast and its systems to protect people and property



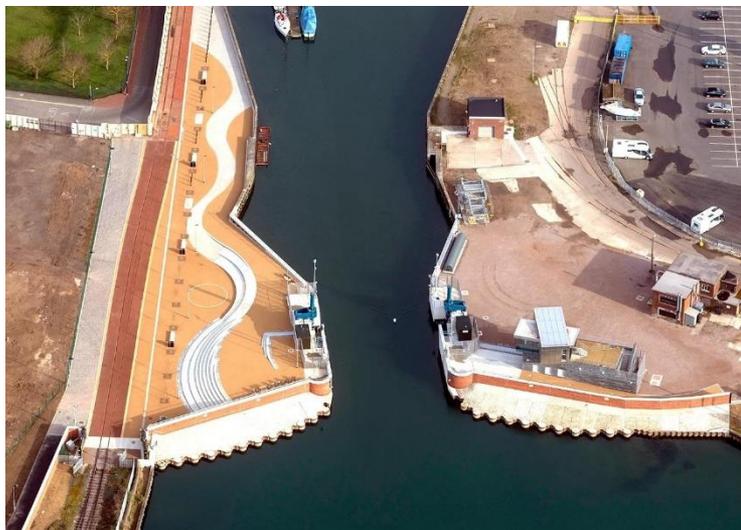
Our oldest Barrier

Hull Barrier



Operational Since	Type	Number of Gates	Total Width
1980	Vertical Drop Gate	1	30m

Ipswich Barrier



Operational Since	Type	Number of Gates	Total Width
2019	Rising Sector gate	1	22m

Barrier and pumping station

Foss Barrier



Operational Since	Type	Number of Gates / pumps	Total Width
1988	Vertical Drop Gate	1	9m
2018 (upgrade)	6.25cu.m pumps (50cu.m)	8	-

Protecting London

East Haven, Fobbing & Benfleet Barriers



East Haven



Fobbing



Benfleet

Barrier	Operational Since	Type	Number of Gates	Total Width
East Haven	1983	1983	Vertical Drop Gate	3
Fobbing	1983	Vertical Drop Gate	4	36m
Benfleet	1983	Vertical Drop Gate	3	42m

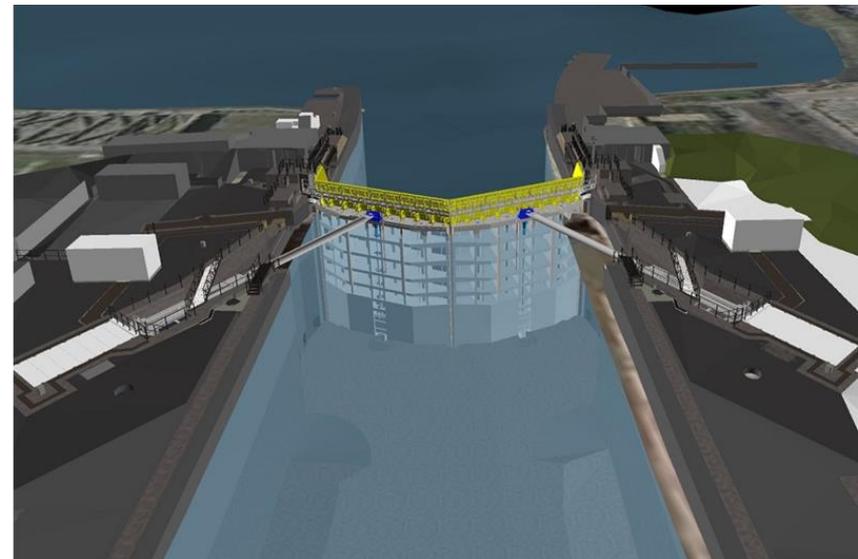
Colne Barrier



Operational Since	Type	Number of Gates	Total Width
1993	2 metre gates 13 sluices	15	130m

Multifunctional

Tilbury Dual Function Lock Gate



Barrier	Operational Since	Type	Number of Gates	Total Width
New	2023	Dual function lock gate	1	35m
Old	1975	Horizontal sliding frame vertical drop gate	1	35m

Our most iconic Barrier

Thames Barrier



Operational Since	Type	Number of Gates	Total Width
1982	6 Rising Sector gates 4 Falling Radial gates	10	520m

Our newest Barrier (globally!)

Boston Barrier



Operational Since	Type	Number of Gates	Total Width
2022	Rising Sector gate	1	28m

What is next...



Bridgwater 2024



Lowestoft 2025?



**Thames Barrier
2070...**

Further reading links:

Corporate report; Environment Agency: EA2025 creating a better place
[Environment Agency: EA2025 creating a better place - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/92121/ea2025-report-creating-a-better-place.pdf)

Corporate report; Environment Agency: reaching net zero by 2030
[Environment Agency: reaching net zero by 2030 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/92121/ea2025-report-creating-a-better-place.pdf)

UNSDG Website

[THE 17 GOALS | Sustainable Development \(un.org\)](https://www.un.org/sustainabledevelopment/)

Proceedings of the Institution of Civil Engineers - Civil Engineering

Climate-adaptation projects such as flood defence schemes must deliver wider societal benefits in the communities they protect to ensure long-term resilience and regeneration.

[Boston tidal barrier, UK: adapting to climate change and delivering social outcomes | Proceedings of the Institution of Civil Engineers - Civil Engineering \(icevirtuallibrary.com\)](https://www.icevirtuallibrary.com/Proceedings-of-the-Institution-of-Civil-Engineers-Civil-Engineering)

In Rachel Skinner's ICE presidential address in 2020 she asked what are you going to do? And she closed her year with 'what's stopping you?'

[ICE Presidential Address 2020 | Institution of Civil Engineers](https://www.icevirtuallibrary.com/ICE-Presidential-Address-2020)

In Ed McCann's ICE presidential address in 2021 examined the issue of improving infrastructure productivity within the context of delivering the United Nation's Sustainable Development Goals, and achieving net zero carbon by 2050.

[ICE Presidential Address 2021, online | Institution of Civil Engineers](https://www.icevirtuallibrary.com/ICE-Presidential-Address-2021)

In Keith Howell's ICE presidential address in 2022 he looks at how civil engineers can use the UN Sustainable Development Goals framework to truly build a better society.

[ICE Presidential Address 2022 | Institution of Civil Engineers \(ICE\)](https://www.icevirtuallibrary.com/ICE-Presidential-Address-2022)