Ollscoil na Gaillimhe
University of Galway

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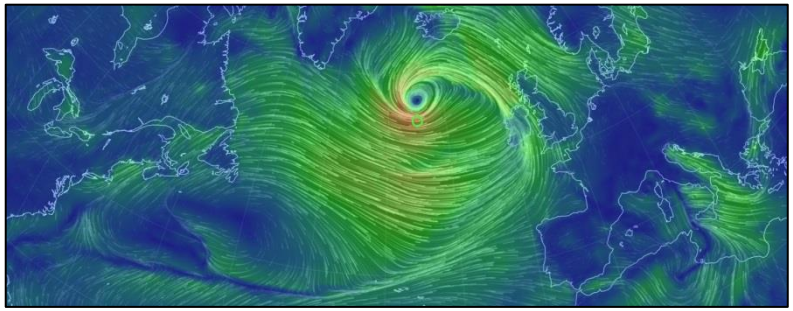
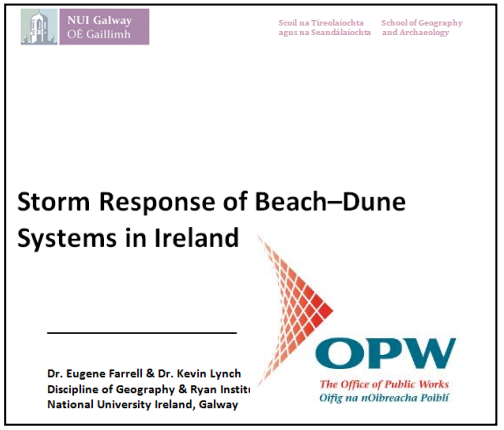
Challenges for Coastal Management in Ireland
Case Study: The Maharees

Dr. Eugene Farrell (06 Feb 2016)
Dr. Kevin Lynch
Ms. Sinead Wilkes Orozco (Masters student)
Mr. Guillermo Castro Camba (Phd student)

Thank you: Marcia Ganter & Martin Lynch
Thank you: Peter Hennessy & Michael/Marilyn Spillane





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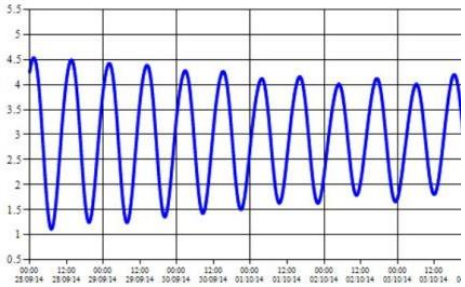
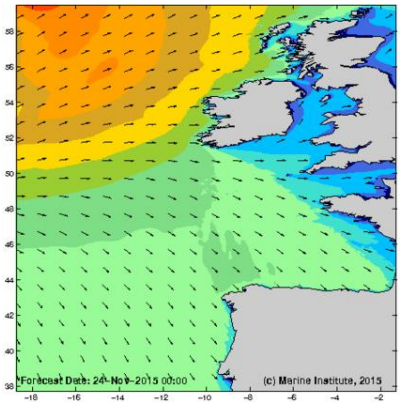
Coastal Research Programme

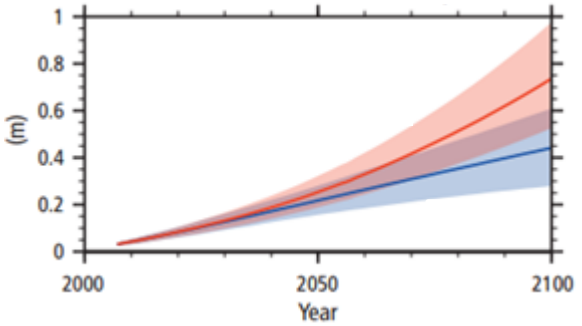
Astronomical Tide & Storm Surge

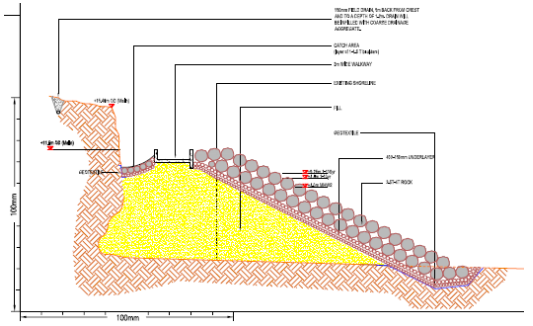




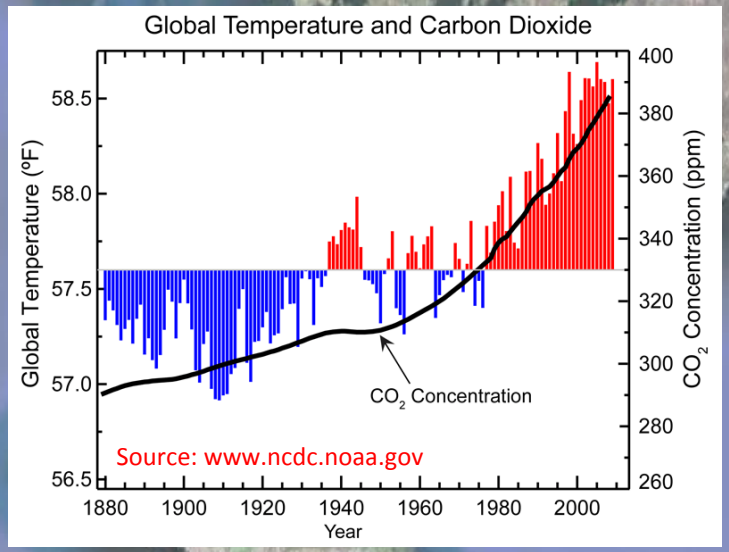
Coastal Processes and Landforms

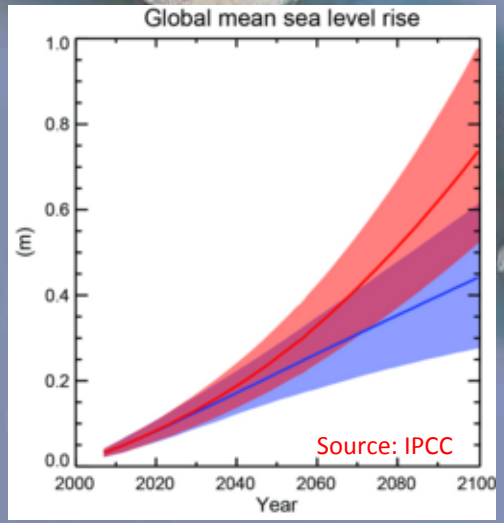
Coastal Management: Policy & Practice





WE DO KNOW WITH CERTAINTY THAT THE CLIMATE IS CHANGING…

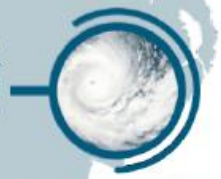




Source: Adaptation Strategy Guideline (CMRC, UCC)

Storm surges and waves
Storm surge events will increase in frequency, with the height of extreme surges also increasing significantly on the western coasts during winter. Wave heights may also significantly increase, with extreme waves increasing by around 10% on the northwest coast.

Weather extremes
While the frequency of very intense cyclones affecting Ireland is likely to increase, it is difficult to say with any certainty how extreme weather events will be impacted by climate change. Nevertheless, additional energy trapped in the atmosphere by greenhouse gases is likely to continue to stimulate greater atmospheric volatility.

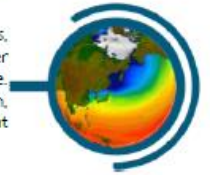


Fluvial flooding
There may be an amplification of the seasonal cycle in Ireland, increasing runoff to catchments in winter and decreasing flows in summer. There is likely to be a clear pattern of increased flows to river catchments in the winter and autumn and a decrease in flows during the summer, though the scale of change is difficult to accurately gauge. There will nevertheless be significant consequences for the management of flood defences, water supplies, waste treatment, and biodiversity conservation.

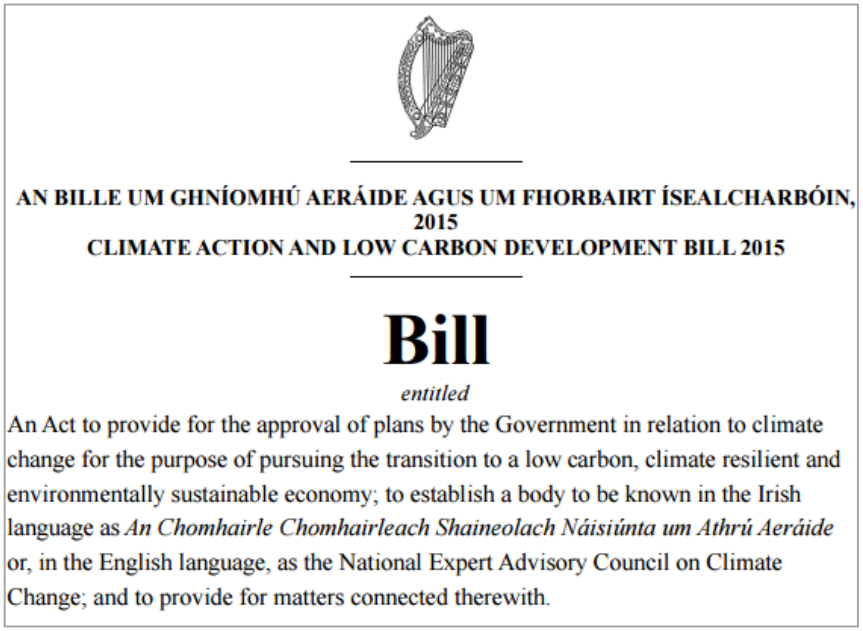
Sea level rise
Satellite altimetry has identified a rise of around 3.5cm per decade in the seas around Ireland, in line with the IPCC's global projections. However, any acceleration in the melting of polar ice sheets could see a substantial increase in sea level rise.

Precipitation
Autumn and winter will become significantly wetter by the end of the century, with summers likely to become substantially drier over the same period. Some models project increased rainfall in winter/autumn of up to 25% and a decline of up to 18% in summer. However, the accuracy of these projections has been problematic to verify, leaving the precise figures of the pattern of wetter winters and drier summer difficult to unambiguously report.

Sea temperatures
Temperatures in the sea around Ireland have risen in recent decades, observations since the 1980s showing a warming trend of 0.3-0.4°C per decade in Irish waters, with the Irish Sea warming at an even faster rate. These changes will have a profound effect on the marine ecosystem, including the distribution and abundance of commercially significant species such as mackerel.



Ireland's first ever climate change legislation



AN BILLE UM GHNÍOMHÚ AERÁIDE AGUS UM FHORBAIRT ÍSEALCHARBÓIN, 2015
CLIMATE ACTION AND LOW CARBON DEVELOPMENT BILL 2015

Bill

entitled

An Act to provide for the approval of plans by the Government in relation to climate change for the purpose of pursuing the transition to a low carbon, climate resilient and environmentally sustainable economy; to establish a body to be known in the Irish language as *An Chomhairle Chomhairleach Shaineolach Náisiúnta um Athrú Aeráide* or, in the English language, as the National Expert Advisory Council on Climate Change; and to provide for matters connected therewith.

Climate Action and Low Carbon Development Bill 2015

- Provides a statutory basis for the national objective of transition to a low carbon, **climate resilient** and environmentally sustainable economy by the year 2050.
- Gives a solid statutory foundation to the institutional arrangements necessary to enable the State to pursue and achieve that national transition objective.

The imminent passing of the Climate Change Bill 2015 will require an **Expert Advisory Council (EAC)** to '*advise and give recommendations*' on:
Climate Change Adaptability Strategy
National Mitigation Plan
National Adaptation Framework

EAC will prepare National Mitigation Plans **requiring local authorities to improve flood defences** along with the protection of key infrastructure, such as power and communication from **extreme weather**.

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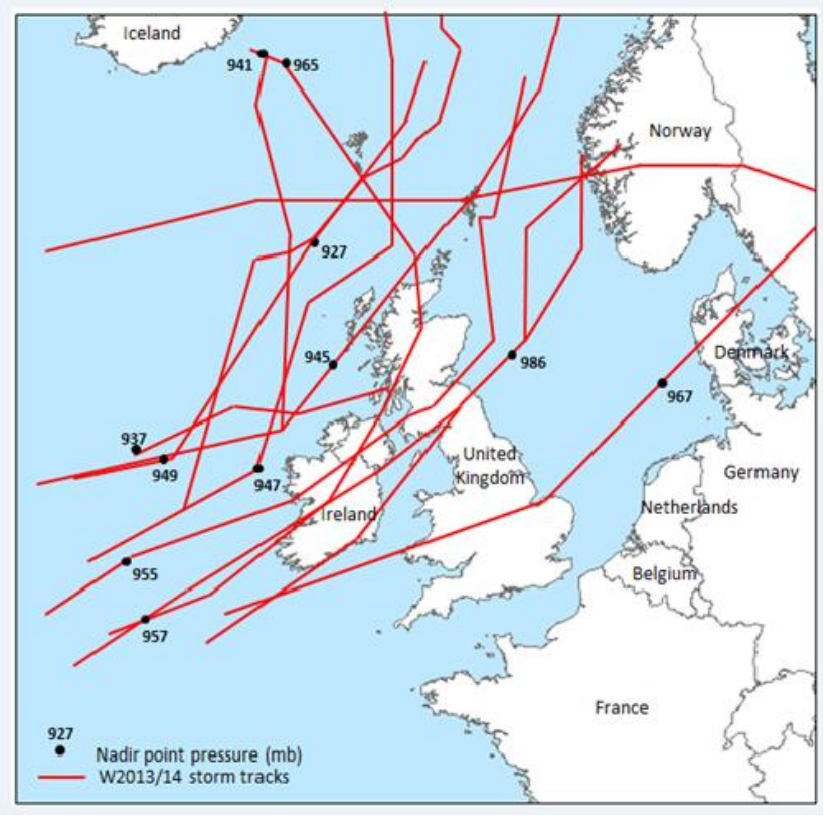
Irish Winter Storms of 2013-2014



54% of the 90 days spanning W2013-14 had some level of storm warning:

05 (06%) days had a Code Red warning

25 (28%) days had a Code Orange warning

18 (20%) days had a Code Yellow warning

42 (46%) days had no warning: Code Green

STATUS YELLOW - Weather Alert - Be Aware

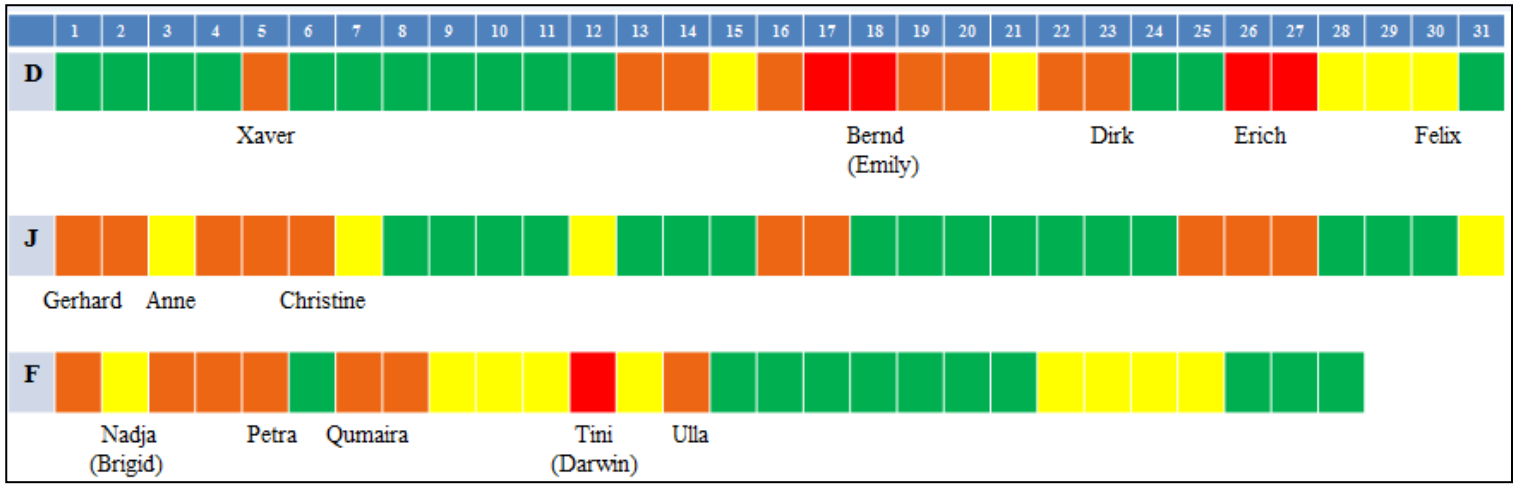
The concept behind YELLOW level weather alerts is to notify those who are at risk because of their location and/or activity, and to allow them to take preventative action. It is implicit that YELLOW level weather alerts are for weather conditions that do not pose an immediate threat to the general population, but only to those exposed to risk by nature of their location and/or activity.

STATUS ORANGE - Weather Warning - Be Prepared

This category of ORANGE level weather warnings is for weather conditions which have the capacity to impact significantly on people in the affected areas. The issue of an Orange level weather warning implies that all recipients in the affected areas should prepare themselves in an appropriate way for the anticipated conditions.

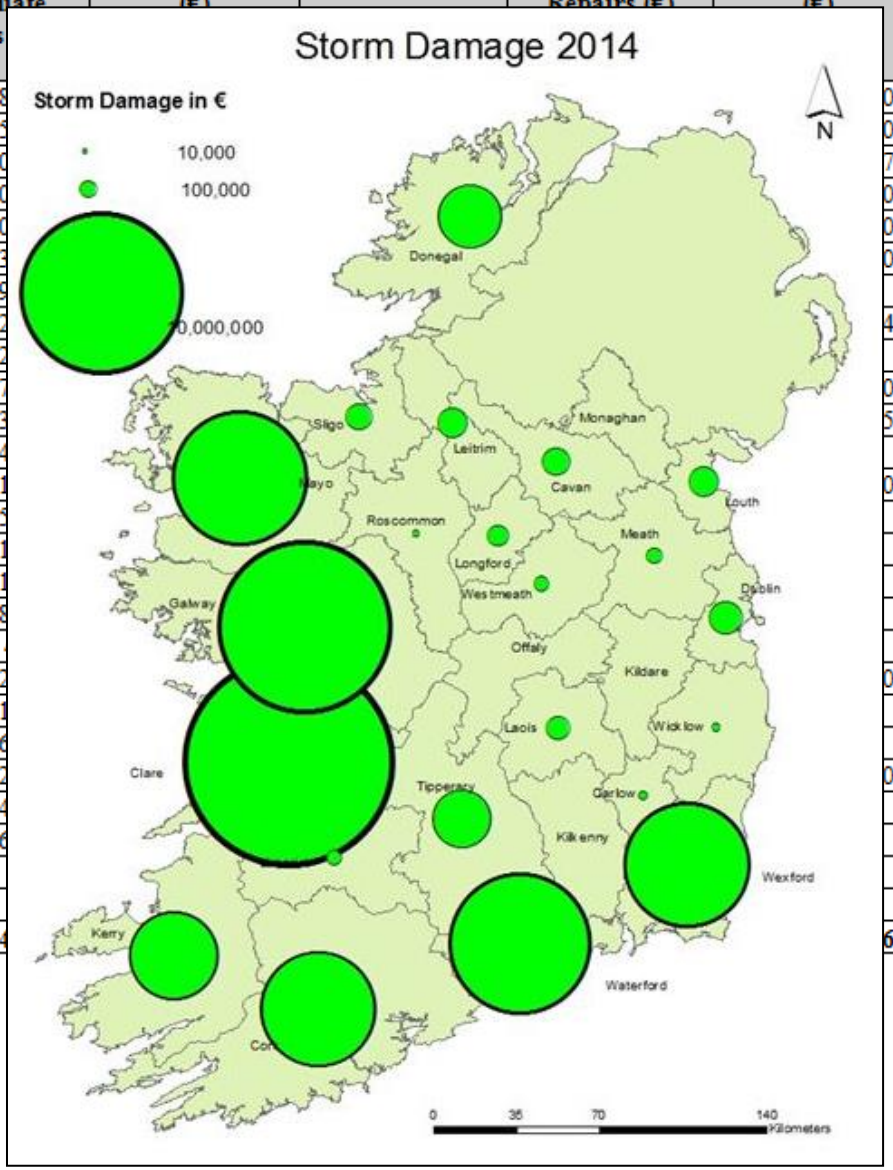
STATUS RED - Severe Weather Warning - Take Action

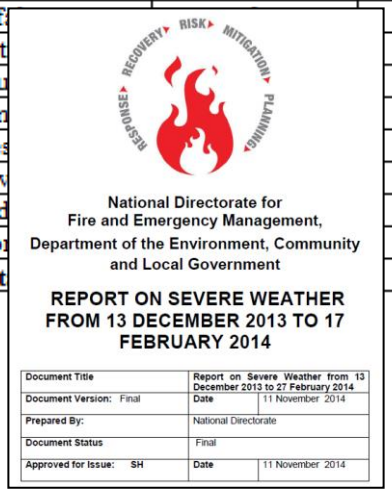
The issue of RED level severe weather warnings should be a comparatively rare event and implies that recipients take action to protect themselves and/or their properties; this could be by moving their families out of the danger zone temporarily; by staying indoors; or by other specific actions aimed at mitigating the effects of the weather conditions.



Irish Winter Storms of 2013-2014

Local Authority	Coastline length (km)	Response, Clean-up, and Immediate Works	Roads, Infrastructure (€)	Piers and Harbours (€)	Coastal Protection Repairs (€)	Tourism Infrastructure (€)	Other Facilities (€)	Total damages (€)
Clare	366	1,38				00	6,542,548	26,486,028
Waterford	170	35				00	3,140,000	15,170,000
Galway	689	70				75	3,360,755	14,387,180
Cork	1,118	3,20				00	706,500	8,799,825
Mayo	1,168	50				00	0	7,397,900
Wexford	264	3				00	0	6,544,500
Limerick	95	79				0	3,602,0	5,059,000
Kerry	684	52				40	118,000	3,640,726
Roscommon	0	2				0	0	3,597,585
Sligo	195	17				00	5000	2,715,886
Donegal	650	23				50	310,500	2,166,978
Tipperary	0	4				0	0	1,272,043
Meath	21	11				00	0	943,421
Laois	0	35				0	0	753,500
Kilkenny	0	41				0	115,000	566,500
Carlow	0	21						553,000
Dublin	99	18				0	5,500	505,500
Wicklow	61					0	61,168	456,397
Offa		2				00	0	439,500
Leit		11				0	0	357,883
Lou		6				0	4,675	334,675
Lon		2				00	0	207,000
Wes		14				0	0	181,953
Cav		6				0	0	90,021
Kild						0	0	24,174
Mo						0	0	0
Tot		**9,74**				**65**	**14,369,646**	**102,651,175**





Salthill, Galway (W2013/14)

Salthill, Galway (W2013/14)

Galway (W2013/14)

Galway (W2013/14)

THE IRISH TIMES

Irish News

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Storms reveal 7,500-year-old 'drowned forest' on north Galway coastline

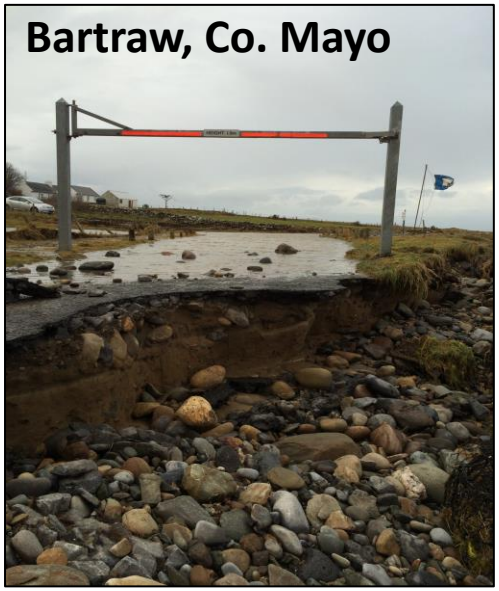
Evidence confirms Galway Bay once covered in forests and lagoons

The stump of a 7,500-year-old tree at a drowned forest site exposed by storms at Spiddal, Co Galway. Photograph: Joe O'Shaughnessy

Locals fortify retreating dunes to protect at-risk homes

Independent.ie

Local volunteer, 9 year old Darragh Brett helps out with repairs to the eroded sand dunes at The Burrow, Portrane.



Rossbehy, Kerry

Dr. Robert Devoy, UCC

Kerry County Council receives Government funding of €3.3m to repair storm damage

Sunday, December 28th, 2014 at 1:10 pm.

Maharees community calling for storm damaged rock armour and road to be repaired

Thursday, April 3rd, 2014 at 1:11 pm.

Winter storms leave Kerry facing bill for millions to repair damage

4

Saturday, January 16, 2016

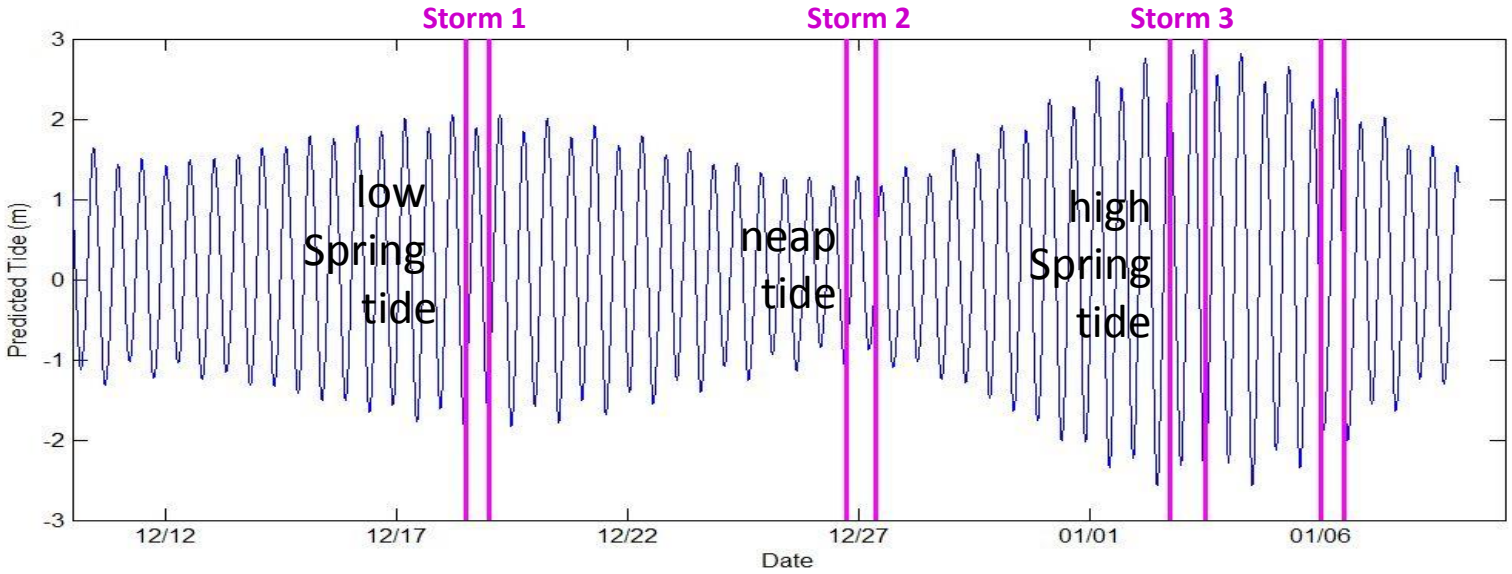
Significant money is required for coastal works. Coastal protection works on the Tralee/Fenit regional road will require €250,000 .

Coastal works at Rossbeigh and at Ballyheigue will cost a further €1m and a new road at Rossbeigh €1.1m, Mr Doyle said. Ballingskelligs pier was damaged and repairs are estimated at €160,00.

Details of the extent of the flooding were being submitted to the OPW.

By the way, it could have been a lot worse…

	Storm Period	Impacts	Mean Wind Speed	Max Hs (m)
Storm #1	18 Dec 2013 12:00 to 19 Dec 2013 00:00	Severe flooding in Salthill and Flood St/Spanish Arch; **Record surge**	37.5 kn (19.3 m/s)	3.83
Storm #2	26 Dec 2013 18:00 to 27 Dec 2013 09:00	Extreme winds; **No serious flooding**	43.7 kn (22.5 m/s)	4.88
Storm #3	2 Jan 2014 18:00 to 3 Jan 2014 12:00	Severe flooding in Salthill and Flood St/Spanish Arch; flooding in Galway Harbour; extensive damage	36.4 kn (18.7 m/s)	4.52



NUI Galway
OÉ Gaillimh

Marine Institute
Foras na Mara

By the way, it could have been a lot worse…

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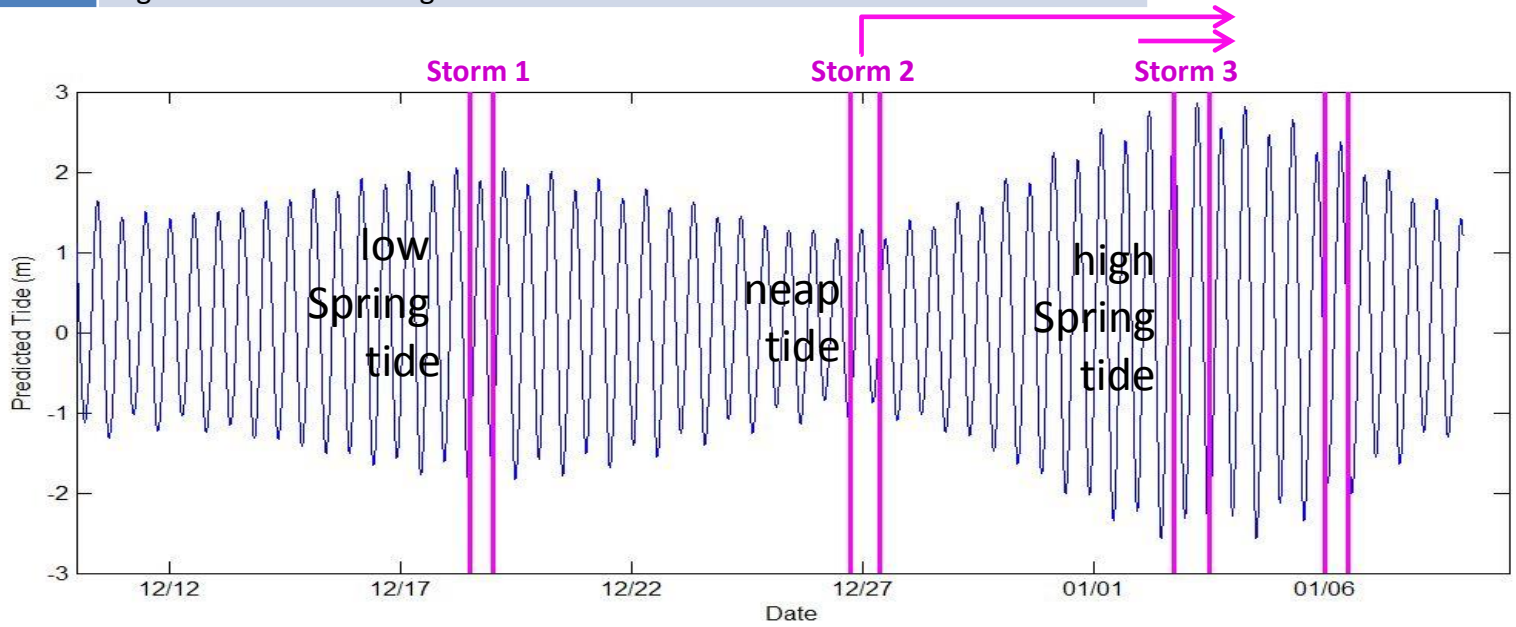
Water Level	Hypothetical Water Levels Based On Storm/Tide Activity
3.55 m	Maximum water level measured at Galway Port during Storm 3
3.85 m	Water level **IF** the maximum surge recorded during Storm 3 coincided with high tide on the morning of 3rd Jan
4.20 m	Water level **IF** the maximum surge recorded during Storm 2 coincided with high tide on the morning of 3rd Jan



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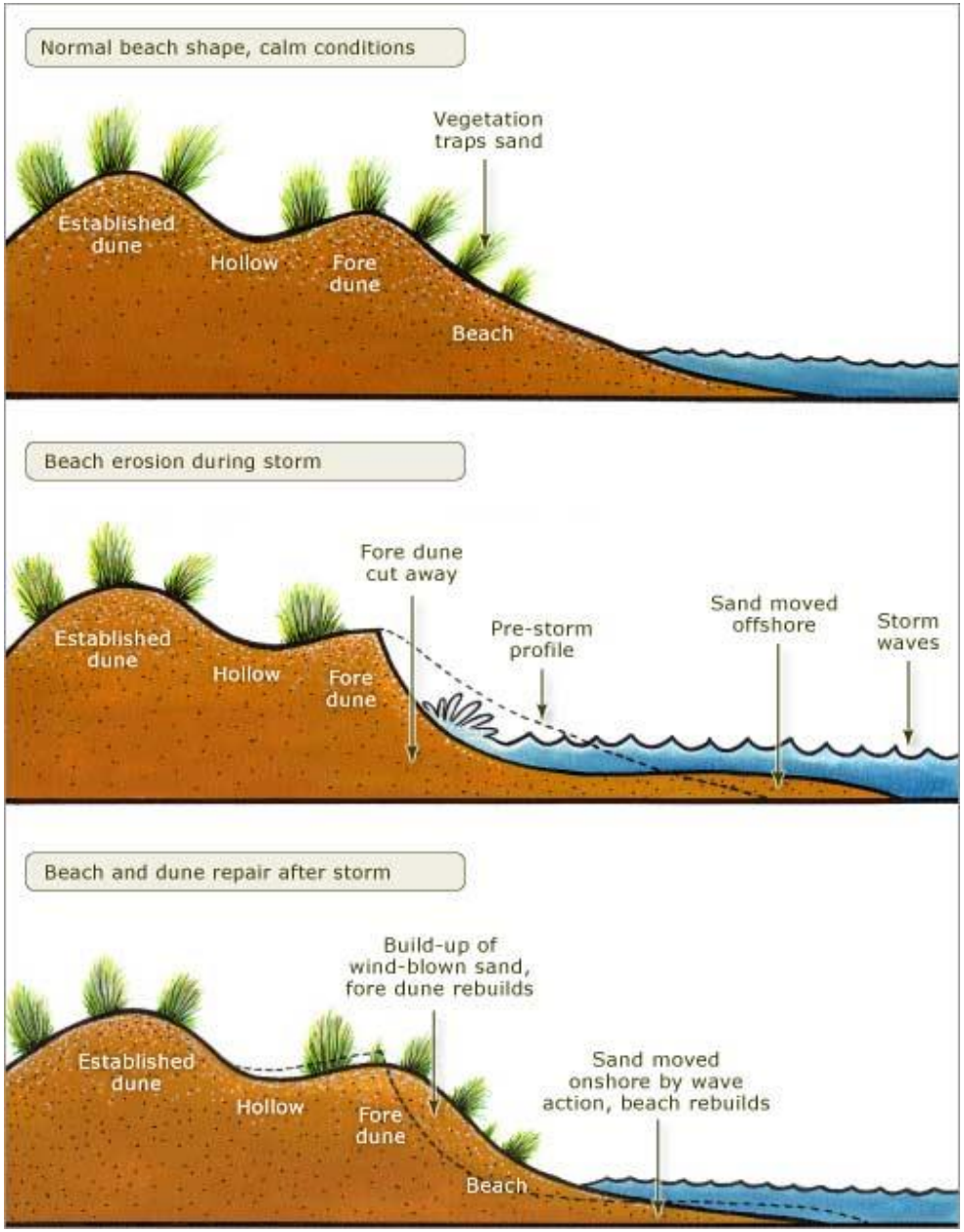
OÉ Gaillimh

Marine Institute
Foras na Mara

Irish Winter Storms of 2013-2014

"In Ireland, we like the big project, we tend to react rather than prepare, and we don't study or understand the coastline… We also tend to hire in consultants from England and the Netherlands after a crisis, rather than building up our own core expertise. Sometimes there is natural coastal regeneration, and that is something we need to know about before we start imposing man-made solutions. Dunes are there to erode when a storm comes, and they have natural cycles."

(Dr. Jimmy Murphy, Coastal Engineer UCC, Irish Times, January 13, 2014)



Irish Winter Storms of 2013-2014


Photo: Dr. Kevin Lynch, NUIG (January 2015)


Photo: Dr. Kevin Lynch, NUIG (March 2015)

Photo: John Smyth (December 2014)


Photo: Dr. Kevin Lynch, NUIG (Sep 2015)

In theory, the amount of sand stays constant (equilibrium!).
It just moves around because of the changing wave regime.

NUI Galway
OÉ Gaillimh

Ryan Institute

Irish Winter Storms of 2013-2014

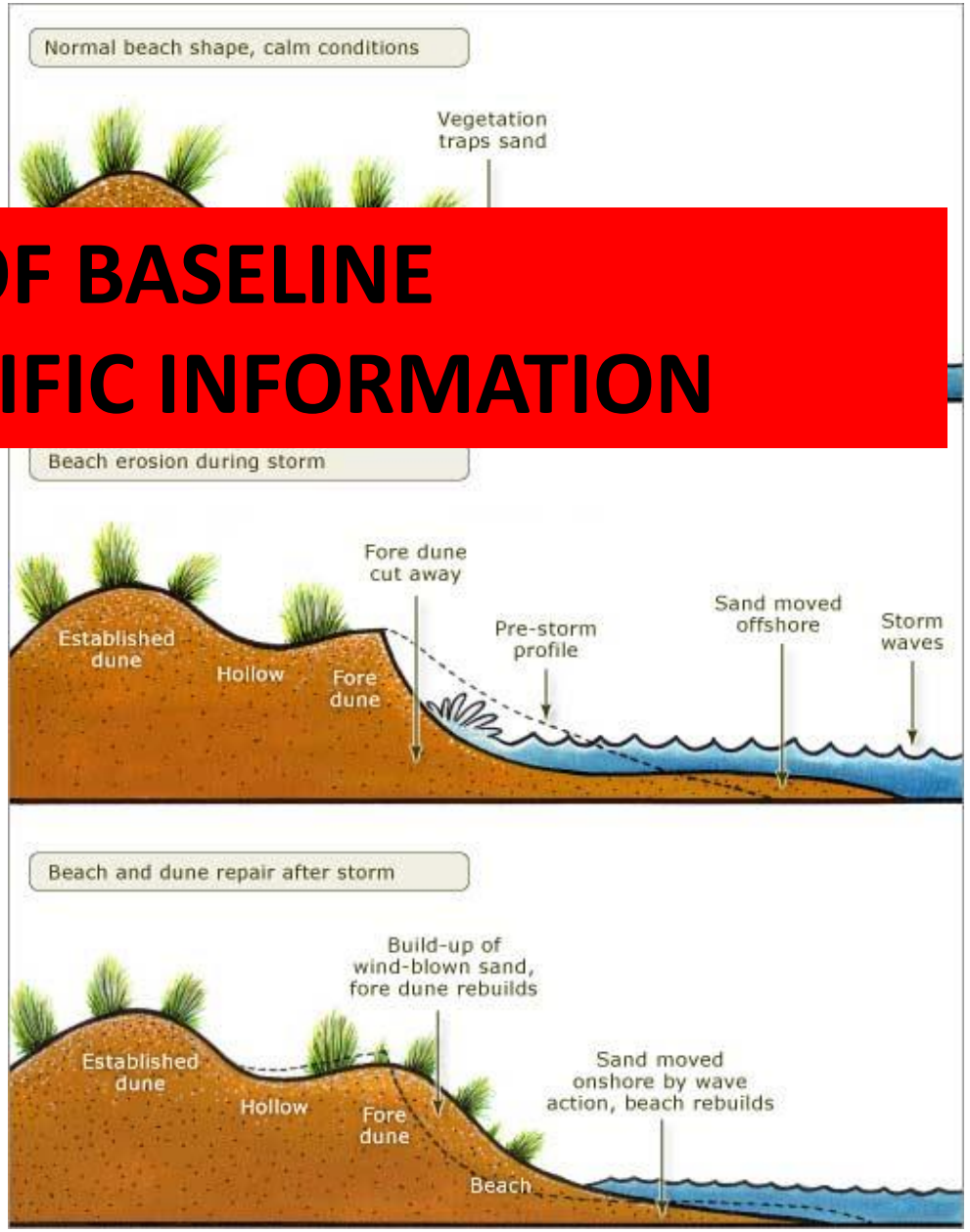
"In Ireland, we like the big project, we tend to react rather than prepare, and

CHALLENGE #1: LACK OF BASELINE SCIENTIFIC INFORMATION

building up our own core expertise.
Sometimes there is natural coastal regeneration, and that is something we need to know about before we start imposing man-made solutions. Dunes are there to erode when a storm comes, and they have natural cycles."

(Dr. Jimmy Murphy, Coastal Engineer UCC, Irish Times, January 13, 2014)

A continuous monitoring programme is needed to understand these cycles; Proposal writing…..



- About us
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      - Research grants handbook
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      - Large grants
      - **Urgency grants**
      - Eligibility
      - Previous awards

Urgency grants

Urgency grants are prompted by unexpected and transient scientific opportunities created by the occurrence of sporadic natural events such as earthquakes, droughts, floods or ephemeral events in ecosystems.

NERC Urgency grants are used to respond rapidly to unexpected and transient events affecting the environment, for example the 2010 Amazon drought or the eruption at Eyjafjallajökull volcano in Iceland in 2010.

Submission of an Urgency grant proposal is only permitted if relying on published funding opportunities would clearly result in a missed opportunity to undertake environmental research of high scientific importance. Urgency proposals must fall within the NERC scientific remit.

Prospective applicants must first contact the appropriate Science Programmes Officer for approval **before** submitting a proposal for consideration under the urgency scheme.

Related links

The following PDF documents give details of Urgency grants awarded:

- » 2012
- » 2011
- » 2010
- » 2009
- » 2008
- » 2007
- » 2006
- » 2005

Research on the effects of storm surges on sand dunes to aid coastal management

4 Feb 2014

Scientists funded by NERC will this week start research to find out how quickly sand dunes along the east coast of England recover from the erosion caused by massive storm surges like the one that struck the UK coastline in December 2013.

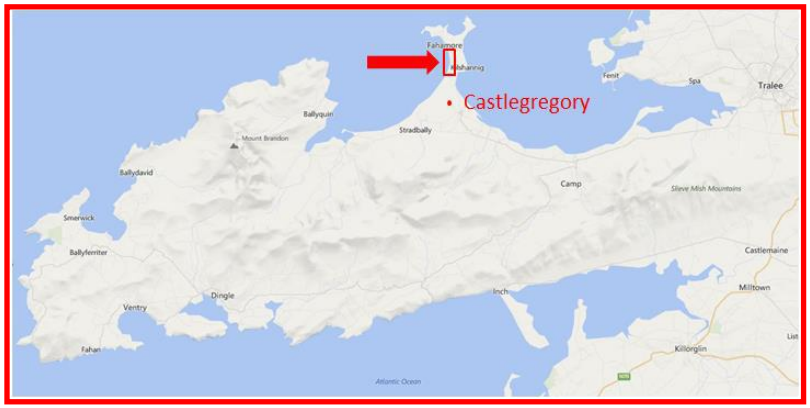
£50,000

£50,000

Study of the effects of recent winter storms' impact on southwest UK could aid preparedness

11 Mar 2014

UK scientists funded by NERC have just started a 12-month project to find out how the recent barrage of devastating winter storms affected the communities and coastlines of southwest England.



NUI Galway
OÉ Gaillimh

Scoil na Tíreolaíochta agus na Seandálaíochta
School of Geography and Archaeology

Science Opportunity: Coastal Flooding and Erosion

Storm Response of Beach–Dune Systems in Ireland

Dr. Eugene Farrell & Dr. Kevin Lynch
Discipline of Geography & Ryan Institute
National University Ireland, Galway

OPW

Department of the Taoiseach (PM)
Minister for the Environment, Community and Local Government
Minister for Arts, Heritage and Gaeltacht
Minister for Communications, Energy and Natural Resources
Local Authorities (County)
EPA
The Heritage Council
OPW €€€

CHALLENGE #1: LACK OF BASELINE SCIENTIFIC INFORMATION

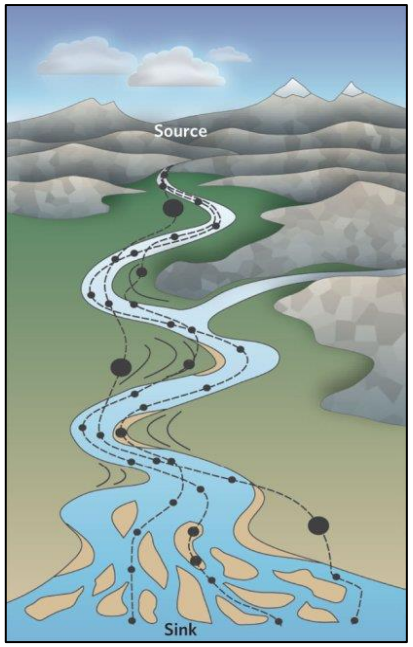
epa Research
Climate - Water - Sustainability
Identifying pressures • Informing policy • Developing solutions

EPA Research - 2014 Call

RE: Proposal no. 3155. From source to sink: the response and recovery of coastal catchment ecosystems to large perturbations

From:

Dr. Eugene Farrell	(National University Ireland Galway)
Dr. Kevin Lynch	(National University Ireland Galway)
Dr. Terry Morley	(National University Ireland Galway)
Dr. Tiernan Henry	(National University Ireland Galway)
Dr. Mary Bourke	(Trinity College Dublin)
Dr. Jonathan Turner	(University College Dublin)



CHALLENGE #1: LACK OF BASELINE SCIENTIFIC INFORMATION

Work packages (24 months)

1. Beach-dune systems
2. Dune moisture cycles
3. Groundwater
4. Biodiversity inventory & resilience
5. Suspended sediment and contaminant flux
6. Irelands Climate Information Platform (ICIP)

OPW **national-scale** Irish Coastal Protection Strategy Study (ICPSS) is helping to define more fully the extent of **erosion risk in Ireland**

Since c.1984 800m of rock armour has successfully stabilised part of the shoreline;

2050 erosion line = 2013 position

EROSION MAP

Legend

Denotes 2050 Erosion Line

Denotes 2000 Baseline / Vegetation Line

RPS
Elmwood House
74 Boucher Road
Belfast
BT 12 6RZ
Northern Ireland

OPW
Office of Public Works
17-19 Lower Hatch Street
Dublin 2
Ireland

Project :
IRISH COASTAL PROTECTION STRATEGY STUDY - PHASE IV

Map :
SOUTH WEST COAST EROSION

RPS

Elmwood House
74 Boucher Road
Belfast
BT 12 6RZ
Northern Ireland

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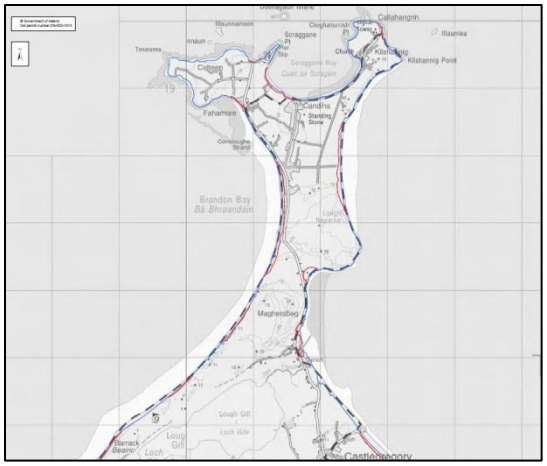
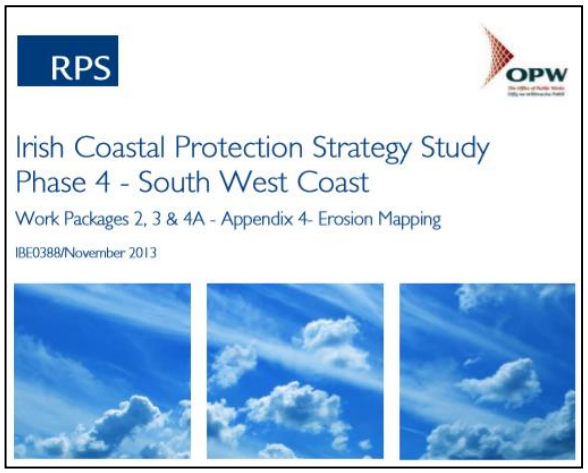
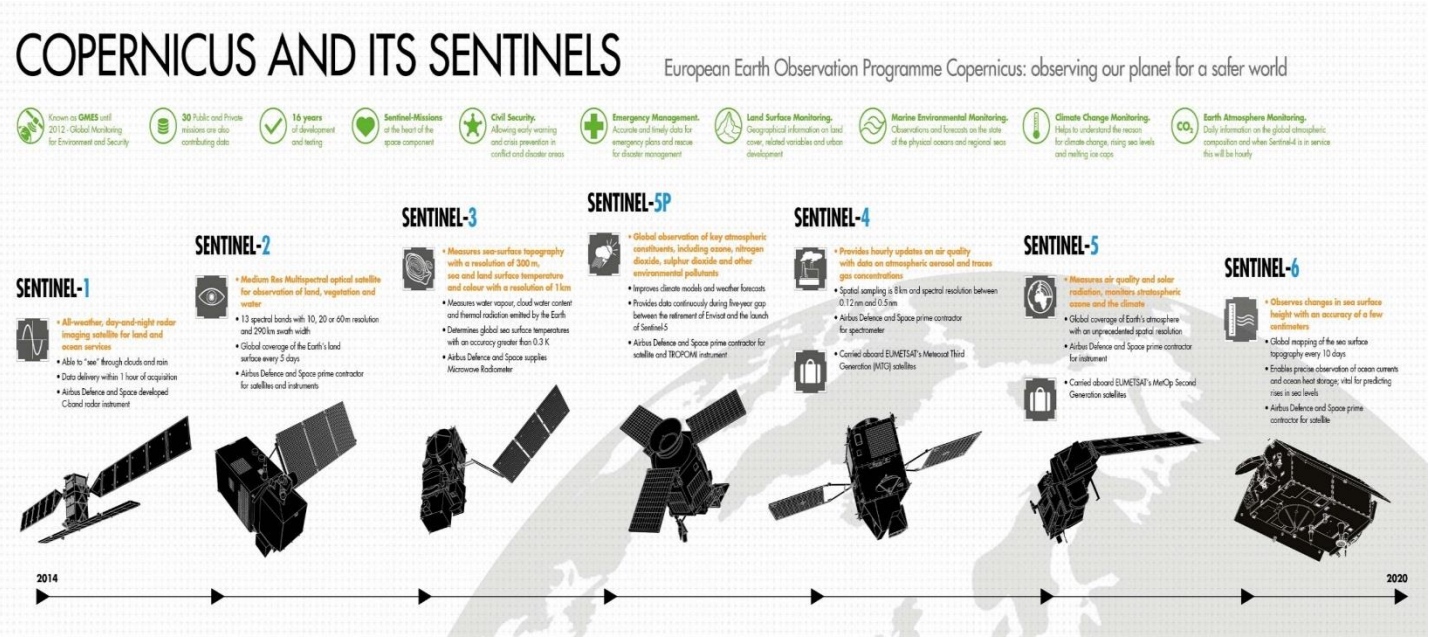




The current OPW **national-scale** Irish Coastal Protection Strategy Study (ICPSS) is helping to define more fully the extent of **erosion risk in Ireland** using modern survey and analysis methods (Lidar, Aerial Survey and GIS) and through the production of strategic erosion hazard mapping.

Aerial photographic records of the coastline from 1973-75, 2000 and 2006 were used as the primary basis for the erosion assessment and from these an annualised rate of erosion was derived and used to project where the coastline could potentially retreat to by 2030 and 2050 assuming the rate of retreat remained constant.

European Space Agency: Copernicus Project



Sentinel 1A: April 2014

Sentinel 1B: 2016

Sentinel 2A: June 2015

Sentinel 2B: mid-2016

Sentinel 3A: Dec. 2015

Sentinel 3B: +18-months

Sentinel 3B: Before 2020

Sentinel 5P: Late-2016

P = Precursor

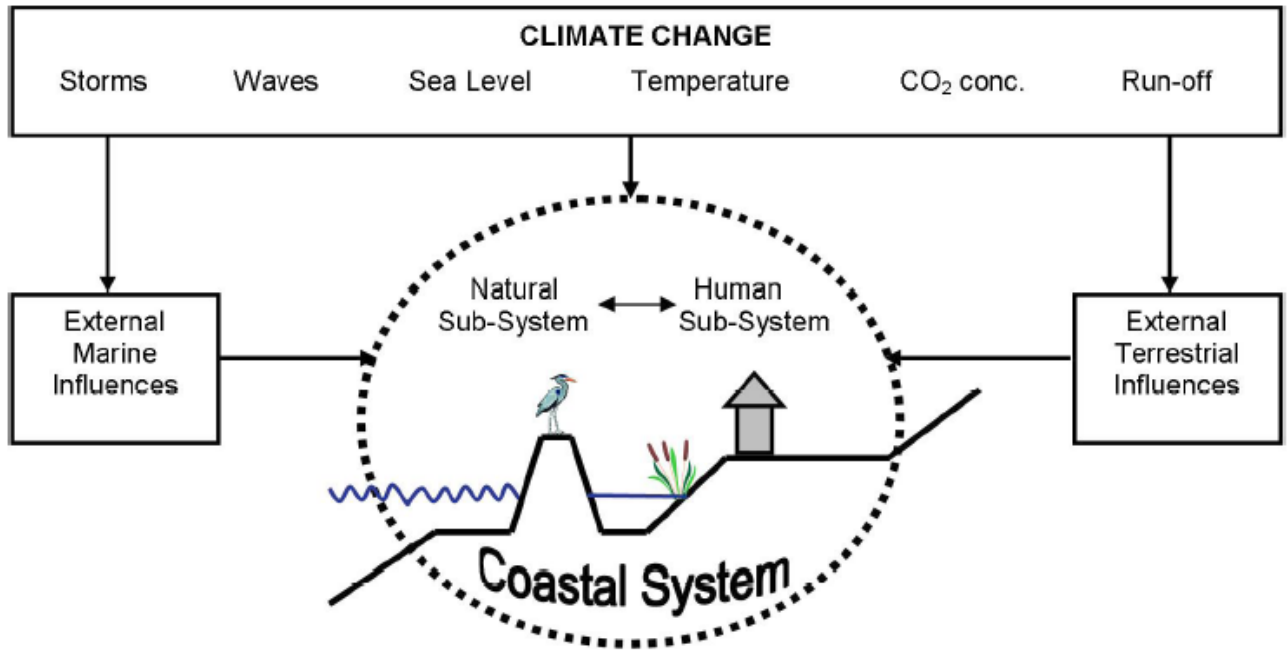
Sentinel 4: Before 2020

Sentinel 5: Before 2020

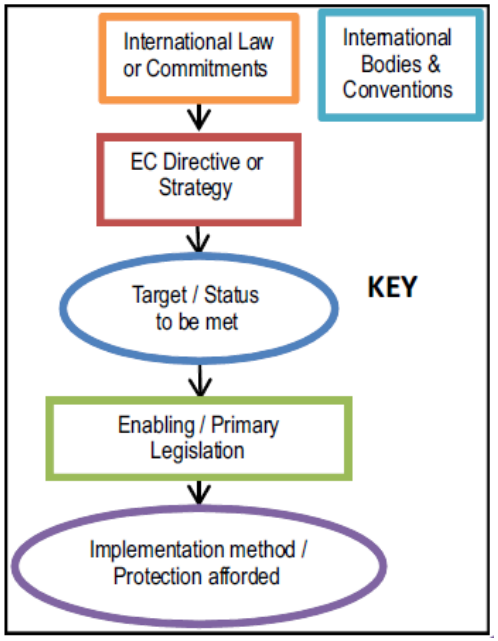
Sentinel 6: Before 2020

Source: www.esa.int

COASTAL SQUEEZE

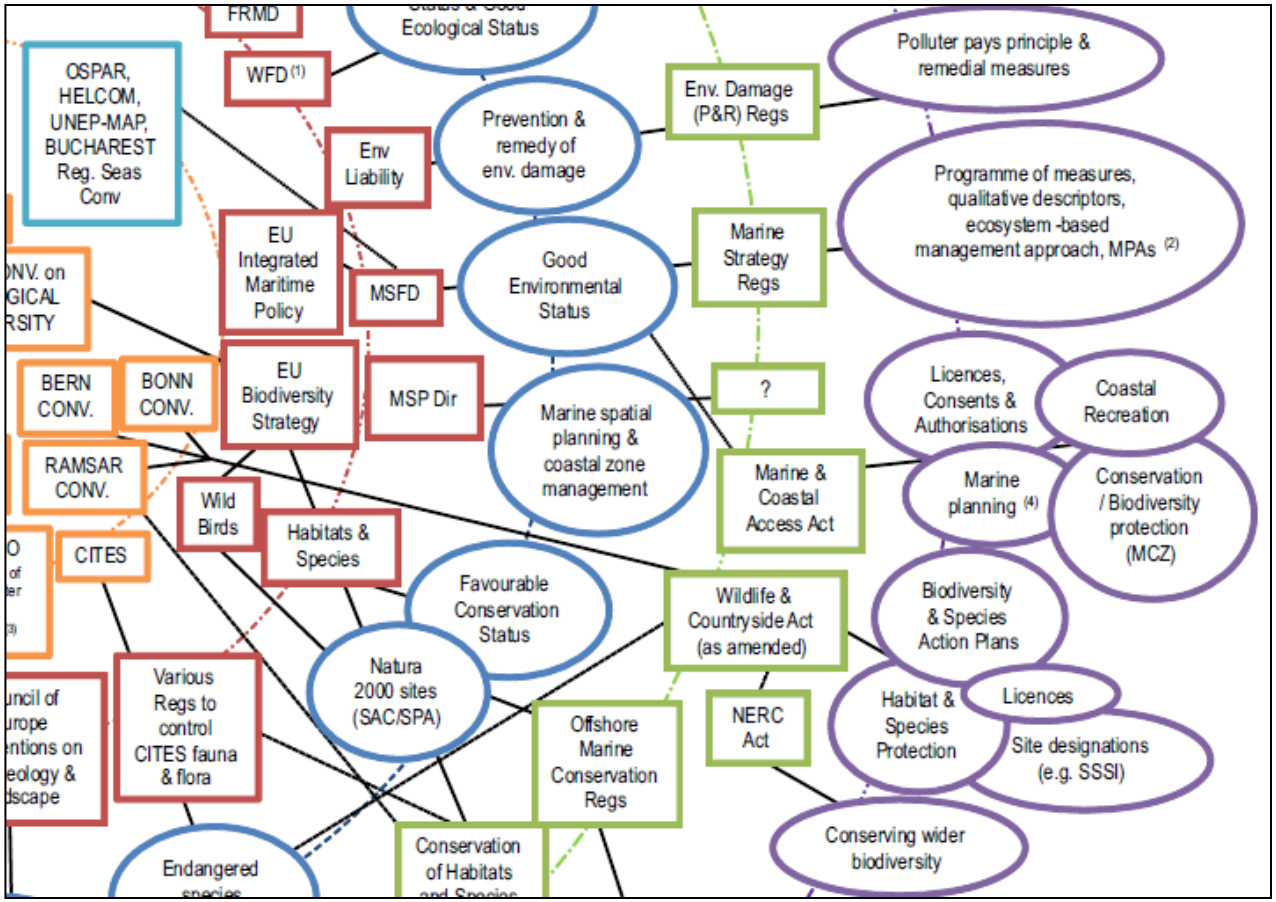


Source: IPCC



(Boyes and Elliott, 2014)

"Over five decades, measures have aimed to protect the marine environment have been dealt with by **separate sectoral policies without fully integrating all relevant sectors**.... resulted in a patchwork of EU legislation and resultant national legislation leading to a **piecemeal approach to marine protection**."



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Consideration of coastal risk in the Irish spatial planning process

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An Bord Plenála = independent third part appeals board;
Also hears cases for Strategic Infrastructure Developments
that by pass local planning authorities: development of strategic
economic or social importance to State & National Spatial Strategy

Table 1
Hierarchy of planning strategies, guidelines and plans analysed.

	Competent authority	Plans and strategies
National level planning	Department of the Environment, Community and Local Government	National Spatial Strategy **2002-2020**
		National Development Plan **2007-2013**
Regional level planning	Regional Authorities **new guidelines every 6 years**	Regional Planning Guidelines (e.g. The Regional Planning Guidelines for the West Region) 2010–2022
Local level planning	Local Authorities **88 local planning authorities: 29 CC; 49 town councils; 10 Boroughs Corp.**	Development Plans (e.g. County Mayo Development Plan)
		Local Area Plans (e.g. Westport Town Plan)

Table 2
Coastal risks identified in legislation, policy and plans.

Legislation, guidance documents and plans	Risks identified
Floods Directive	Coastal flooding; sea-level rise
The Planning System and Flood Risk Management: Guidelines for Planning Authorities	
SEA Directive	Flooding; coastal erosion
The SEA Guidelines for Regional Authorities and Planning Authorities	
Planning and Development Act 2000	
EIA Directive	No specific risks identified
The National Spatial Strategy	No specific risks identified
The National Development Plan	Coastal flooding
National Climate Change Adaptation Framework	Coastal flooding
Irish Coastal Protection Strategy Study	Coastal flooding
The Regional Planning Guidelines for the West Region 2010–2022	Coastal flooding; coastal erosion
County Mayo Development Plan	Coastal flooding; coastal erosion
Westport Town Plan	No specific risks identified


WE KNOW THAT THE CLIMATE IS CHANGING…..
CHALLENGE: LACK OF BASELINE SCIENTIFIC INFORMATION
CHALLENGE: COASTLINES ARE BEING *SQUEEZED*
CHALLENGE: LACK OF INTEGRATED, APPROPRIATE LEGLISATION
Cuttreen
Kilshannig
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Tombolo

Farming, Fishing & Recreation Activities

One road in , one road out

Total dune area: 322ha (SAC)
Fixed dunes, Mobile dunes, Large blow outs
Dune height: up to 12m

NPWS: pNHA, cSAC, SPA
EU Annex I (priority sand dune habitats), II, IV:
Fixed dunes; Dune slacks; Shifting dunes
along shoreline w/ *Ammophila arenaria*; Dunes
with *Salix repens*; Annual vegetation of drift lines

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Table 75C Conservation status of Annex I sand dune habitats at Castlegregory

Habitat[1]	EU Conservation Status Assessment				
	Favourable	Unfavourable - Inadequate	Unfavourable - Bad	Overall EU conservation status assessment	Proposed Irish conservation status system[2]
Fixed Dune (H2130)	Future prospects	Extent, Structure & functions		**Unfavourable - Inadequate**	Unfavourable - unchanged
Dunes with *Salix repens* (H2170)	Extent , Structure & functions, Future prospects			**Favourable**	Favourable - maintained
Humid Dune Slack (H2190)	Extent , Structure & functions, Future prospects			**Favourable**	Favourable - maintained
Mobile Dune (H2120)	Structure & functions		Extent , Future prospects	**Unfavourable - Bad**	Partially destroyed
Annual Vegetation of Driftlines (H1210)	Structure & functions	Extent, Future prospects		**Unfavourable - Inadequate**	Unfavourable- unchanged

[1]EU Codes as per Interpretation Manual
[2]Ratings are Favourable (Enhanced, Maintained, Recovered, Declining), Unfavourable (Recovering, Unchanged, Declining) and Destroyed (Partially destroyed, Completely destroyed and Unknown)

Tralee Bay and Magharees Peninsula, West to Cloghane SAC (site code 2070)
Conservation objectives supporting document -coastal habitats

"Due to natural coastal erosion compounded by human activities"

NPWS 2013 Report

The extent of fixed dunes is rated as unfavourable-inadequate (Table). The decline in fixed dune area as a result of erosion is largely caused by human recreational activities and also by overstocking of cattle that graze the dunes. Land tenure is an important constraint in managing.

The little mobile dune habitat remaining is very fragmented and susceptible to increasing natural erosion and erosion from anthropogenic activities. There appears to have been a shift in the sediment dynamics particularly on the western side of the tombolo. A sediment budget for the area would give a clearer indication the future prospects of this habitat at this site.

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The Maharees: A legacy of chronic coastal erosion


OPW Irish Coastal Protection Strategy Study (ICPSS)
2003 Coast of Ireland Oblique Imagery Survey


Peter Hennessy, Local resident


Peter Hennessy, Local resident

Letters from local residents

In recent years there has been evidence of significant erosion on the exposed western side of the dunes. Kerry County Council carried out a scheme to protect a section of the coastline a number of years ago and this has proven to be very effective. It would be very important that works of a similar nature were continued to protect the remainder of the dunes.

We are therefore writing to you to see if you could secure funding from national level to protect this valuable national environmental and ecological resource.

As landowners we can see the damage that uncontrolled access across the dunes is doing the area. As part of the management plan we would be willing to agree a number of controlled access points to the beach area.

It should also be pointed out that if the dune structures are not protected it will be very costly to repair the damage done in the future. The threat will be not only to the public road but to the longer term viability of the Maharees Peninsula.

Depositional vs Erosion Hazards

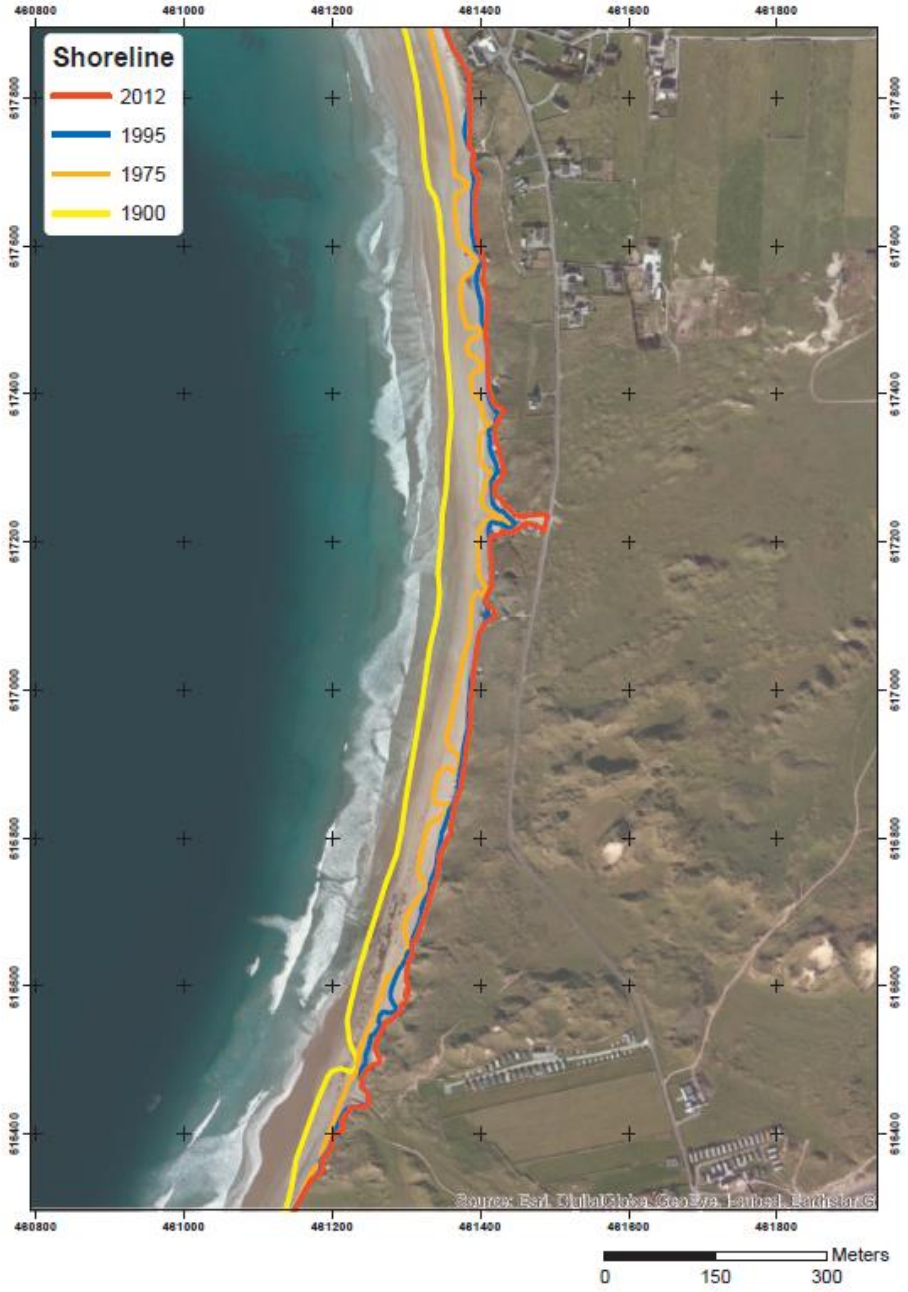
Human Impacts?

Consider limits to public access and use?

Conflict resolution?

Is it too late in some cases?

Historic shoreline change (1900 – 2015)



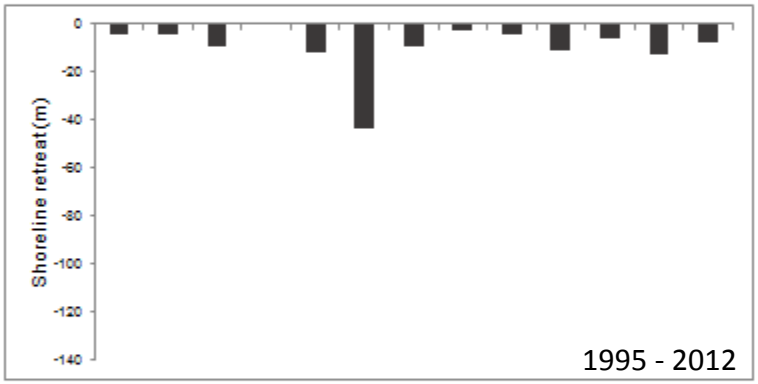
DSAS
DIGITAL SHORELINE ANALYSIS SYSTEM

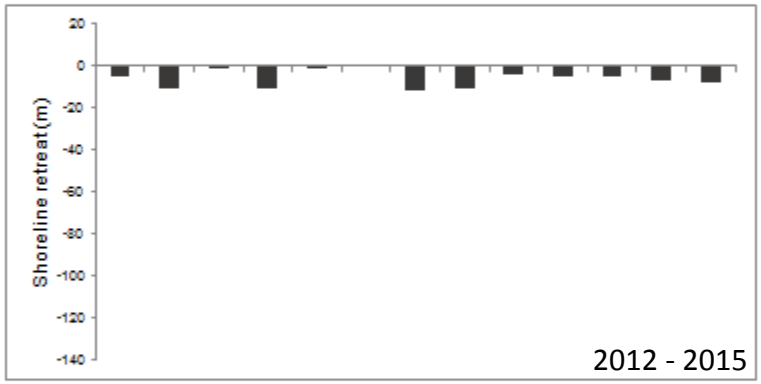
Shoreline Position Analysis

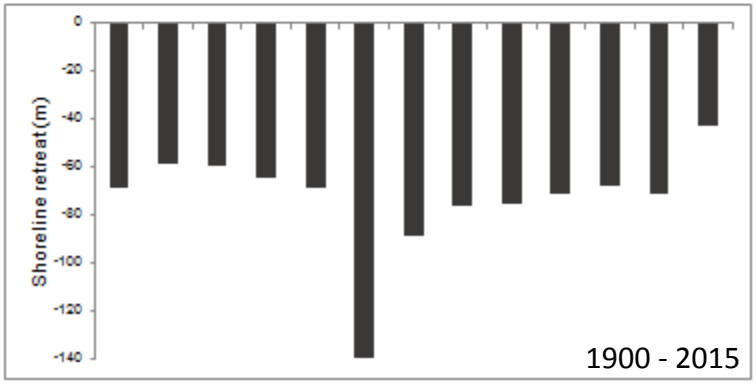
1900. (late 1800s–early 1900s) 6" Cassini B&W maps
1975. OSi map (1973-1978, no date received)
1995. OSi orthophotograph
2007. Airborne LiDAR (0.25m) Imagery Survey (TBI)
2012. Bing satellite image
2014-16. GPS surveys (+ KCC surveys???)

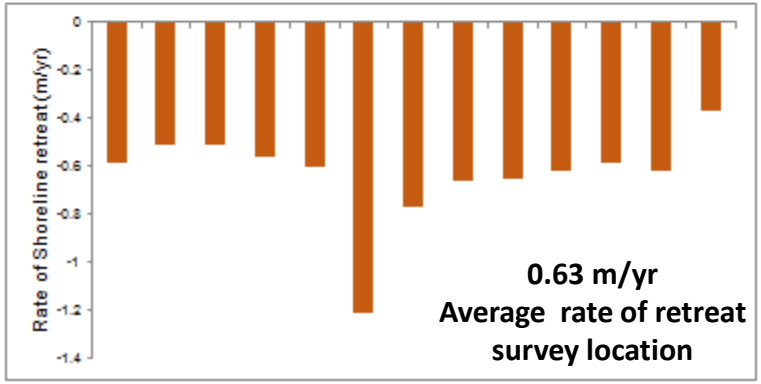
Shoreline retreat: 1900 - 2015

DSAS
DIGITAL SHORELINE ANALYSIS SYSTEM



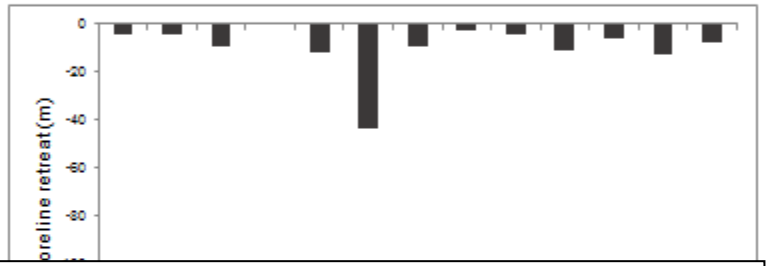


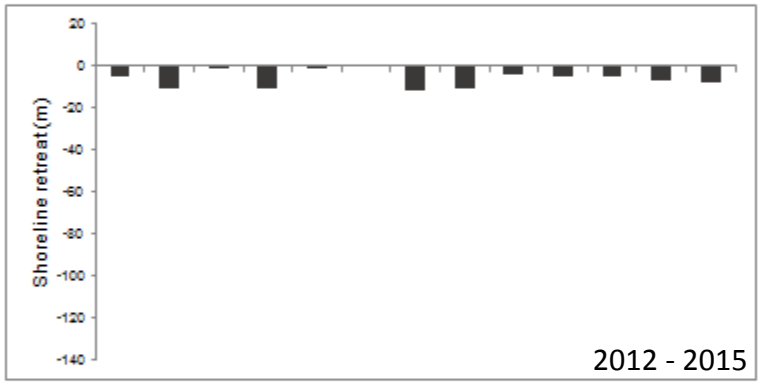


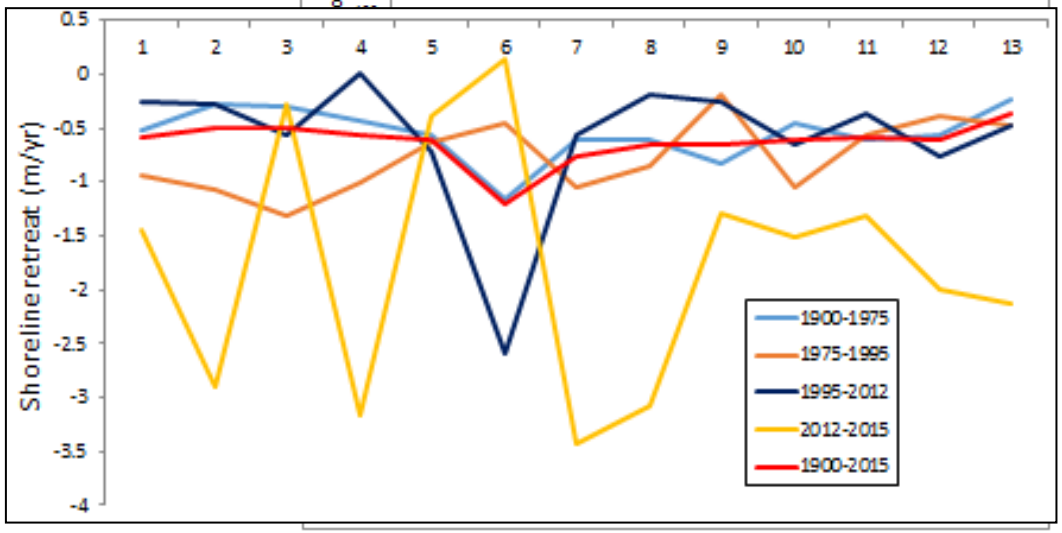


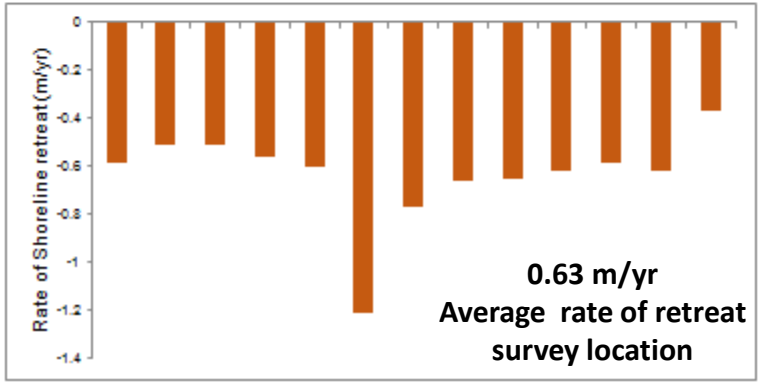
Shoreline retreat: 1900 - 2015

DSAS
DIGITAL SHORELINE ANALYSIS SYSTEM







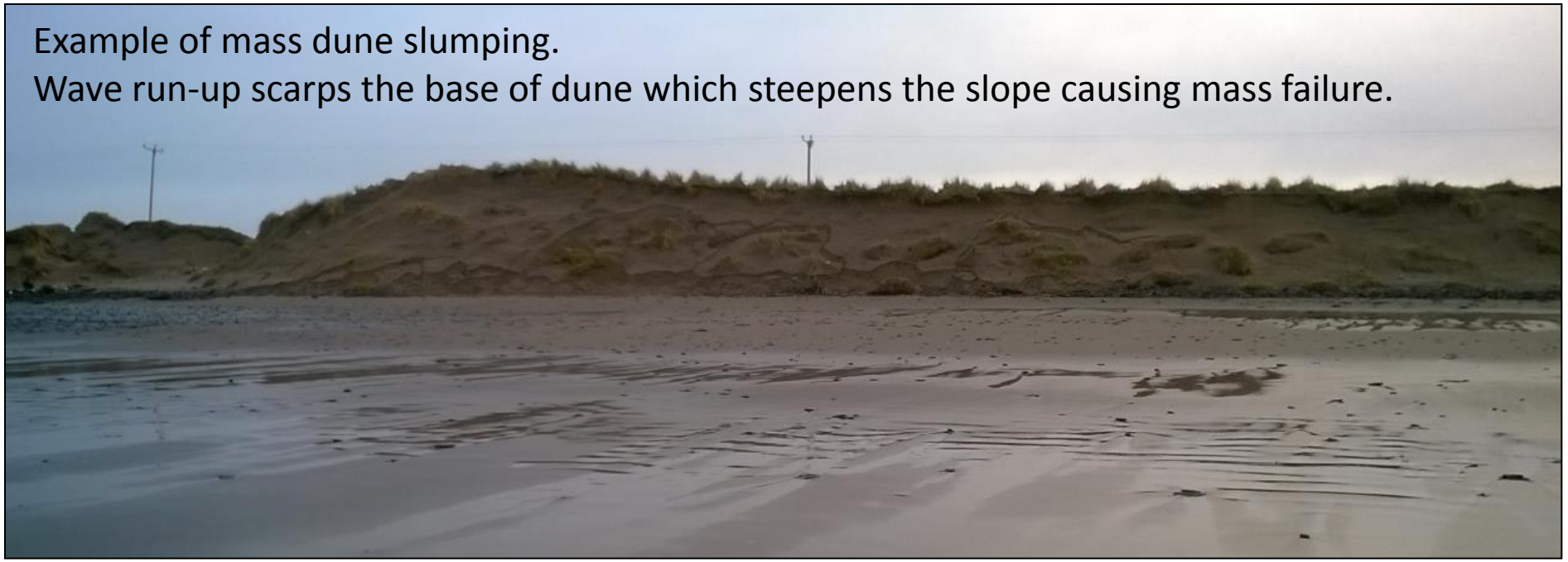


NUI Galway
OÉ Gaillimh

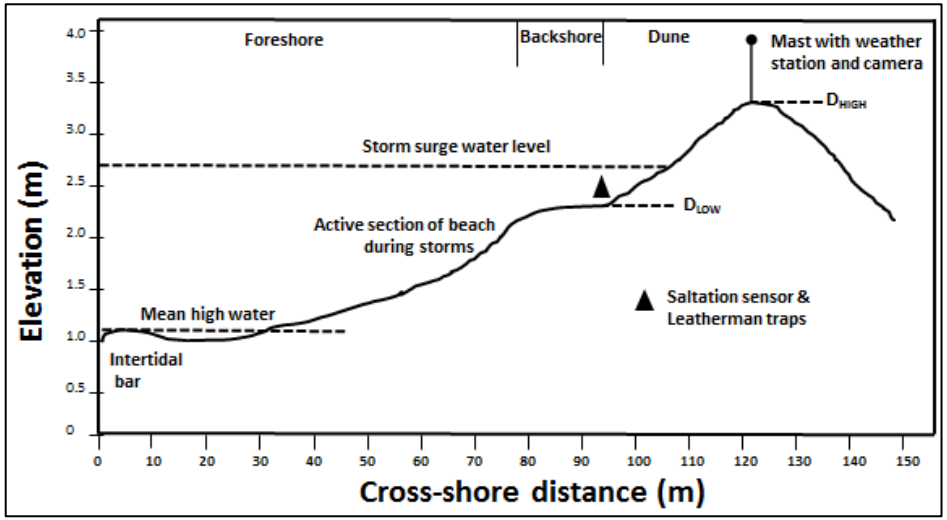
Ryan
Institute

Dune failure processes

Dune failure processes



Long term monitoring of beach-dune system



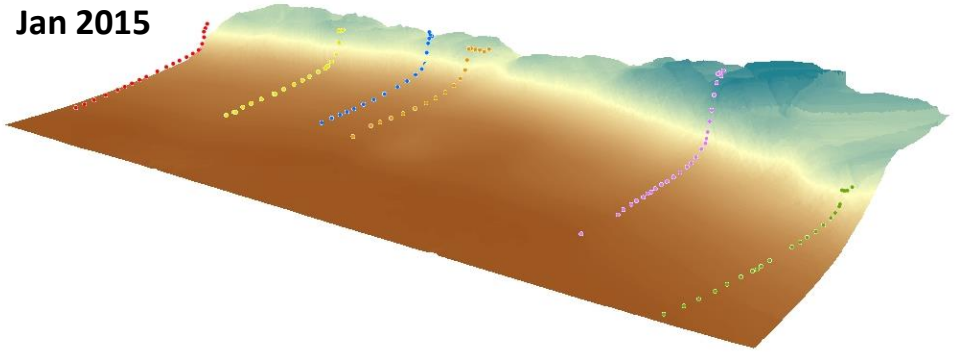
Feature	Instrument
Topography	Trimble R8 GPS Rover; Phantom 2 Vision + Drone
Meteorology	Campbell Scientific BWS200
Sediment transport	Leatherman Traps
Nearshore and beach conditions	PlotWatcher Pro Hunting Camera
Sediment properties	Sediment Laboratory
Nearshore hydrodynamics	Marine Institute SWAN model?

NUI Galway
OÉ Gaillimh

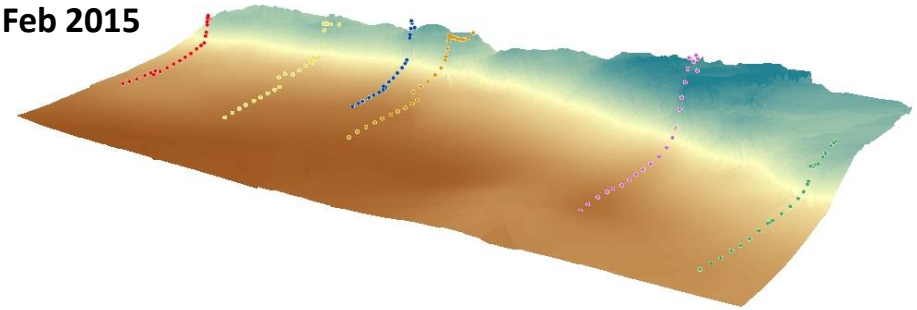
Ryan
Institute

Digital Elevation Maps (DEMs) from GPS surveys

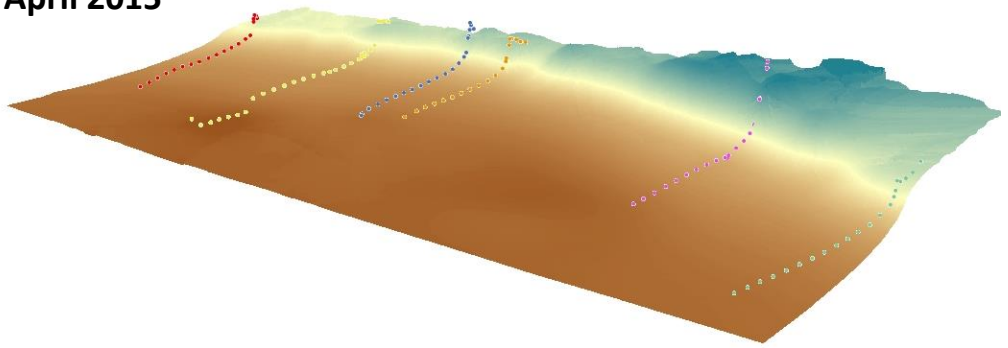
Jan 2015



Feb 2015



April 2015



Community driven activism is important

Petitions

Kerry County Council, info@kerrycoco.ie: Save the Maharees from coastal erosion

The Maharees is one of the most beautiful places on the planet. A natural tombolo, and special area...

Petitioning Kerry County Council

Save the Maharees from coastal erosion

Save Our Coastline

The Maharees is one of the most beautiful places on the planet. A natural tombolo, and special area of conservation, boasting one of the longest sandy beaches in Ireland on Brandon Bay; it is an engine of tourism for the north side of the Dingle Peninsula, providing employment, recreation and revenue and acting as a tourist draw for Castlegregory and its environs.

Sign this petition

1,384 supporters

116 needed to reach 1,500

Laura Mitchell signed this petition

First name

Last name

Email

Ireland

Your city

I'm signing because... (optional)

Share with Facebook friends

OPW: MINOR FLOOD MITIGATION WORKS & COASTAL PROTECTION SCHEME

Purpose: provide funding to LAs to undertake minor flood mitigation works or studies to address flooding and coastal protection problems

Applications for schemes < €500,000 (up to 90% of cost)

OPW assesses: economic, social, environmental criteria + cost benefit ratio (1:1.5)

A detailed coastal erosion risk management study recommended by OPW to develop an appropriate plan to manage risk.

Exceptions:

1. Short length of coastline **(<75 m)** to replace existing protection structure **X**
2. Short length of coastline **(<75 m) & not in close proximity to NHA, SAC, SPA** **X**
3. Emergency work where substantial risk to human life or health exists **?**

RECOMMENDATIONS….

1. Liaise with **KCC** so your 'cell' is represented in their plans for **Capital Expenditure** & OPW (Mr Eamonn Scanlon, Mr Brian Lennon)
   Give Councillors and TDs the requisite information to represent the problem/community

2. Community is engaged in the problem and united in finding a fix
   - Work and speak as a Group; active on social media; learn from other Groups
   - Initiate education programmes: ecology, vegetation, flora and fauna, geo! (added value!)
   - Citizen science?

3. Start collating the information for a version of a **coastal erosion risk management study**

- Historical review (topographic; airborne and terrestrial LiDAR; historical maps) ✓
- Planning documents (National Strategy Plan; Regional Development; County/Local Plans)
- Cost to fill gaps; walkover survey/inspection; compare to ICPSS; climate change impacts ✓
- Map existing and future erosion/deposition in study area (2050 & 2100) ✓
- Preliminary environmental/impacts assessment (Directives: SEA, EIA, AA) & Community
- Consider different measures that will, by current guidelines, be investigated:
  Do nothing; Do minimum; Hold the Line; Advance the Line; Managed Realignment
  More rock armour? Geotextile barriers? Sand fence? Dune vegetation planting?

4. What value does the NPWS place on this SAC? Always speak of the integrated dune system!
   What if they are lost to erosion? Issue: EU conservation status = "Unfavourable-Bad"

ACKNOWLEDGEMENTS

Dr. Kevin Lynch

Ms. Sinead Wilkes Orozco (Masters student)
Mr. Guillermo Castro Camba (Phd student)