Secretary: Havant Borough Council
Public Service Plaza, Havant,
PO9 2AX

Enquiries Nicholas Rogers
Tel: 023 9244 6233
E-mail: nicholas.rogers@havant.gov.uk

3 December 2017

Dear Sir or Madam

SOUTHERN COASTAL GROUP

Date: 7 December 2017

Time: 10.00 am

Place: Itchen Meeting Room - Romsey

Please see the attached location map. If you are unable to attend please contact Nicholas Rogers as soon as possible by e-mail or telephone.

Yours faithfully

Nicholas Rogers
Havant Borough Council

AGENDA

7 **Habitat Creation Programme - Nick Gray (Verbal Update)**

8 **Finance and Service Plan Progress Discussion - Lyall Cairns**

9 **Any Other Business**

10 **Dates of Future Meetings**

The Environment Agency, Romsey District Office
Canal Walk, Romsey, Hampshire, SO51 8DU
Tel (direct): 01794 832700 Tel (internal): 7 23 2700 Fax: 02392 230251
email: david.taylor@environment-agency.gov.uk

How to find us

By Foot or Bike: On foot, staff and visitors will enter the site via Canal Walk. There are no excessive inclines in the vicinity of the site. Cycle path 2½ miles from Timsbury to Romsey, showers and lockers are available. Cycle path maps available from reception on request and in the staff rooms.

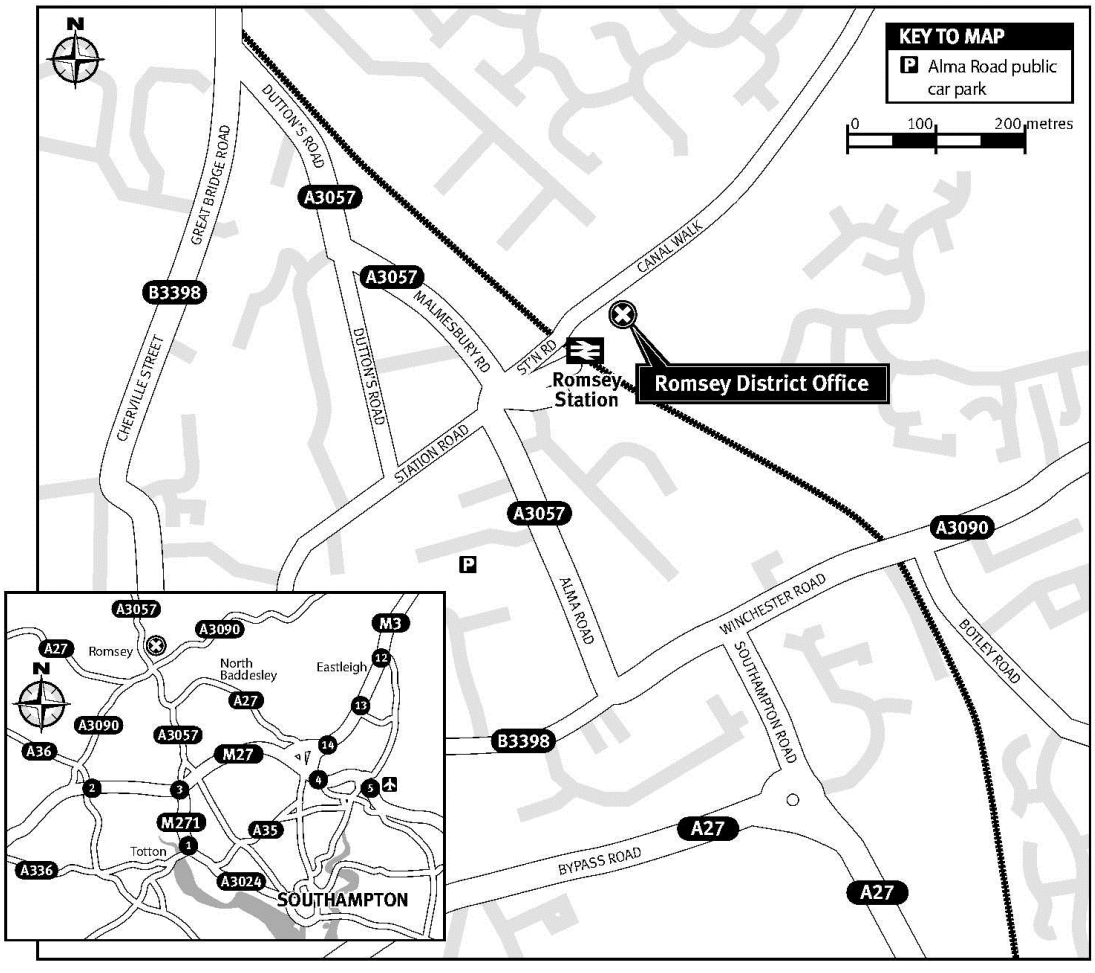
By Rail: National Rail Enquiries Tel: 0845 484950. Users of train services will disembark at Romsey Station immediately adjacent to the site. Romsey Station is adjacent to the District Office on the North Side of the station. Rail times are available at reception, in staff rooms or on the internet www.nationalrail.co.uk

By Bus/Coach: Local buses, which serve routes in and around Romsey stop within a short walking distance of the District office. Further information on bus routes are on the Hampshire County Council website via the following link: http://www3.hants.gov.uk/passengertransport/transport-advice/ptg-publications/bus-guides.htm There will also be route guides available at reception and in staff rooms.

By Road: Romsey office is situated 50 metres beside the Romsey rail station, one mile from the M27 motorway interchange. Car parking at Romsey office is allocated on a priority basis for essential business users (Agency-badged vans and category A users only).

Therefore, we strongly recommend that travel to Romsey is by public transport, even if it's considered as park and ride for your journey. Car parking is available in the Alma Road public pay and display car park.

Safe Travelling to Environment Agency Offices: If you are travelling by public transport and are not familiar with the site, please ask your meeting organiser for advice.



424385_EA_Romsey_District | CDS Jan 2010 | © The Environment Agency 2010

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HAVANT BOROUGH COUNCIL

At a meeting of the Southern Coastal Group held on 15 September 2017

Present:

Samantha Box, Eastern Solent Coastal Partnership
Dr Ken Buchan, Dorest County Council
Mr Lyall Cairns, Eastern Solent Coastal Partership
Dr Samantha Cope, Eastern Solent Coastal Partnership
Peter Ferguson, New Forest District Council
Nick Gray, Environment Agency
Dr David Harlow, Bournemouth Borough Council
Dominic Henly, Chichester District Council
Gavin Holder, Eastern Solent Coastal Partnership
Angela Marlow, Natural England
Matthew Penny, Dorset Council Partnership
David Picksley, Eastern Solent Coastal Partnership
Mr David Robson, Borough of Poole Council
Mark Stratton, Eastern Solent Coastal Partnership
Mr Steve Woolard, Christchurch Borough Council

138 Apologies

Apologies for absence were received from Bryan Curtis, Vincent May, Nick Hardiman, Uwe Dornbusch, Stevyn Ricketts, David Jenkins, Neil Watson, Stuart McVey, Steve Cook, Gordon Wilkinson, Matt Hosey, Tim Adams and Jenny Jakeways.

139 To confirm the minutes of the meeting of the Southern Coastal Group held on 9 June 2017 (Paper A)

RESOLVED that the minutes of the meeting of the Southern Coastal Group held on 9 June 2017 be set as a correct record subject to the following amendments:

a) Minute 130 be amended to read ‘Ekki timber had shown minimal signs of wear’; and

b) Minute 133 be amended to read ‘Bournemouth Borough Council’.

140 Shoreline Management Plan Refresh

a) Workshop in Birmingham (Paper B)

The Chairman invited Mark Stratton to update the Group on the outcomes of the SMP Futures workshop in Birmingham. The workshop had focused on the key areas of consideration for the future of SMPs and attendees had unanimously agreed a light-touch review was needed.

The Chairman highlighted the SMP Workshop scheduled for 29 September in Romsey, and members discussed items concerning the scope of any SMP refresh, community engagement of SMPs and clarity of communications to be added to the workshop agenda.

It was agreed that any comments on the paper be submitted to Neil Watson by this date, and a message be circulated to members to encourage attendance to the workshop on 29 September.

b) Action Plan Review

The Chairman invited Mark Stratton to update the Group on the progress of the SMP Action Plan Review. The work had been completed and officers were in the process of compiling analytics. It was agreed that a paper on this review would be presented at the SMP Workshop on 29 September.

c) Funding and Leadership for Refresh

Members discussed opportunities for SMPs in the SCOPAC region to combine a bid for national funding. It was agreed this would be discussed at the SMP Workshop on 29 September.

141 Habitat Creation Report (Nick Gray - Paper C)

The Chairman invited Nick Gray to update the Group on the progress of the Habitat Creation Programme.

The Group were informed that historic losses of approximately 100 hectares had recently been identified by Natural England and these had the potential to impact upon the successful delivery of ‘epoch one’ targets. Members requested an update on the current position of both the Solent / South Downs and Wessex areas at the next Group meeting.

142 Review of Finance and Services Plan (Lyall Cairns - Paper D)

The Chairman invited Lyall Cairns to introduce the audited SCOPAC and SCG accounts for 2016/17, the proposed budgets for 2017/18 and the proposed service plan for 2017/18.

Officers were given the opportunity to discuss the accounts and service plans and raise any queries or concerns.

During the discussion, officers highlighted the need for regular tracking of the budget to be undertaken at Group meetings and the need to lobby the importance of the Group to elected members to ensure continued funding. Officers also requested regular updates on progress against the service plans to be submitted to Lyall Cairns, with quarterly reminders to be circulated to area leads.

RESOLVED that;

a) The audited SCOPAC and SCG accounts for 2016/17 be noted by the Group;
b) The SCG budget for 2017/18 be approved subject to the agreement of the SCOPAC allocation;
c) The SCOPAC budget for 2017/18 be recommended to SCOPAC for approval; and
d) The SCG service plan be agreed as tabled.

143 Research Update (Sam Cope - Paper E)

Dr Samantha Cope gave an overview on the progress of the Research Programme. The update included details of ongoing research projects and those that had reached completion.

The following studies were discussed:

- Storm Analysis – This project was the first priority study to be undertaken if surplus funds became available.

- Establishing shingle transport pathways – Church Norton Spit – Discussions were ongoing on whether funds for the project should be reallocated as a student had not yet been sourced to undertake the second phase. The findings to date were available on the SCOPAC website.

- Beach response in front of structures in open coast – Further testing would be undertaken in the coming winter. Beach excavation to deploy the scour monitors had highlighted how short the piling was in some seawall locations.

- Monitoring of Poole Nearshore Replenishment Trials – The study had been completed and the report was with the Environment Agency for sign-off.

- Scanning of historical aerial photography – NCAP photographs compiled in Year 1 had been scanned in preparation for publication online. Year 2 of the study would be conducted by Dr David Harlow and focus on prints held by local authorities.

- CIRIA Groynes in Coastal Management Manual – Dr David Harlow and Peter Ferguson had attended a workshop to discuss the project. An update will be provided at a future meeting.

- Update to the SCOPAC Sediment Transport Study – The updated information was now live on the SCOPAC website (http://www.scopac.org.uk/sts-2012.html). Officers discussed promoting the information available on the website further through social media and press releases.

- SCOPAC Contaminated Land Study – In the response to the ESCP letter discussed at the previous Group meeting, the Environment Agency had indicated that these issues would be raised at a national EA meeting in September, with a view to escalating further. It was agreed that an update on this matter be provided at the next Group meeting. An application for local levy funding had been submitted to the Southern RFCC in relation to this and received officer approval, prior to being submitted for member consideration.

- Dismantling of timber groynes – The study analysed the level of repair work and gribble infestation across the five types of timber used in groynes. Ekki planks were being re-used on groynes but other timbers were not fit for redeployment. It was hoped that full results would be made available online by the end of the calendar year.

The meeting was adjourned at 11.43am and reconvened at 11.51am

144 Coastal Monitoring Report (Steve Cook - Paper F)

The Chairman invited Peter Ferguson to introduce the report on the progress of the Southeast Regional Coastal Monitoring Programme and update the Group on any further developments.

Officers requested details on the scale and projected timescales of the structure laser scan surveys.

145 Coastal Asset Data Project (Dave Robson - Paper G)

The Chairman provided the Group with an update on the Coastal Asset Data Project.

The update included a report from a meeting held on 5 July to discuss the next steps for the project. A business case for the asset data system had not yet been prepared, while an October workshop had been arranged to discuss progress on the project. Officers also commented that the quality of inspection work and the consistency of the data held would be key to this project.

The Group encouraged officers to attend the October workshop on this issue.

146 Capital Programme Management Tool (Mark Stratton)

The Chairman invited Mark Stratton to lead the discussion on the Capital Programme Management Tool.

The tool was aimed at providing useful oversight of projects and to highlight opportunities for efficiencies across works undertaken. This had been endorsed by the Group, but had yet to receive a full response from officers.

Officers were encouraged to contribute as this was an effective tool to communicate the work of the Group. It was agreed that the updated tool would be presented at a future SCOPAC meeting.

147 AOB

Lyall Cairns highlighted the need for local authority coastal departments to work closely with planning and regeneration departments to contribute to the wider strategies around place-making and partnership working.

148 Date of Next Meeting

The Group noted the next meeting date of Friday 15 December 2017 at 10am.

The meeting commenced at 10.00 am and concluded at 12.32 pm

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Environment Agency | Department for Environment Food & Rural Affairs | Cyfoeth Naturiol Cymru Natural Resources Wales | Llywodraeth Cymru Welsh Government

Fact sheet

November 2017

Coastal Research & Development activities – an update

This briefing provides an update on key coastal research and development funded and steered by the Joint Flood and Coastal Erosion Risk Management Research and Development Programme. The 'Joint Programme' is run by EA and Defra for Natural Resources Wales, Local Authorities, Defra and the Environment Agency. The briefing covers recently completed, ongoing and planned research activities and also work we are partnering on. If you have relevant coastal research information to share with others, let me know and I'll add it to this briefing.

The intention is that you can dip in and out of parts of this document: There are short summary lists of recent and ongoing work in Section 1; A little more detail can be found on each project in Section 2; Future research ideas and completed research projects are summarised in sections 3 and 4; There is some information about our commissioning process in sections 5 and 6.
The four summary lists in Section 1 all contain the same 29 recent and ongoing projects. Each list is just organised differently to enable readers to access information in different ways.

Contents

Where we are now – 9th November 2017

Two coastal projects are on the prioritised list for EA/Defra funding in the 18/19 programme and will be put before to the Joint Programme Board on 13th December 2017 for a final decision:

- Providing guidance on application of joint probability methods for waves and sea level
- Better prediction tools for mixed beaches

If you can provide examples of risks/costs we are going to avert by doing this work or mistakes that have already been made because we didn't have these outputs, we can add these stories to the proposals to give them the best possible chance of getting approval in the December meeting.

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Current research organised by coastal feature

Waves and water levels

1. Developing a real-time wave ensemble product for forecasting (2016)
2. Update to EurOtop wave overtopping manual (2017)
3. Tolerable limits of wave overtopping (2019-)
4. Good practice in coastal flood forecasting (2017)
5. Coastal models – a review of available coastal models (2018-19)
6. Making use of the latest evidence in FCRM and climate change (2018)
7. SUCCESS: Synthesising Unprecedented Coastal Conditions: Extreme Storm Surges (2018)
8. Guidance on joint probability of waves and sea levels (proposal)
9. Realistic planning scenarios for FCRM and FIM - to capture the true spatial nature and probability of flood risk (2018)

Erosion, sediment and beaches

10. Developing regional indices for accelerated cliff erosion under sea level rise (2018)
11. Poole Bay 'nearshore' beach renourishment trial (2017)
12. Guide to sediment budget analysis (2017)
13. BLUEcoast: understanding dynamic coastal processes (2021)
14. iCOASST: Integrating COASTal Sediment Systems (2017)
15. User guide for morphological modelling of the coast - (2018)
16. Increasing the accessibility of 'Futurecoast' (2018)
17. Tools for better prediction of mixed beaches (proposal)
18. Coastal Landfill and Shoreline Management: Implications for Coastal Adaptation Infrastructure (2017)

Working with nature

19. Developing the evidence base to support Working With Natural Processes (WWNP) (2017)
20. Defining coastal squeeze (2018-19)
21. FAST: Foreshore Assessment Using Space Technology (2018)

Working with people

22. Engaging with communities where future flood or coastal protection is not viable (2018)
23. Practical approaches to the decommissioning of uneconomical assets (PATDUA) (2019)
24. Benefits of FCRM Investment on Recreation, Tourism and Health (2018)
25. The role of communities and new technologies in the inspection and maintenance of FCERM assets (proposal)

Coastal structures

26. Updating our freeboard guide (2017)
27. Developing beach management trigger levels (asset performance tools and guidance) (2018)
28. Groyne maintenance (2018-19)
29. Understanding the impact of climate change on asset deterioration (2018)

Current research organised by application

Short-term flood forecasting

1. Developing a real-time wave ensemble product for forecasting (2016)
4. Good practice in coastal flood forecasting (2017)

Medium-term management of risk

16. Increasing the accessibility of 'Futurecoast' (2018)
19. Developing the evidence base to support Working With Natural Processes (WWNP) (2017)
20. Defining coastal squeeze (2018-19)
21. FAST: Foreshore Assessment Using Space Technology (2018)
26. Updating our freeboard guide (2017)
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24. Benefits of FCRM Investment on Recreation, Tourism and Health (2018)
25. The role of communities and new technologies in the inspection and maintenance of FCERM assets (proposal)
28. Groyne maintenance (2018-19)

Flood-specific

2. Update to EurOtop wave overtopping manual (2017)
3. Tolerable limits of wave overtopping (2019-)
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7. SUCCESS: Synthesising Unprecedented Coastal Conditions: Extreme Storm Surges (2018)
8. Guidance on joint probability of waves and sea levels (proposal)
9. Realistic planning scenarios - to capture the true spatial nature and probability of flood risk (2018)

Erosion-specific

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12. Guide to sediment budget analysis (2017)
13. BLUEcoast: understanding dynamic coastal processes (2021)
14. iCOASST: Integrating COASTal Sediment Systems (2017)
15. User guide for morphological modelling of the coast - (2018)
17. Tools for better prediction of mixed beaches (proposal)

Long-term planning

6. Making use of the latest evidence in FCRM and climate change (2018)
10. Developing regional indices for accelerated cliff erosion under sea level rise (2018)
16. Coastal Landfill and Shoreline Management: Implications for Coastal Adaptation Infrastructure (2017)
22. Engaging with communities where future flood or coastal protection is not viable (2018)
29. Understanding the impact of climate change on asset deterioration (2018)
18. Coastal Landfill and Shoreline Management: Implications for Coastal Adaptation Infrastructure (2017)

Current research organised by output

This is a rough classification as often projects will include more than one output with some guidance or a tool included

Reviews

4. Good practice in coastal flood forecasting (2017)
5. Coastal models – a review of available coastal models (2018-19)
20. Defining coastal squeeze (2018-19)

Guidance

2. Update to EurOtop wave overtopping manual (2017)
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Tools

14. iCOASST: Integrating COASTal Sediment Systems (2017)
17. Tools for better prediction of mixed beaches (proposal)

Datasets

1. Developing a real-time wave ensemble product for forecasting (2016)
7. SUCCESS: Synthesising Unprecedented Coastal Conditions: Extreme Storm Surges (2018)
10. Developing regional indices for accelerated cliff erosion under sea level rise (2018)
16. Increasing the accessibility of ‘Futurecoast’ (2018)
19. Developing the evidence base to support Working With Natural Processes (WWNP) (2017)
21. FAST: Foreshore Assessment Using Space Technology (2018)

Reported findings

3. Tolerable limits of wave overtopping (2019-)
9. Realistic planning scenarios - to capture the true spatial nature and probability of flood risk (2018)
11. Poole Bay ‘nearshore’ beach renourishment trial (2017)
13. BLUEcoast: understanding dynamic coastal processes (2021)
18. Coastal Landfill and Shoreline Management: Implications for Coastal Adaptation Infrastructure (2017)
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29. Understanding the impact of climate change on asset deterioration (2018)

Current research organised by expected impact

Better-understood coastal flood risk

3. Tolerable limits of wave overtopping (2019-)
7. SUCCESS: Synthesising Unprecedented Coastal Conditions: Extreme Storm Surges (2018)
9. Realistic planning scenarios - to capture the true spatial nature and probability of flood risk (2018)
10. Developing regional indices for accelerated cliff erosion under sea level rise (2018)
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Better-managed coastal flood risk

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19. Developing the evidence base to support Working With Natural Processes (WWNP) (2017)
26. Updating our freeboard guide (2017)

Better-understood shorelines

13. BLUEcoast: understanding dynamic coastal processes (2021)
14. iCOASST: Integrating COASTal Sediment Systems (2017)
16. Increasing the accessibility of 'Futurecoast' (2018)
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Better-managed shorelines

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27. Developing beach management trigger levels (asset performance tools and guidance) (2018)
28. Groyne maintenance (2018-19)

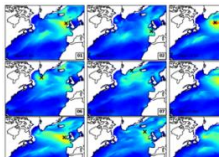
Better-positioned to implement current government policy

22. Engaging with communities where future flood or coastal protection is not viable (2018)
23. Practical approaches to the decommissioning of uneconomical assets (PATDUA) (2019)
25. The role of communities and new technologies in the inspection and maintenance of FCERM assets (proposal)

Section 2 – A paragraph on each project

This section provides a summary for each of the projects (recently completed, ongoing and proposed) which were listed in section 1. Projects are organised by coastal feature here.

Waves and water levels



eleanor.heron@environment-agency.gov.uk

1. Developing a real-time wave ensemble product for forecasting

We have been working in partnership with the Met Office to trial and demonstrate the feasibility of an operational wave ensemble for UK coastal waters for use in flood forecasting. The project has been undertaken as an addition to the Met Office work in the EU FP7 My Wave project. The project report is available on the Met Office website at the following link. Following on from the research phase, the Flood Forecasting Centre is leading on developing the wave ensemble. This work is being directed by our Flood Detection and Forecasting Team and will help us to make best use of the information to understand uncertainty and impacts in line with the Flood Incident Management Roadmap and Flood Forecasting Development Plan.

andy.tan@environment-agency.gov.uk

2. Update to EurOtop wave overtopping manual (Defra/EA funded)

Wave overtopping rates are a key input requirement for all coastal flood risk assessments. The EurOtop manual and calculation tools are world-leading, and broadly applicable. However it is arguable that the current guide is biased towards simple structure types, particularly embankments or vertical walls. The tools are therefore weaker for complex structures, particularly multi-element seawalls. The aim of this research is therefore to update the manual and supporting tools through the incorporation of more empirical data to improve the applicability of the manual across a broader range of coastal asset type.

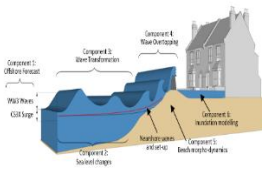
The work has been launched as a draft here: http://www.overtopping-manual.com/manual.html
It is expected to be finalised in Spring 2018.

3. Tolerable limits of overtopping

For more information contact:
andy.tan@environment-agency.gov.uk

Prediction methods in wave overtopping manuals do not provide complete answers to key questions on: a) What levels of wave overtopping can be tolerated for the stability of flood defences, or defence elements; b) What are the safety implications for people, vehicles or buildings on the hind side of flood defences when subject to intermittent (but potentially violent) wave overtopping; c) what is an acceptable/allowable wave overtopping limit for public spaces and properties when designing for a coastal defence scheme. Setting appropriate limits should be based on the context of the coastal defence and the coastal communities risk tolerance and risk perception This project is establishing a programme of research to address these issues. The scoping phase is expected to complete in Autumn 2018.

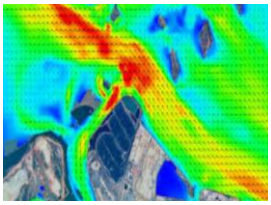
4. Good practice in coastal flood forecasting (Defra/EA funded)



christabel.mitchell@environment-agency.gov.uk

The key objective of this research was to develop techniques and tools to help us understand and assess the performance of our coastal flood forecasting models against common criteria in order to inform investment needs.
The outcome indicated where investment should take place (local or national models) and highlighted where the aspirations of real time flood inundation mapping are practical and affordable for coastal risk areas given the established baseline.

Waves and water levels



christabel.mitchell@ent-agency.gov.uk

5. Coastal models – a review of available coastal models (Defra/EA funded)

The modelling chain for coastal modelling is very complex and consists of several elements from the deep sea to overtopping of flood defence structures and inundation. To date each of our flood modelling projects has used the recommended models from our consultants which may have been commercial, in-house or a mixture. The modelling train is certainly not consistent across coastal FCRM work and we are often left accepting models and outputs that we cannot properly review or easily re-use. Practitioner guidance is required on choice, suitability and applicability of coastal flood models. This research scope is ready to go out for tender Autumn 2017.

6. Making use of the latest evidence in FCRM and climate change (Defra/EA funded)

There is already evidence that climate change is increasing the intensity of rainfall events in the UK and causing accelerating sea-level rise globally. The impact of climate change depends not only on the magnitude of the change but also on local characteristics. This project extends and improves existing analyses of sensitivity to climate change for both fluvial and coastal floods to take account of the latest research. The results will be of great value in understanding, planning and adapting to changing flood risk over the rest of this century.

On the coast this work will include replacing the estimates of time-mean sea level used in UKCP09 with the state-of-the-art climate model data and methodologies used in the recently published IPCC 5th Assessment Report. Modelling work is ongoing. The coastal aspect of this work has now developed close links with the UKCP18 project which is producing new climate change projections for the UK. Final outputs are expected in March 2018.

For more information contact:
stuart.allen@environment-agency.gov.uk

7. SUCCESS: Synthesising Unprecedented Coastal Conditions: Extreme Storm Surges (NERC funded)

Consortium lead: Kevin Horsburgh (National Oceanography Centre) **UK partners**: Environment Agency, EDF Energy, **Programme**: Jan 17 - Jan 18

This project will deliver understanding of the impacts of plausible extreme coastal surge and wave events. It will provide Flood and Coastal Erosion Risk Management Authorities with an improved level of understanding around current and future standards of protection. For key coastal regions we will synthesise a number of "black swan" storm surges - events that have not been observed but that are physically plausible. The modified wind and pressure fields will drive coupled storm surge and wave models to create the plausible worst cases. Our work will provide a credible alternative for worst case storm surges that complements the H++ scenarios obtained from climate models alone.

For more information contact:
anita.asadullah@environment-agency.gov.uk

8. Guidance on joint probability of waves and sea level (EA proposal)

New methods have become more widely available and a step change in coastal modelling has been implemented on the Environment Agency's State of the Nation project. Existing guidance is now outdated. It is evident this guidance is being mis-applied and misunderstood. There are new methods and data that are available, but the methods have been applied by specialists and there is no user guidance associated with the data. It is also necessary to investigate the impacts of climate change. This proposal has been shortlisted going forward to the Joint Programme Board on 13th December for approval/rejection for funding in next year's programme (2018/19).

For more information contact:
sue.manson@environment-agency.gov.uk

For more information contact:
sue.manson@environment-agency.gov.uk

9. Realistic planning scenarios for FCRM and FIM - to capture the true spatial nature and probability of flood risk (Defra/EA funded)

Defra have been leading on the coastal part of this project to develop and make available practical methods and data for assessing joint probabilities of flooding from several sources at all scales (from local to national and from season to annual) to support the National Flood Risk Assessment Flood Incident Management planning. To provide a scientifically sound evidence base to update the Cabinet Office's National Risk Register scenario H19 for 'widespread coastal flooding and its impacts on people and the economy'. Guidance will be published in early 2018.

Erosion, sediment and beaches

For more information contact:
anita.asadullah@environment-agency.gov.uk

10. Developing regional indices for accelerated cliff erosion under sea level rise (Defra/EA funded)

We are working with WSP to derive a consistent set of coastal erosion coefficients/indices for England and Wales that allow for accelerated sea level rise (SLR) over the next century. The indices will be easy to apply to known historic recession rates to account for plausible future accelerations in mean SLR. Phase 1 of the work has completed. This phase has identified the preferred methodology for generating the coefficients and their associated uncertainties. It also examined the issue of coastal catch up following sea wall removal or failure. Phase 2 started earlier this year and will apply this method nationally, develop guidance and publicise and disseminate the findings of the research to ensure awareness and uptake of resulting products.
This project has been put on hold so we can use the latest sea level rise projections from UK Climate Projections project, UKCP18 which will be published in March.

For more information contact:
anita.asadullah@environment-agency.gov.uk

11. Poole Bay 'nearshore' beach renourishment trial (Defra/EA funded)

We worked in partnership with New Forest District Council and the Borough of Poole to trial, monitor and analyse a new approach to beach replenishment in the UK. The concept is to place locally dredged sediment in the nearshore and allow the prevailing waves and tidal currents to move the material toward and along the beach. The potential cost saving of such an approach could be large, and if proved to be successful and could be applicable to other areas along the coast. This approach has been used widely in the Netherlands and more recently in Denmark. The trial was the first of its kind in the UK. After 15 months of monitoring, some sediment had reached the beach but most had stayed at the deposition site, although mounds had rolled shoreward by 10m. Further trials with more sediment are necessary to determine the viability of the approach. This project is in the publication phase.

For more information contact:
paul.weller@environment-agency.gov.uk

12. Guide to sediment budget analysis (Defra/EA funded)

Despite their importance and value, sediment budgets are developed often in isolation, using a variety of methods. These methods are dependent on many factors including resource/ budget availability, the data available, sediment type, geographic scale and level of detail and accuracy required from the results. There is no consistent approach to sediment budget analysis (SBA) and presentation, yet it is central to understanding coastal processes. As a consequence, SBA is not easily comparable and results are of varying usefulness at the strategy and project scale.

We are undertaking some work in partnership with ABPmer to identify common approaches to developing sediment budgets for different sediment types, temporal and spatial scales. This guide has now been written and approved by the steering group and is now going into publication phase.

For more information contact:
anita.asadullah@environment-agency.gov.uk

13. BLUEcoast: understanding dynamic coastal processes (NERC funded)

Consortium lead: National Oceanography Centre (Laurent Amoudry)
UK partners: National Oceanography Centre, British Geological Survey, Plymouth University, University of Cambridge, University of Southampton, HR Wallingford, British Oceanographic Data Centre, University of Glasgow, Birkbeck University of London, University of St Andrews
Lead funder – NERC, **Programme** – 2016-2021
Aim - to inform coastal management by reducing uncertainties in the prediction of medium-term (years) and long-term (decadal and longer) regional sediment budgets, morphological change and how the coast recovers after sequences of storms. Work is organised under 4 distinct work packages looking at different types of coastline. We are involved as a stakeholder. You can find more information on the project website: **http://projects.noc.ac.uk/bluecoast/**

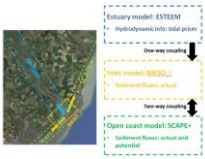
Erosion, sediment and beaches

14. Integrating COASTal Sediment Systems (iCOASST) (NERC funded)

For more information contact:
anita.asadullah@environment-agency.gov.uk

Consortium lead: University of Southampton (Prof Robert Nicholls)
Lead funder – NERC, **Programme** - 2012 - 2016
Aim -To provide the next generation of modelling tools to help quantify how our coastline will evolve over the long term in response to our management activities and due to climate change. These new tools are open source and available to the practitioner community http://www.icoasst.net/

15. User guide for morphological modelling of the coast (Defra/EA funded)



anita.asadullah@environment-agency.gov.uk

This is a follow-on project to the academic iCOASST project which aimed to demonstrate and provide guidance on how the iCOASST outputs can be used routinely to deliver operational shoreline management benefits to the Environment Agency and coastal maritime authorities.
Findings showed that the iCOASST models are not yet developed enough for practical application. The project will however, publish a user guide on coastal morphological modelling for decision making including mapping tools and the use of coastal state indicators. We are awaiting draft deliverables. This is due to complete in early 2018.

16. Increasing the accessibility of Futurecoast (Defra/EA funded)

For more information contact:
anita.asadullah@environment-agency.gov.uk

The Futurecoast product was commissioned by Defra and developed by CH2M Hill in 2002 at a cost of £1.2 million. It contains a wealth of nationally consistent information about our coasts
Despite its importance the only way to access the Futurecoast information is directly from the CD. Data is not downloadable nor can the CD be copied. There is a rapidly increasing risk that all of this data will disappear.
We would like to reproduce the Futurecoast CD and associated aerial imagery on a web platform with functionality equivalent to the present application. There are currently barriers to getting this funded due to IPR issues with Defra but we are working on sorting those out.

17. Tools for the better prediction of mixed beaches (EA proposal)

For more information contact:
owen.tarrant@environment-agency.gov.uk

We spend a lot of money on beach recharge and management. Some beaches are predominantly shingle, some predominantly sand, both of which have good predictive tools, but most are mixed sand and shingle. It is widely recognised that there are no tools available for reliably predicting the behaviour and response of these mixed beaches.

Work is needed to scope out what future research activities are needed in this area to best address the questions of practitioners. This proposal is going forward to the Joint Programme Board on 13th December for consideration for next year's funding.

Erosion, sediment and beaches

For more information contact:

owen.tarrant@environment-agency.gov.uk

18. Coastal Landfill and Shoreline Management: Implications for Coastal Adaptation Infrastructure (NERC funded)

Consortium lead: University of Southampton (Prof Robert Nicholls)
Lead funder – NERC, **Programme** - Apr 16 - Nov 17
UK partners: Environment Agency (EA), Standing Conference on Problems Associated with the Coastline (SCOPAC), Eastern Solent Coastal Partnership (ESCP), New Forest District Council (NFDC)
There is a large legacy of historic landfills (with often unknown, but potentially hazardous waste) located in dynamic coastal areas in the UK and elsewhere. These sites constrain dynamic shoreline management policies and pose potential risks to people and the natural environment. This highlighted the need to better understand the associated issues and challenges for planning robust and sustainable long-term management strategies. This project investigated the viability of different management response options such as (i) the ability to move or process these landfills to facilitate a move to more dynamic coasts, or (ii) their continued protection under rising sea levels, and (iii) consider appropriate management strategies. The research was informed by and builds on the CIRIA guidance report C718 on "Guidance on the management of landfill sites and land contamination on eroding or low-lying coastlines".

Working with nature

lydia.burgess-gamble@environment-agency.gov.uk

19. Developing the evidence base to support Working With Natural Processes (WWNP) (Defra/EA funded)

This project developed the evidence base, and subsequently, the technical guidance and tools needed by flood and coastal risk management authorities to help them understand, justify, develop and implement FCERM schemes which include WWNP to reduce flood and coastal erosion risk.
A lot of research has already been undertaken on this topic but it has never been synthesised in one location nor presented in a manner that is accessible to FCERM practitioners.
The project includes three interconnected work packages designed to bridge this evidence gap:

- Work package 1. Developing the WWNP evidence base
- Work package 2. Developing WWNP opportunity maps
- Work package 3. Identifying catchment and coastal laboratories

These projects were published and launched on the 31st of October 2017

christabel.mitchell@environment-agency.gov.uk

20. What is Coastal Squeeze? (Defra/EA funded)

This project will provide, for the first time, a nationally agreed definition of coastal squeeze. With;

- Recommendations for undertaking better assessments in the future
- A framework for consistently:
    - Defining and assessing coastal squeeze losses
    - Translating these losses into compensatory habitat targets

The project goes out for tender Autumn 2017

anita.asadullah@environment-agency.gov.uk

21. FAST: Foreshore Assessment Using Space Technology (EU funded)

Consortium lead: Mindert de Vries (Deltares), **UK partners**: Dr Iris Möller, University of Cambridge
Lead funder - European Union's (EU) Seventh Framework Programme (FP7), **Programme** – 2014-2018
FAST is a multi-disciplinary project that aims to provide answers questions about the mechanisms by which vegetation reduces wave energy, how these processes 'scale up' from individual plants to large foreshores, and the best way to include this information in the design of flood defence schemes. Using a combination of remote sensing and field data from foreshores, FAST will look at how specific characteristics of vegetated foreshores affect wave energy and erosion and develop novel ways to get the information needed from satellite images, so as to predict shoreline protection.
http://www.fast-space-project.eu/

Working with people

For more information contact:
kate.kipling1@environment-agency.gov.uk

22. Engaging with communities where future flood or coastal protection is not viable (start-up) (Defra/EA funded)

A collaborative approach is needed to generate alternative solutions for coastal communities where structural defences are no longer viable. However, options such as managed retreat, compulsory purchase and rolling back are likely to be unpopular and may cause conflict with communities. Practitioners need to work with vulnerable communities to make decisions on their longer term future. However, uncertainties over who to engage with and when can lead to engagement happening too little and too late. The project will design, pilot, monitor and evaluate a community engagement programme in two case study sites where there are currently no feasible options to reduce flood risk in the medium to long term. The scope for this project is being finalised.

For more information contact:
dave.hart@environment-agency.gov.uk

23. Practical approaches to the decommissioning of uneconomical assets (PATDUA) (Defra/EA funded)

Flood and coastal risk managers are facing significant challenges to target limited resources to reduce flood risk to communities as effectively as possible. Some FCERM (flood and coastal erosion risk management) assets that have been maintained in the past may not be economically justifiable to continue maintaining in the longer-term. Work is needed to improve our understanding of what happens (deterioration, costs and impacts) when we no longer maintain FCERM assets. This can then be used to develop guidance to support safely discontinuing maintenance of some assets.
The contract has been let to CH2M and the project is in its early stages, developing an engagement plan and appointing an advisory group. Phase 1 will be a scoping exercise to identify exactly what is and is not going to be looked at as part of this project.

For more information contact:
jacqui.cotton@environment-agency.gov.uk

24. Benefits of FCRM Investment on Recreation, Tourism and Health (Defra/EA funded)

Recreation and tourism can be significantly affected by flooding, yet the current data and methods of estimating those impacts are inconsistent or inappropriately applied. The current methods for evaluating the impact of flooding on public health were developed over 20 years ago. The methods were based on a willingness to pay survey and are not a reflection of the actual impacts of flooding. Each of these issues has been addressed within a project which has found new approaches to quantifying the economic impacts of flooding on recreation/amenity, tourism and public health. These methods will be recommended for inclusion within the Multi-Coloured Manual so can be used within future appraisals, strategies and long term investment planning.
The project is ongoing and will be published in spring 2018.

For more information contact:
owen.tarrant@environment-agency.gov.uk

25. The role of communities and new technologies in the inspection and maintenance of FCERM assets (EA proposal)

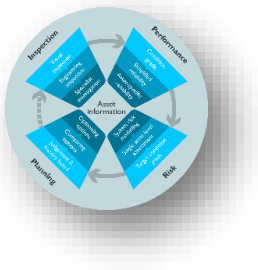
Government has committed to decentralise FCERM in England and Wales and to work collaboratively with local communities. There are still a lot of questions surrounding how such arrangements would be delivered, what the training and guidance needs are, and how activities would be monitored. This project would explore these questions to develop a framework and supporting guidance for the implementation of collaborative community-led approaches to delivery of FCERM maintenance activities (and any associated funding mechanisms).

Coastal structures

owen.tarrant@environment-agency.gov.uk

26. Updating our freeboard guide (Defra/EA funded)

We have updated our existing guide for establishing freeboard allowances. With this update we are providing clarity on how to identify residual uncertainties in appraisal and design processes. The new advice has been extended to include coastal structures and will be illustrated with case study examples that cover design, project appraisal as well as the provision of development planning advice. The guide is now available at this link.



owen.tarrant@environment-agency.gov.uk

27. Developing beach management trigger levels (asset performance tools and guidance) (Defra/EA funded)

The Asset Performance Tools Programme aims to provide all FCRM practitioners with tools and guidance to provide more effective and efficient asset management, focussing on 3 key activities: 1) asset inspection; 2) performance; 3) planning. Ultimately, reducing the risk of flooding and coastal erosion by using the best available knowledge, techniques and evidence to manage our assets more effectively as well as making the best use of limited resources. This project is coming to an end and will be published this winter.

susan.manson@environment-agency.gov.uk

28. Groyne Maintenance (Defra/EA funded)

Groynes often form significant elements of coastal protection and flood defence schemes around our coasts. Groyne management techniques continue to evolve as research develops, sources of funding change and practical experience is shared.
Research is therefore required to develop new tools and new guidance to help groyne management and maintenance in this area.
We are currently exploring how we work together with CIRIA and other partners to address this need. We will be holding a workshop in early January to help finalise the scope.

For more information contact: andy.tan@environment-agency.gov.uk

29. Understanding the Impact of climate change on asset deterioration (Defra/EA funded)

The level of maintenance activity that may be required to future proof assets against increased deterioration associated with climate change is at present unknown. This project will improve our understanding of any additional preventative maintenance which might be necessary.
The work is due to finish in Spring 2018.

Section 3 – Emerging research needs

This is a list of emerging coastal research needs that have been brought to our attention. Please do contact us to add ideas to this list or provide your opinions or support for those already on here.

Short name	Research Question/aim	Risk/opportunity	Who for?
Sea grass	Can we use sea grass to help reduce erosion of our beaches and hence flood risk?	A potential opportunity to use sustainable natural processes to protect beaches and create habitat and attractive shorelines rather than hard defences – examples on Isles of Scilly. There is some evidence to suggest sea grass reduces erosion but more evidence needed.	EA and Local Authorities who manage beach erosion
Overtopping methods	To review overtopping methods and provide a direction of travel for where we should be focussing our efforts to improve our ability to estimate wave overtopping of defences.	There are numerous overtopping methods in existence numerical, physical empirical, computational fluid dynamics (CFD) models and there is a risk that we do not develop a clear way to improve our estimates without understanding what our options are.	EA coastal flood risk assessments, scheme design and potentially forecasting
Validating coastal models	How can we better calibrate and validate our coastal models? What standards should we expect and what measurements do we need?	Currently there is very little validation of coastal models which mean that we do not know which models produce best results or if the outputs are good enough to be used to make decisions. There is a risk that bad decisions are being made by using these model results without knowing if they are valid.	EA coastal flood risk assessments, scheme design and potentially forecasting
Dynamic beaches/ the jet stream getting stuck/	Which events damage beaches? What conditions lead to recovery? What sort of sequencing of coastal events are we vulnerable to? Are we at risk from the jet stream getting stuck?	Changes in the coast (beaches being lost after a storm) affect flood and erosion risk. In recent years, numerous smaller coastal events have eroded beaches so subsequent larger events have done greater damage. Not that much is known about conditions for beach 'recovery' between storms. We may be underestimating risk	EA and Local Authorities who manage flood risk and erosion
Visualisation of our evidence	How can we better communicate coastal flood risk visually?	There is a need to allow people to better understand how coastal floods manifest themselves. This could facilitate groups working together by generating a common understanding more easily e.g. Exeter FAS visualisation	EA
Receptor level flood risk	What do we need to be able to deliver inundation modelling at receptor level (coastal and inland)	There is an ambition to be able to describe flood risk with high spatial detail with information available for each 'receptor' (property level). We need to make progress towards that goal.	EA
Future waves	How will climate change affect the magnitude and frequency of waves?	Long-term changes in sea level have been investigated but less is known about how waves will are expected to change. Waves form an important part of flood and erosion risk and we need to better define this future risk.	EA, Local Authorities
National beach replenishment needs now and in future	A review of current practice, future needs to generate a national overview. Is it sustainable?	We do not have a national overview of beach replenishment activities. What sources of aggregate will be available and funding mechanisms.	EA, Local Authorities.

Section 4 – A list of completed research projects from last 10 years

This list is encompasses projects relevant to the coast funded and delivered by the Joint Programme over the last 10 years. The full list can be seen here along with all the research outputs: http://evidence.environment-agency.gov.uk/FCERM/en/Default/FCRM/Completedprojects.aspx

Feb 2013: A Framework for Coastal Research, Development and Dissemination (CoRDDI) (SC090035)

People

Nov 2010: Flood Resilience and Resistance for Critical Infrastructure (SC080045)
Nov 2015: Flood Resilience Community Pathfinder evaluation (FD2664)
Jul 2015: Sharing and Facilitating Good Practice for Communicating Local Flood Risk (SC110007)
Sep 2014: Synthesis of Social Research for Policy Decisions (FD2671)
Jun 2014: Supporting Effective Community Engagement and Relationship Building in FCRM Partnership Funding Regime (SC120012)
Oct 2013: Assessing the Collection and Management of Data on the Social Aspects of Flooding (SC070081)
Mar 2015: Affordability and availability of flood insurance (FD2688/2689)
Sep 2009: Public Safety on Flood and Coastal Risk Management Sites (SC060076)
Mar 2009: Dissemination - Technology Tracking (SC050027)
Jan 2009: Improving Institutional and Social Responses to Floods (SC060019)
Mar 2008: Social justice in the context of flood and coastal erosion risk management: a review of policy and practice (FD2605)

Economic/funding

Aug 2015: Quantifying the benefits of FCRM stakeholder engagement and modelling, mapping and data (SC130008)
Oct 2014: Flood and Coastal Erosion Risk Management (FCERM) and the wider economy (FD2662)
Dec 2013: Flood Risk Management Partnership Funding Evaluation (FD2663)
May 2015: Investigating and Appraising Approaches for Involving Communities and Partners in Flood Incident Management (SC120013)
Jun 2015: Considering the role of convergent volunteers during major floods (FD2666)
Jun 2014: Funding Flood and Coastal Erosion Risk Management Maintenance: Learning from Existing and Past Practice (FD2678)
Mar 2010: Understanding the Processes and Mechanisms for Community Lead Adaptation Planning (FD2624)
Mar 2010: Economic Appraisal of Adaption Options in Flood Risk Management (FD2617)

Forecasting

Dec 2008: Coastal Flood Forecasting (SC050069)

Coastal Structures/tools

Nov 2015: Asset Management of Masonry Waterfront Structures (SC130010)
Jul 2015: Long Term Costing - Methods and Software Modelling (SC080039)
Apr 2015: Adapting to coastal erosion: evaluation of rollback and leaseback in Coastal Pathfinder projects (FD2679)
Nov 2014: Developing an International Levee Management Manual (SC100001)
Aug 2014: Asset Performance Tools - Phase 2 (SC110008)
Nov 2013: Asset Management Planning (SAMP Optioneering Tool) (SC120011)
Jun 2013: Assessment and Measurement of Asset Deterioration Including Lifetime Costs (SC060078)
May 2013: Dunwich Coastal Defence Demonstration Project (SC050071)
Dec 2012: Toe Structures for Coastal Defences - A Management Guide (SC070056)
Jul 2012: Establishing a Performance Based Asset Management System Phase 2 PAMS2 (SC040018)
Oct 2011: Temporary and Demountable Flood Protection Guidance 2010 (SC080019)
Jul 2011: Assessment of Lesser-Known Hardwood Timber Species for Use in Marine and Freshwater Construction (SC070083)
Sep 2010: Manual on the Use of Concrete in Maritime Engineering (SC060049)
Feb 2010: LEACOAST2: Practical Design Guidance for Nearshore Detached Breakwaters (SC060026)
Jan 2010: A Scoping Study for Coastal Asset Management (SC070061)
Dec 2008: Changes in Asset Values on Eroding Coasts (FD2623)
Mar 2008: Wave Overtopping of Coastal Defences – Design and Assessment Manual (SC050059)

Waves and Water Levels

Apr 2011: Coastal Flood Boundary Conditions for the Mainland UK Coasts and Islands (SC060064)

Working with Nature

Oct 2014: The Ecological Impacts of Flooding - Developing a Methodology (SC060062)
Mar 2008: Long term ecological monitoring of the managed realignment scheme at Tollesbury. (FD1922)
Aug 2014: Guidance for Beach Modelling Based on Desk-based Performance Analysis of Existing Schemes (SC110004)
Apr 2011: Update of the Beach Management Manual (SC060077)
Jun 2008: Coastal Defence Demonstration Projects- Beach Nourishment Comparison (SC030010)
Mar 2007: Understanding and predicting beach morphological change, erosion of cohesive shore platforms - Part 2 (FD1926)
Dec 2009: Prediction of Large-Scale Long-Term Coastal Geomorphological Changes and Responses (Phase 1) (SC060074)

Section 5 – How we allocate funding

The programme serves Local Authorities, Natural Resources Wales, Defra and Environment Agency, so it is important that we are engaging with those of you outside of the EA to ensure your needs are represented. We are limited in what we can deliver by resources in the research team and in the agency more widely as every project needs a project manager and a project executive with expert knowledge (to steer and approve decisions). Our budget varies from year to year at around £1 million in 17/18 but is expected to decrease under the current government.

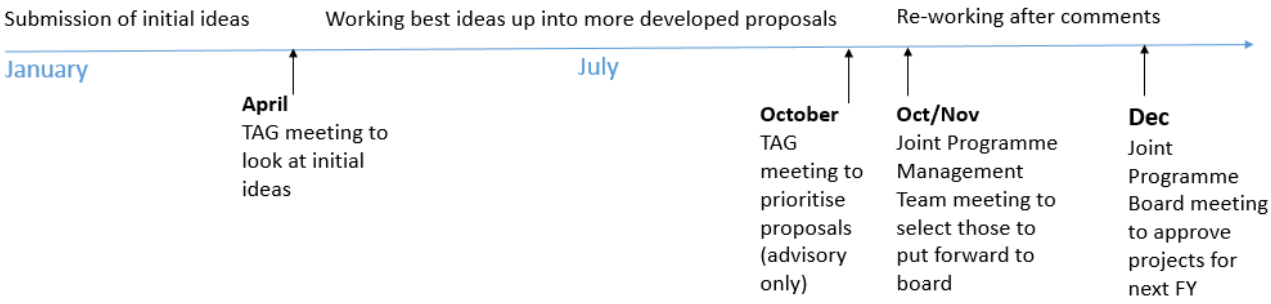
The programme is designed to pull the latest science into practice and plug evidence gaps we need to make our decisions so if you have long term strategies please consider what information you will need to implement them.

There are 3 main research themes: Asset Management (AM), Incident Management and Modelling (IMM) and Policy Strategy and Investment (PSI).
The coast is considered a 'cross-cutting theme' and coastal projects are put forward into each of the other themes and their merit considered alongside all other proposals.

There are multiple groups involved in commissioning research projects:

- Theme Advisory Groups (TAGs) made up of experts from a variety of backgrounds (members shown in Section 6) who advise on priority areas
- Joint Programme Management Team (EA and Defra) who decide on a short list of projects
- Joint Programme Board (EA and Defra) who approve/reject the final list

There is an annual cycle of submitting ideas and getting research proposals approved



A more detailed description of the programme can be found in the programme definition document on our website here: http://evidence.environment-agency.gov.uk/FCERM/en/Default/FCRM/About/Structure.aspx

Section 6 - Theme Advisory Group (TAG) Membership

Members that we know to have some coastal interest are marked in blue.

Asset Management theme membership

Owen Tarrant (EA) Theme Manager
Adrian Rushworth (EA) Theme Champion

Paul Murby (Defra)
Peter Reilly (EA Ops)
Mark Pugh (NRW)
Andy Powell (FCRM innovation manager)
Kevin Simpson (Black & Veatch)
David Thomas (Middle-Level IDB and ADA)
Fola Ogunyoye (Royal Haskoning DHV)
Hannah Burgess (Staffordshire County Council)
Janet Hooke (University of Liverpool)
Jeremy Benn (Jeremy Benn Associates)
John Gosden (Jacobs)
Jonathon Simm (HR Wallingford)
Mark Ross (NEAS EA)
Owen Jenkins (CIRIA)
Paul Sayers (Sayers and Partners)
Samantha Cope (SCOPAC Research Chair, Havant Borough Council)
Simon McCarthy (Middlesex University, FHRC)
Keith Solts (EA)
Anne Wheeler (Chair, English Severn and Wye Regional Flood and Coastal Committee)
Richard Whelan

Incident Management and Modelling theme membership

Sue Manson (EA) Theme Manager
Liz Anspoks (EA) Theme Champion

Jodie Lofthouse (Defra)
Mark Russell (Environment Agency)
Andy Wall (Natural Resources Wales)
David Finch (ABP MER)
Andy Tagg (HR Wallingford)
Dragan Savic (University of Exeter)
Malcolm Kitchen (Met Office)
Graeme Boyce (Flood Forecasting Centre)
Rob Lamb (JBA)
Jon Wicks (CH2M)
Micha Werner (Deltares)
Nick Reynard (CEH)
Sally Priest (University of Middlesex)
David Demeritt (Kings College London)
Max Tant (Kent County Council)
Sun Yan Evans (Mott MacDonald)
Paul Bates (University of Bristol)
Hannah Cloke (University of Reading)
Rosanna Briggs (Essex County Council)
Brian Rodgers (Wycombe District Council)

Policy Strategy and Investment theme membership

Jacqui Cotton (EA) Theme Manager
Bill Donovan (EA) Theme Champion
Emma Beckles (Defra) Theme Manager
Robbie Craig (Defra) Theme Champion

Steve Cook (AECOM)
Edmund Penning-Rowsell (Middlesex University)
Andrew Watkinson (University of East Anglia)
Hugh Deeming (University of Northumbria)
Karen Potter (University of Liverpool)
Jaap Flikweert (Royal Haskoning DHV)
Mark Worsfold (SW Water/UKWIR)
Nigel Pontee (CH2M)
David Sear (University of Southampton)
Clare Twigger-Ross (Collingwood Environmental Planning)
Tim Collins (Natural England)
Ian Moodie (ADA)
Steve Wragg (City of York Council)
Steven Bird (UKWIR)
Harry Walton (EA)

TAG Membership lists are shown on our website here: http://evidence.environment-agency.gov.uk/FCERM/en/Default/FCRM/About/GroupMembership.aspx

How to get involved

Please get in touch if you would like to find out more; would like to get involved in shaping our research; to share any local research initiatives you are involved in or any research needs you have.
Please also get in touch if you find errors in this document or if you have any feedback or suggestions. Many thanks.

Anita Asadullah – anita.asadullah@environment-agency.gov.uk
07810 057266

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Department
for Environment
Food & Rural Affairs

Environment Agency

FCERM update paper October 2017

Welcome to the Flood and Coastal Erosion Risk Management (FCERM) Stakeholder Forum update paper, covering the latest news and developments from the Environment Agency and Defra.

Contents

1. General update

Key articles to note:

Transforming capital delivery: working together to deliver the 6 year capital programme
We are transforming how we deliver our FCERM capital programme, working more collaboratively with our supply chain to better protect more homes from flooding.

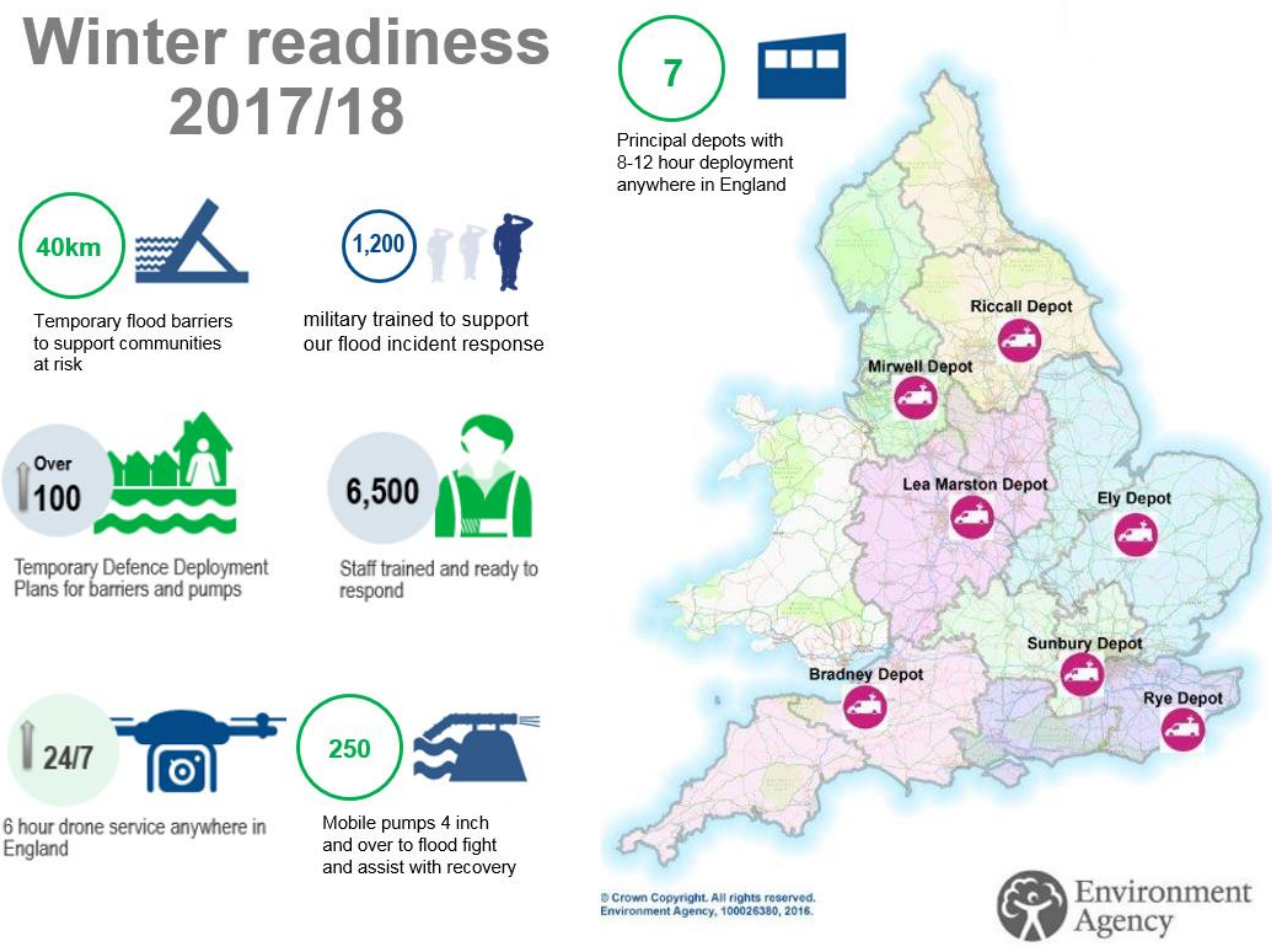
Rationalising the main river network (de-maining)
The de-maining pilots are making good progress and 14 public drop-in events have been held in 4 of the pilot locations. The formal consultation will go live on GOV.UK in mid-January and run for 4 weeks.

Working with natural processes – the evidence behind natural flood management
On 31 October we launched an evidence directory, bringing together data, case studies and evidence about the role of natural flood management in reducing flood risk.

Winter readiness
We are prepared to take action this winter wherever it is needed. Since the winter floods of 2015/16 invested in new kit including vehicles, 40km of temporary flood barriers and 250 high volume pumps. We have around 6,500 trained staff across the country, ready to respond to flooding, including 500 flood support officers.

Over the past 2 years, the Environment Agency has completed more than 350 new flood schemes, protecting 100,000 homes. This includes more than 16,000 in Cumbria and Lancashire, 10,000 in Yorkshire, and 9,000 in the South West – all areas hit by flooding in recent years.

Over 1.2 million people are signed up to the Environment Agency's free flood warning service, which sends a message directly by voice message, text or email when a flood waring is issued. This winter the Environment Agency is automatically adding thousands more mobile customers to the service.



2. Legislation

Lead local flood authority review of preliminary flood risk assessments

The second Flood Risk Regulations (FRR) planning cycle is underway which will lead to revised flood risk management plans (FRMPs) in 2021. The first milestones are for lead local flood authorities (LLFAs) to review and, where necessary, revise their preliminary assessment reports (produced in 2011) and identify flood risk areas (FRAs) where local risk is considered to be significant. The review and identification of FRAs will determine which LLFAs have a statutory duty for flood hazard and risk mapping and FRMPs in the second planning cycle.

LLFAs have now submitted their reviews and proposals for FRAs to the Environment Agency, as required by the regulations. We are currently checking compliance of LLFA reviews, and resolving any issues with LLFAs on a case–by-case basis during September and October. This will be completed by the FRR deadline of 22 December 2017.

About half of LLFAs had a statutory duty for FRMPs in the first cycle, but several more participated voluntarily. We anticipate there will be consultation about the next round of FRMPs in 2018, drawing on experience and lessons learned from the first cycle planning process and plans.
Contact: emer.o'connell@environment-agency.gov.uk.

Workshop on the future of shoreline management plans
Shoreline management plans (SMPs) provide the long term management framework for coastal flood and erosion risks. The comprehensive suite of second generation SMPs were approved by the Environment Agency between 2006 and 2017. Coastal Groups (partnerships of local authority and Environment Agency specialists) monitor progress against SMP action plans nationally every year, and there is an agreed process for changing SMP information.

However, some SMPs are now 10 years old and a number of issues have been identified around deliverability and ensuring that the evidence base is kept up to date. The Environment Agency organised a workshop on the 4 July 2017 to understand the current issues with SMPs and how we could address these through a national light touch review. The workshop was aimed at coastal risk management authorities (RMAs), Regional Flood and Coastal Committee (RFCC) coastal leads, Natural England and other key individuals involved in SMP development. The workshop brought together a wealth of expertise across the country and across different authorities and organisations. Outputs from the workshop were circulated to coastal groups and attendees in September.

This feedback will help to shape the scope of a light touch review of SMPs that Coastal Groups will begin in 2018/19. This review will not be a comprehensive re-write of the SMPs, but an opportunity to sense-check the SMPs against new information to ensure they are fit for purpose. It is also an opportunity to make SMP information more accessible to the public and to other interested parties. Over the next 6 months the Environment Agency will create a detailed scope and specification for the review. This will provide further information as to what will be included and how it will be funded and coordinated. We will continue to engage with Coastal Groups during this period. Further information on the light touch review and detailed specification will be available in winter 2017/18.
Contact: hannah.williamson@environment-agency.gov.uk

3. Funding and investment

Transforming capital delivery: working together to deliver the 6 year capital programme
We are transforming how we deliver our FCERM capital programme, working more collaboratively with our supply chain to better protect more homes from flooding.

Programme delivery units

On 3 July we launched 7 programme delivery units (PDUs). These are integrated teams made up of Environment Agency staff and suppliers from the Water and Environment Management (WEM) framework. They are working collaboratively to secure delivery of our 300,000 homes better protected target as well as ensuring we have projects to build the future programme (strengthening the pipeline) and complement existing ways of working. Since launching, PDU teams have been establishing themselves and collectively developing new ways of working. The PDUs have been reviewing the current FCERM capital programme to identify opportunities for more efficient delivery. We commissioned a market research survey to collect feedback on the PDUs so far and are using this to inform discussions with leaders from the Environment Agency and our suppliers to identify priorities going forwards and improve efficiency.

The new PDU arrangements are available to RMAs to support the development of their projects that contribute to the delivery of our capital programme. PDUs provide access to technical expertise and offer support at all stages of project development, from project mandates and initial assessments through to Outline Business Case production. We are currently reviewing the extent of the PDU offer to RMAs and exploring the option of a risk based approach to our role in the delivery of RMA projects.
Contact: Tori.Simkin@environment-agency.gov.uk

Next generation supplier arrangements
We want to be an industry leading asset and incident management organisation, playing our part in creating resilient, sustainable and thriving communities. By working with others we can better protect more people from flooding and enable other social, economic and environmental benefits. We are keen to work even more closely with our supply chain to achieve these aspirations.

The WEM framework currently facilitates delivery of the majority of the flood and coastal erosion risk management (FCERM) capital programme. The WEM framework expires in July 2019 and this provides an opportunity to review our relationships with suppliers and introduce even more innovative commercial arrangements and collaborative ways of working. Our next generation supplier arrangements (NGSA) will help transform how we deliver the capital programme, embedding collaborative ways of working across the whole of asset management.

We intend to make best use of a combined procurement model which includes bespoke arrangements for larger or more complex projects generally above £50 million in value, substantial programme delivery of medium value works through a Collaborative Delivery Framework (CDF), and lower value works (typically less than £250,000) through other local arrangements. There may also be a need for a small number of separate commercial arrangements to support some specialist activities.

We will be publishing our contract notice and procurement documents in the Official Journal of the European Union in January 2018. To help organisations who are thinking of bidding for the new framework understand more, we are hosting 2 supplier conferences on 23 November at the Met Hotel, Leeds and 13 December at Penta Hotel, Reading. Please help us raise awareness of these events and encourage businesses with an interest in our new framework to register for one of the supplier conferences at NGSA2019@environment-agency.gov.uk
Contact: NGSA project team at NGSA2019@environment-agency.gov.uk

Modernising asset management
Our Flood and Coastal Risk Management Asset Management Strategy sets out our vision for modernising asset management from 2017 to 2022. The strategy was refreshed in response to reviews carried out in 2014: the Infrastructure UK Review, National Audit Office, and the Public Accounts Committee. It describes the actions needed to fulfil our ambition of becoming a world leading Asset Management Organisation.

A key milestone for the strategy is the achievement of the ISO 55000 accreditation by December 2018. This is an international standard for asset management. The ISO 55000 accreditation will help us measure progress against our aim of modernising asset management, including achieving consistent ways of working across the organisation, and being able to fully evidence a full life cycle approach to managing our assets. It will also bring longer term benefits to our leadership, culture and continuous improvement in asset management, and lead to greater transparency to our partners and customers in our decision making. We have already achieved ISO 55000 for the Thames Estuary Asset Management 2100 programme (TEAM2100), who are responsible for delivering the first 10 years of capital investment in the tidal flood defences of the Thames Estuary.
Contact: anne.thurston@environment-agency.gov.uk

Funding for natural flood management (NFM) competition
The Secretary of State announced the £15 million fund for NFM on 24 November 2016. HM Treasury agreed we can use these funds to meet the aims of a programme to better understand NFM and fully integrate it in our work. The funding has been split £13.4 million for catchment scale interventions and £1.6 million for community led projects.

All projects aim to achieve 4 things which will help us to deliver the aims of the programme:

- flood and coastal erosion risk reduction for communities
- environmental improvements – developing habitats and increasing biodiversity

- contribute to filling evidence gaps to enable NFM to be better understood fully integrated in our work
- develop partnership working

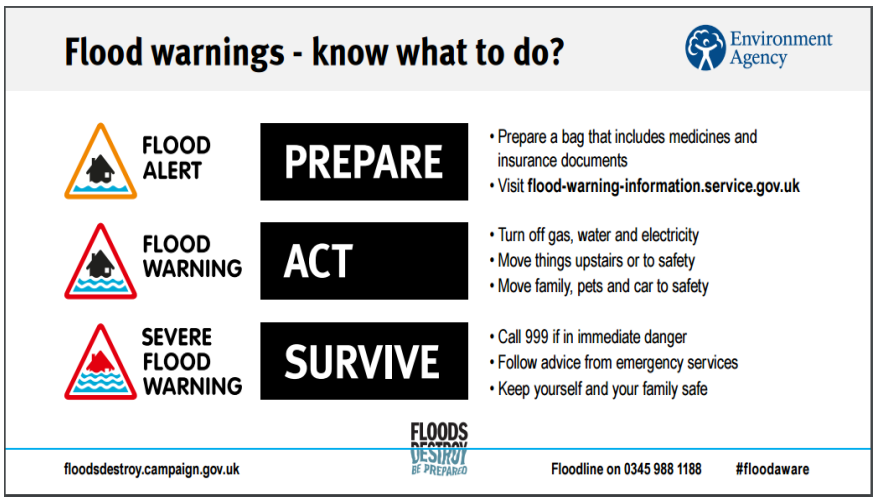
Minister Thérèse Coffey reviewed the catchment scale programme in February and March and an allocation totalling £13.4 million was made in July to 24 projects across England. Following the announcement of the NFM allocation, we have been working on the business cases for the projects within the catchment scale programme. All projects remain on track to receive some level of assurance by the end of the financial year.

On the 14 July, Minister Coffey announced the winning 34 community-led projects of the government funded competition. The projects will receive a total of £1.6 million. We have now launched the partnership grant process for the community NFM projects that are led by non-RMAs. We have been working with these organisations to help them appraise projects so they are able to claim the funding.

We expect all projects (catchment scale and community NFM programmes) to have some form of business case approved by the end of the financial year, with many projects starting work in the catchment during the next financial year.
Contact: jon.hollis@environment-agency.gov.uk

4. Incident management and resilience

Flood action campaign
On Friday 27 October, we launched a short campaign on social media, #floodaware, to encourage those at risk in the 18-24 age group to do three things: check their flood risk, sign-up for flood warnings if they are at risk, and know what to do when they receive flood warnings. The campaign had a horror theme to coincide with the Halloween weekend to highlight that flooding can be scary. In his blog 'how frightened should we be of flooding? John Curtin, Executive Director of FCRM, Environment Agency, explained that our message is serious: the horror of flooding is real, but there are things that you can do to keep yourself and your loved ones safe.



We will be running a further campaign, aimed at 18-34 year olds (who are most at risk but least likely to know what to do) as well as the wider public campaign later in the winter. This campaign will be timed to run when rain or severe weather is on the news agenda, and will again help raise awareness of flood risk and encourage people, business and communities to take action to prepare for flooding. We will be asking partners to help share our messages once the campaign is ready to launch.

Both campaigns are asking people to visit the Floods Destroy website where you can check if your home is at risk, sign up for warnings and read our new 'PREPARE. ACT. SURVIVE.' flood plan, which will help people understand what action to take when they receive flood warnings.

2017/18 Extended Direct Warnings (O2 mobile)
In November 2017 we will automatically register add 375,000 people on the O2 mobile network who live in high flood risk areas for free flood warnings. We will send automated text messages informing them that they have been signed up, with a link to let them know what they should do if they receive a flood warning, and the option to opt out.

We have been automatically adding those who live in high flood risk areas to the flood warning service since 2010, beginning with BT landlines and then moving to provide warnings to mobile phones in 2014, with the EE network. This is a continuation of that work, and we plan to add a further 330,000 customers on Vodafone and 150,000 on the Three network in due course.

This work links to our 2017 Flood Action Campaign objectives of:

- increasing the number if 18-34 year olds that understand what actions they should take in the event of a flood from 67% to 70% by April 2018
- increasing the number of young people in 18-34 age group that take at least ONE effective action to prepare for flooding from 36% to 39% – check their risk, sign up to flood warnings, view, save or share the flood plan. Of those who have taken one action in 2017/18, 15% have viewed, saved or shared the flood plan by April 2018

Contact: veronica.price@environment-agency.gov.uk

National Risk Register
The Cabinet Office has now published the 2017 National Risk Register (NRR). The NRR provides information to the general public about the risk of significant emergencies that could occur in the UK within the next five years. It includes a wide range of risks from cyber-attack to volcanic eruptions and animal diseases to widespread electricity failure. The NRR is updated every 2 years to take account of the changing risk landscape and any changes to best practice in risk assessment methodologies.

For the 2017 risk register we developed methods and guidance to address the need for realistic planning scenarios accounting for the risk of widespread flooding across England and Wales, multiple source floods and its impacts. Close partnership working between Defra, the Environment Agency and Natural Resources Wales has:

- highlighted the scale of the risk of widespread flooding to England and Wales
- brought about a real step change in the understanding of flood risks for the Cabinet Office's National Risk Assessment (NRA) and public facing NRR
- strengthened the evidence of the risk of widespread inland flooding and coastal flooding for all coastlines
- underpinned the introduction of a new separate risk on widespread surface water flooding over a large city
- informed the National Flood Resilience Review (NFRR) and is being taken forward via that route.

Contact: chris.wilding@environment-agency.gov.uk

5. Working with others

Rationalising the main river network (de-maining)
The Rationalising the Main River Network (RMRN) project is testing the approach to re-designate several sections of selected 'Main Rivers' as 'Ordinary Watercourses,' (a process we call 'de-maining'). We are doing this in 5 locations where local partners such as Internal Drainage Boards (IDBs) or lead local flood authorities (LLFAs) are keen to take on the day to day maintenance/regulation of the watercourses.

We want to ensure the right bodies are managing the right watercourses. This will mean that communities will have a direct say in their local flood and water level management. The RMRN de-maining pilots are making good progress. 14 public drop-in events have been held in 4 of the pilot locations allowing local residents and interested parties the opportunity to ask questions and influence proposals.

The pilot areas that have held drop-ins are:

- Norfolk and Suffolk Rivers – East Anglia
- Stour Marshes – Kent and South London
- Isle of Axholme – East Midlands
- South Forty Foot – Lincolnshire and Northamptonshire.

The public drop-in events were jointly run by the Environment Agency and the partner organisation (IDB or local authority) proposed to take on the watercourse. Feedback from the events so far has been positive with a good spread of representation from across the communities.

We had originally planned to run a formal consultation over December and January for 6 weeks. However, we would like to maximise the time for both the Environment Agency and other RMAs to take account and respond to any feedback or questions raised through the public drop-ins before finalising the consultation material. With this in mind we have taken the decision to work towards the following timeline:

- mid-December - make pre-consultation material (such as project background and feedback from the drop-ins) available on the consultation website
- early January – advertise the consultation
- mid-January – the consultation goes live and will run for 4 weeks through to mid-February.

We will notify you when the above is available. Where there are no objections, the changes to the watercourses will take place in July 2018.

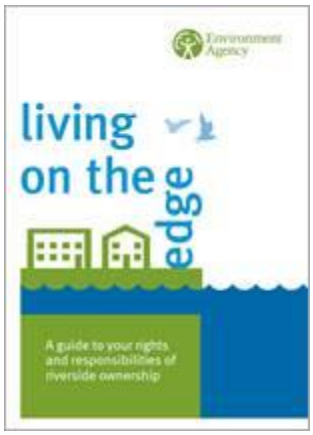
The final pilot (Wormbrook and Allensmore Brook – West Midlands) will be running to a different timeline.

Contact: lucy.roberts@environment-agency.gov.uk and clare.blackburn@environment-agency.gov.uk

Living on the Edge guidance

In April 2017 we carried out a survey to gather your views of the existing 'Living on the Edge' guidance. Thank you to those that took the time to complete the survey. We have used your responses to shape the future update to this guidance. In summary we found:

- most of you liked all the information and guidance on riparian ownership in a single place
- most of you used the document to understand the rights and responsibilities of riparian owners
- more than half of you did not find the document easy to use in a pdf format
- half of you liked the ability to print and save the guidance for dissemination and future use.



The survey clearly showed that there is a customer need for all of the information on riparian ownership to be found in one place. We will ensure that the revised guide meets GOV.UK publishing standards, won't duplicate existing content, will be accessible to more people and continues to meet the needs of riparian landowners. We are currently updating the Living on the Edge guidance and we aim to complete the update by early 2018.

Contact: Dave Woolley at FCRMPlan&Reg@environment-agency.gov.uk.

Working with water companies: Environment Agency's Water Industry Strategic Environmental Requirements (WISER)

In early October, we wrote to water company Chief Executives with our final Water Industry Strategic Environmental Requirements (WISER) document. The WISER is the steer from Natural England and the Environment Agency on strategic priorities for the next Price Review in 2019 (PR19). It describes the environmental, resilience and flood risk expectations that water companies should take into account when developing their business plans. It replaces the Statement of Obligations produced for PR14. We took a collaborative approach to developing the WISER document and consulted the water industry on it at the start of 2017.

We want them in particular to do three things: ensure their own environmental performance is excellent, help protect and enhance the wider environment, and further improve our resilience to drought and flooding. Our local teams are helping companies in that common endeavour.

The Environment Agency, along with other regulators, expect water companies to be striving for high quality, innovative and ambitious business plans. Water companies can demonstrate this by:

- Valuing the environment, including both the natural assets they rely upon and in terms of the wider socio-economic value of the water environment
- Embracing innovation, including novel approaches to regulation and engaging with the farming community on catchment work
- Building stronger catchment and flood partnerships to maximise and integrate biodiversity and other environmental enhancements and public benefits.

The WISER document includes flood and coastal risk management expectations, including resilience and future drainage.

Contact: richard.thompson@environment-agency.gov.uk (for overall WISER document), jonathan.hunter@environment-agency.gov.uk (for flood risk management sections of WISER).

Property Flood Resilience roundtable
The Property Flood Resilience roundtable published their action plan in September 2016. This action plan sets out what has been done so far, what it plans to do in the future, and its recommendations to government to help people protect their property and businesses from the effects of flooding. The end point of the plan is that in 5 years, it should be easier and 'normal' for people and businesses in areas at high flood risk to take action and play their part in reducing the impact that flood events can have on their own and other people's lives.

There are 6 task groups focusing on:

- community innovation
- embedding resilience within small and medium enterprises (SMEs)
- “one stop shop” for flood resilience
- standards, certification and skills
- communications and behavioural change
- data

The Property Flood Resilience roundtable continues to progress its work. Business in the Community (BiTC) recently launched a project in Carlisle to create three flood demonstration properties. Materials and funding for the projects were raised from BiTC’s membership. The group will be arranging a parliamentary reception with the Minister during November.

Defra have also recently published research on low cost flood resilience measures that identifies packages of materials and simple measures for restoration that would make properties more resilient to damage from future flooding. For further details, please refer to the article in section 7 of this paper.
Contact: Robbie.craig@defra.gsi.gov.uk

Apprenticeships in the Environment Agency
Skills resilience is a key focus of our workforce planning strategy. To support initiatives in these areas we have introduced an apprenticeship programme across the Environment Agency. This offers eligible employees the opportunity to enhance their existing skills and acquire nationally recognised qualifications through the completion of an apprenticeship. The opportunities offered range from project management and leadership and management qualifications, to qualifications in engineering, nuclear science and digital technology.

Since the launch in July, over 300 employees have submitted applications to complete an apprenticeship – with the majority coming from our local teams. We are delighted that, of those that applied, the percentage of women and Black, Asian and Minority Ethnic (BAME) applications was significantly higher than their profile within the employee population as a whole.

Additionally, we have started a project to create a new Apprenticeship Standard to meet the training needs of our operations Field Teams. Our goal to 2018 and beyond is to promote apprenticeships externally as a means of offering employment to those who would not necessarily have the opportunity to work with us – especially those from diverse or potentially disadvantaged backgrounds. We are keen to hear from partner organisations wishing to join this initiative. If you are interested in finding out more, please contact paul.cross@environment-agency.gov.uk

The Environment Agency also supports "Women Returners" whereby we provide work experience to women returning to the workplace after taking a career break. This helps to strengthen their CV and their professional network, with the aim of securing them back into careers in science, engineering, construction and technology (SECT). This is a positive way in which we are supporting the diversity agenda, helping to helping to build a wider talent pool.
For more information see: http://www.wes.org.uk/content/returnships-engineering

Flood and Coast Conference 2018
Following the success and excellent feedback from the Flood and Coast conference in Telford this March, the Environment Agency will convene the third Flood and Coast Conference on 20-22 March 2018. Further information can be found at http://www.floodandcoast.com/.

At the conference, the winners of the Environment Agency's Project Excellence Awards will be announced. Submissions can now be made on the Flood and Coast website for projects completed in 2017 that have shown a contribution to managing flood and coastal risk and building local resilience. Please encourage local authorities or any flood and coastal community project to enter. Further details including the entry form are available on the website.
Contact: Jessica.DAVID@environment-agency.gov.uk or FloodandCoast@environment-agency.gov.uk

6. International working

It's been a busy autumn for international working, with a combination of annual meetings and conferences. Highlights include:

- John Curtin (Executive Director of FCRM, Environment Agency) gave the opening speech at the 7th International Conference on Flood Management on 5 September in Leeds.
- The KRING of coastal engineers and scientists met in the Netherlands from 24 to 26 September. We are now working with Dutch colleagues to learn from their sand engine experiences to inform the design of our own Bacton sand engine.
- Staff from the Levee Safety Partnership (which involves the Environment Agency, Rijkswaterstaat from the Netherlands, and the US Army Corps of Engineers) met in St Louis at the end of September to inspect a levee, each using their own tools and techniques. The results will be shared in due course.
- A group of incident experts from the Environment Agency attended a large scale flood incident exercise in the Netherlands in late September They worked with Dutch counterparts to agree specific areas for joint working and made arrangements for Dutch colleagues to come and observe us in action.
- Catherine Wright (Director of Digital and Skills, FCRM, Environment Agency) attended the Quebec Flood Forum on 6 and 7 October to share information about our approach to FCRM. The event aimed to take evidence from national and international experts on how the province can become more resilient against climate change and flooding.

Contact: ruth.allin@environment-agency.gov.uk

In response to the recent hurricanes in the Caribbean, we offered to support the response with people and equipment if needed. This included:

- staff to assist with recovery and plan logistics around deploying pumps and barriers to the affected islands
- 5km of temporary flood barriers for filling breaches in defences or protecting infrastructure
- 40 small pumps for pumping water out of properties or used with temporary barriers to provide enhanced flood protection

Our offer of support remains open for the remainder of the hurricane season, although it has yet to be taken up. We remain in contact with Officials at Foreign and Commonwealth Office.
Contact: Carol.Holt@environment-agency.gov.uk

In early October, a delegation from the Province of East Flanders and the University of Ghent in Belgium visited West Sussex County Council and the Bodenham Flood Action Group in Herefordshire. The Belgian group are part of a European project which involves working with local communities in the Dender valley on flood response. The visit was part of their evidence gathering work. During their visits the delegation met local officials and volunteers to understand how communities play a role in flood resilience in England. The visit to the Bodenham Flood Action Group was led and organised by the group after they had been put in touch by Defra.
Contact: Robbie.craig@defra.gsi.gov.uk

7. Research and development

Working with natural processes – the evidence behind natural flood management
There has been much research on working with natural processes (WWNP) to reduce flood risk, but it has never been placed into one location. This has meant it has been hard for flood risk managers to access up-to-date information on it and to fully understand its potential benefits. To address this gap, we have undertaken 3 interlinked projects which make up the WWNP evidence base.

The Evidence Directory summarises the effectiveness of WWNP measures from a FCRM perspective as well as their wider ecosystem service benefits. It also includes a detailed literature review, 65 case study examples, 14 one-page summaries of each measure, and guidance on monitoring.

We have developed maps which can be used with key partners to help think about the types of measures that may work in a catchment and potential locations.

The research gaps that need to be addressed to move this form of FCRM into the mainstream are identified in the Evidence Directory. We are working with the catchment-scale Defra-funded natural flood management projects to address research gaps through long-term monitoring.

This evidence base was published on 31 October 2017. In 2018 we will be running an NFM roadshow to roll-out these products locally. We will work with the RFCCs to ensure they input to the content of these events and are also invited to them. We have also written a presentation using Prezi to give you an overview of the project: WWNP Evidence Base Prezi Presentation [Open in Chrome].
Contact: Lydia Burgess-Gamble or Kate Kipling at wwnp@environment-agency.gov.uk

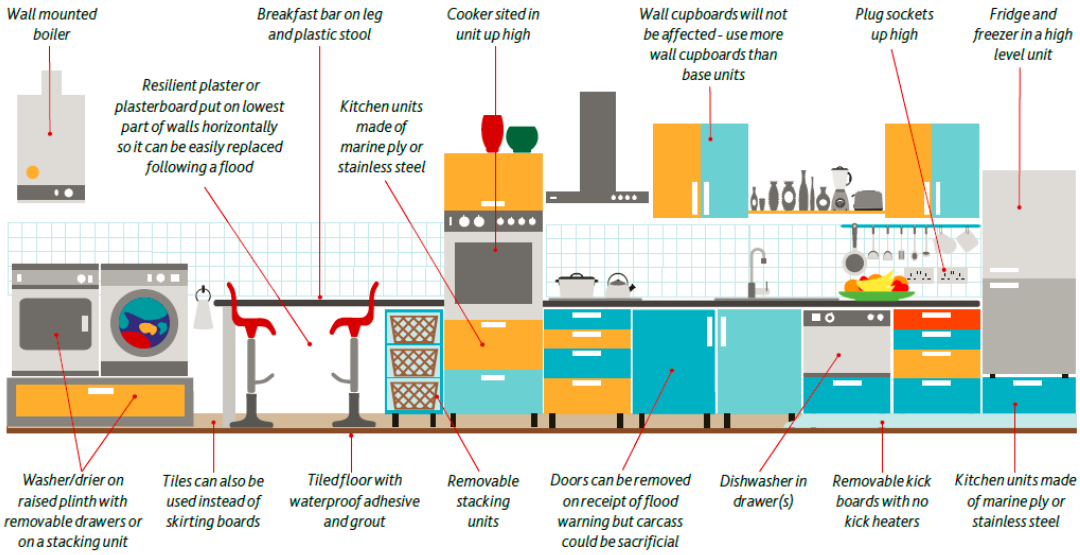
Supporting the uptake of low cost resilience
In July 2017, Defra published research which aims to identify barriers and to propose solutions to promote low cost approaches that would make properties at risk of flooding more resilient to damage from flood waters. The research examined the technical, social and behavioural aspects of supporting low cost flood repairable measures designed to limit damage to buildings during and after flood events.

The work was carried out by the University of the West of England. The first phase looked at materials and methods, with a second phase looking at how resilient adaptation methods could be

promoted to specific stakeholder groups. The project produced a number of useful information leaflets including a kitchen design booklet which are all available to download from the website. Contact: Robbie.craig@defra.gsi.gov.uk

Resilient measures for lower and mid level floods

Small design adjustments (as illustrated below) can help reduce the damage of a lower level flood. Changing the fabric of the kitchen units can be helpful in a midlevel flood.



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PAPER C

Purpose : For Discussion

Committee: **SOUTHERN COASTAL GROUP**

Date: **DECEMBER 2017**

Title : **RESEARCH PROGRAMME**

REPORT OF THE CHAIRPERSON OF THE SCOPAC RESEARCH SUB-GROUP

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1 CURRENT RESEARCH

1.1 RESEARCH PROGRAMME

The 5 year SCOPAC Research Programme was prioritised by the Southern Coastal Group at the meeting on the 4th September 2015 and approved by SCOPAC at the meeting on the 18th September 2015. It was amended to reflect changing priorities and was endorsed by SCOPAC on the 27th January 2017. The live programme is presented below (Figure 1).

Annual allocation	£21,500	£22,000	£27,000	£27,000	£27,000	TOTAL project allocation
Research/project	Financial Yr					
	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	
Dismantling Timber Groynes						£10,000
Scour project (minor fund 2015-2017)						£4,000
Pagham tracer minor project (minor fund 2015-2017)						£2,000
Historical photography scanning						£13,000
Contaminated land						£25,000
Vegetated shingle project						£5,000
Preston tracer study						£5,000
Re-allocation of £2k from Pagham Tracer Study						£2,000
CIRIA Groynes in Coastal Management						£5,000
SURGEWATCH						£2,000
Tracer study co-ordination						£15,000
Storm analysis			Dependent on surplus funds			
Low height seawalls						£13,500
Minor fund projects (2018 - 2020)						£8,000
Ebb deltas						£15,000
Design guidance for mixed sand and shingle beaches						N/A

Figure 1: SCOPAC 5 year research programme

Recommendation: For information

1.2 SCOPAC MINOR PROJECTS FUND

Dr Andy Pearce (Eastern Solent Coastal Partnership): Beach response in front of structures in open coast
Minor contribution of £4,000 (2015 – 2017)

Lowering of beaches in front of coastal structures is widely accepted as a leading cause of failure. Beach lowering and toe scour is difficult to detect as the receding tide and storm waves tend to bury this evidence and any damage to structure foundations. The SCOPAC region includes numerous beach structures at risk of scour, with foundations of poorly known depth and condition. Improved understanding of the scour risk at these structures will help SCOPAC members to better manage the scour risk and to design scour resistant replacements.

The Eastern Solent Coastal Partnership (ESCP) deployed scour monitors onto seawalls at Stokes Bay in Gosport and Southsea in Portsmouth. These sites currently suffer with historically low beach levels and are at risk of toe scour. The deployment team also took the opportunity to deploy additional monitors onto nearby timber groynes at Stokes Bay and some rock armour in Southsea, allowing the effectiveness of the scour monitors to be tested on other structures.

Routine inspections of the monitors has confirmed they are able to detect beach level change, with Storm Brian exposing the scour monitor at Southsea beach. *The ESCP are continuing to monitor changes in beach levels and maximum scour depth at these sites. A draft report has been prepared covering site selection, monitor set up / deployment and observations to date; this will be supplemented with further observations over the coming winter.*

Recommendation: For information

2018 – 2020 Minor projects: Call for proposals
Minor contribution of £4,000 x2 (2018 – 2020)

There is £8000 (£4000 x2) allocated in 2018/19 and 2019/20 for two projects which may benefit from a SCOPAC contribution. Following the last SCOPAC Research sub-group meeting, it was agreed that a call for potential research will be advertised on the SCOPAC website in January 2018.

Recommendation: For information

1.3 MONITORING OF POOLE NEARSHORE REPLENISHMENT TRIALS

Channel Coastal Observatory: £15,000 from SCOPAC and £116,000 from EA R+D fund (2015 – 2016)

SCOPAC contributed £15,000 towards the monitoring of a trial which placed 30,000 m^3 of sand on the seabed, allowing natural processes to push the material onshore to replenish the beaches in Poole Bay. This technique has not been tested in the United Kingdom to date.

The project commenced in February 2015, and involved the Borough of Poole working in partnership with Poole Harbour Commissioners, the Environment Agency,

University of Southampton and the Channel Coastal Observatory. Poole Harbour Commissioners provided the sand from maintenance dredging of Poole Harbour entrance, thereby recycling the sand back into the system, rather than dumping it offshore.

The works were undertaken between the 9th and 14th February 2015, when 30,000m^3 of sand was placed on the sea bed approximately 450m offshore at Canford Cliffs Chine in Poole Bay. Seven survey sets have been collected by the Channel Coastal Observatory (CCO) since the material was placed on the sea bed. Each set consists of a topographic survey of the beach and a bathymetric survey of the sea bed. In addition, fluorescent tracer studies were undertaken to establish a link between the sediment deposited on the seabed and the beach.

The Acoustic Doppler Current Profiler (ADCP) is still in position. This measures the speed, direction and turbidity of water currents using sound waves. With the ADCP installed, any turbidity difference between the trial and conventional beach recharge can be assessed.

The final report was prepared by the CCO, reviewed by the steering group and is currently awaiting Environment Agency sign off. A 'lessons learned' leaflet has also been prepared by the steering group for practitioners and regulators.

Funding provided is as follows:

* *Environment Agency: £130,000 for the placing of sand on the seabed*
* *Environment Agency Research & Development Fund: £116,000 for monitoring*
* *SCOPAC: a further £15,000 towards monitoring costs*

Recommendation: For information

1.4 SCANNING OF HISTORICAL AERIAL PHOTORGAPHY
Environment Agency/Bournemouth Borough Council: £13,000 (2015 - 2017)

Analysis of historical aerial photography is fundamental to understanding coastal evolution and change. The Environment Agency has now scanned almost all Annual Beach Monitoring Survey aerial photography negatives in collaboration with the National Collection of Aerial Photography and Blom. A number of Local Authorities hold historical aerial photography from the 1960's, 1970's, 1980's, 1990's and the millennium. Post 2002, aerial photography is captured across the SCOPAC region as part of the South-east and South-west Regional Coastal Monitoring Programme for 2002, 2008, 2013 and 2016.

This project has produced a record of the historical aerial photography held by the councils within the SCOPAC region. Scanning of films by the National Collection of Aerial Photography (NCAP) commenced for year 1 of the project, focussing on images not previously held in digital format by the councils. These images were delivered and will be made freely available where copyright permits. The Environment Agency and the Eastern Solent Coastal Partnership supervised students' who have digitised the flight paths of the images in preparation for website delivery.

Year 2 of the project will be managed by Dr David Harlow who will organise scanning of the remaining aerial photographs held by the Local Authorities.

Recommendation: For information

1.5 BOURNEMOUTH BOROUGH COUNCIL: DISMANTLING OF TIMBER GROYNES

Bournemouth Borough Council: £10,000 (2015 - 2017)

Bournemouth Borough Council have deconstructed timber groynes which were built between 1985 to 1987. These included groynes constructed of Greenheart, Ekki, Balau, Jarrah and Opepe.

This is a golden opportunity to assess the relative merits of 5 timber types after a 29-year field test. Bournemouth Borough Council have been carefully dismantling each groyne, numbering each plank to record its original location in terms of distance from seaward end & level. Any planks that are "unworn" are set aside for re-use in new groynes and are not assessed further.

Any "worn" planks are being assessed as to the degree of Gribble infestation and the degree of abrasion. The SCOPAC funds are being used for the scientific analysis undertaken by Jon Williams of TRADA. So far, 3 of the 5 types of wood have been inspected; results to date show Ekki (the most costly) has much less gribble infestation and abrasion compared to Greenheart and Opepe.

Recommendation: For information

1.6 CIRIA GROYNES IN COASTAL MANAGEMENT MANUAL

Bournemouth Borough Council and New Forest District Council: £5,000

The current CIRIA Guide on the uses of Groynes in Coastal Engineering (1990) will be updated and called, 'CIRIA Groynes in Coastal Management manual' and will include other materials being used in the field such as plastic and rock.

There will be a new maintenance section covering the whole country, which the FCERM Asset Management Theme Advisory Group thought could build upon Andy Bradbury's SCOPAC work.

A scoping questionnaire was emailed out to Local Authority and Environment Agency engineers to investigate what information exists on various groyne fields. There was a national workshop held on the 24th March 2017 to discuss the main topics relevant to the design and management of groyne systems and deliverables of the project, which Dr David Harlow and Peter Ferguson attended/presented at.

Peter Ferguson from the New Forest District Council will be the lead SCOPAC representative on the steering group with Dr David Harlow from Bournemouth Borough Council disseminating information to SCOPAC officers.

Recommendation: For information

1.7 SCOPAC Contaminated Land Study

Eastern Solent Coastal Partnership: £25,000 (2016 - 2018)

There are a number of old landfill sites across the SCOPAC region that have previously been protected from the sea, but are now eroding due to the age of the original protection and sea level rise. A large number of these are owned by the Local Authorities and are public open space. The nature of the problem is long-term as it is likely that the landfill sites contain some of the early plastics. Given that these can take hundreds of years to biodegrade, it will be necessary to continue to contain the sites for the foreseeable future, as removal is very unlikely to be a feasible option. There is therefore a need for a long-term plan that is technically feasible and affordable. The Shoreline Management Plans and Coastal Strategies form the basis of this plan, however at present, as far as protection of landfill is concerned, they are aspirational as there is no appropriate funding mechanism. Given that the landfill sites are often undeveloped, they do not qualify for FCERM-GiA funding.

This desktop study builds upon a project undertaken by the Eastern Solent Coastal Partnership in conjunction Tim Kermode. Possible funding streams to reduce flood and coastal erosion risk to landfill sites have been explored, with the main aim of the study being to raise the profile of the issue to the politicians. This SCOPAC study is working in parallel with the NERC Contaminated Land study led by the University of Southampton, which is investigating the practicalities of moving or defending landfill in the face of climate change. The LGA Coastal SiG is contributing to the SCOPAC project to assist in raising the profile of the issue on a national level.

On behalf of SCOPAC, the Eastern Solent Coastal Partnership and the Environment Agency have been successful in securing local levy funding from the Southern Regional Flood Defence Committee and the Wessex Regional Flood Defence Committee to cover the costs of the study.

Recommendation: For information

1.8 Vegetated Shingle study

New Forest District Council: £5,000 (2017 - 2018)

Located within the New Forest National Park, Hurst Spit is included within a plethora of national, European and international nature conservation designations. The type and extent of the specialised vegetated shingle species recorded include strandline communities through to more stabilised open shingle habitats and areas of shingle saltmarsh. Hurst Spit is a highly managed beach, with an approved programme of ongoing maintenance and beach recycling operations to continue to provide effective flood risk management for the western Solent. The impact of these activities and storms on the vegetated shingle communities has not been assessed, although field observations suggest disturbance could promote regeneration and growth of vegetated shingle through seed dispersal.

The main aim of the project is to establish the response of vegetated shingle species to beach management activities and storm events at Hurst Spit. A combination of aerial photography digitising and vegetated shingle surveys will establish the response of the habitat since 2013. Findings will be reported on an annual basis.

The project will continue into 2018, with aerial photography/topographic data being collected via a UAV, supported by further vegetated shingle surveys.

The findings and methodology will be applicable to development of a future beach management scheme at Hurst Spit, as well as other Beach Management Plan sites across the SCOPAC region.

Recommendation: For information

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Report to Southern Coastal Group

December 2017

1. SURVEYS

1.1 Topographic Surveys

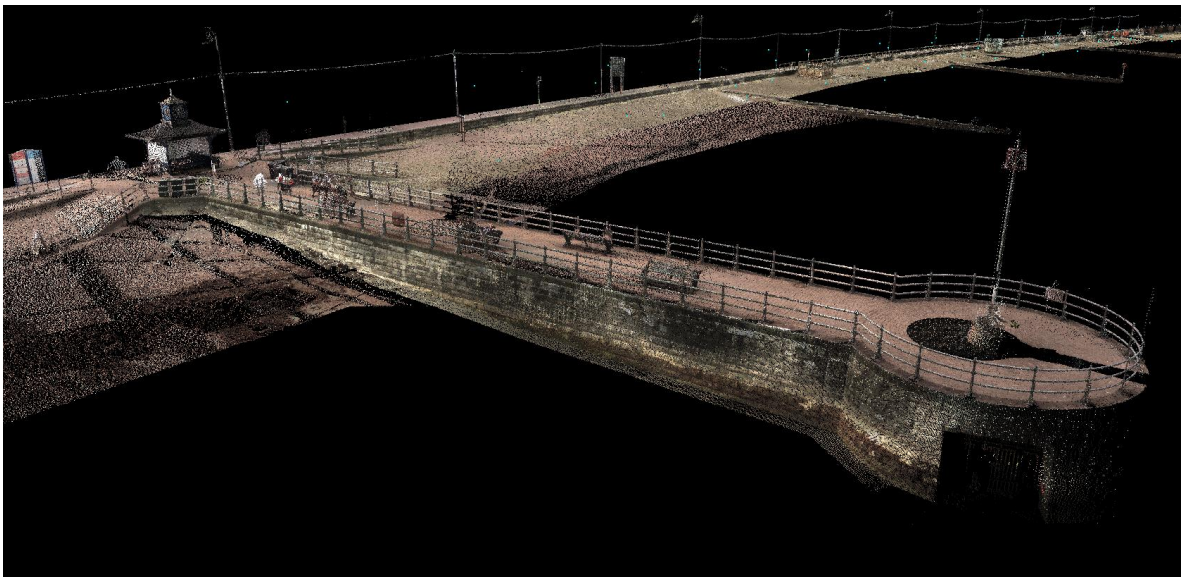
Autumn surveys are now complete.

1.2 Lidar

Brighton to Portland Bill (and Dungeness) has just started with 3 of the 35 polygons so far flown.

1.3 Structure Laser Scan Surveys

Laser scanning of coastal assets continues, Swanage Bay has been recently completed. Other areas surveyed in the last couple of months include Alum Bay IOW, and Mudeford Quay. Forthcoming areas include Stansore Point to Lepe (West Solent) and Weston Shore, Southampton.



2. Hydrodynamics

All wave buoys operational.

Planning permission has been granted for the Hastings tide gauge with final parts of the installation underway.

3. Website

Quality control guidelines are available for hydrodynamics, aerial photography and lidar (topo underway).

There is a new option to download data from the realtime pages

Website hits have averaged around 9 million per month in 2017, double that of previous years.

4. General

UAVs have been received at New Forest DC, training currently underway.

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