



The Iron men on Crosby Beach by Viv Pearson

NORTH WEST REGIONAL MONITORING PROGRAMME NEWSLETTER

Introduction

Happy New Year! and welcome to the January 2015 issue of our biannual newsletter for the North West Regional Monitoring Programme. We aim to provide news on progress of the programme, spotlight specific issues and provide an outline programme of upcoming monitoring, reporting and events across the region.

North West Regional monitoring programme update

The North West and North Wales Coastal group have their website up and running again with a slightly different name, see below. Please remember to make a note of the new name and pay the site a visit to see whats new.

The data we collect and why

Collaborating to deliver a programme of monitoring ensures that good quality data is collected and securely stored, captured to national specifications and quality controlled. The programme aspires to make all data collected freely available through an open government licence, once checked, data is available to download from www.coastalmonitoring.org

Data collection reports

As the CERMS coordinating body, Sefton have produced a set of data collection reports for each NW Local Authority which have been distributed recently to the respective authorities. Each report provides a catalogue of datasets available and sets the scope for future monitoring of the coastline.

2016–2020 CERMS Programme

We are continuing to support the development of the bid for the continuation of the programme. The project team have been assisting the Channel Coast Observatory, who are the national lead coordinating the bid, by providing information relating to the key needs in the north west. The bid will be submitted in January and we should receive the outcome late in Spring.

Whilst this is ongoing we are beginning the process of establishing procurement frameworks for the surveys that we require. This will take the best part of a year to complete due to the time required for tendering and assessment.

As with many government funded schemes we have had to look at a reduction of the budget. However, I feel that this has been well managed nationally and the impact on the programme in the north west is less than originally anticipated.

Meetings

The next CERMS partnership meeting will be held in Sefton on the 10th of February.

Contacts

- If you would like to know more about the North West Programme please contact: coastaldefence@sefton.gov.uk
- For the data web portal visit: www.coastalmonitoring.org
- North West and North Wales Coastal Group visit: <http://mycoastline.org.uk>



HIGHLIGHTS IN THIS ISSUE

- **Be Floodready !**
- **CCO downloads update**
- **Latest survey gadgets on show at Leica workshop event**
- **Partnership news**
- **Sandon Dock Wastewater Treatment Extension**

CERMS PROGRAMME DOWNLOADS

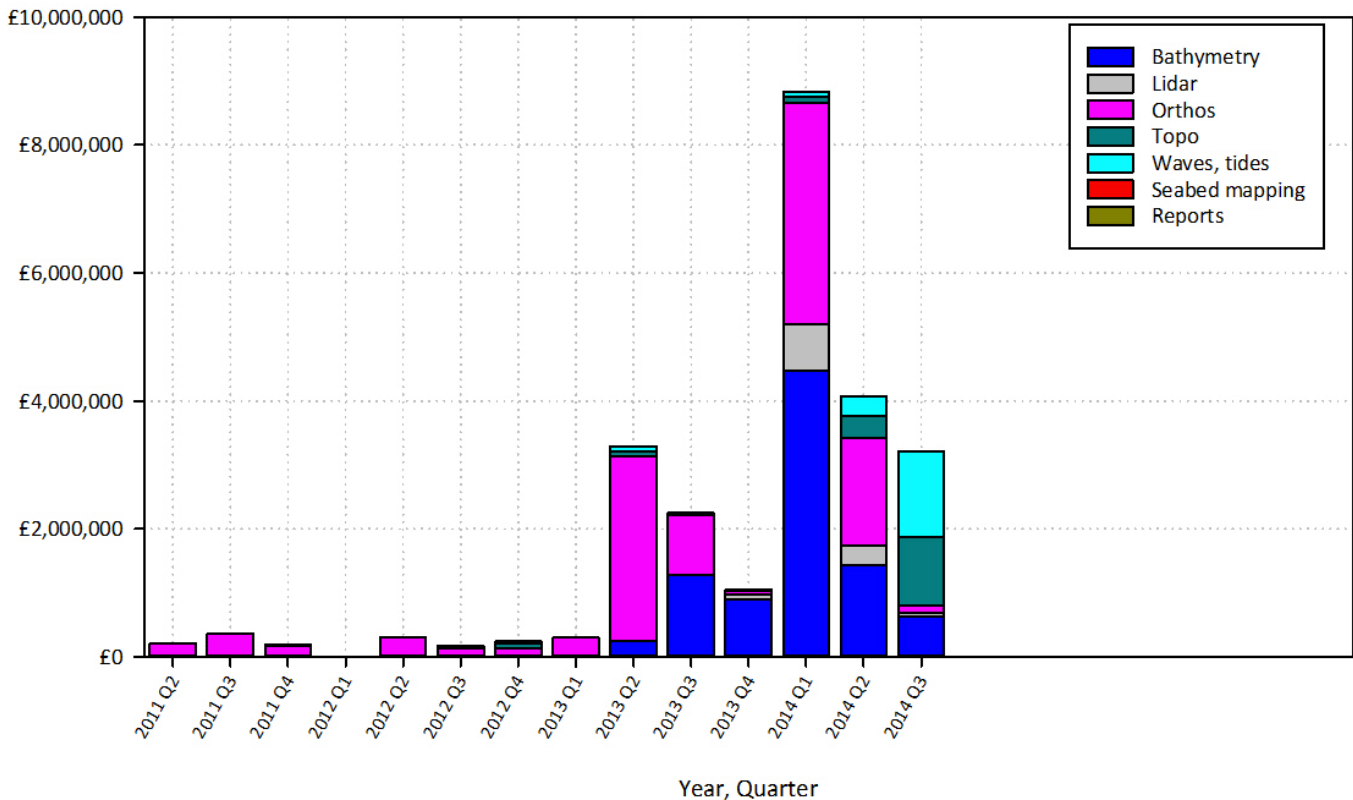
Latest web download figures from the channel coast

The information available on the website clearly demonstrates the value of the information collected, not just to coastal engineers, but to a much wider audience. The monetary value assigned to this shows the saving if the data had to be collected by a number of different organisations.

From the graph you can see in the last two quarters there has been a big increase in downloads of topo and wave data and a number of reports. At Sefton, we have had numerous requests from students this summer, many of whom have been working on their final dissertations, as well as providing data directly, all have been pointed in the direction of the website in addition to contractors and researchers. The increase in usage is really noticeable since the beginning of 2013 whereas before that usage remained fairly static. We are working with Channel Coast Observatory to make the oblique photography datasets available through the web portal. Some of them can be viewed on Google Earth.

Remember the Channel Coast Observatory have changed their web address to: www.coastalmonitoring.org

Northwest Regional Coastal Monitoring Programme
Website download values



New appointment at Morecambe Bay

Oliver Wood has been appointed to the post of Coastal Engineer – Monitoring at Lancaster City Council to assist with the coastal monitoring within Lancaster and Morecambe Bay. Oliver was previously employed at the Environment Agency through their graduate development programme. He has brought a number of skill to Lancaster gained through his experience at the Environment Agency.

More news—Autum Surveys complete

All Sefton's beach profiles and topographic surveys were completed by the beginning of November 2014 and the full sets of data have been received from the contractor for the rest of the NW. Sediment samples were also completed and these have been sent off to the contractor for analysis. The team at Sefton are currently busy adding all this data to their SANDS database, checking and carrying out small corrections. It should also be possible to add the sediment results to the database which will add another dimension to analysis.

A new website, www.floodready.co.uk, has been launched to raise awareness of flood risk in the North West.

Launched on the 29th October 2014 Floodready is a resource designed to help communities including schools and businesses to understand the causes and impacts of flooding and what they can do to be “floodready”. The website has been funded by the North West Regional Flooding and Coastal Committee and developed by Sefton Council and the Southport Eco Centre, with support from the Environment Agency. Flooding is a serious problem in the UK with 1 in 6 properties at risk of flooding. The impacts of flooding on our communities can be devastating. Floods can keep people out of their homes for at least 6 months and it can cost around £20,000 to make a home habitable again.

The online resource features interactive animations, case studies from all over the North West Region and a wealth of supporting activities and resources that will enable everyone in our community to “Be Flood Ready” and become more resilient to future flooding events. The case studies not only feature flooding events, but highlight good examples of community engagement and flood risk management schemes.

Councillor Derek Antrobus, Chair of the North West Regional Flooding and Coastal Committee says, “

“Our climate is changing and the North West is likely to get wetter over the next few decades. It is important that we not only invest in managing future flood risk, but also make sure that communities and future generations have the knowledge and understanding to tackle the more severe threats of the future.

“This online tool means that everyone has at their fingertips a resource to develop a good understanding of how floods happen and how we can all protect ourselves from future flooding through insightful and engaging activities.”

The website, since launch has received some really positive feedback from partners, communities and teachers. The interest has gone global and although our primary audience is the North West it is nice to see the site is gaining interest further afield. It is hoped that other regions around the UK will adapt the website for their local area and promote the flood ready brand that we have developed across the UK.

We would welcome any support partners can provide in promoting the site in your local communities, schools and businesses. We have designed an advice leaflet called “Be flood ready” that can be adapted and badged up with your local councils logo and distributed in your local area and you are welcome to submit your own case studies to the address below.

Lancaster City Council have recently done this. If anyone would like any further information or to be provided with the advice leaflet for adaptation please contact the Flood and Coastal Erosion Risk Management Team by email at flooding@sefton.gov.uk or on 0151 934 2958

HOME, SWEET HOME?



FLOODS
DESTROY
BE PREPARED

Wellington Dock Treatment Extension



In August Sefton's FCERM team were lucky enough to visit the new wastewater treatment works extension at Sandon Dock, Bootle. United Utilities staff gave a very informative presentation followed by a guided tour of the existing and new facilities, including a climb to the top level of the new treatment building which affords great views across the Mersey and also a close up view of just how big the storage tanks really are.



Martin Williams, Asset Manager for Merseyside has provided an update on the progress of the scheme;

October saw the roof installed on Liverpool's new £200m wastewater treatment works extension. The company is on target to get the works operational by next spring, which will keep the River Mersey clean for future generations and help boost both Liverpool's tourism and economy. Lorne Large, United Utilities Principal Project Manager, said: "It's staggering to think how quickly this important building has shot up. It only seems like yesterday we were standing on the side of a water filled dock.

"It's one of the biggest construction sites in the city and means we will be able to keep the River Mersey clean well into the next century."

Around 350 people, many of them local, will work at the Wellington Dock site, which is almost the length of two football pitches. It will serve 600,000 Liverpoolians from Crosby to Garston, taking away their sewage, and treating it to the highest standards before returning the waste water to the River Mersey. As well as the new extension, the existing works in neighbouring Sandon Dock is being improved and a 285m long outfall pipe has been installed on the bed of the Mersey, taking the treated wastewater out into the middle of the river. It will then hit strong tidal currents and be dispersed more widely into the estuary and Irish Sea. These improvements will benefit marine invertebrates in the river and allow bird populations in this habitat to thrive.

The project will continue the long-term aim of keeping the river clean, something which originally began in the 1980s, when it was heavily polluted and named as the dirtiest in Europe. Since then, United Utilities has spent millions of pounds on the construction of a huge 29km sewer from Crosby to Speke, which carries the city's wastewater to Sandon Dock. Now, salmon and trout live in the river.

More information is available at www.unitedutilities.com/liverpoolwttw



This improvement links to another project UU are undertaking developing models for the NW of treated waste water dispersal. Both CERMS and EA have been working with UU to develop these models by providing data and expertise.

CERMS PROGRAMME UPDATE

Update

Bathymetric surveys

Netsurvey have completed bathymetric surveys of the Lune, Ribble and Solway and this data is now being quality checked by the project team. Surveying has been delayed with the bathymetric profile extensions that cover the whole of the open coast due to poor weather conditions. Sediment grab samples are also being collected along the extensions to link to the wider coastal sediment sampling programme that took place last Autumn.



Bathymetric survey vessel - Pulsar

Wavebuoys

The Mersey wave buoy has been cut loose twice from its moorings since it was deployed earlier in Summer 2014. The cause is thought to be small pleasure craft launching from a nearby slip way heading out into the Mersey not noticing the buoy and slicing through the bungee. The mooring configuration has been altered to minimise the risk of this re-occurring. Right is a picture of the buoy after it had been rescued.



AWACS

As you may be aware there have been a number of issues with the wave buoy deployment in the Mersey and AWAC deployments at St Bees Head in Cumbria. The St Bees Head awacs were originally deployed this time last year. When they came to be serviced 3 months later it was found that 1 had been vandalised, 1 had vanished and it wasn't possible to raise the third. Replacement awacs were deployed during this service but the decision was made to retrieve them earlier than planned. After discussions with the local fishing groups the awacs have been redeployed with bigger, illuminated buoys.

RECOMMENDATIONS FOR MORE EFFECTIVE FLOOD MANAGEMENT IN ENGLAND

The RSPB’s primary role is safeguarding species and their habitats and managing nature reserves as part of their vision to contribute to and create landscape scale conservation schemes. Therefore, as a land manager, it is no surprise to learn flooding is high up on the RSPB’s agenda. RSPB have produced Flooding in Focus, investigating the impact of recent extreme flood events and the future direction of flood risk management from a nature conservation perspective.

For more information visit www.rspb.org.uk/ or web search “RSPB Flooding in Focus” to read the document.



High astronomic tides (also known as "spring tides") will be at their greatest over the next 18 months. This is because September 2015 is the point in a natural 19 year cycle when the sun, moon and earth align to exert the greatest force on the tides in the UK. This means the increase in the size and number of high natural tides this coming winter means that there is a small, but elevated, increase of risk from coastal flooding this winter. However, the weather conditions that generate a tidal surge, or extreme waves on the west and south coasts, will continue to be the dominant factors influencing coastal flood risk.

Why are the tides so high this winter?

An astronomic tide is the regular and predictable movement of water caused by the way that the earth, sun and moon move in relation to each other. The astronomic tides are notably high during 2014 and 2015 because we are reaching the peak of the 18.6 year tidal cycle in September 2015. This peak sees the position of the earth, sun and moon align such that they combine to create a greater than average force over the tides. This means they are higher than the average for the 18.6 year period.

When are the tides notably high this autumn and winter?

Over the course of autumn and winter 2014/15, notable high natural tides will occur along all parts of the UK coastline, but particularly on:

- August 12th and 13th 2014
- September 10th and 12th (the highest astronomic tide for 2014)
- October 9th and 10th 2014
- January 22nd and 23rd 2015
- February 20th and 21st 2015

High astronomic tides alone do not cause a significant coastal flood risk. High astronomic tides can pass without incident, but even a moderately high astronomic tide when combined with a large coastal storm can result in severe widespread flooding. This was the case on 5th December 2013. The highest natural tide of 2013 occurred between 21st and 23rd August and passed without incident.

How do the tides compare to last winter and other years?

The table below shows tide levels for 2013 to 2015 at Liverpool. It shows the highest natural tide in 2015 is 33 cm higher than experienced in 2013 on the Merseyside coast. This increase in the difference in the underlying astronomic tide is important but less significant than weather effects on tide levels. All tide levels are either increased or decreased by the effects of the weather creating a tidal surge. Typically the difference in water level caused by the weather can be between 20-30cm. On the 5th December the tidal surge increased the water level by up to 2m. Of greater significance in preparing for possible coastal flooding in the coming year is the frequency of higher than normal tides rather than the height of the highest tide. The frequency of high tides at North Shields is used to highlight this point. A sea level of 2.9m at North Shields will result in the closure of the Hull Barrier which protects 19000 properties.

		Maximum natural high tide levels			
Site	Site representative of	Highest tide 2013	5th December 2013	Highest tide 2014	Highest tide 2015
Liverpool	NW Coast	5.11	4.97	5.18	5.44

For the North West, higher than normal tides are also expected, and have implications for the monitoring schedule. In Sefton the frequency of tides over 5m OD have been counted to assess this, in 2013 there were 13, in 2014 there were 37 and in 2015 we can expect 46. That’s quite a difference! Sefton’s FCERM team continue to monitor these in conjunction with the weather forecasts.

LEICA WORKSHOP EVENT—BOLTON UNIVERSITY



In October Leica ran a series of workshops featuring their new surveying and scanning equipment. On the 17th two Sefton staff attended the workshop in Bolton to see what was new and report back. Viv and Lee attended 5 rotating workshops on different surveying kit and also attended a Leica presentation.

They got a chance to talk to Leica staff about some of the new features of Cyclone, the software for processing laser scans, this included a look at the new function that allows visual alignment of laser scans. Unfortunately there wasn't a demonstration of a microcopter but they got a good look at the one shown in the picture below. The use of microcopters to survey those hard-to-reach places is being considered in the next programme.

There was an interesting presentation about the iCoN range of equipment developed for the construction industry—so called as it is designed around the principles of “intelligent construction and offers a range of solutions. One of the workshops features the Leica Zeno high accuracy GIS computer tablet for particular use surveying assets, it has full GNSS and its own aerial so doesn't require an external antennae. Very portable and hardwearing for fieldwork.



The bottom image is of the Leica Pegasus Two - a mobile mapping multi-sensory platform. Pegasus Two captures calibrated imagery and point cloud data together – assuring that no object is forgotten. Capturing full 360° spherical view and lidar together means you never forget an object or have to return to a project site. Leica Pegasus

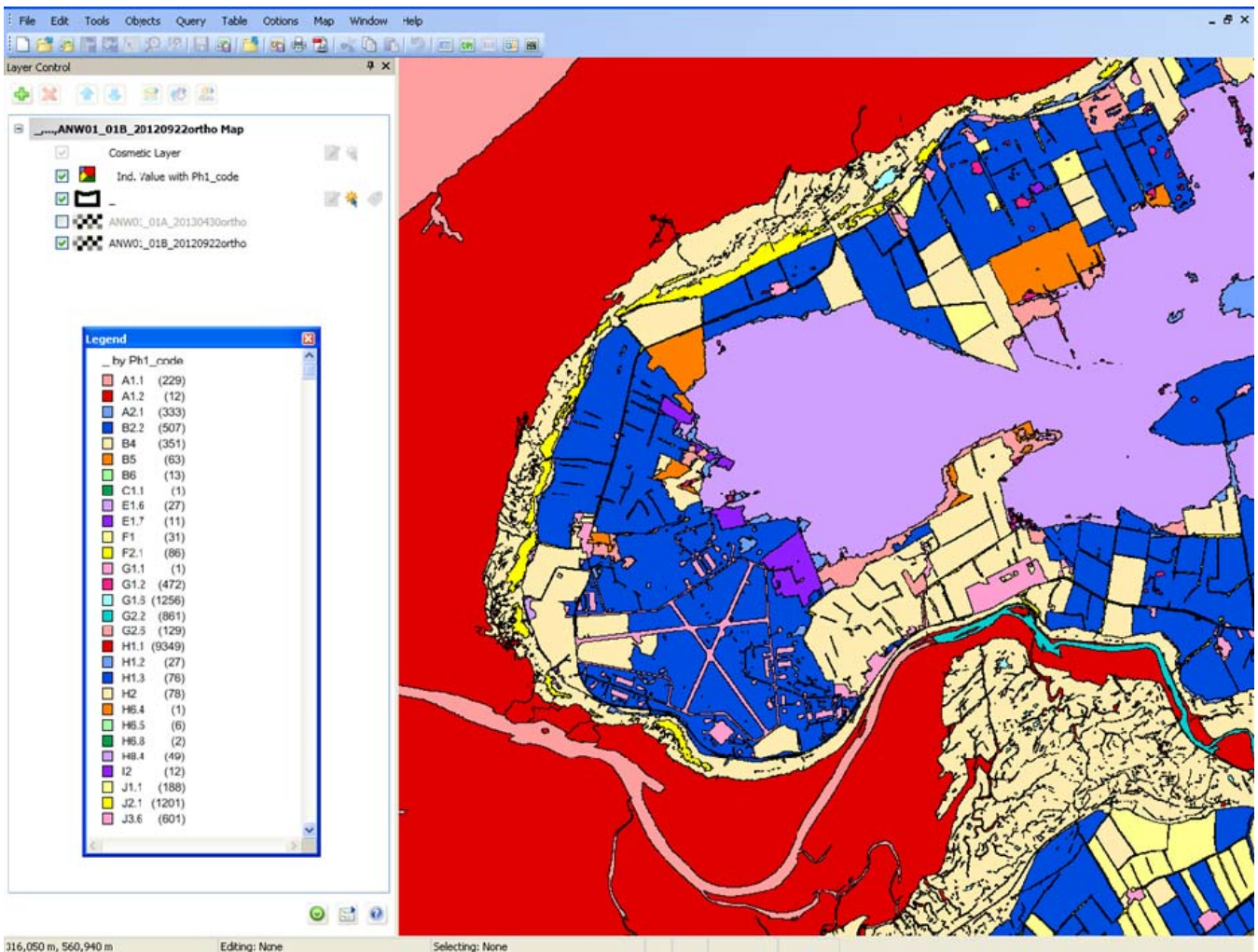


Two provides an optional rear road camera for pavement analysis providing options for a range of highway and engineering schemes. All in all an enjoyable and informative day.

On the subject of equipment - Sefton CERM Surveyors have purchased a replacement quad bike for conducting coastal surveys. With an area approx 28 sq km stretching over a 20km length of coastline accessible by quad, this is the fastest and safest way to cover the areas that need to be surveyed. Wear and rust caused by salt and grit from the extreme coastal environment take their toll eventually and a replacement was long overdue.



PILOT SITES SURVEYED AND MAPPED



Example of the ecological mapping outputs to phase one habitat classification codes (Solway)

The Ecological mapping project that featured in the last newsletter is now well underway. We have received a number of draft outputs for checking from the consultant. These outputs have been sent to various partners for checking and we would like to thank those who have provided the consultants with valuable comments to refine the computer model and enable us to get more accurate data. We will keep you up to date with progress and inform you when the final outputs are available around the end of March 2015.

Thanks to everyone who contributed to our first newsletter of 2015, remember if you would like your CERMS news or articles to appear please send them to Viv.Pearson@sefton.gov.uk

The next NW CERMS Newsletter will be published in July.

PRODUCED BY SEFTON COUNCIL

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We are now

Cumbria & Lancashire Area

From 1 April 2014 North West North Area has a new name. Covering the same geography, we will continue to work with our partners and customers to help protect and improve the environment.

