eSurge User Group Newsletter
Issue 4, February 2014

The aim of the eSurge project is to make advanced satellite data products available to those who model and forecast such surges, and to assist them to best utilise such products, in order to improve surge predictions and hence to reduce the impact of future events.

Storm surges have been very much in the news recently. In November Typhoon Haiyan hit the Philippines, with a storm surge of over 5 metres devastating Tacloban City, as well as lower surges elsewhere. Within Europe there has been a succession of winter storms, causing storm surges around the European coastlines, as well as other flooding from heavy rainfall.

Data for these and other events are freely available through our online database at **www.storm-surge.info/data-access**.

eSurge is a user-led project, and your feedback is important to us. We would therefore be grateful for a few minutes of your time to fill in our online survey by following the link on this page.

Join the Storm Surge Network

We have set up a LinkedIn group, the **Storm Surge Network**, to facilitate discussions within the storm surge community. This group brings together storm surge professionals from around the world in a forum for networking and discussions.

The group is open to anyone with an interest in storm surge research and forecasting, and can be found at **www.linkedin.com/groups/Storm-Surge-Network-5051187**.

Typhoon Haiyan

Tropical cyclone Haiyan (also called Yolanda) hit the Philippines on 8th November 2013. With winds of up to 195mph by some estimates, Haiyan was possibly the strongest storm ever to make landfall. In Tacloban City, where the devastation was worst, a storm surge of 5-6m was experienced, exacerbated by the city's position at the head of a bay. Other parts of the Philippines also experienced storm surges, as well as waves of up to 6m and high winds.

We have collated together all storm-surge related information and links that we are aware of at **www.storm-surge.info/tropical-cyclone-haiyan**.
Please let us know of any others that we should add.

Please give your feedback!

ESA and the eSurge team would like to get your feedback about the project and the data provided: what is useful to you, where more work is needed, and what you would like to see more of. We would be very grateful if you could fill in the short online survey at **www.storm-surge.info/user-survey**.

Thank you!

Cryosat measures the Storm Surge from Xaver

In December 2013, the winter storm Xaver passed across the North Sea at a time of high tides. The resulting storm surge is estimated to have been the highest in the region since the famous 1953 floods. Significant flooding occurred along the UK's east coast and in Germany, with Hamburg in particular being badly affected

After affecting the UK, Netherlands and Germany the flooding moved towards Demark. The time at which the high water moved through the Kattegat between Denmark and Sweden coincided with an overpass by ESA's Cryosat spacecraft on 6th December.

Using the ALES coastal altimetry processor developed by NOC to analyse the Cryosat altimetry, a snapshot of the water level profile was obtained.
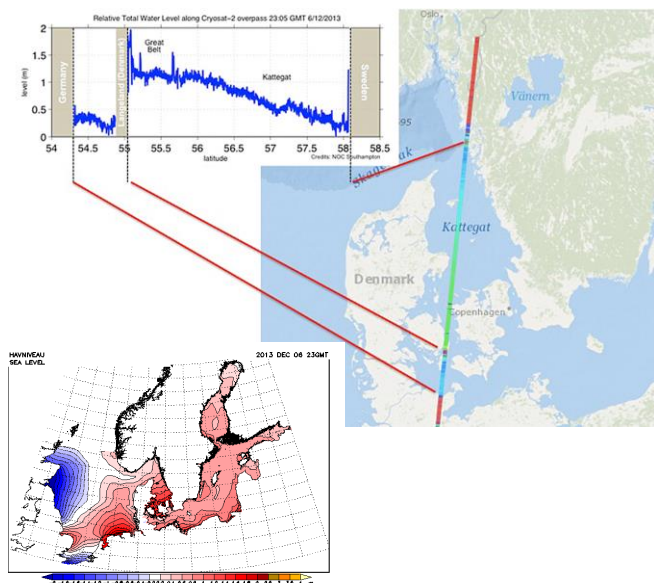
The profile from the coastal altimetry agreed well with the predicted profile from numerical models, giving an additional validation of the models.

In the case of the North Sea, the models are generally well understood, and there are many tide gauges for comparisons. In many parts of the world this is not the case, and so altimetry gives a powerful way to compensate for the lack of in situ data, one which is being actively investigated by many teams worldwide.

For more on this story and on coastal altimetry in general see **www.storm-surge.info/coastal-altimetry**.

eSurge collaborates with JRC as part of GDACS

GDACS (Global Disaster Alert and Coordination System) is a cooperation framework between the United Nations, the European Commission and disaster managers worldwide to improve alerts, information exchange and coordination in the first phase after major sudden-onset disasters. See **www.gdacs.org** for more information.

As part of GDACS, the EC's Joint Research Council (JRC) operates an experimental global storm surge model, which is run for all tropical cyclones above a given strength. Although experimental the model has already proven useful, for example in predicting the surge from Typhoon Haiyan in advance (see images in this newsletter).
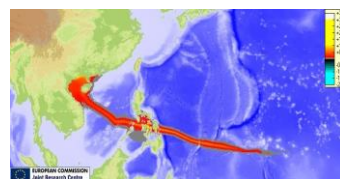
eSurge and the JRC team are looking at opportunities for collaboration, for example by triggering eSurge Live events automatically whenever JRC's model warns of a significant surge, then making suitable satellite data available through GDACS.

Storm Surge Community meets in Venice

Last November, storm surge researchers from across Europe met in Venice for the eSurge-organised Storm Surge Forum. This event discussed the problems in modelling and forecasting storm surges worldwide, with a particular focus on how satellite data can be used to help tackle the issues.

By design, the event coincided with aqua alta (high water) in Venice, allowing attendees to see the effects of a storm surge up close.

Presentations from the forum are available online at **www.storm-surge.info/forum-2013**.

We would like to thank ISMAR for hosting the event, WMO for their support, and to all the participants for their contributions.

We will be organising a further meeting in summer 2014; more details will be available soon.

For more information, to request data, or for any other reason, contact us at **eSurge@outlook.com**.