

Airborne Gravity Survey for Floodwater Inundation Prediction

Fugro EarthData, USA, is to collect airborne gravity data by the National Geodetic Survey (NGS), in coordination with the National Oceanic and Atmospheric Administration's (NOAA) Coastal Services Center (CSC) and National Ocean Service (NOS). Under funds released as part of the Hurricane Sandy supplemental bill, this new contract will provide for additional data collection over the Mid-Atlantic states as part of the NGS programme known as Gravity for the Redefinition of the American Vertical Datum (GRAV-D).

NOAA's GRAV-D project has been underway since 2007 and is expected to take up to 15 years to complete. The programme will allow for a much improved geoid model, which will impact directly on height modernisation mapping and related studies, including sea-level rise baseline and monitoring. The collection of gravity data over the northeast US, from North Carolina to Maine, will support updating elevations (approximately how heights above sea level are determined). Accurate heights, especially along coastal areas, are critical to predicting the extent of flooding from a storm surge from a hurricane; they also allow the prediction of where water will flow as flooding dissipates. The new vertical datum supplied by the project will correct errors of 50 centimetres (approximately 20 inches) on average in the US. A 50-centimetre error can result in thousands of acres of inundation that would be predicted incorrectly.

Fugro's expertise in responding to water challenges has also been recognised with the leadership of an American/Dutch strategy team taking part in the '[H209 Forum](#)' on 9 and 10 September 2013. Opening speakers at the event are Honorary chairs Shaun Donovan, US Secretary of Housing and Urban Development, and Melanie Schultz van Haegen, Dutch Minister of Infrastructure and the Environment, who have previously signed an MOU to enhance the exchange of knowledge and expertise in water management between The Netherlands and the USA.

Fugro's strategy team, amongst the brightest water-minds from both sides of the Atlantic, will present a session on the protection of coastal areas from future storms together with their solutions for keeping such vulnerable areas safe and resilient. The central conference theme, 'Water Challenges for Coastal Cities,' includes innovative water technology and the economics and governance of water.

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