

VULCAN MEETS GAEA



GEOSPATIAL TECHNOLOGIES ARE ABLE TO HELP PREPARE COMMUNITIES FOR THE DEVASTATION CAUSED BY VOLCANIC ERUPTIONS, AS WELL AS HELP MITIGATE THE DAMAGE AFTERWARDS

ROB BUCKLEY

EDITOR

robertbuckley@geoconnexion.com



There's no doubt that the volcano is one of the most powerful and dangerous phenomena in nature. Exploding with more power than a nuclear weapon, it can destroy towns and cities, wiping out all life in the process, leaving its mark for millennia to come.

The Roman town of Pompeii was famously trapped like a fly in amber by the cocooning ash of the eruption of Vesuvius and can be explored by visitors to this today, where they can see how people lived – and died – in the town. Meanwhile, the legend of Atlantis is thought to come from the destruction of the civilisation on the Greek island of Santorini by the volcano at its centre in the late Bronze age – transforming the ring-like caldera into a very different into a very different structure.

In more modern times, the eruption of Krakatoa in 1883 could be heard 4,800km away and led to global cooling of 1.2°C the following year, with global weather not returning to normal for five years. Small wonder that even the word for it is associated with the gods themselves – volcano coming from the Roman god Vulcan.

Of course, nothing can be done to stop the eruption of a volcano, but we can at least be prepared for it and its aftermath. And in this issue, we look at how geospatial

technology is being used as part of this.

Italy's Mount Etna – not far from Vesuvius and Pompeii – has erupted periodically for millennia, with the latest 'Strombolian activity' this July producing lava flows and ash that affected the terrain and nearby communities, and forced the temporary closure of nearby airports. Nevertheless, despite its continued activity, a group of brave scientists ventured into it to survey it, so they can model it and spot changes. On page 34, John Stenmark follows them in – metaphorically, anyway – to discover the results.

Meanwhile, last year's saw the eruption of Kilauea in Hawaii. The devastation caused was considerable and one of the main tasks facing the government was to work out the extent of the damage, as well as the loss of life. Here, UAVs played a role.

On page 43, Andrea Massey explains how a small fleet of 'disaster robots' was used to aid disaster response in the months-long eruption of Kilauea in Hawaii that destroyed 700 homes. As well as giving rise to new firsts in technology applications, including a UAV strike team, the volcano became the most monitored and scientifically understood in history.

I hope you enjoy the issue and find it useful in your work.

Editorial:

Rob Buckley, Editor - GeoInternational
robertbuckley@geoconnexion.com

Peter FitzGibbon, Editor - GeoUK
peterfitzgibbon@geoconnexion.com
+44 (0) 1992 788249

Eric van Rees, News Editor
+34-958281507
ericvanrees@geoconnexion.com

Columnists:

GeoInternational

Louise Friis-Hansen, FIG

Daniel Katzer, Hinte Messe

Alistair Maclean, Quarry One Eleven

Geoff Sawyer, EARSC

GeoUK

Neil Pollock, Modern Surveying

Alessandro Lori, Guest Blog

Publisher:

Mai Ward

+44 (0) 1223 279151

maiward@geoconnexion.com

Advertising:

Micki Knight, Sales & Marketing Director

+44 (0) 7801 907666

mickiknight@geoconnexion.com

Mailing Address & Subscription Enquires:

GeoConnexion Limited,

PO Box 594, Cambridge,

CB1 0FY, United Kingdom

+44 (0) 1223 279151

info@geoconnexion.com

subscription@geoconnexion.com

www.geoconnexion.com

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Lucy Carnell

AT Graphics Ltd

www.atgraphicsuk.com

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