

■ The imagery of flooded areas in Queensland was captured with a Leica ADS40 in 25 cm (<10 in) resolution.

Rapid Help for Flood Victims



by Steve Gaynor and Steven Wright

Beginning in December 2010, a series of floods affected Australia, primarily the state of Queensland, and forced thousands of people to evacuate their homes. Three quarters of Queensland were declared disaster zones, leaving 35 people dead and nine missing. The damage to Australia's GDP is said to be AUD\$30 billion (USD\$ 31.6 billion). The Imagery Collection and Exploitation (ICE) Team of the Australian Army's 1st Topographical Survey Squadron used a Leica ADS40 Airborne Digital Sensor to capture imagery data of severely flood affected communities to assist reconstruction activities.

Throughout January and February 2011, the ICE Team has had a watchful eye over Queensland's flood affected areas. The goal was to capture very accurate flood levels for more than 100 of Queensland's hardest hit communities to prepare for future events and

use the information as a tool during flood disasters. The end result was an aerial image of the affected areas in Queensland with an overlay showing the flood level. Citizens have free access to these maps on an interactive website, which is a definite first.

After being recalled at short notice in January, the ICE Team was dispatched in support of the "Queensland Flood Assist Operation" of the Australian Army to provide situational awareness to reconstruction activities in severely flood-affected communities. The ICE Team worked in conjunction with RAAF 38 Squadron elements that operate a modified aircraft – they captured imagery in and around Brisbane, West to Roma, North to Gladstone, and South to Hebel.

Although weather throughout the operation was not conducive to effective aerial imagery capture, the ICE Team continued to fly daily, capturing opportune targets and processing imagery around the clock to ensure outputs were delivered on time to



its many customers. Imagery was captured using a Leica ADS40 Airborne Digital Sensor. This sensor captures digital imagery and is able to generate surface models of targeted areas of the earth's surface. This capability is a quantum leap ahead of previous imagery capture techniques used by the Army.

The ICE Team was complimented by two Leica Sensor Support Technicians: Jacques Markram, who flew to Australia from the Leica Geosystems headquarters in Heerbrugg/Switzerland, and Mal Hentschel, who helps support all sensor systems worldwide, but is based in the Australasia/South East Asian region.

Most units deployed as part of the "Flood Assist Operation" ended their support in late January; but the ICE Team continued its capture efforts until 18 February 2011, and continued the exploitation of this imagery in the following months.

The team's professionalism and effective use of its assets became of particular interest to the

Queensland State Government's Department of Environment and Resource Management and the Queensland Reconstruction Authority. Both organizations will continue to exploit the imagery captured and generated by the ICE Team in assessing and prioritizing the reconstruction efforts throughout Queensland. In a letter of thanks Major T.J. Francis of the Australian Defence greatly appreciated the support of Leica Geosystems: "The additional support provided enabled imagery to be captured and processed more efficiently for distribution to Queensland Emergency Services." ■

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