

Leica Geosystems **TruStory**

Typhoon Morakot - Emergency Response with Leica ADS/XPro



Satellite Image before and Leica ADS40 orthophoto after Morakot.

Typhoon Morakot hit Taiwan in early August 2009 bringing torrential rainfalls and extensive flooding to the island. Morakot has caused severe damage to people and infrastructure, leaving 7000 people homeless, killing about 500 and damaging agriculture and property in the order of US\$1.5bn.

In the aftermath of the disaster, up to date airborne imagery over affected areas was required to assess damage, coordinate rescue efforts and plan reconstruction activity. From the 12 August to 11 September 2009 data was acquired almost daily by ASO, Taiwan, using a Leica ADS40 SH52 installed in a Beechcraft Kingair 200.

The ADS40 SH52 is a high-end, digital pushbroom airborne sensor that collects (stereo-)imagery in continuous strips. Within each strip, no mosaicking is required, which saves a considerable amount of time when producing orthophotos. Due to a unique design, the Leica ADS40

SH52 acquires imagery with equal resolution in all bands Panchromatic, RGB and NIR. Thus, even from higher altitudes, which are often required in emergency situations to cover wider areas in a shorter time, the Leica ADS offers highest image quality for visual interpretation and automated assessment.



Torrential rains and severe flooding.

Upon acquisition, the data was processed using both Leica GPro and the new Leica XPro. Thus, orthorectified imagery could be delivered for interpretation and analysis within less than 24 hrs after acquisition. Each day, the digital imagery was delivered to the National Forestry Bureau, Water and Soil Conserva-

■ Scope

Emergency Response requires updated imagery over areas affected by torrential rainfalls and floods in the aftermath of Typhoon Morakot

■ Customer

ASO, Taiwan; Control Systems, Taiwan

■ Date

August/September 2009

■ Project Summary

Field

1 Beechcraft KingAir 200, 1 Leica ADS40 SH52, 1 month data acquisition

Office

Leica GPro and Leica XPro

Deliverable

Orthophoto Strips over affected areas for image interpretation and damage analysis

■ Benefits:

- Easily deployable, no need for reference station
- Acquisition of continuous strips
- Equal resolution in all bands gives best image quality at high altitudes
- XPro at least three times faster than GPro and delivers accurate orthophotos extremely fast

tion Bureau, the Water Resource Agency and the NCDR.

Although ASO received Leica XPro training only a short while before the typhoon, data processing with Leica XPro was found to be very easy. It was concluded that compared to Leica GPro, with Leica XPro orthophotos can be delivered three times faster.