Case Study:
RapidEye Imagery for Crop and Land Use Monitoring

OVERVIEW

A high profile agricultural consultant requested a 5m resolution, RapidEye satellite image capture over South West Victoria, Australia. The months of August and September best capture key stages of crop growth and identify variations in crop development to help guide yield optimisation and related land management.

SITUATION

The goal was to collect satellite imagery to guide immediate crop management and for integration with other field based knowledge. 6,700km² of data was required in August and 6,000km² in September.

ACTION

Our client ordered new tasking of RapidEye satellite imagery with rapid delivery. The project delivery directory was created and products placed in this folder after successful capture and product generation.

RESULT

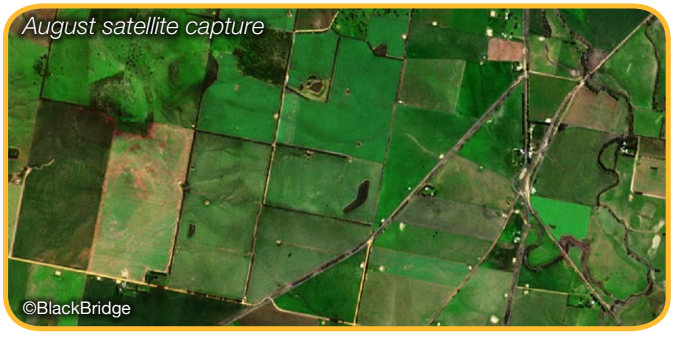
The constellation of five RapidEye satellites successfully image ~99% of the project, 3km² area had no successful capture due to persistent cloud.

The weather was conducive for image capture in August but uncooperative in September.

The progressive data capture and rapid deliveries are chronicled on the next page.

BENEFITS OF RAPIDEYE

- **Speed of capture:** Constellation of 5 identical satellites, ensures daily capture capability
- **Image resolution:** All 5 spectral bands captured at the same resolution
- **Speed of delivery:** Direct download ftp
- **Extensive historical image library:** Valuable baseline information available from the online archive: http://eyefind.rapideye.de/



August satellite capture

October satellite capture

Project Timeline: Stage 1

Requested start date for capture	Aug 1
Successfully captured data	Aug 6, 10, 11, 13, 15 and 16
Capture completed	Aug 16 (over 6 dates)

- 6,700km² captured in 16 days; 5.6Gb of data in total

Project Timeline: Stage 2

Requested start date for capture	Sept 23
Successfully captured data	Oct 5, 7, 12, 14 and 18
Capture completed	Oct 18 (over 5 dates)

- 6,000km² capture in 26 days; 7.94Gb of data in total

Incremental Delivery for August Capture

Delivery 1: 6 August

Delivery 2: 12 August

Delivery 3: 13 August

Delivery 4: 15 August

Delivery 5: 16 August

Final/Complete August Delivery: 19 August

Image Data Format

- 5m RapidEye Orthoimage product
- 5 band colour RapidEye imagery
- GeoTIFF 16bit
- WGS84 UTM Zone 54 and 55 South
- Horizontal accuracy of ~5m RMSE (excluding terrain effect)

Client Feedback

"Fantastic... a mammoth effort but we got there in the end!" Agricultural consultant.