

Real-time Airborne Search and Rescue Detection and Geotagging

Software and hardware engineering efforts at ITRES, Canada, have moved into the next phase towards integrating their In-Flight Processing System (IPS) development with a new high-resolution pushframe thermal TABI-1800 imager.

The thermal TABI has demonstrated its use and high thermal and spatial resolution capabilities during last summer's rapid response application in wildfire mapping. Fast access to accurate and precision georeferenced maps were mandatory for that.

The TABI has now been integrated with a modified version of the IPS. This version will permit real-time thermal anomaly detection and marking. It bridges the gap from emergency response to thermal search and rescue.

The real-time, search and rescue version of the IPS uses a series of algorithms to automatically detect small thermal anomalies and geotag them on a moving base map.

The thermal capabilities of this system are provided by the TABI-1800's patented pushframe design. This wide-imaging swath sensor provides high spatial resolution (down to 15cm with a typical fixed wing aircraft; as low as 2.5 cm using a helicopter), and high thermal resolution (0.05° Celsius) while flying fast (e.g. 15cm pixels at 160 knots at 1250m AGL). With an 1800 pixel imaging swath - close to twice as wide as the nearest 1000 pixel competitor - more ground can be covered quickly.

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