Inaugural 8-Band Research Challenge Winners

DigitalGlobe has announced the winners of the inaugural 8-Band Research Challenge. The 8-Band Research Challenge encourages researchers to investigate how 8-Band Imagery, available from DigitalGlobe, can enhance analysis and classification research and enable the development of next generation geospatial applications.

Judged by a panel of remote sensing experts, submissions were evaluated based on the quality of the science, innovative methodology and broad applicability of 8-Band Imagery to real-world challenges.

The five winning papers demonstrated scientific excellence in terms of sound reasoning, problem definition, methodology and presentation. In addition to the five winners, the judges identified 10 additional high-quality papers that presented compelling research into how 8-Band Imagery adds substantial value in a wide range of applications.

Overall, the fifteen papers found that 8-Band Imagery provides measurable improvements across a range of multispectral, remote sensing applications. These results translate into practical applications in many areas including bathymetry, feature extraction, vegetative analysis, environmental monitoring and land cover classification.

The five winning submissions are:

- James F. Bramante - National University of Singapore, Tropical Marine Science Institute: Derivation of Bathymetry from Multispectral Imagery in the Highly Turbid Waters of Singapore's South Islands

- Jeremy M. Kerr - Nova Southeastern University, National Coral Reef Institute: WorldView-2 Offers New Capabilities for the Monitoring of Threatened Coral Reefs

- Christoph C. Borel - Air Force Institute of Technology: Vegetative Canopy Parameter Retrieval Using 8-Band Data

- Hamdan Omar - Forest Research Institute Malaysia (FRIM): Commercial Timber Tree Species Identification Using Multispectral WorldView-2 Data

- Antonio Wolf - Ball Aerospace & Technologies Corp.: Using WorldView-2 Vis-NIR MSI Imagery to Support Land Mapping and Feature Extraction Using Normalized Difference Index Ratios

These five studies found practical benefits from 8-Band Imagery in the following areas:

Bathymetry: two studies clearly documented significant improvements in the accuracy of water depth measurements with 8-Band Imagery. These studies point out the value of rapid, accurate and inexpensive bathymetry in efforts to preserve coral reef habitats and maintain safety in active ports and harbors.

Feature Extraction: 8-Band Imagery was shown to dramatically simplify the process of feature extraction, making it more accessible to imagery analysts and ultimately enabling "on-the-fly" land cover classification map products.

Tree Species Classification: with 8-Band Imagery, researchers were able to map tree species in both planted and natural forests with an accuracy of about 90%. Collecting detailed and accurate information on the species composition of entire forests is critical for the assessment of biodiversity, environmental monitoring and sustainable forest management.

Plant Health: researchers clearly documented how 8-Band Imagery could be used to extract key plant information that would provide invaluable insights to farmers and foresters about the health of crops, the appropriate levels of fertilizer or irrigation and the impacts of disease, drought or storm damage.

Each winner will receive a cash grant of USD5,000 USD to support their research and will present their findings at the Geospatial World Forum in Hyderabad, India, in January 2011.

Scott added that to accommodate overwhelming interest, the 8-Band Challenge has been extended to a second judging period in mid-2011, when five additional winners will be named.

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