PANEL 1:

Geospatial technologies and big data - the growing tool-box for tourism planning and management

Simon Hughes, Managing Director, Hatfield Consultants Africa
Geospatial Technologies & Big Data

The growing tool-box for tourism planning and management

Simon Hughes
Managing Director
Hatfield Consultants Africa
Connecting the dots
Maps and Spatial Elements are Ubiquitous
Location Based Services
Google Services
Open Street Maps
Geographic Information Systems
Hardcopy Mapping
Geographic Information Systems

Location
GIS
Location
Proximity
GIS
Location
Proximity
Network analysis
Density and distribution
Multiple-criteria
Multi-criteria Analysis

- Hotels
- Infrastructure (restaurants, museums, sights, event locations, etc.)
- Vegetation, railways, watercourses, etc.
- Buildings
- Roads
- Real world

Source: V. Jovanović, A. Njeguš
Integrate data and layers to support decision-making
Geospatial Information for Planning

Planning:
Use of data and information, informed by policy and regulations in planning processes.

Policy:
Development of policies to guide and regulate planning processes.

Users:
Delivery of information to users.

Analysis:
Analytical processing of the data to create information.

Data:
Abstraction of the real world, in the form of data.

Real World:
Model of the real world.
Satellite imagery

Low to high resolution

Desktop to server to cloud

More and more satellites

Purchase to service

Tidal wave of data
Unparalleled access to data and information

IKONOS®
- 0.82 meter resolution
- 9 m CE90

QuickBird®
- 0.65 meter resolution
- 23 m CE90

WorldView-1®
- 0.50 meter resolution
- <4 m CE90

GeoEye-1®
- 0.46 meter resolution
- <3.5 m CE90

WorldView-2®
- 0.46 meter resolution
- <3.5 m CE90

WorldView-3®
- 0.30 meter resolution
- <3.0 m CE90

WorldView-4®
- 0.30 meter resolution
- <3.0 m CE90

AVAILABLE VIA DIGITALGLOBE ARCHIVE

CURRENTLY IMAGING IN ORBIT
The Data Management Challenge
The Data Management Challenge

DigitalGlobe Image Library
1999-2016
100 PB

x 200,000

40x world fleet
Geospatial Big Data Platform “GBDX”

Extract information from imagery and other sources at scale...

To provide enriched information feeds at mission relevant speeds

Access via GBDX Subscription
Big Data Applications

- Object detection and identification
- Land use/land cover
- Agricultural and vegetative analysis
- Land Suitability
- Urban and rural infrastructure
- Elevation Modeling
- Transportation mapping
But...machine learning is hard

Use Humans and Machines!

CrowdRank™

Key features

Reliability Algorithm

Automated Processing

Expert Analysis

Imagery

Crowd

Crowd-Sourcing
How might we quickly analyse this image?
Tourism uses other data sources to plan. Tourism should be ‘a layer’ or set of consistent layers. Describe key, standard tourism indices for planning and management.
Geospatial Technologies & Big Data
The growing tool-box for tourism planning and management

• Powerful and practical data, tools and analytical methods
• Tourism and land use planning and management
• Support policy implementation, decision-making management and integrated planning

Take Home Messages

• Conservation
• Tourism
• Nexus