

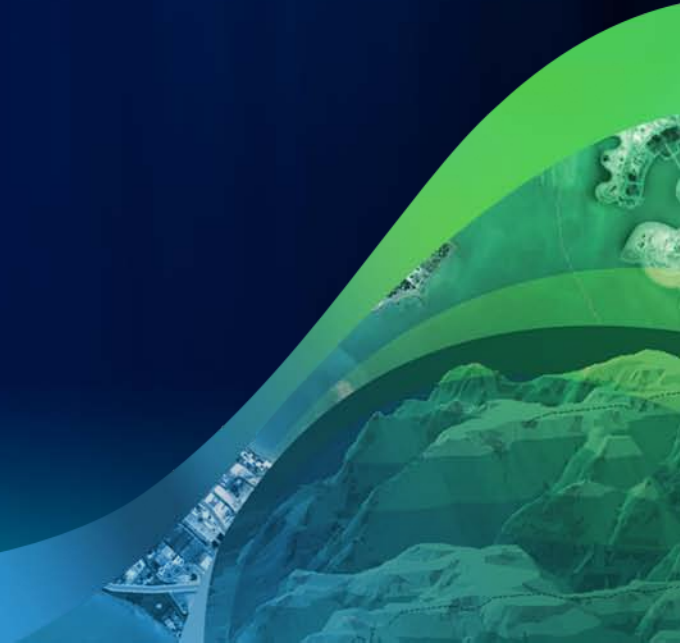


Esri Maritime | Professional Services

GEBCO Science Day | Tuesday, October 4, 2011

# Managing Bathymetry in the Cloud with GIS

Timothy Kearns & Beata Van Esch



# Overview

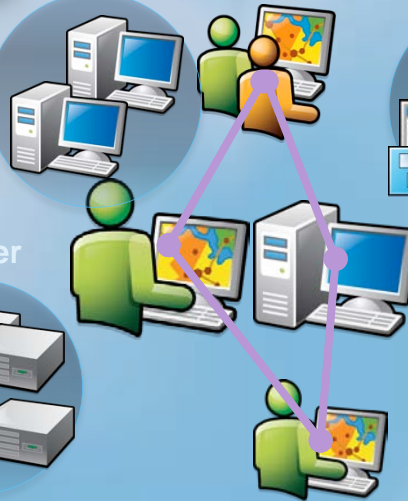
- **The challenges of bathymetry in GIS**
  - What needs to be managed?
- **The evolution of GIS**
  - A new pattern is emerging
- **GIS in the Cloud**
  - Making information not only available, but accessible
- **Managing Bathymetry**
  - The Bathymetric Information System (BIS)
- **Bathymetry in the Cloud**
  - Accessing new content and sharing with others
- **Summary**

# Esri GIS

Charting



Desktop

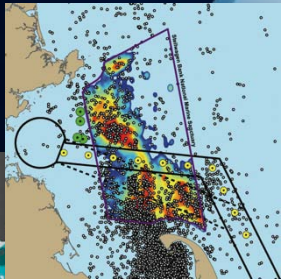


Lightweight

Climate Change



Marine Spatial Planning



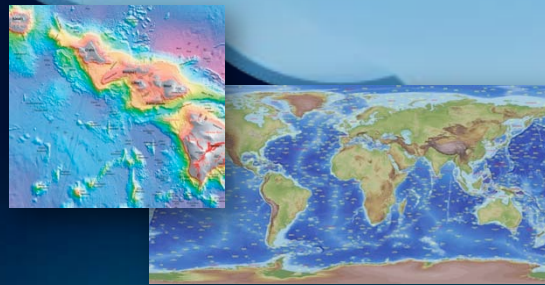
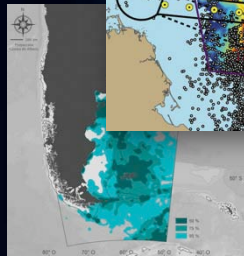
Server



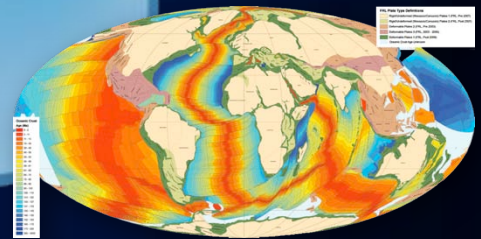
Mobile



Species Density

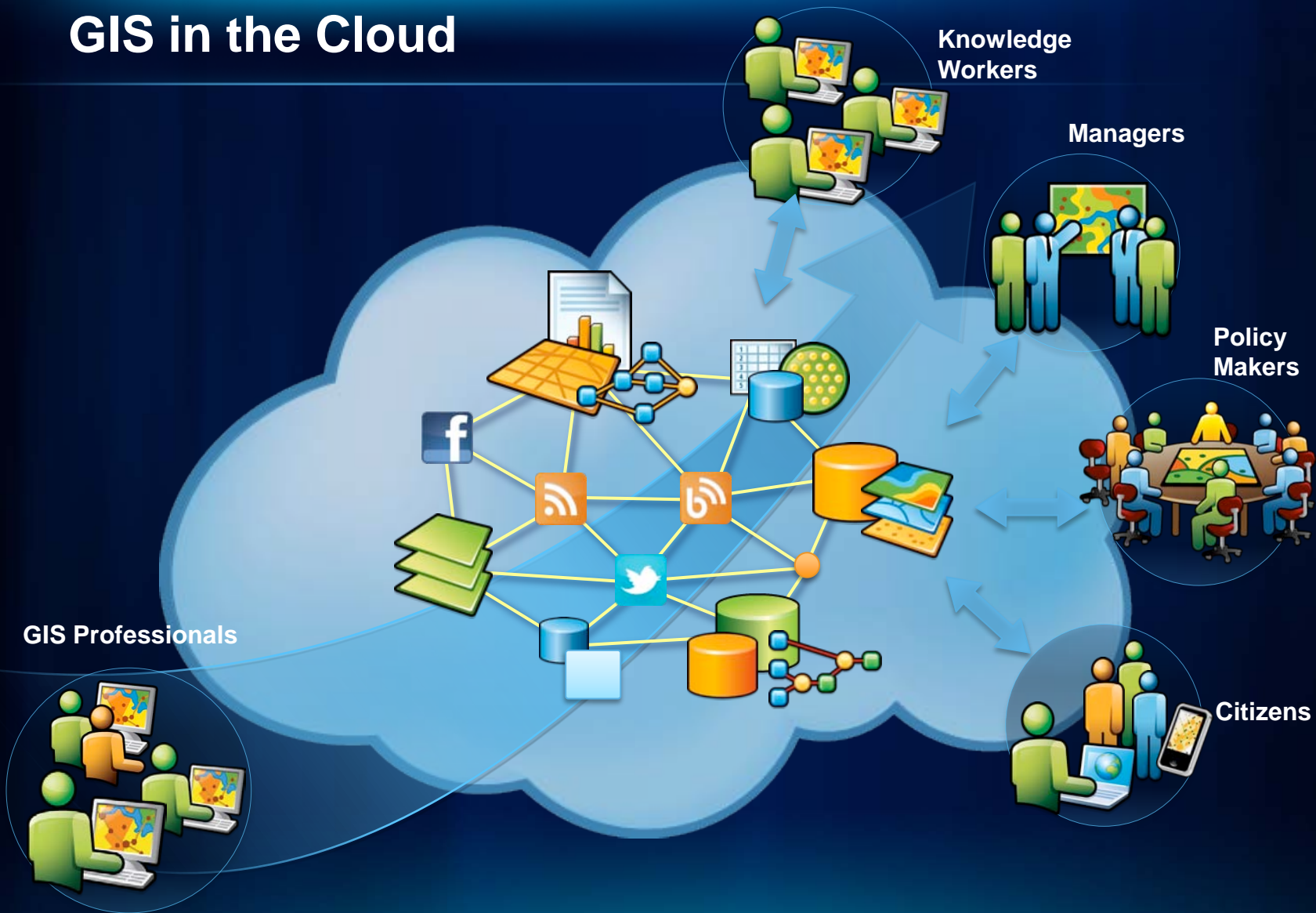


Bathymetry



Ocean Health Index

# GIS in the Cloud

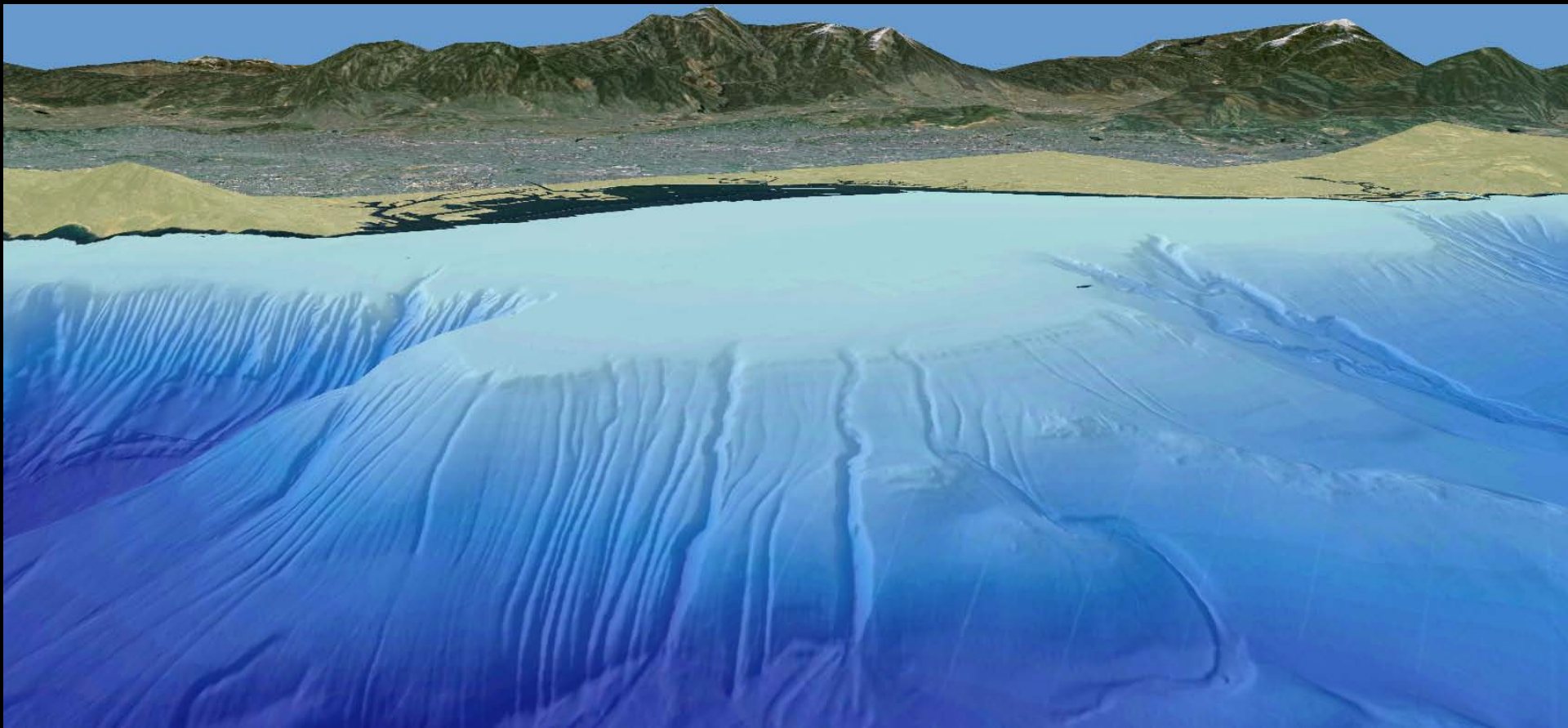


# ArcGIS Online is the new GIS platform

- **ArcGIS Online is Cloud based**
  - Geospatial content management
  - Esri & GIS User authored
  - Wide variety of platforms
- **Create & Share maps/data**
- **Access & Discover**
  - Maps, services, tools, data
- **Share Content**
  - Public, Private, Groups

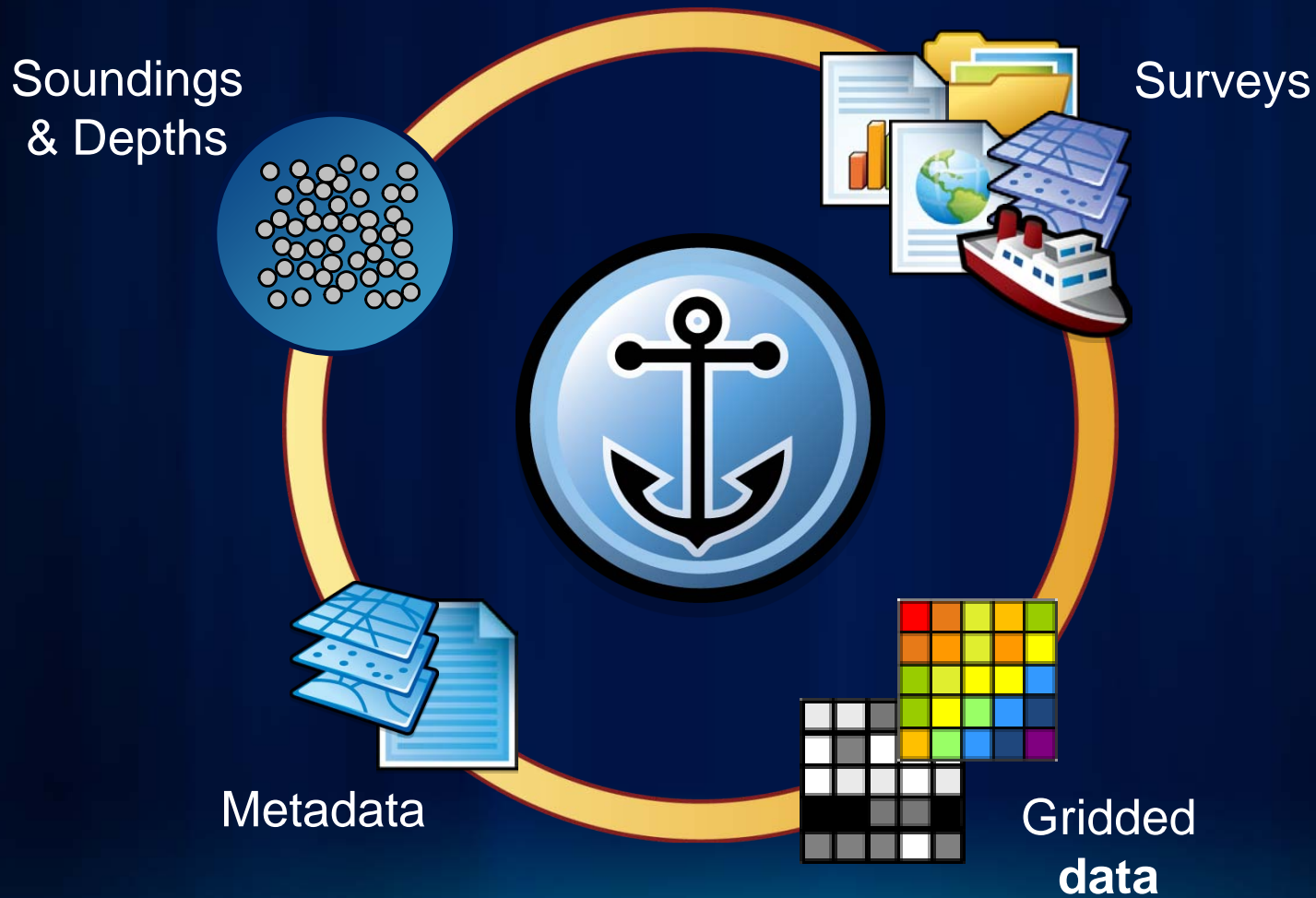


# Bathymetric Information System (BIS)





# Esri Bathymetry





# A Bathymetric Vision for Esri

- *An Enterprise GIS system for the management and deployment of bathymetric data, metadata and products that is commercially available.*
- **Comprised of:**
  - ArcGIS Nautical Solution
    - Server, Desktop
  - Fledermaus by IVS 3D/QPS



# Who benefits from this?

Habitat Mapping

Oil/Gas

Survey Companies

Basemap & Online Content

Hydrographic Offices

Defense

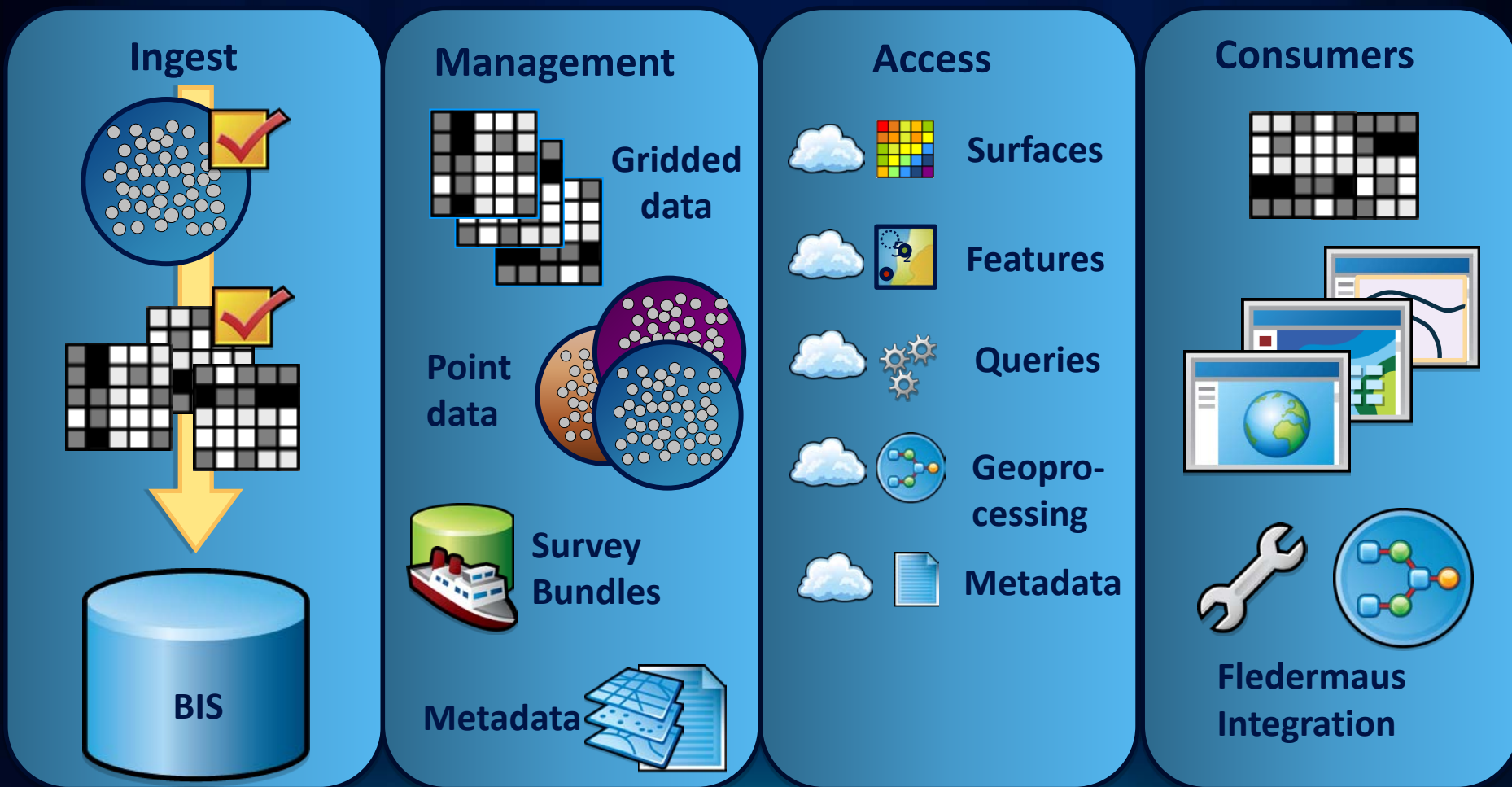
Coastal Engineering

Marine Science

Coast & Marine Spatial Planning

Ports

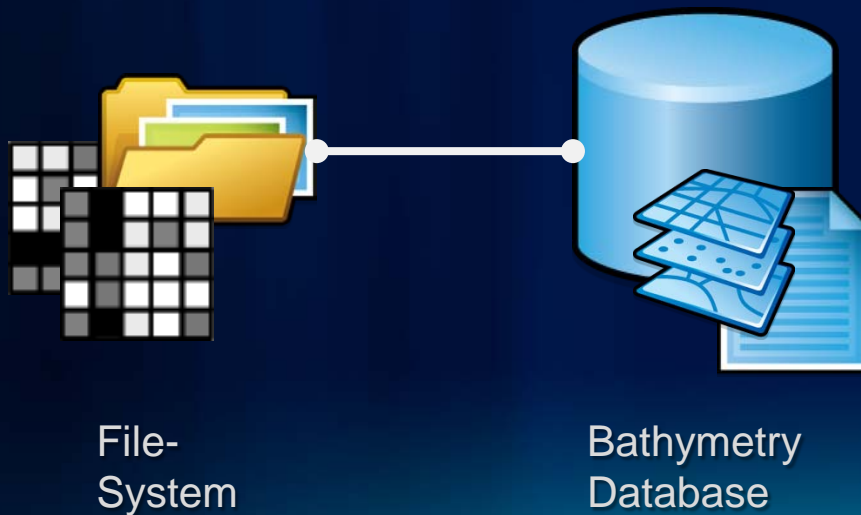
# BIS System Overview



# Approaches for Managing Gridded data

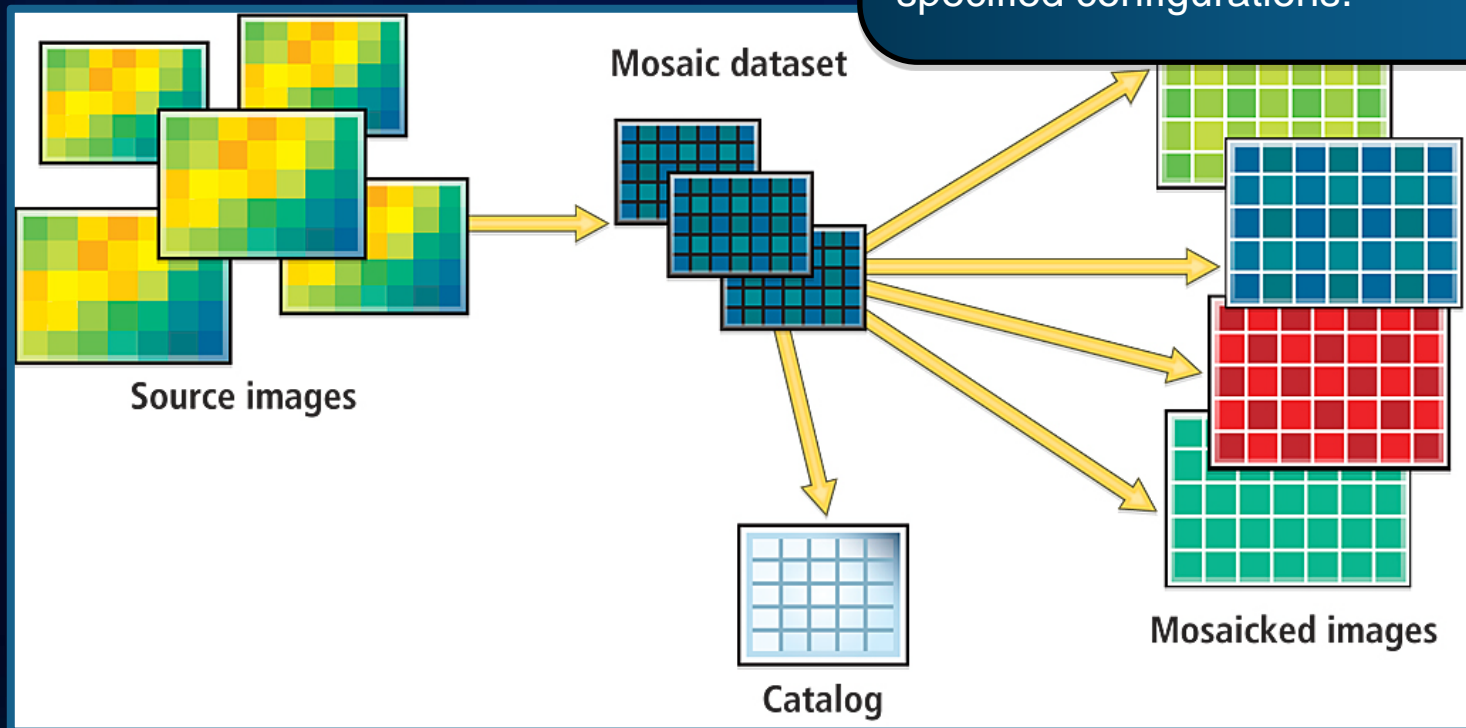
- **Hybrid approach**

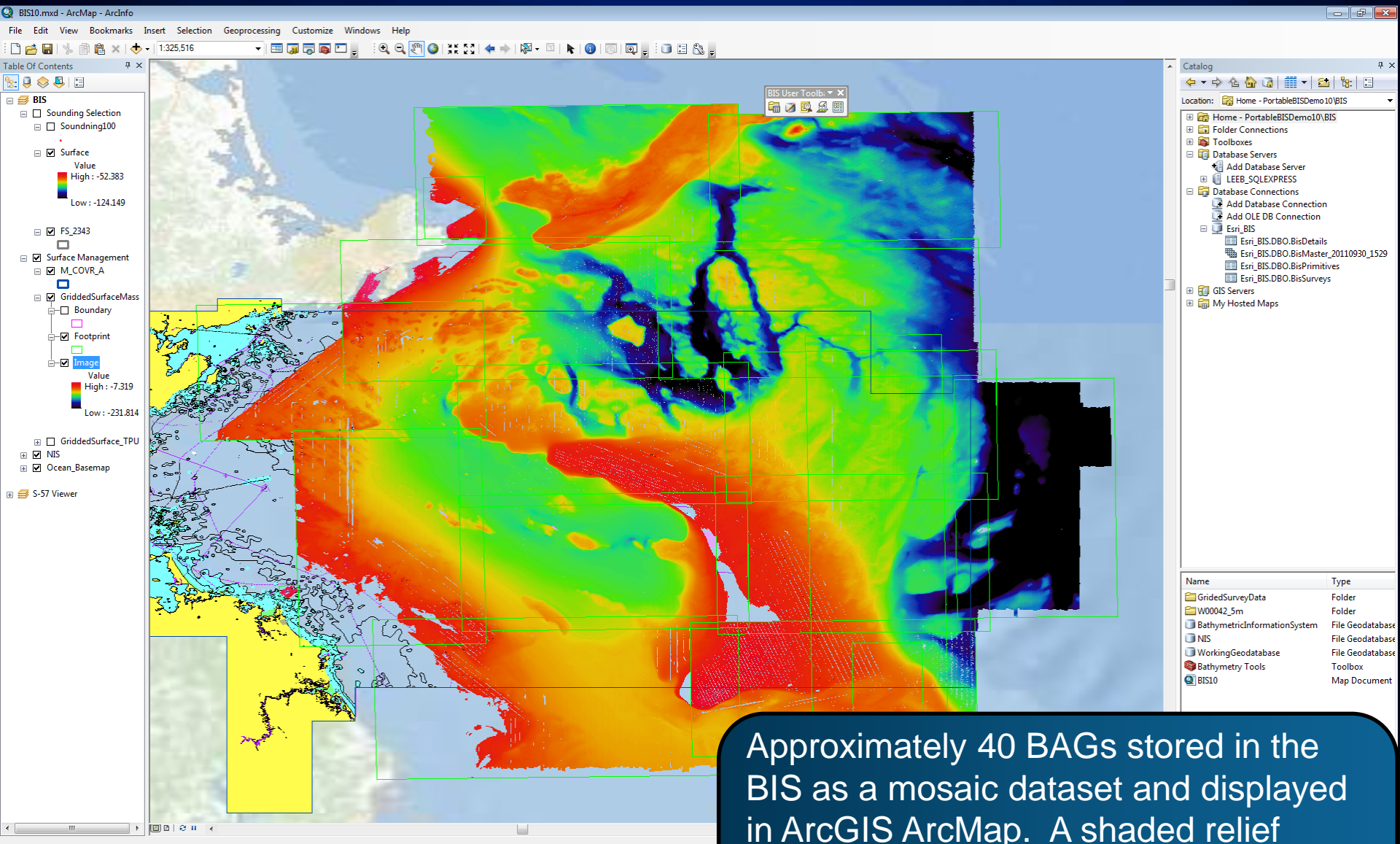
- Relational database + file system
- Eliminates data duplication
- Original data preserved



# Mosaic Dataset technology

The Esri Mosaic Dataset compiles gridded data as a source to generate on-the-fly mosaicked images according to a variety of user-specified configurations.





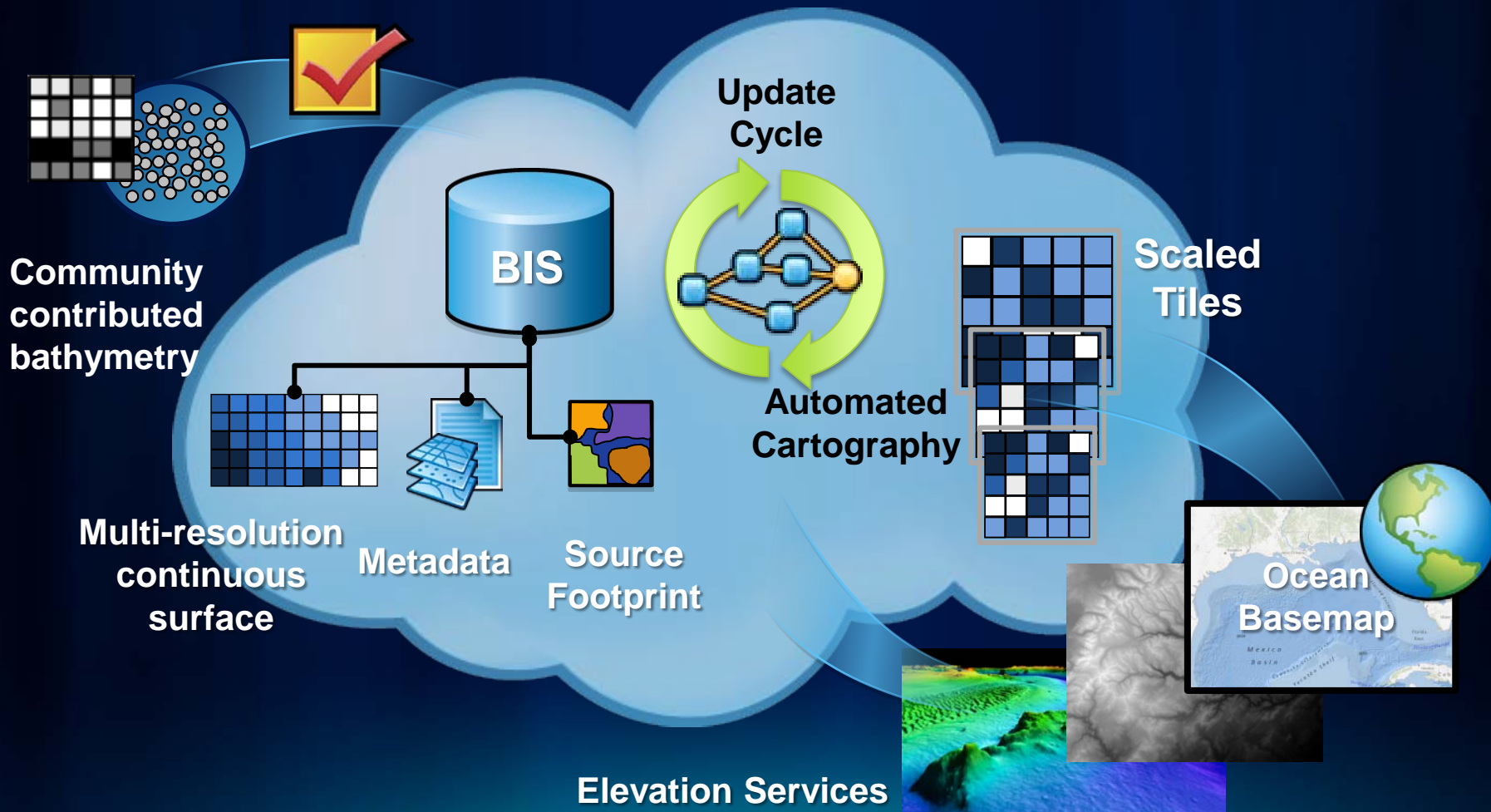
Approximately 40 BAGs stored in the BIS as a mosaic dataset and displayed in ArcGIS ArcMap. A shaded relief function has been applied to the source BAG data to generate a seamless model on-the-fly.

# Bathymetry in the Cloud

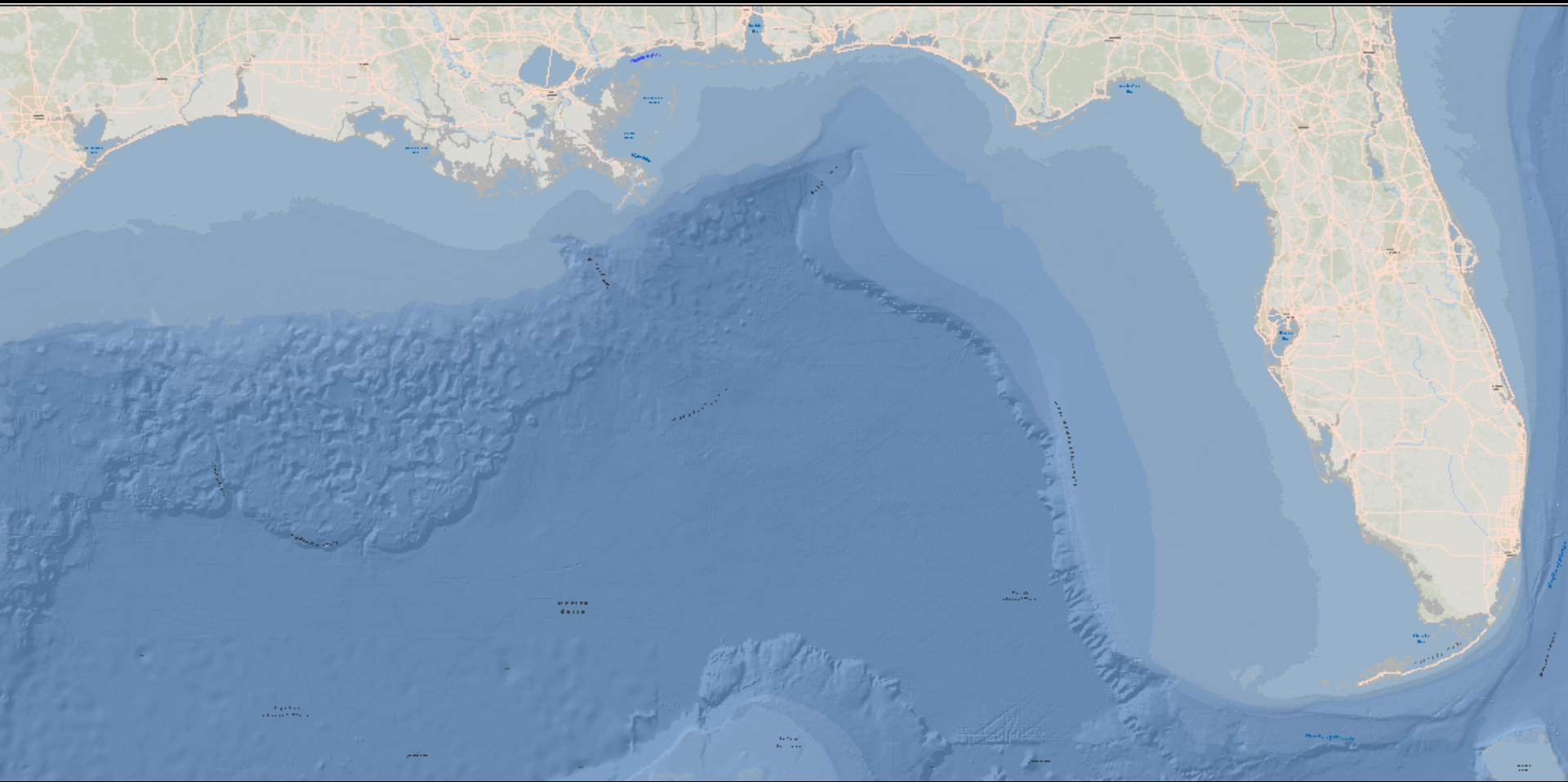
- A new generation of ArcGIS Server
- Easier to publish web content to:
  - Portals | Cloud | Web Services
- Easier to use, accessible by many

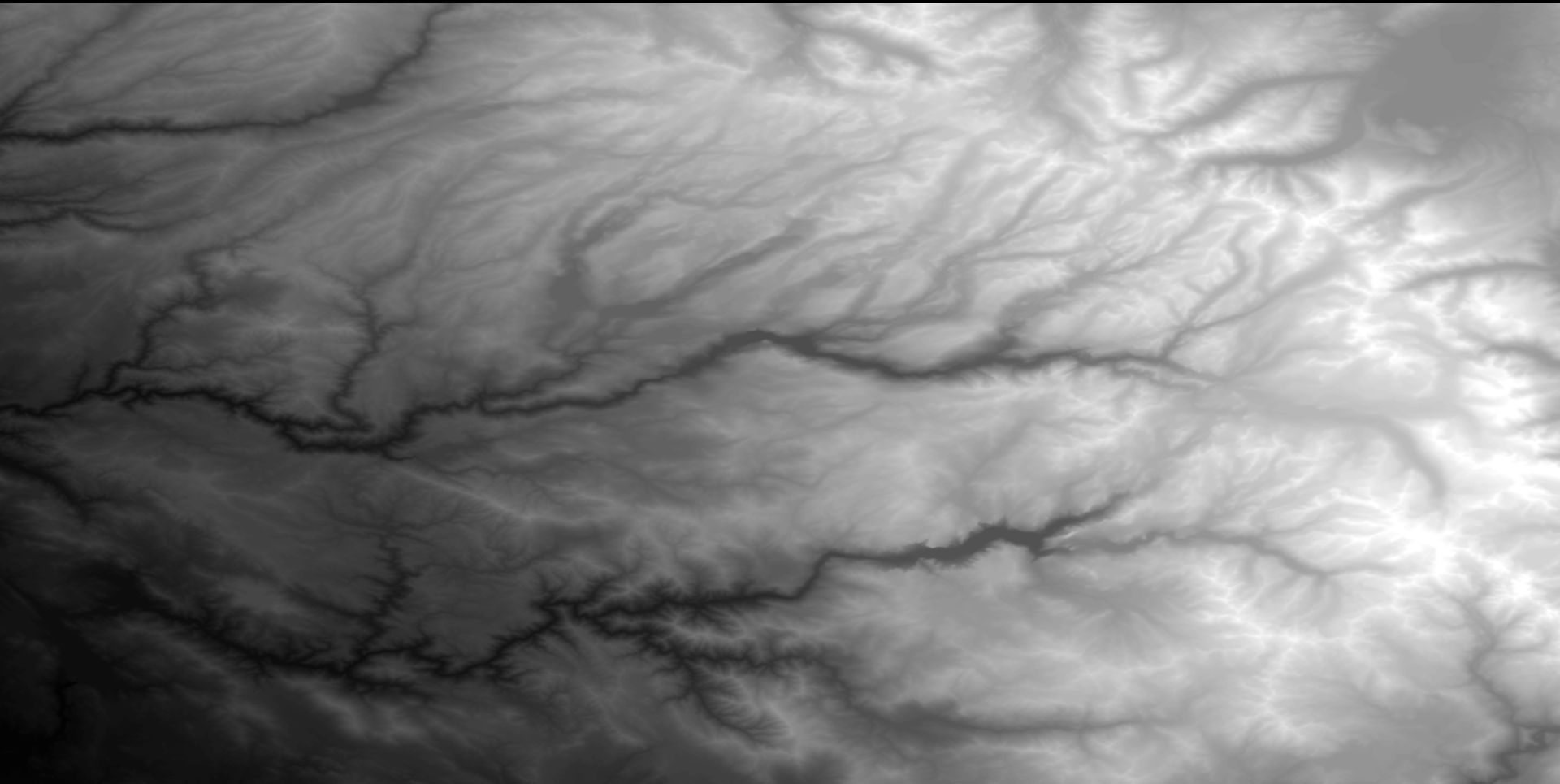


# Bathymetry in the Cloud and Ocean GIS

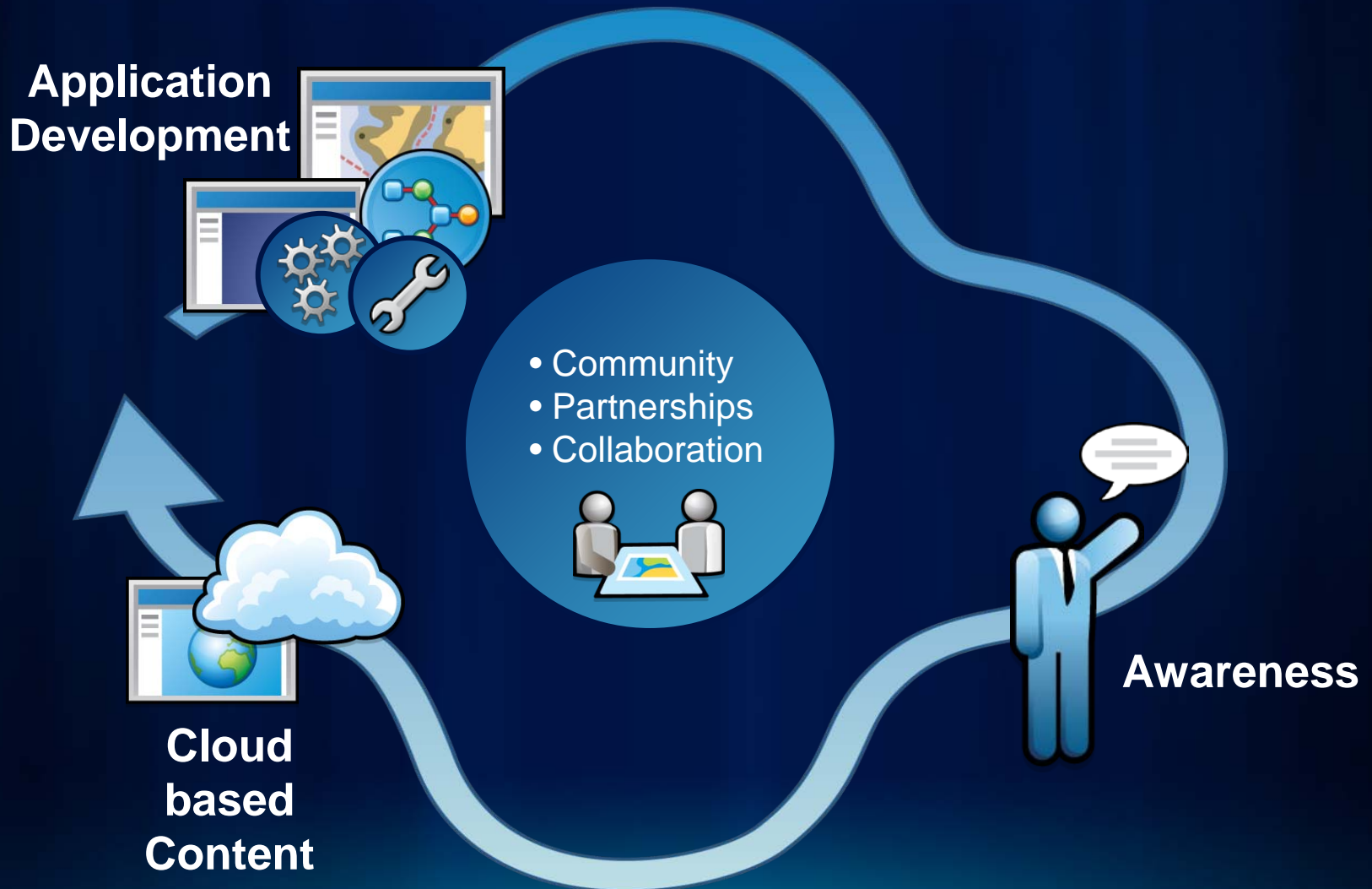








# Bathymetric Directions and Esri



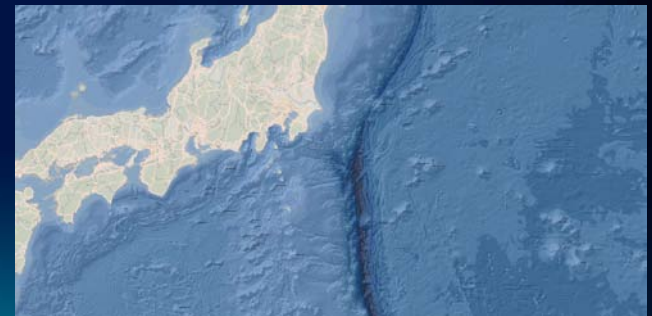
# Summary & Contact

- GIS has evolved to a new platform
- Bathymetry and GIS are merging
- Cloud computing allows accessibility
- Ocean basemap and Elevation Services allow for sharing and creation of intelligent maps

## Contact:

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- Bathymetry Team, [bathymetry@esri.com](mailto:bathymetry@esri.com)

Company Site: [www.esri.com](http://www.esri.com)

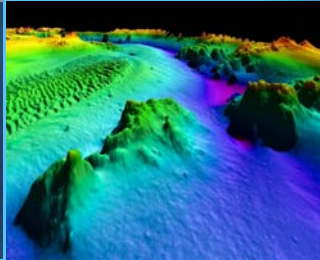
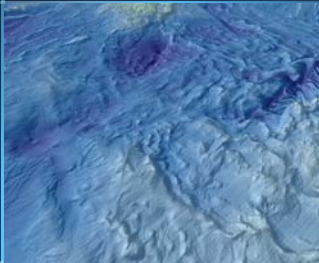


# Managing Bathymetry in the Cloud with GIS

Publishing content through server technology.

Cloud based computing updates online services.

Web services allow people to access and use data.





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