esri | THE SCIENCE OF WHERE

A Hydrospatial Information System, The Next Frontier for Hydrographic Offices

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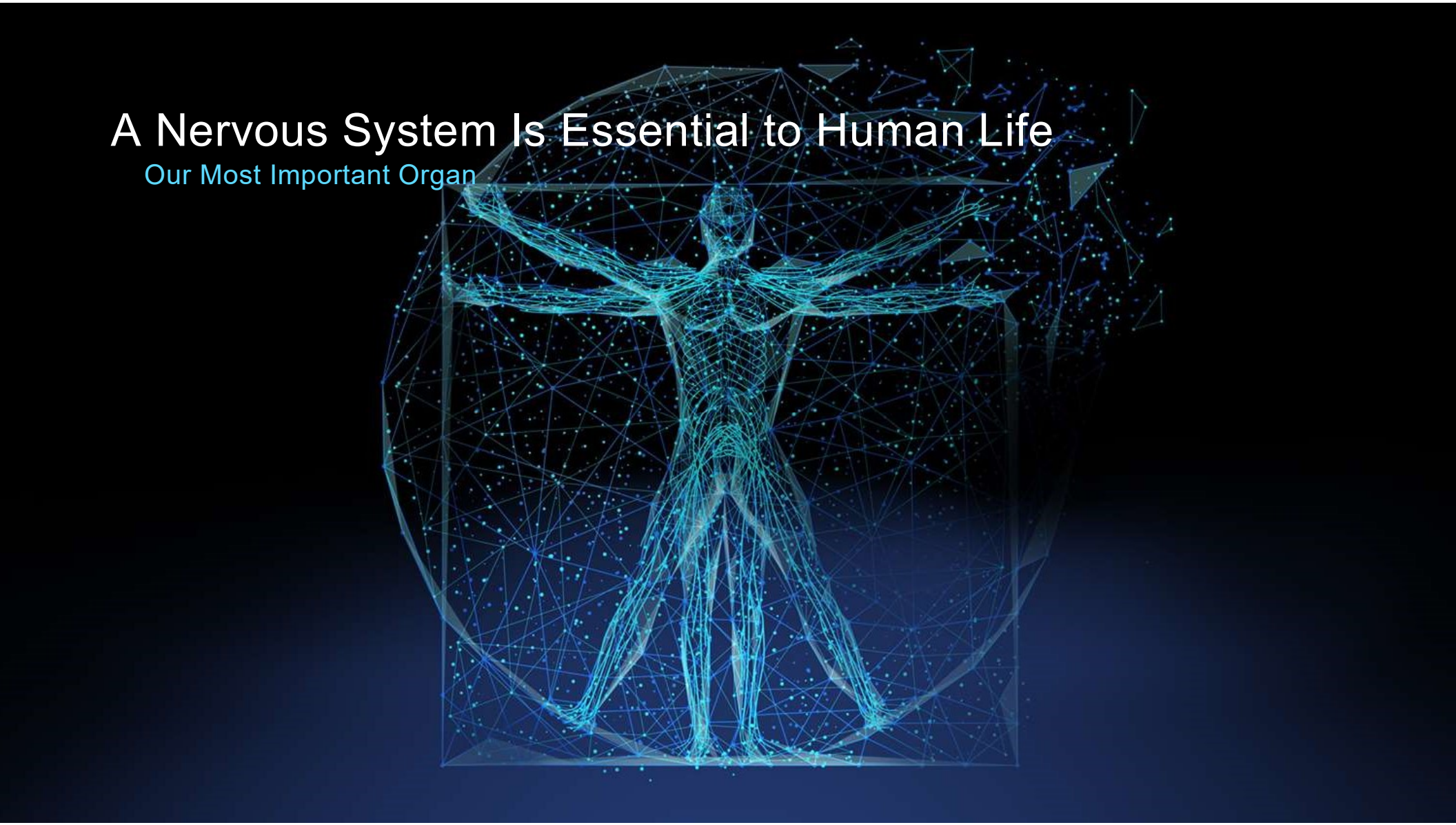
VISION
GIS AS AN
INTELLIGENT
NERVOUS SYSTEM

A Nervous System Is Essential to Human Life

Our Most Important Organ



OUR WORLD

RESEMBLES A LIVING ORGANISM

A Complex and Interconnected Ecosystem

Self-Healing and Resilient

. . . Always Changing

. . . And Humans Are Part of It

Our World Needs a Nervous System

An Intelligent and Responsive Platform

Creating More Understanding

. . . Collaboration and

. . . Action

. . . Hydrography Is Essential

Digital Technology Is Transforming Our World

Enabling Humans to Be Enormously Successful

. . . And Accelerating Everything

Advancing Our Civilization

Co-Evolving . . .

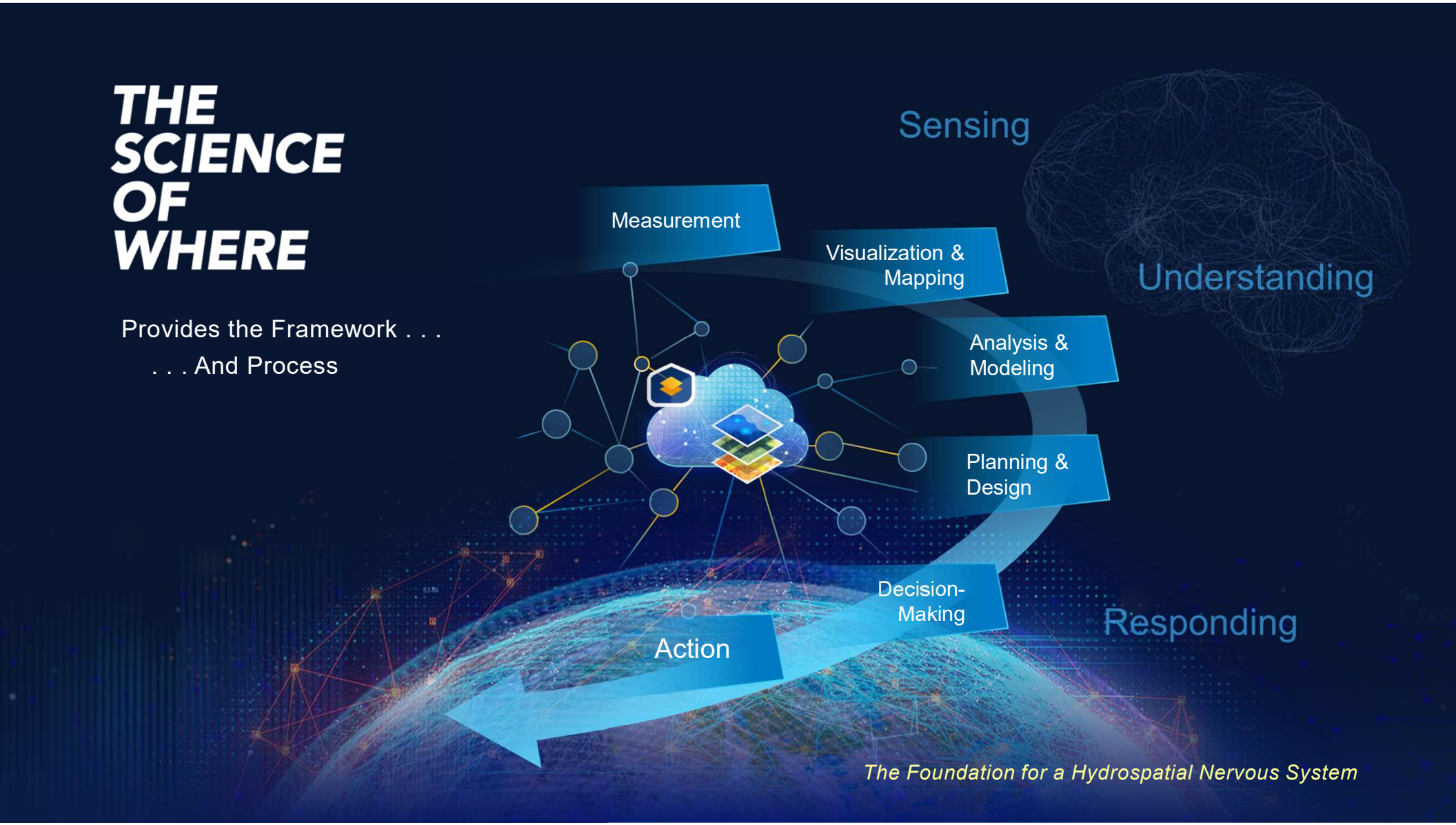
Changing How We Think . . .
. . . Reshaping Our Existence

. . . And Rapidly Changing Our World

THE SCIENCE OF WHERE

Provides the Framework . . .

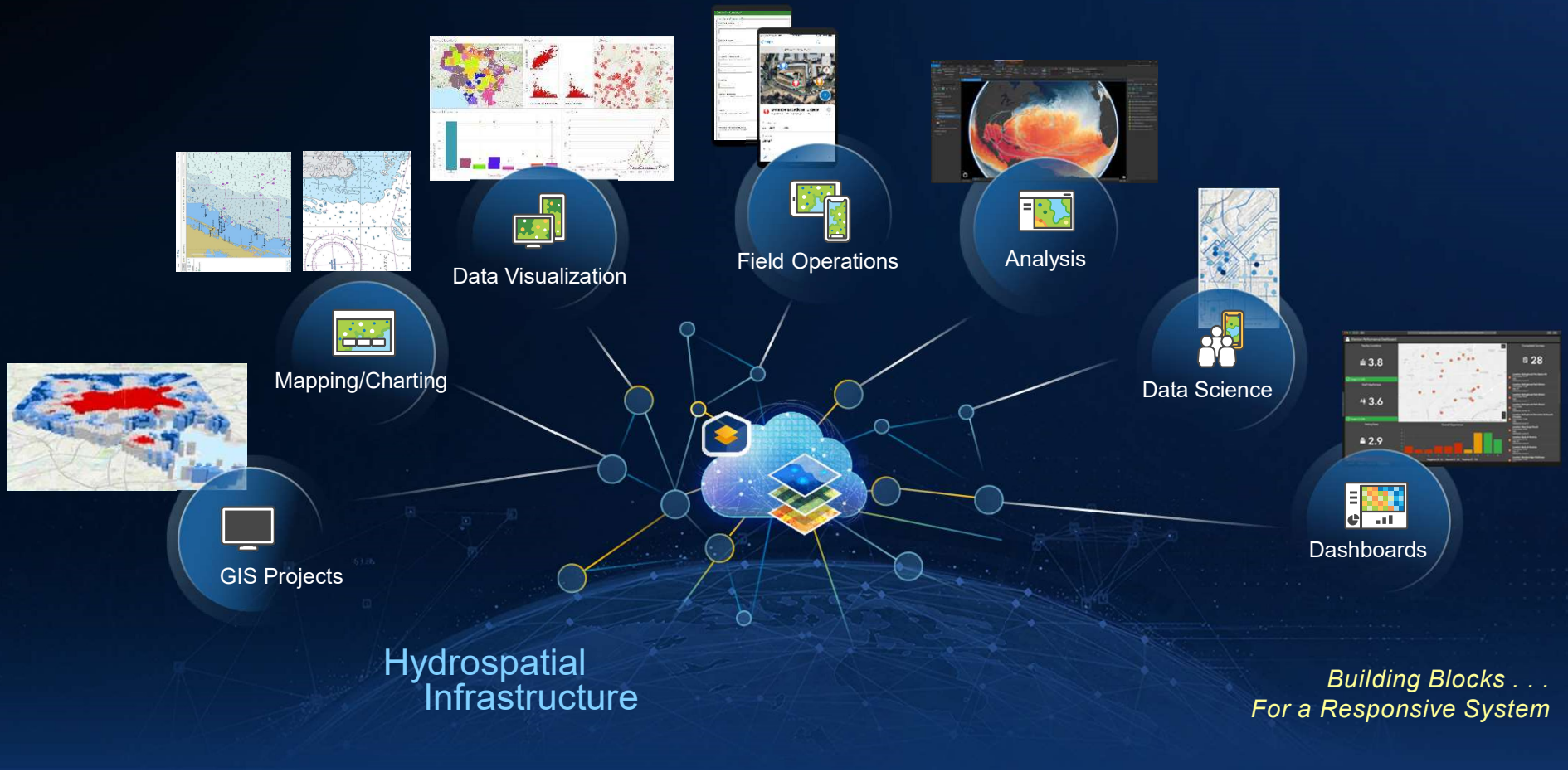
. . . And Process



The Foundation for a Hydrospatial Nervous System

A Hydrospatial Infrastructure
Supports Individuals . . .
. . . And Organizations of All Sizes
Communities
Organizations
Departments
Teams
Individuals
Engaging Everyone
GIS at Scale
Distributed . . . And Interconnected
Sharing and Collaboration

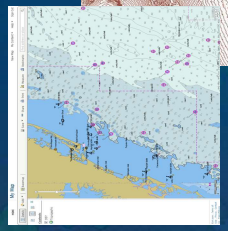
Delivering Powerful Capabilities Across Organizations



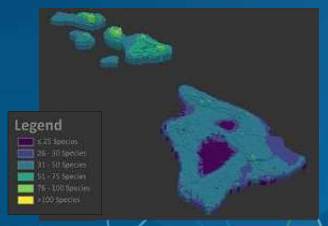
Supporting Geo-Enabled Systems

Complete Systems with Specialized Workflows and Applications

Automated Nautical Charting

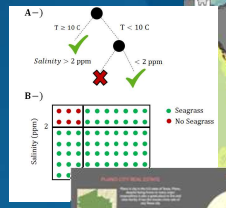


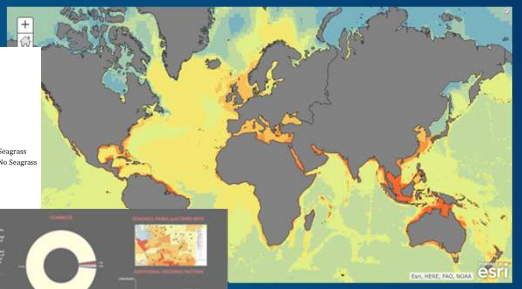
Coastal Planning



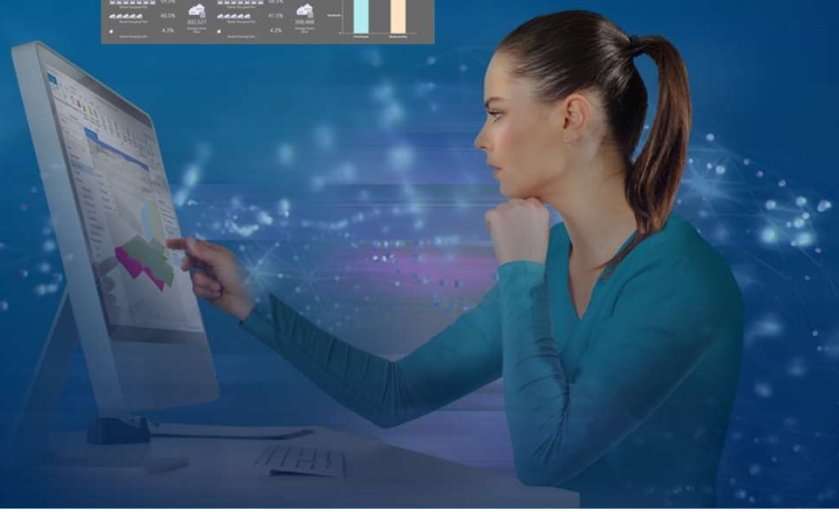
Emergency Management

Ocean Analytics



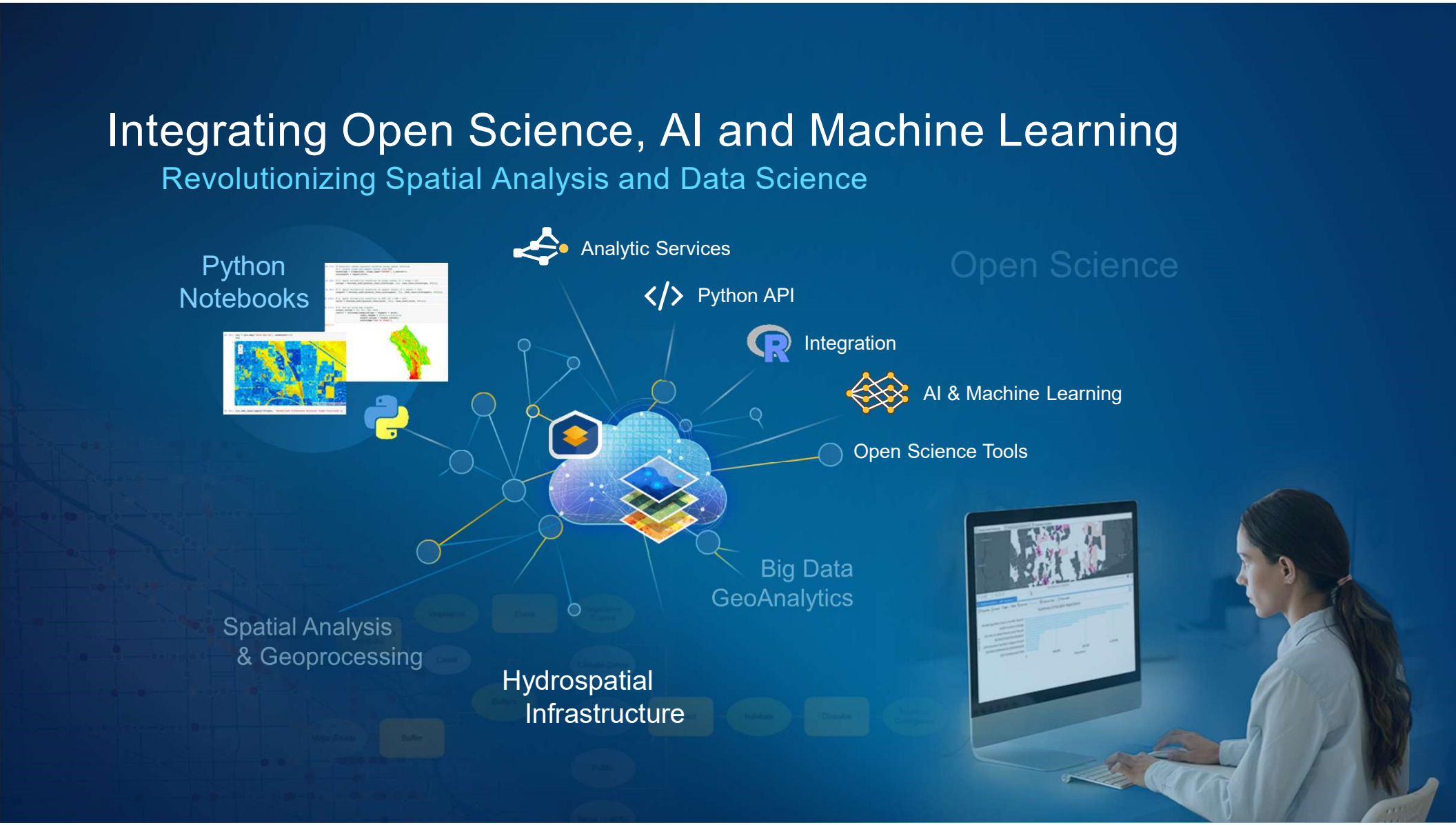


Hydrospatial Infrastructure



Integrating Open Science, AI and Machine Learning

Revolutionizing Spatial Analysis and Data Science



A Hydrospatial Infrastructure will Transform Organizations

Interconnecting Information, Processes and Workflows . . .

. . . All Happening at the Same Time

Creating Responsive Organizations

Using the Power of Hydrography to Understand
. . . And Integrate Everything at Sea

The Hydrospatial Revolution Is Just Beginning . . .

The Hydrospatial Nervous System . . .

. . . That Emerges

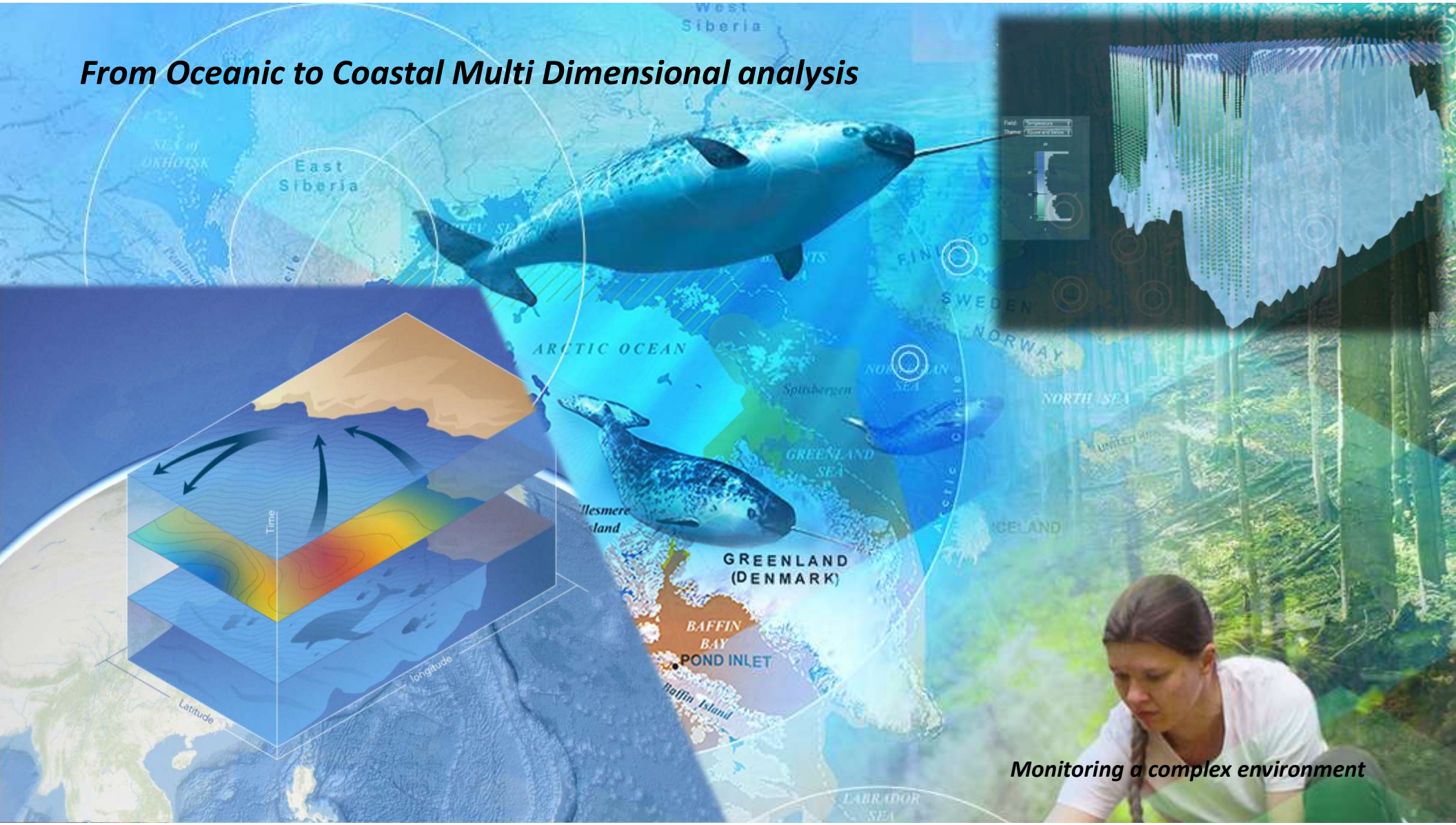
. . . Will Profoundly Transform Our World

This is our baseline…

Image by Korea Hydrographic and Oceanographic Agency (KHOA)

From Shipping to Port Operations

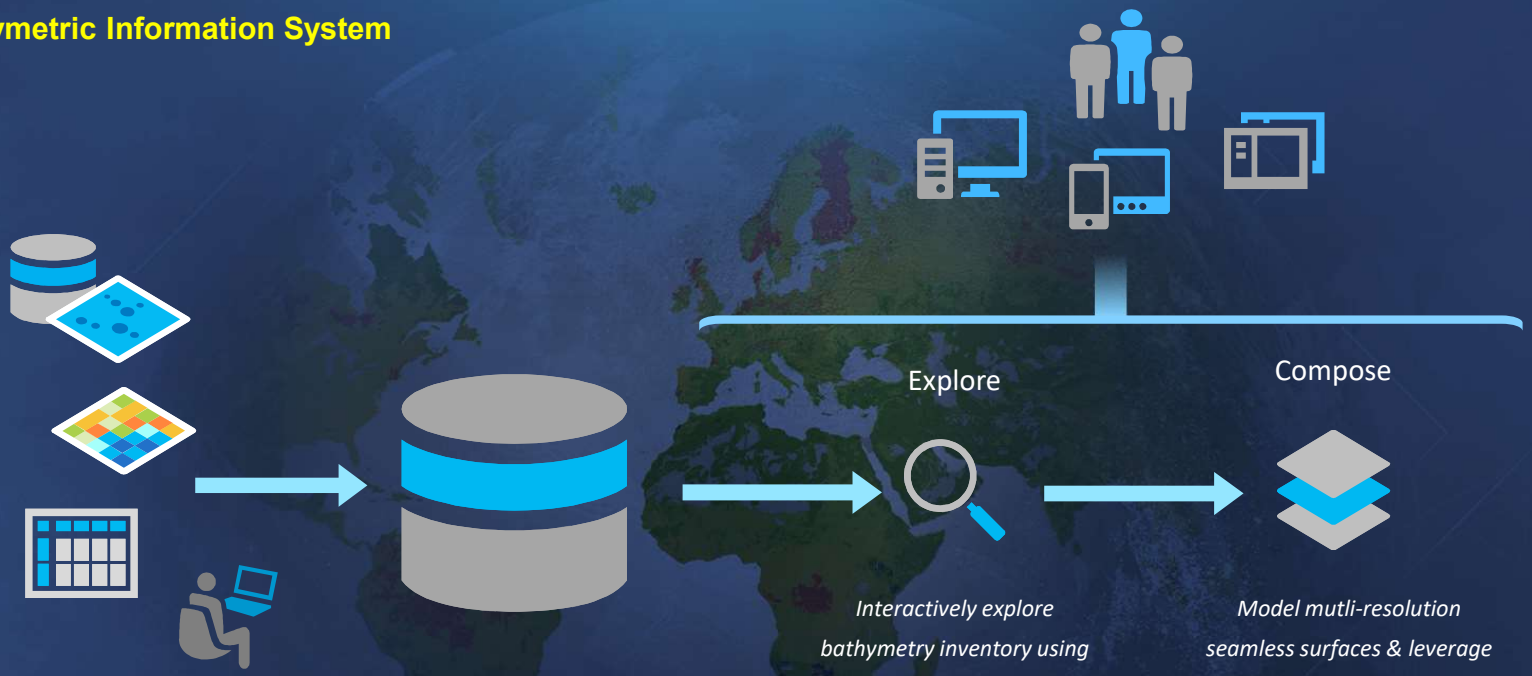
From Oceanic to Coastal Multi Dimensional analysis



Monitoring a complex environment

Streamlining Traditional Processes

The Bathymetric Information System



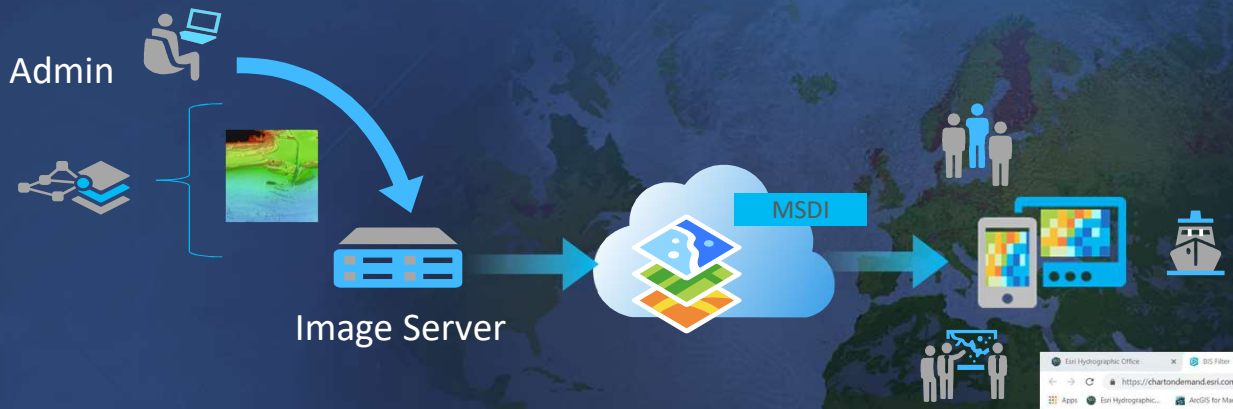
Manage

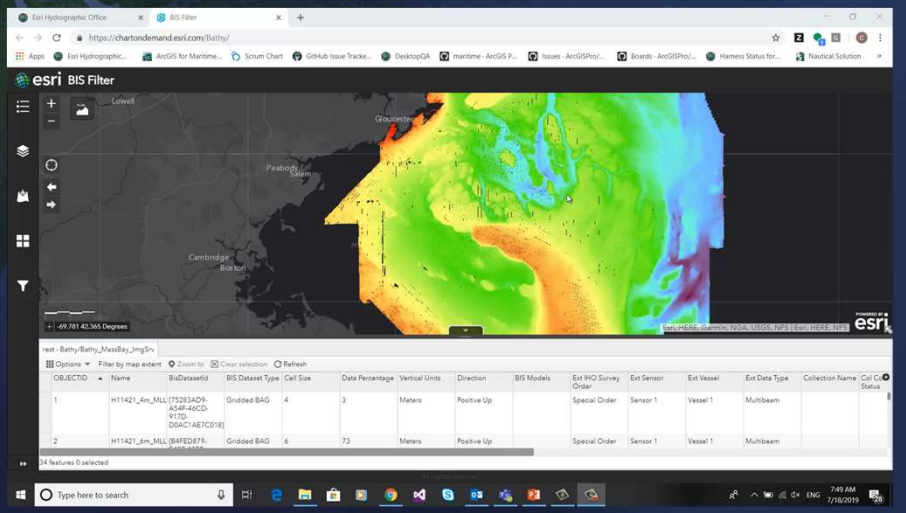
Register datasets to BIS and tag with metadata

Interactively explore bathymetry inventory using metadata to query for datasets

Model mutli-resolution seamless surfaces & leverage metadata to deconflict areas of overlap

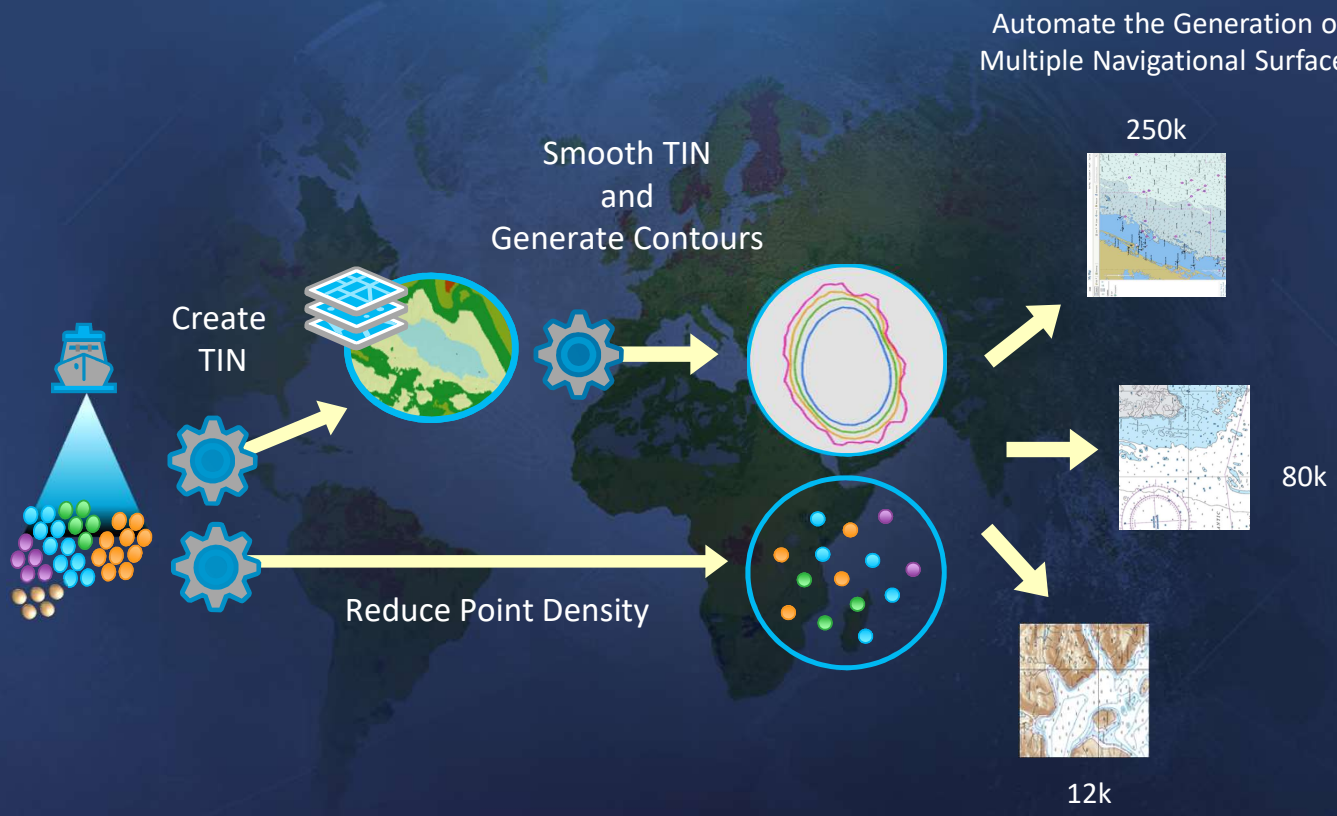
Bathymetry Image Service





And going beyond traditional…

Automated contours and sounding selection



Automated Data Validation (S-58)

export geodatabase to S-57

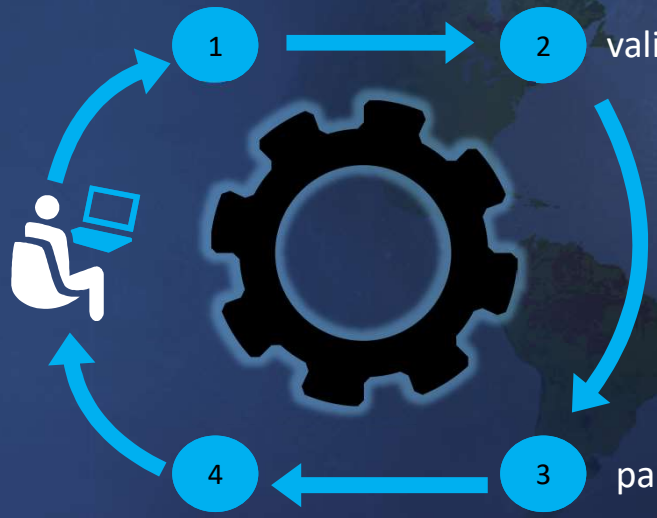
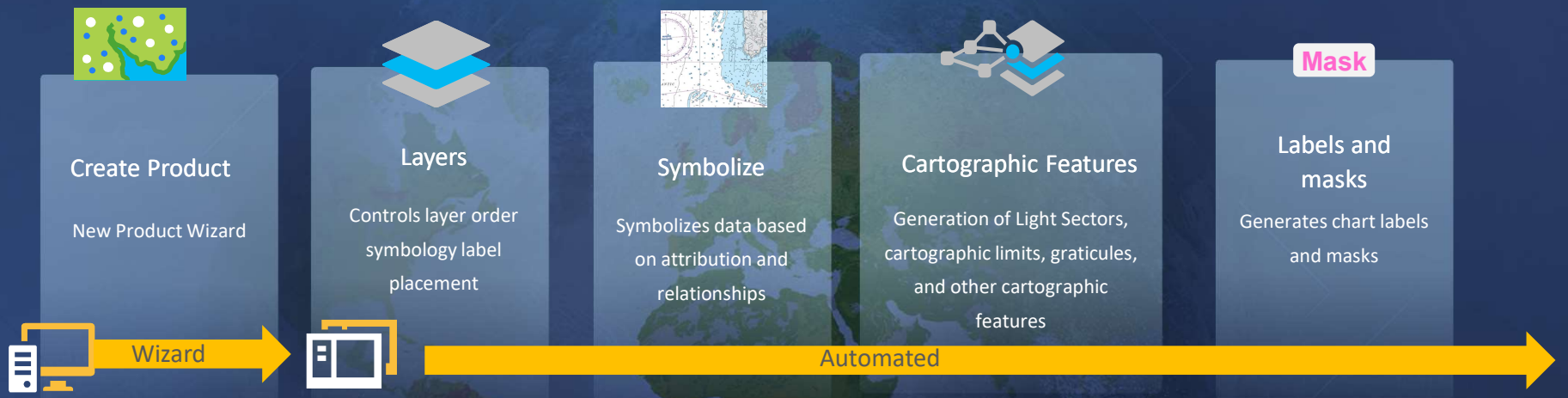
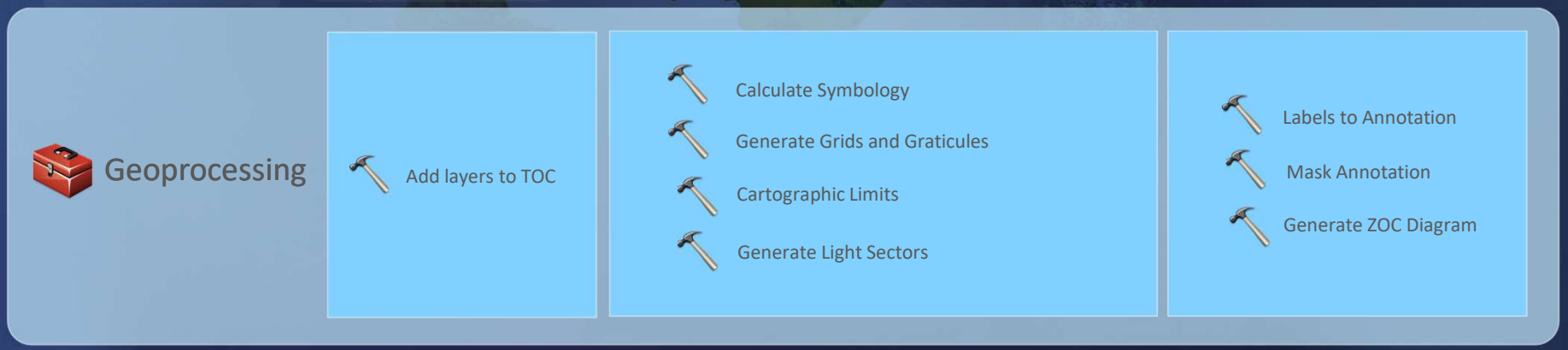
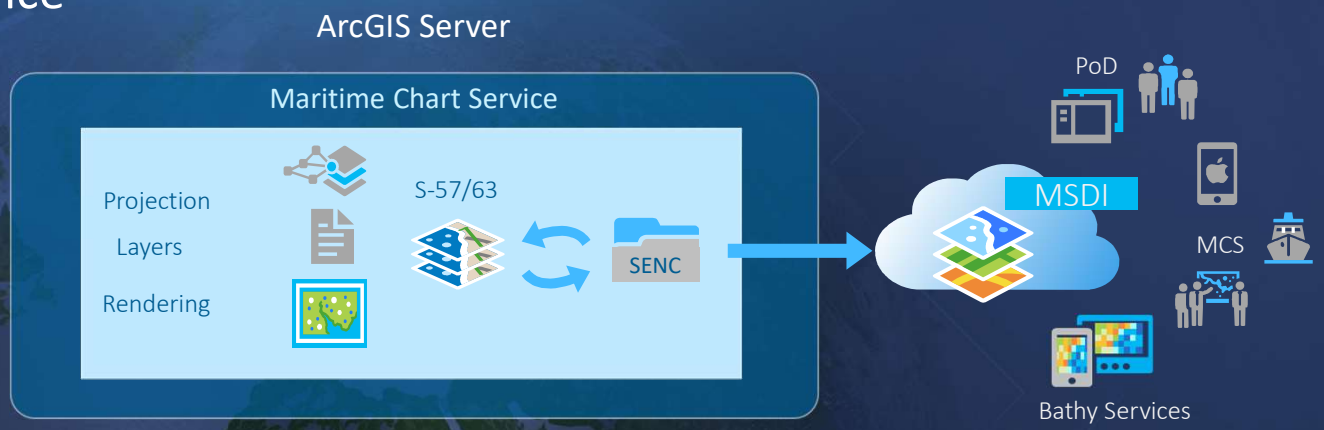


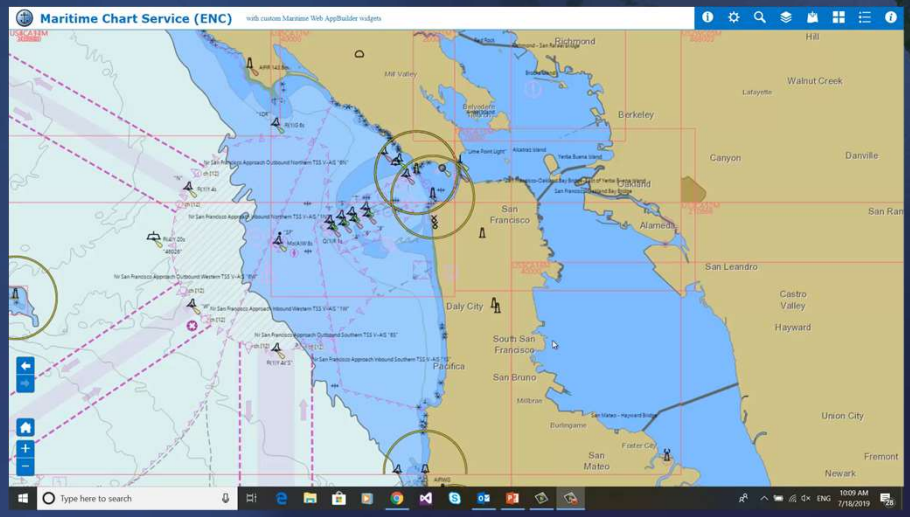
Chart automation



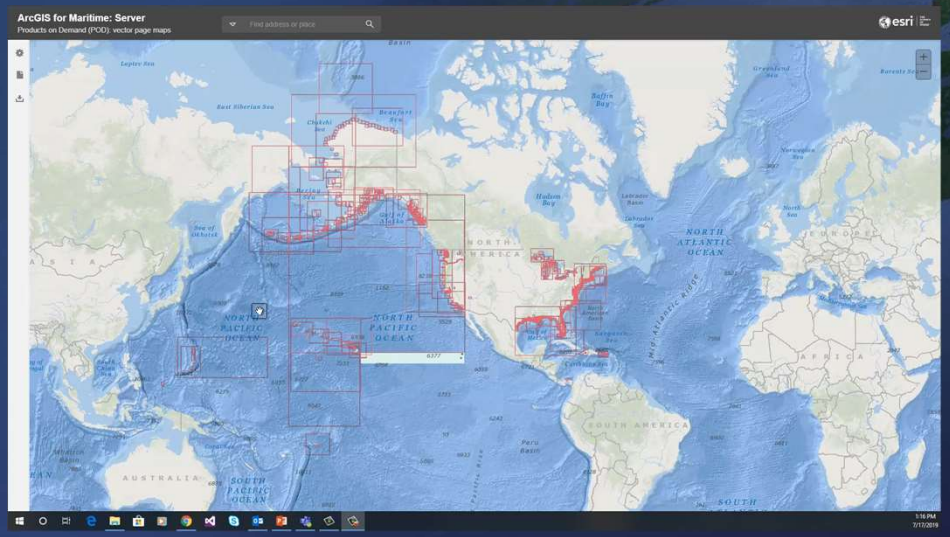


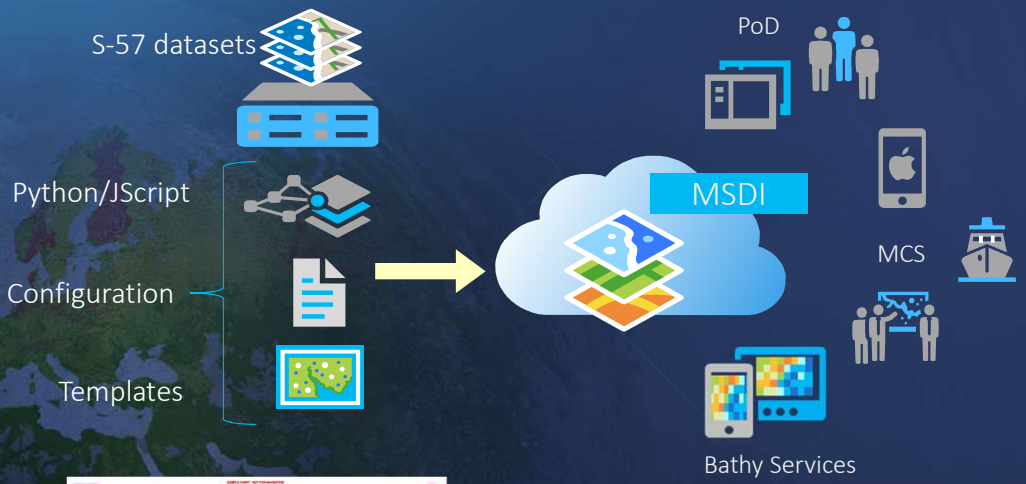
Maritime Chart Service

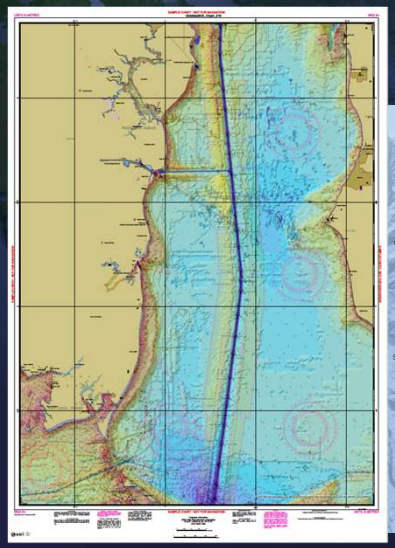




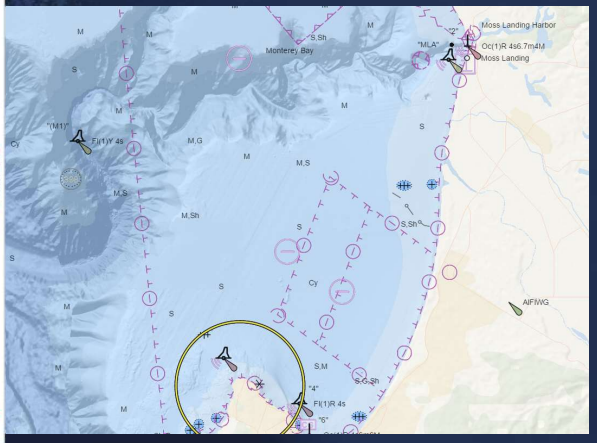
Products on Demand



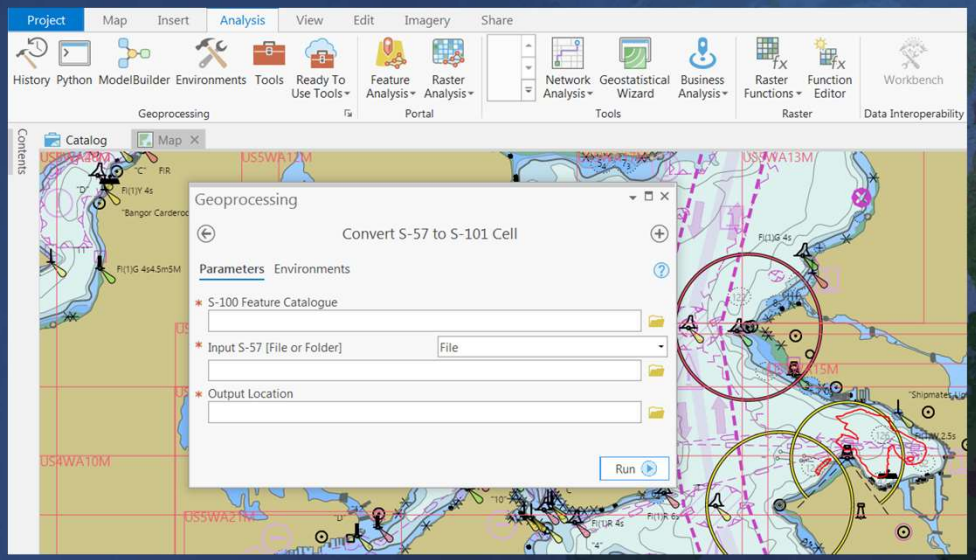


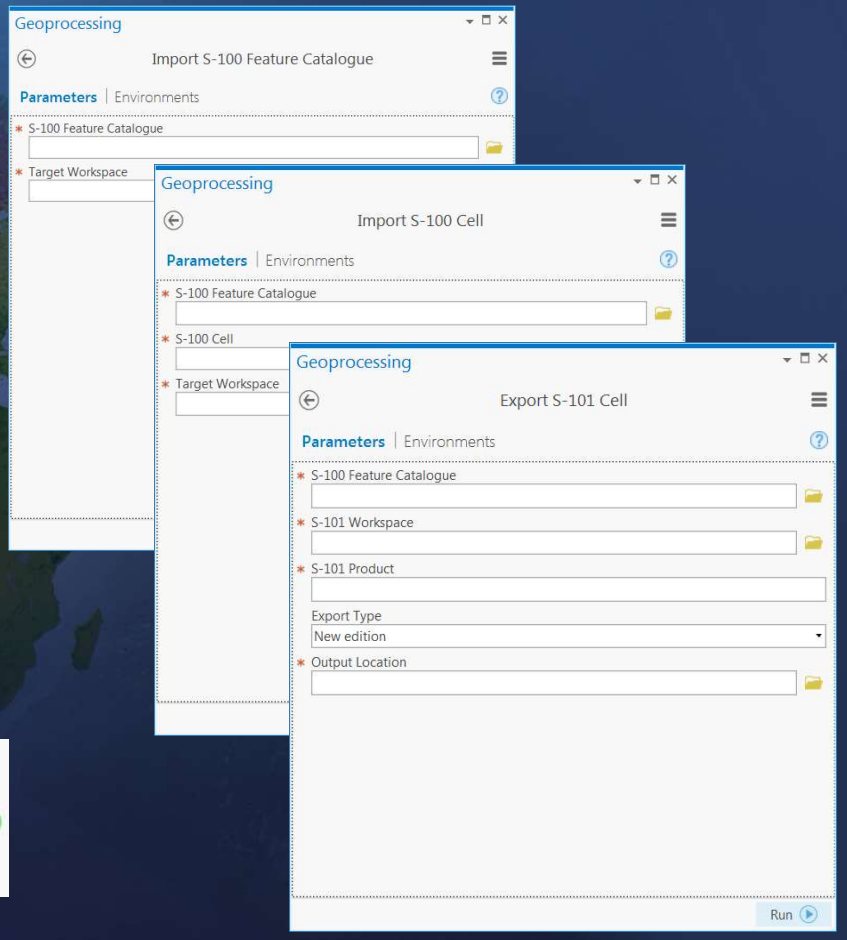


Add Data for Mash-ups



Automated S-100 Tools

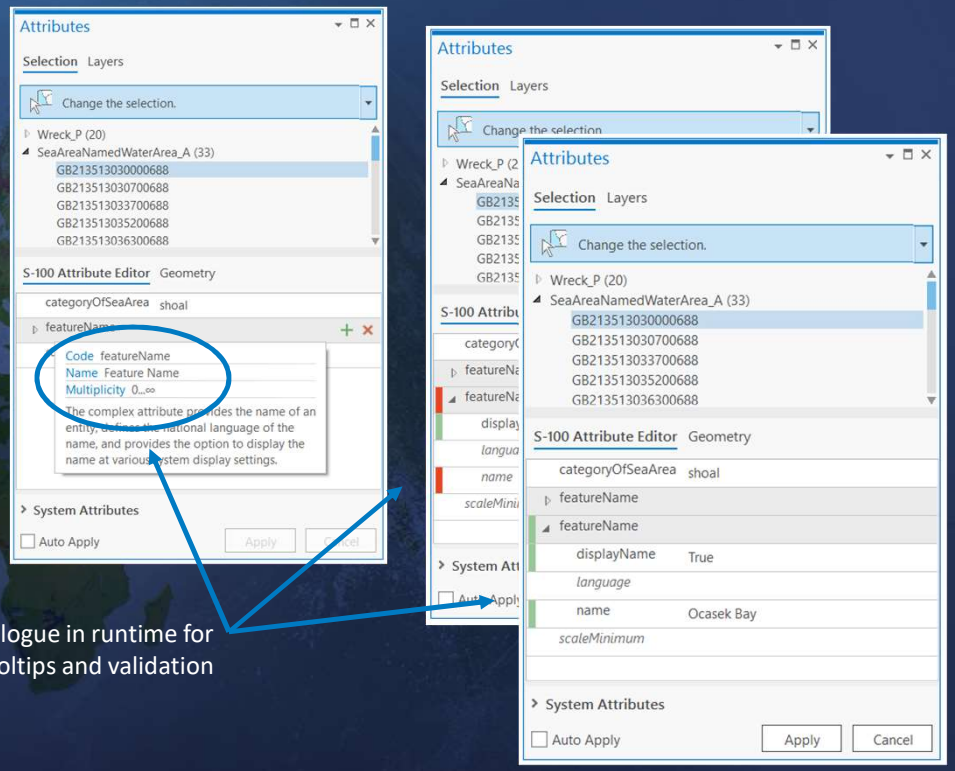




Enhanced S-100 editing tools

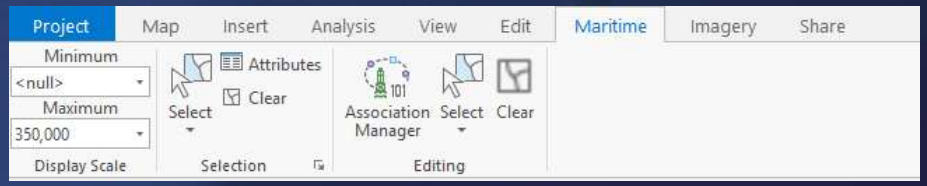
Association Manager

S-100 Attribute Editor

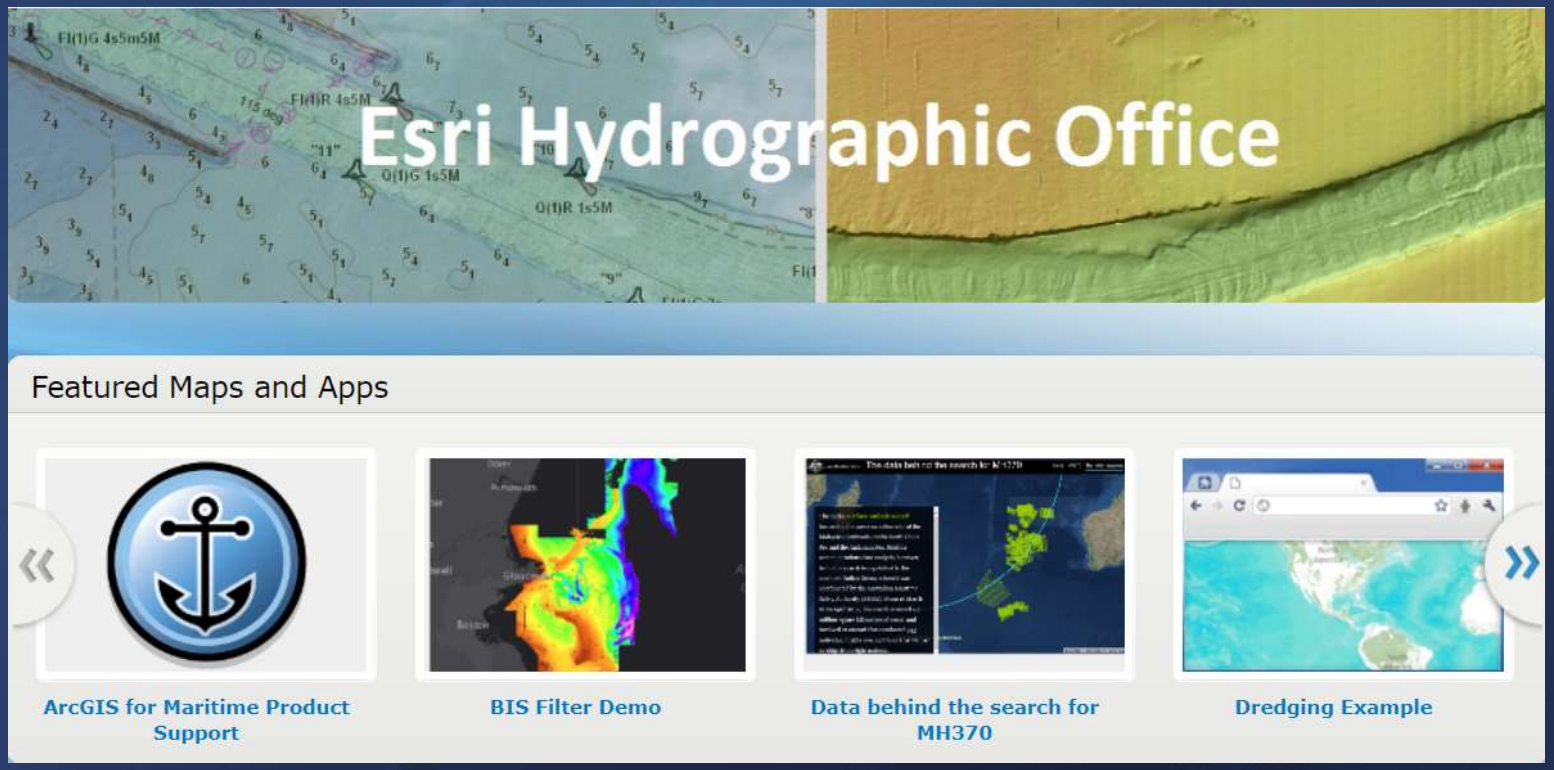


Feature Catalogue in runtime for tooltips and validation

Maritime ribbon



ArcGIS Online Maritime Product Support



http://esriho.maps.arcgis.com/home/index.html

Last thought: a conversation with Sylvia Earl . . .

Building an Intelligent Nervous System Is More Than Just Technology

"We live in an age of knowledge; this is our superpower"

"Once you see, you can't un-see"

"Ignorance is killing us"

"Measuring, Analyzing and Taking Action"

"Bring Geo-consciousness alive"

"Making GIS the nervous system of the world"

Leveraging *The Science of Where* . . .
. . . To See What Others Can't

Watch it in its entirety here https://youtu.be/ivZzxlq6S8M

Thank you!

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