FISHVIEWS

A Virtual Reality Platform for Visualizing Analyzing and Communicating Water Quality Data

Brian Footen brian@fishviews.com 206.235.9286

Spatial data is used during field visits to

- Scope areas.
- Locate discharge points.
- Locate water quality measurement stations.

GIS is a reality in all water resources management activities.

INTRODUCTION

Water quality monitoring and water resources management:

- Demands field surveys.
- Requires storage of spatial information.

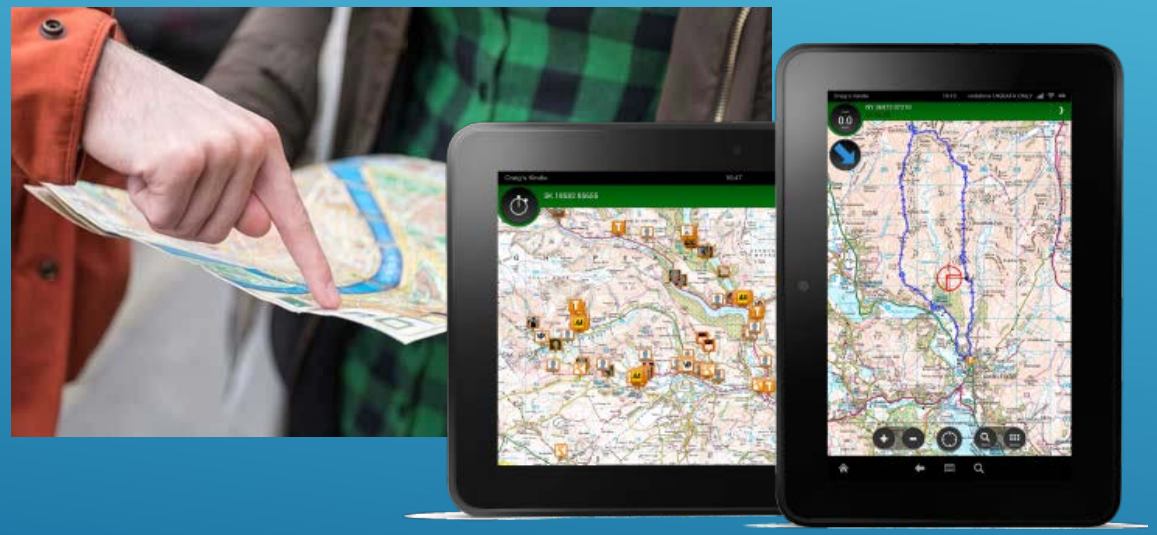
Spatial data is used during field visits to

- Scope areas for monitoring.
- Locate discharge points along a waterway for monitoring.
- Locate water quality measurement stations.

Therefore today, the use of GIS is a reality in all water resources management activities.

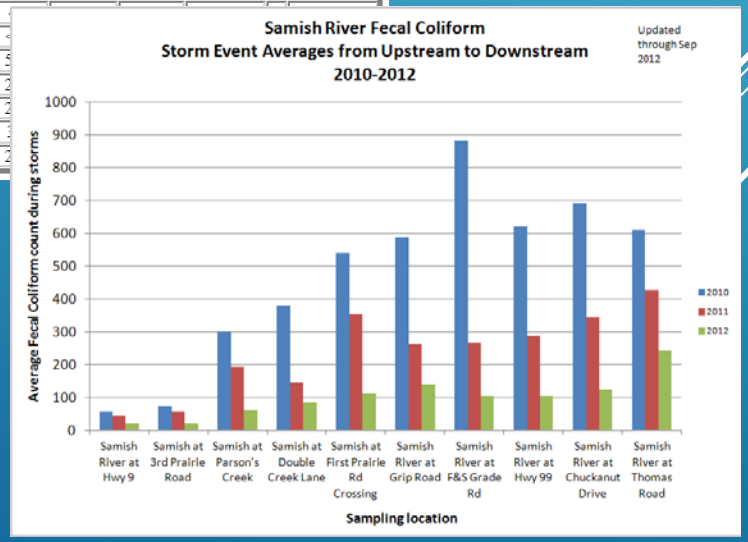
How this information is used and visualized really has not changed that much.

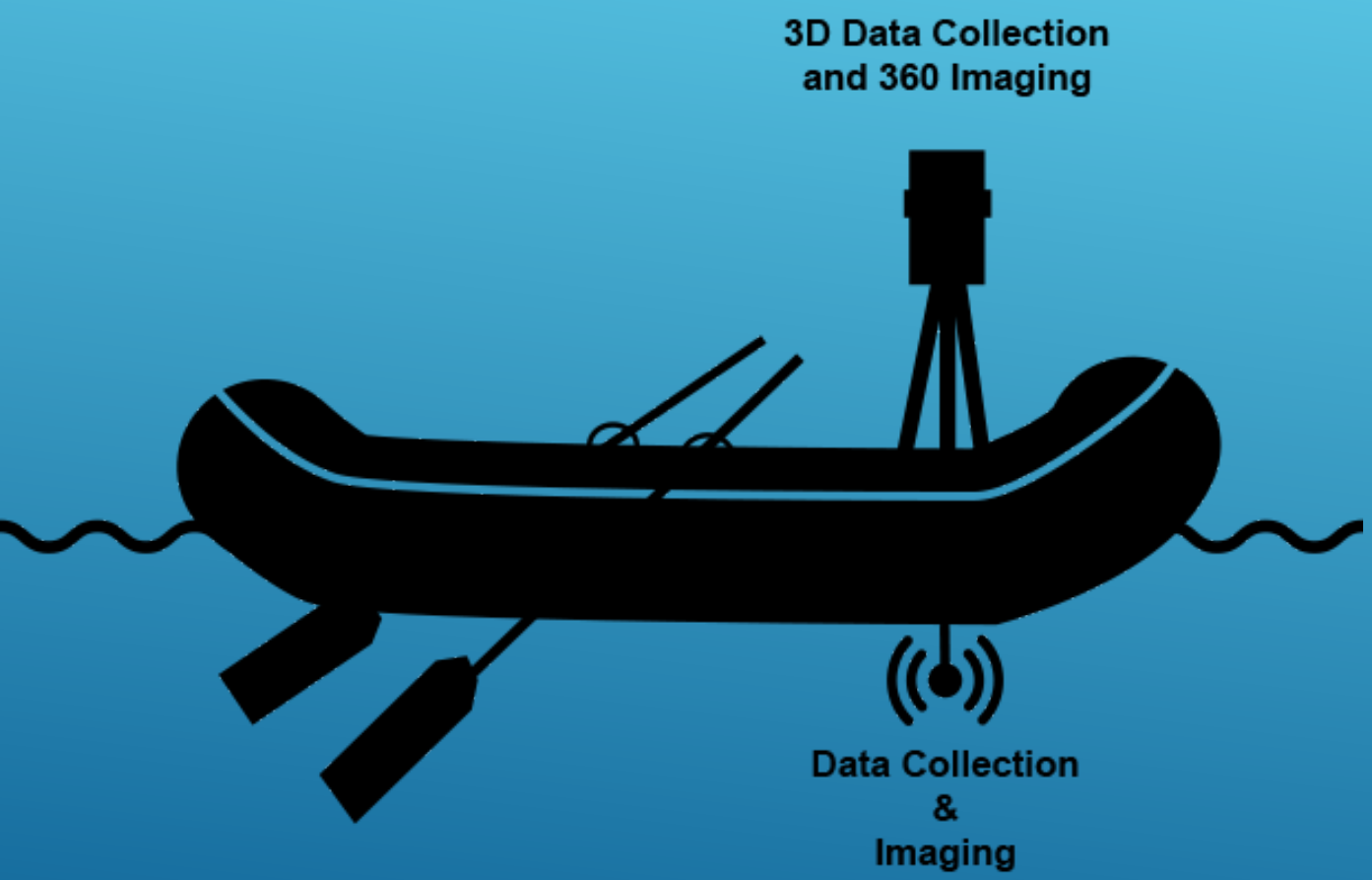
- Points on a map: Was on paper now is digital.



- Charts and Tables: Paper charts and graphics now digital.

Parameter	Lake Water						Precipitation VMA[a]
	Minimum	First Quartile	Median	Third Quartile	Maximum	n	
Lake Stage	1,879.47	1,881.44	1,881.77	1,882.56	1,883.32	88	--
Spec. cond., field	110	110	120	120	130	81	--
pH, field	6.8	7.2	7.5	7.7	8.0	77	5.3
Calcium	320	340	350	360	500	91	4.6
Magnesium	160	210	210	220	260	91	2.0
Sodium	410	440	480	480	830	90	3.1
Potassium	36						
Ammonium	<.7						
Alkalinity, laboratory	400	5					
Sulfate	120	2					
Chloride	190	2					
Nitrite plus nitrate	<.7	3					
Silica	230	2					

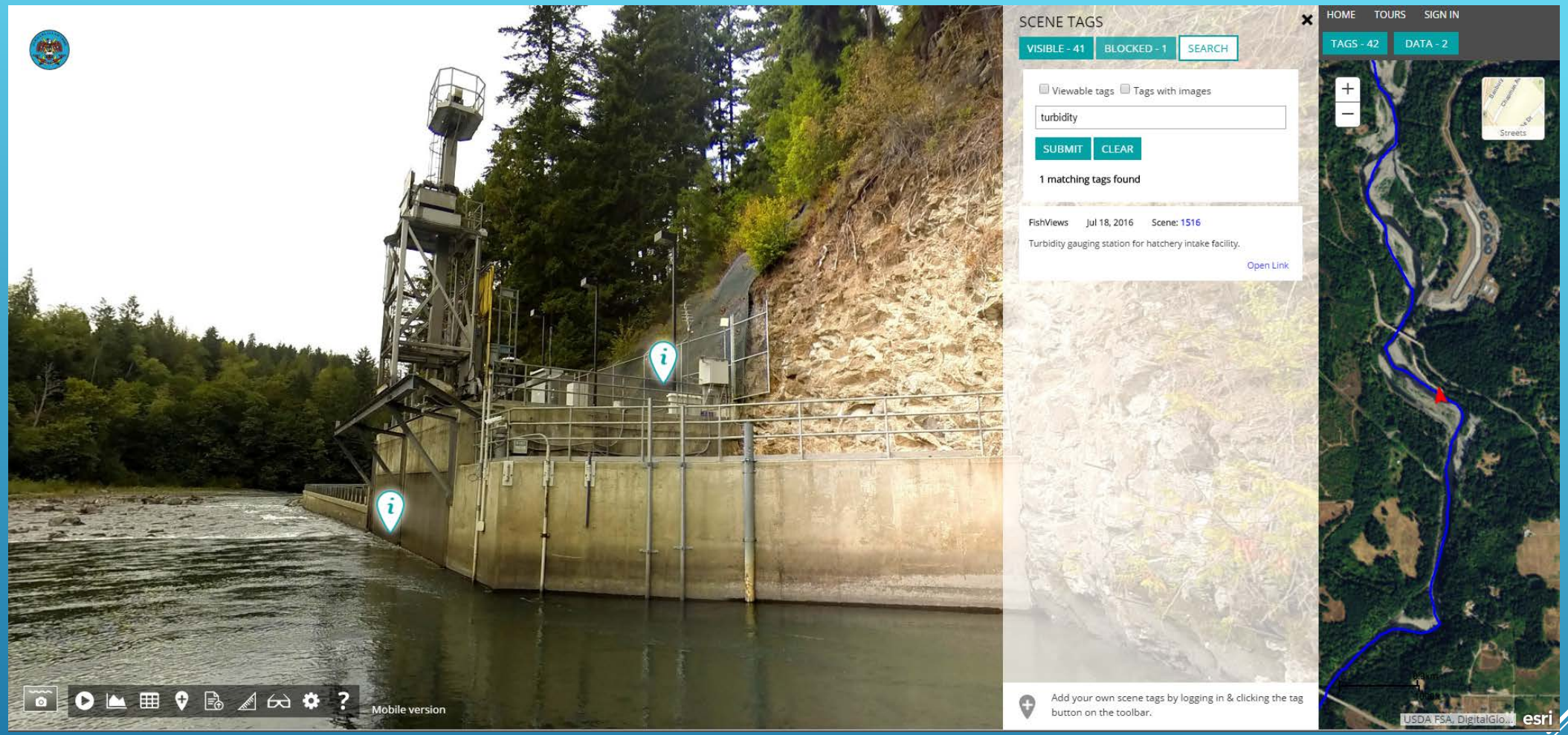




BRING THE LOCATION AND DATA TO THE USER

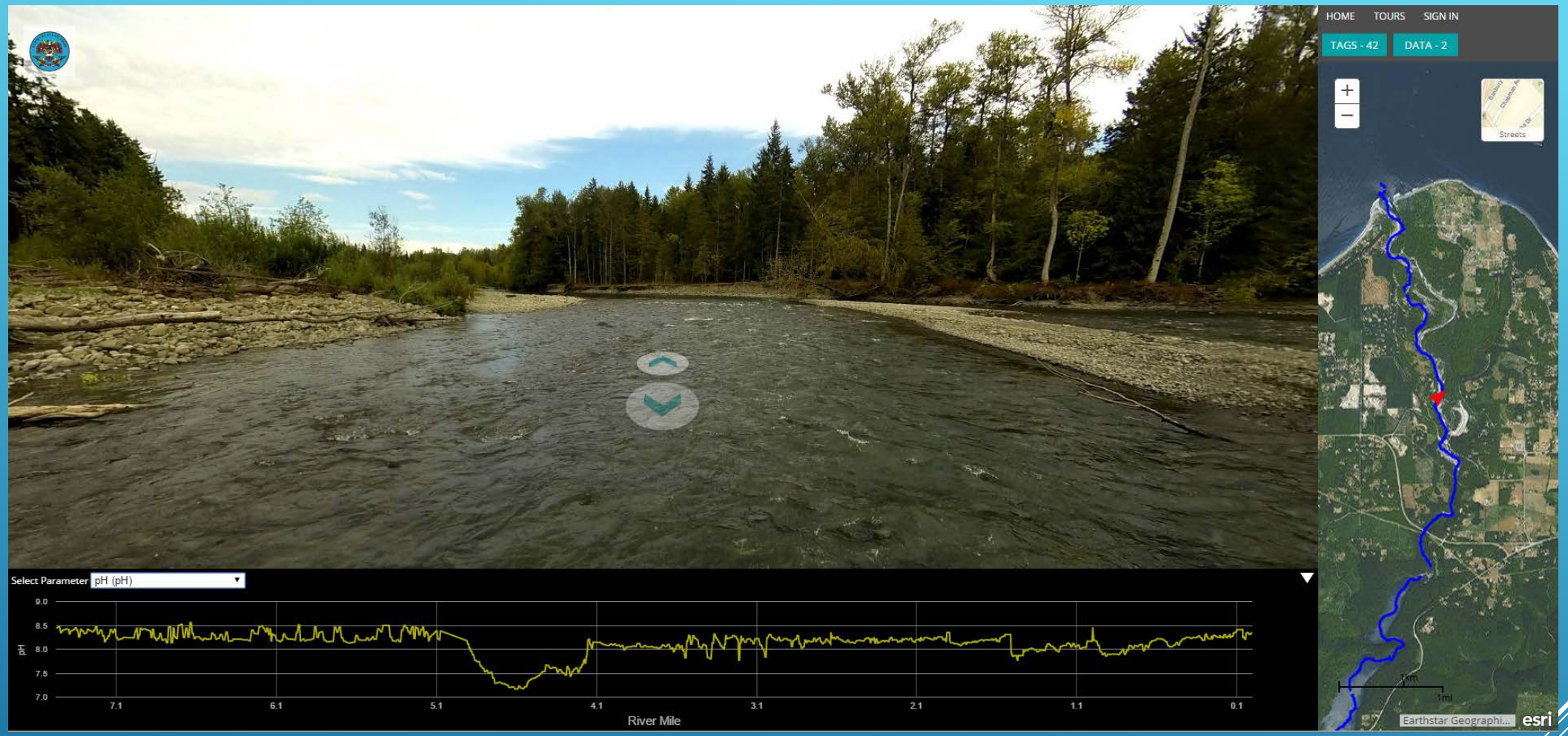
CREATE A VIRTUAL RIVER

A VIRTUAL VIEW OF THE WATER

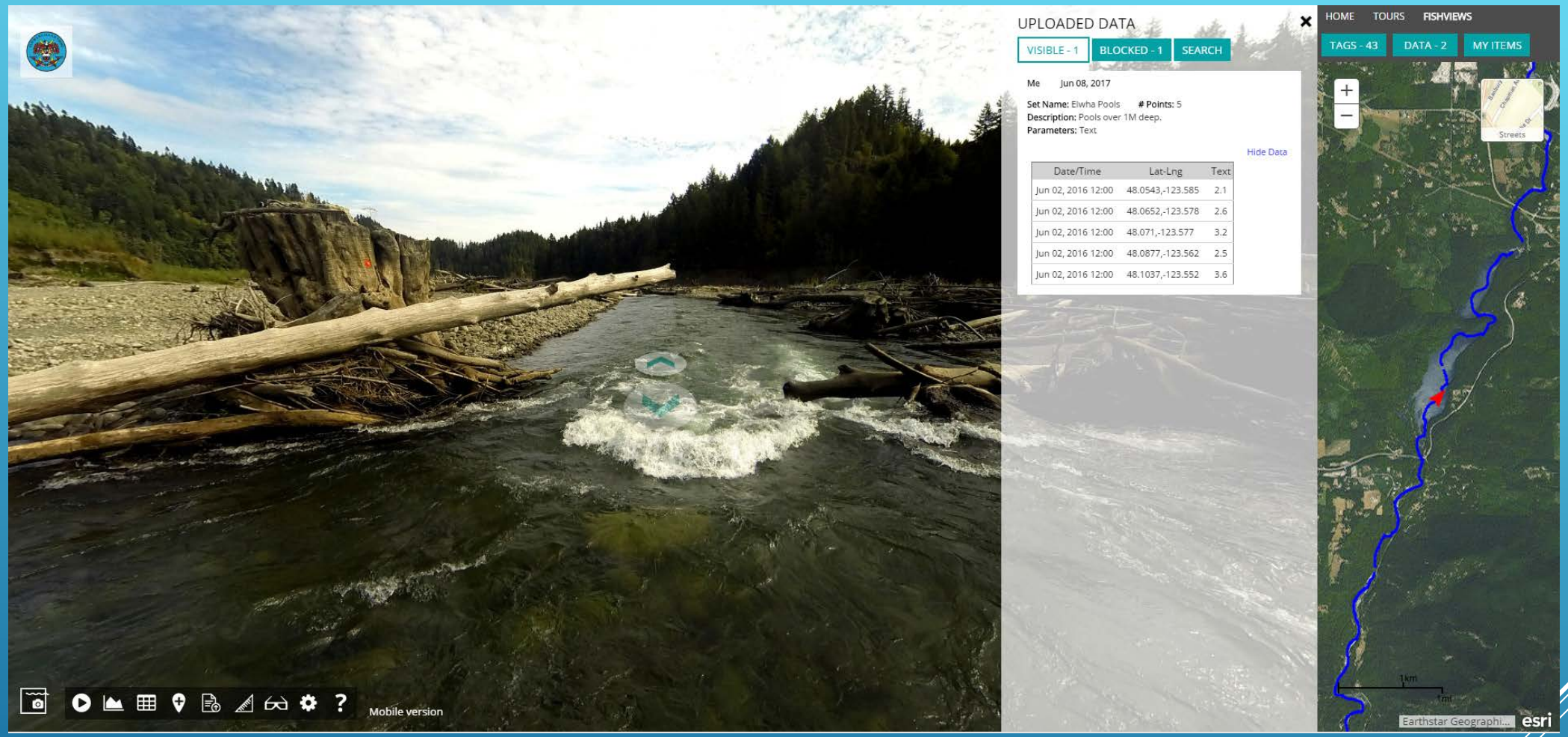


ON SITE LOCATION BASED INFORMATION

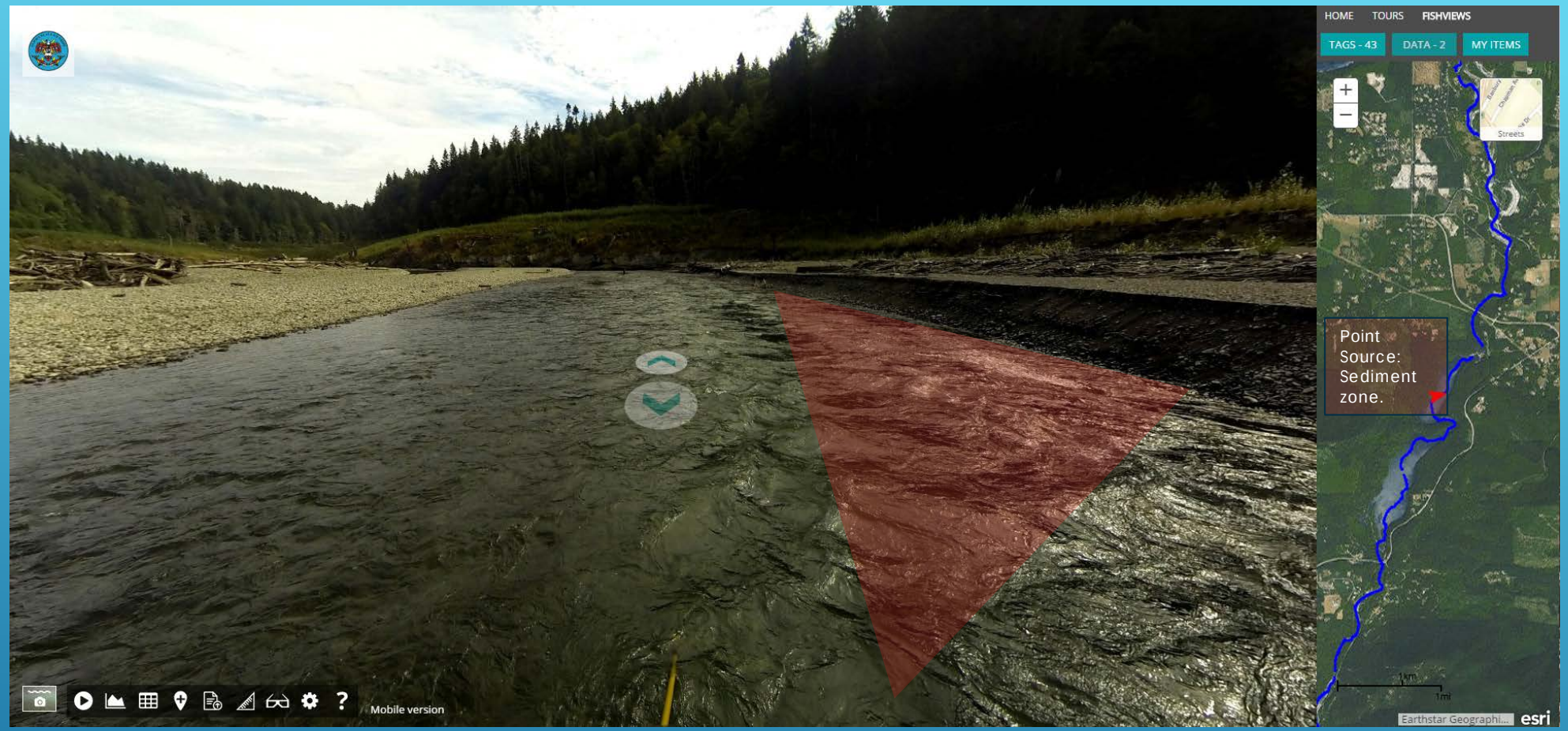
SPATIALLY CONTINUOUS META DATA



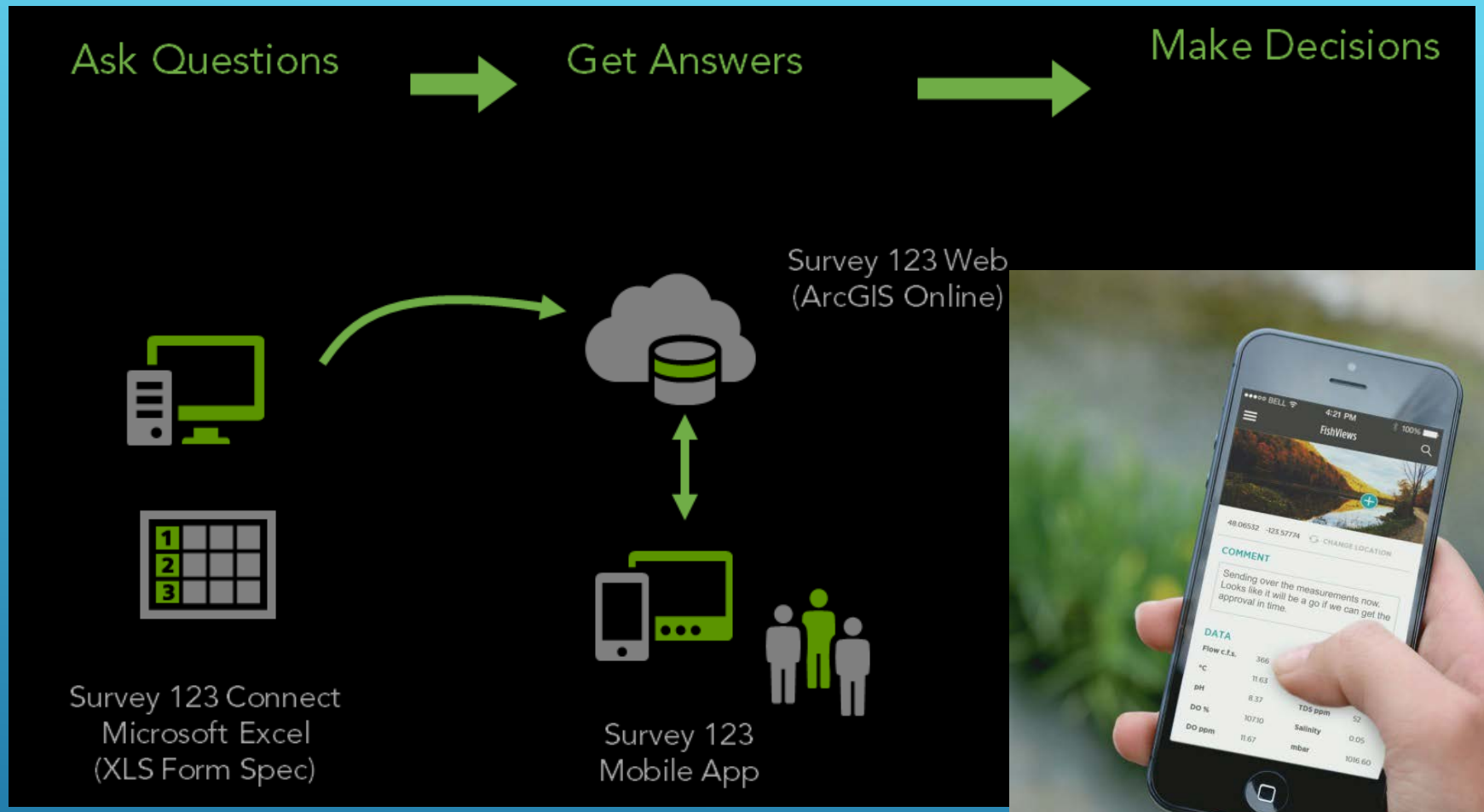
VISUALIZE LONGITUDINAL DATA WITH GEO-CHART

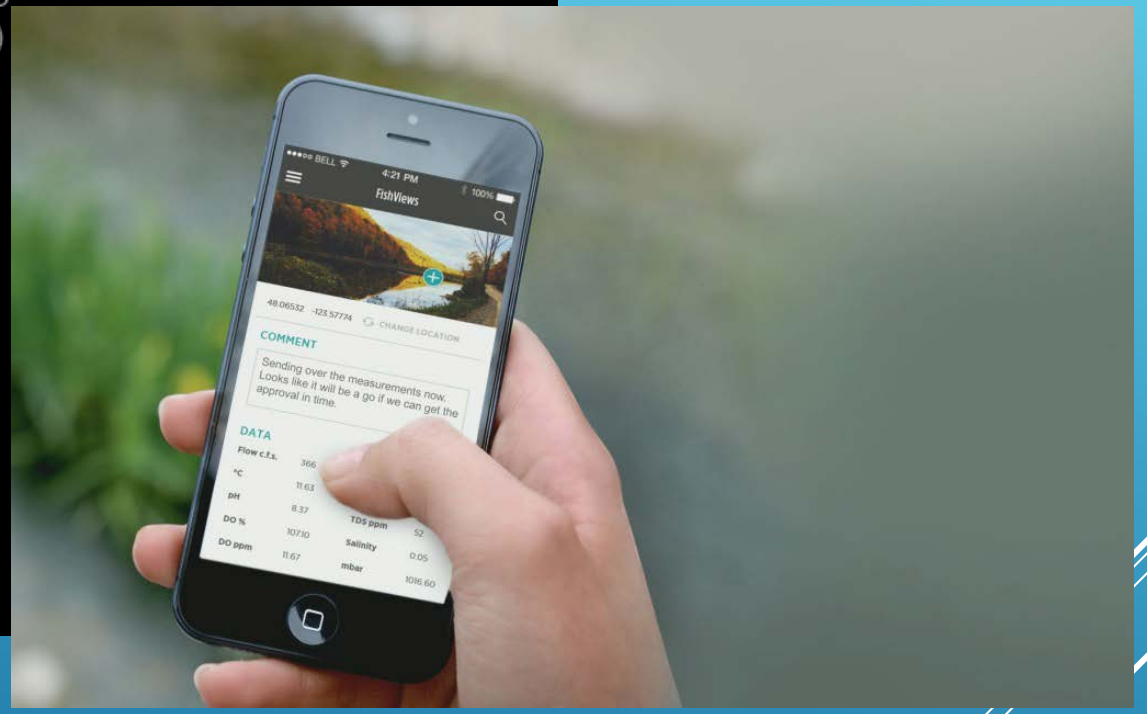


VISUALIZE TABULAR DATA



VISUALIZE AND ANALYZE DATA IN ARCGIS





USE AND CREATE MOBILE APPS

- The use of virtual reality for the visualization of location based dimensional data is where the future is headed.
- Virtual solutions in the form of mobile apps can help during field surveys, especially when visiting study regions that are not well-known or where there are difficulties locating points because of the changing vegetation. Your maps are enhanced.
- The use of simple graphic elements, overlaid on the virtual location enhances the visualization of data providing additional insights into causality. Context improves understanding.
- Visualizing on geo-charts dense longitudinal measurements at landscape scales help discover anomalies in the data.
- Continued advancements in hardware and software will allow for Virtual GIS work to be done with VR and AR both at your desk and in the field.

CONCLUSIONS

The way we relate to information is increasingly being done in a virtual environment.

Brian Footen brian@fishviews.com 206.235.9286