# **SIG WORKING WEEK 2023**

28 May - 1 June 2023 Orlando Florida USA

Protecting Our World, Conquering New Frontiers

# Enables Multipurpose

# Cadastre

# Linda Foster, PLS, GISP, MGIS

Esri – Global Manager of Land Records/Cadstre



G Working We



**Diamond Sponsors** 

#### The Vision of a Multipurpose Cadastre (MPC)

- 1980 U.S. National Research Council publishes "Need for a Multipurpose Cadastre" report
- Global vision spatial representation of land rights, restrictions, and responsibilities
- Straightforward concept ≠ easy implementation [40+ years]

# Why?

- Organizational silos
- Data inconsistencies
- Technological maturity
- Lack of capacity



## Is the Vision Nearing Reality?

• Yes!



#### What has Changed?

- Technological Advancement = Enhanced GIS Cababilities
- Accelerating demand for land information

# How?

## Today's GIS is:

- Secure
- Scalable
- Sustainable
- Standards-friendly
- [Web] Services-capable



SERVICES

STANDARDS

SCALABLE

SUSTAINABLE

# FedRAMP

StellRE

SERVICES

NIST 800-53

# USGCB

STIG

CCPA

STANDARDS

**HS** 

SCALABLE

 $\bigcirc$ 

SUSTAINABLE

The Five "S's"...

**GDPR** 

SECURE

SERVICES

STANDARDS

SCALABI

SUSTAINABLE

## Scalable





Projects (Individuals or Small Groups) Systems (Organization-Wide) Cloud Services (Individuals to Organizations) Geospatial Infrastructure (System of Systems – Cross Department or Multiple Agency)

 $\cap$ 

SECURE

SERVICES

STANDARDS

C

SCALABLE



STANDARDS

SECURE

SERVICES

COTS =

SCALABLE

SECURE

SERVICES



SCALABLE

SUSTAINABLE

## Standards-based GIS (operational)

Systems Integration

LADM **Open Standards** and Formats **XLSForm** KML WFS GML WCS www WMS SQL IFC Web Scene (I3S) **OPeNDAP** SLD SOAP WMTS LERC LAS **JSON** CSW **WPS** INSPIRE REST WaterML **OGC**<sup>®</sup> Shapefiles **NetCDF** Principal Member ISO GeoPackage OneGeology CityGML

**MS** Office Adobe Creative Cloud SharePoint Azure SQL Server Jupyter Notebooks Power BI Teradata Netezza AWS R Python **AutoCAD** SAP HANA **IBM Cognos** Oracle

**Open Software** 

Open Data Access Open APIs & SDKs

Extensible Architecture Embeddable Components

Open-Source Contributions (500+) Open-Source Integration Data Interoperability

Legal Interoperability/

Semantic Interoperability

> Technical Interoperability

Future-Proof Systems with Standards

SECURE

S

ERVIC

STANDARDS

SCALABLE

SUSTAINABLE

# Services (Web)

Organizes and Securely Shares Data.....

- Secure
- Standards-based
- Controlled Access via Identity
- Control Who Does What
  - View
  - Query
  - Edit
- Monitor/Track

# https://

https://esriland.maps.arcgis.com/home/item.html?id=5969 689b642840e39cf0491669484e0b

	and a long lings		
burre's	The entropy of the SD 100 SD is a set frame in the SD is a SD in the interval of the SD is a set of the SD is set of the SD is a set of the SD is	Description of the second seco	
100	Internet and the set of the	Com + solit in (series	
and the second se	24	Tarre +)	
and marketing strong	ine 2012 (an (19) for ) period framewise from the final system of the final system of the task for my period system (any period system) and the final system of the fi	Next Name	
997 Santa Santa Maria Maria Managaran di Amerika Santa Santa Maria Mar		Constitution (constitution) Constitution (constitution) Constitution (constitution) Constitution (constitution)	
and and the Operative's second and the operation of the second			
Wearstan III		( ) (m.m.	
		Parties	
		Tag) of an Inter-Age and the anti-Tage in the Tage (and Tagener, from 1997) process measures	

# In Conclusion:

- Widespread operationalized MPC not yet realized
- Conditions are prime
- In U.S. statewide parcel aggregations, and FLAIR Act
- Signifies committment needed to achieve MPC



FIG WORKING WEEK 2023 28 May - 1 June 2023 Orlando Florida USA

Protecting Our World, Conquering New Frontiers

# Thank you!

Linda Foster, Global Manager – Land Records/Cadastre (Esri) Ifoster@esri.com

linkedin.com/in/Imfoster/



(download full paper)



