

WE WANT

CLIMATE

ACTION

WHAT WE WANT

- A Green New Deal
- Respect of Indigenous Land and Sovereignty
- Environmental Justice
- Protection and Restoration of Biodiversity
- Implementation of Sustainable Agriculture

**PROTECCT-GLAM:
Providing Risk of The
Environment's Changing
Climate Threats for
Galleries, Libraries,
Archives & Museums**

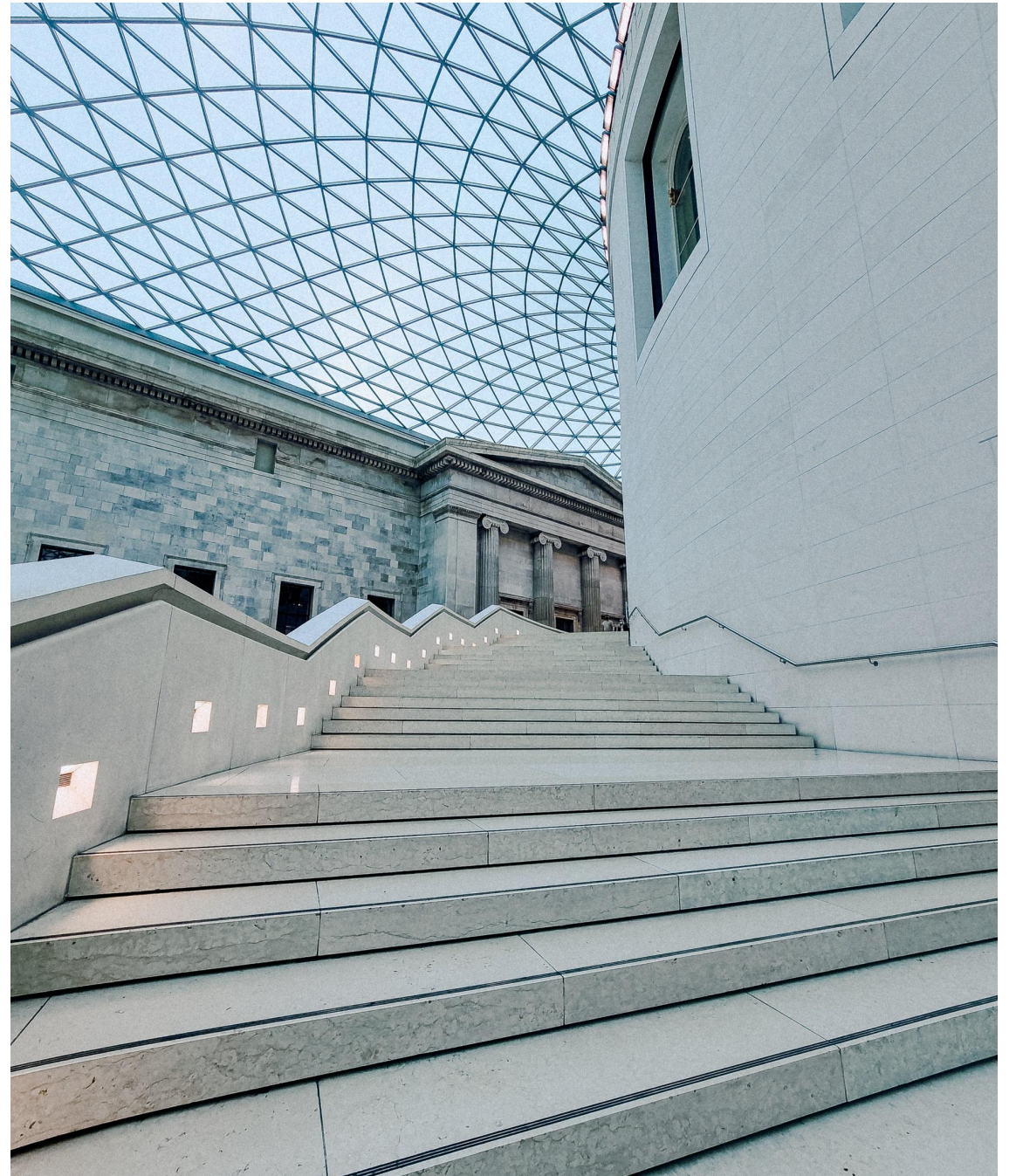
Ed Benoit, III, Jill Trepanier, Jennifer Vanos, Emily Fisher, & Annie Waddell



INSTITUTE of
Museum and Library
SERVICES

Outline

- Background
- GLAM Dataset
- PROTECCT-GLAM Scale
- Next Steps
- Questions





Background: Research Questions

- What are the climate change-related risks most likely to provide threats to GLAMs?
- How can climate change risk for GLAMs be understood as a categorical scale when combining those threats most likely to need significant consideration?
- What are the GLAM-specific climate change challenges?
- How can a collaborative research agenda best address these challenges with input from practitioners and academics?

Building the GLAM Dataset

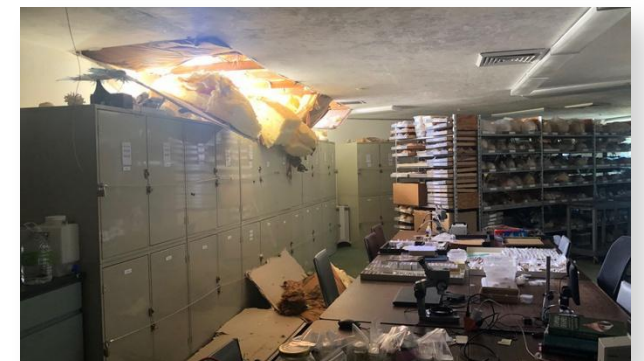
- Sources
 - Museum Data Files (IMLS, 2018)
 - Public Libraries Survey (IMLS, 2020)
 - RepoData (2019)
 - Academic Library Data Files (National Center for Educational Statistics, 2012)
 - Military MWR Libraries (Manual)
- Audit: 15,000 entries needed manual correcting
 - Final dataset includes ~78,000 entries
 - Limitations: Missing many community-based repositories; online form to help



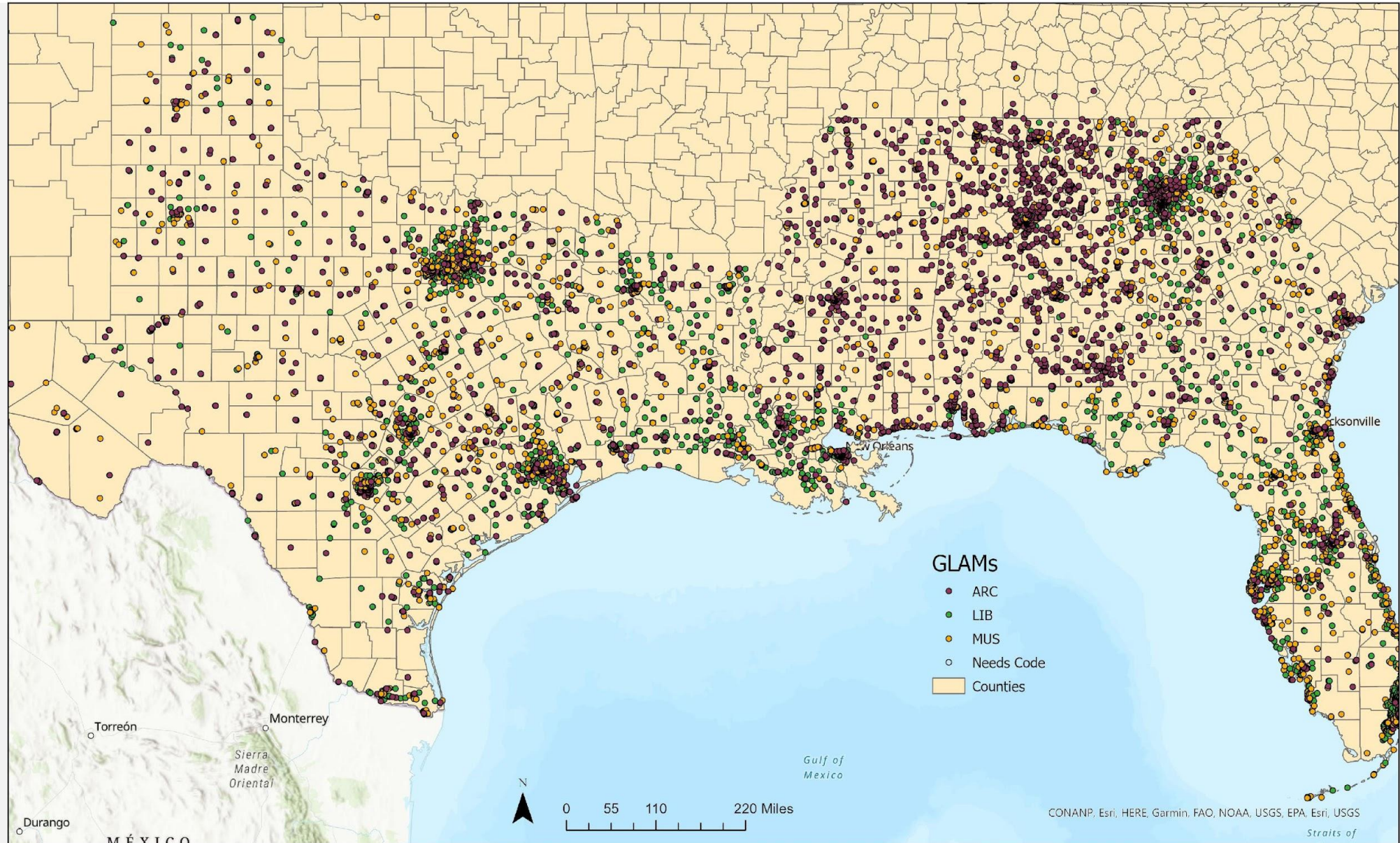
Coastal GLAMs

- 16,877 GLAMs within 30km of coast
- NCA 3 ft SLR by 2100

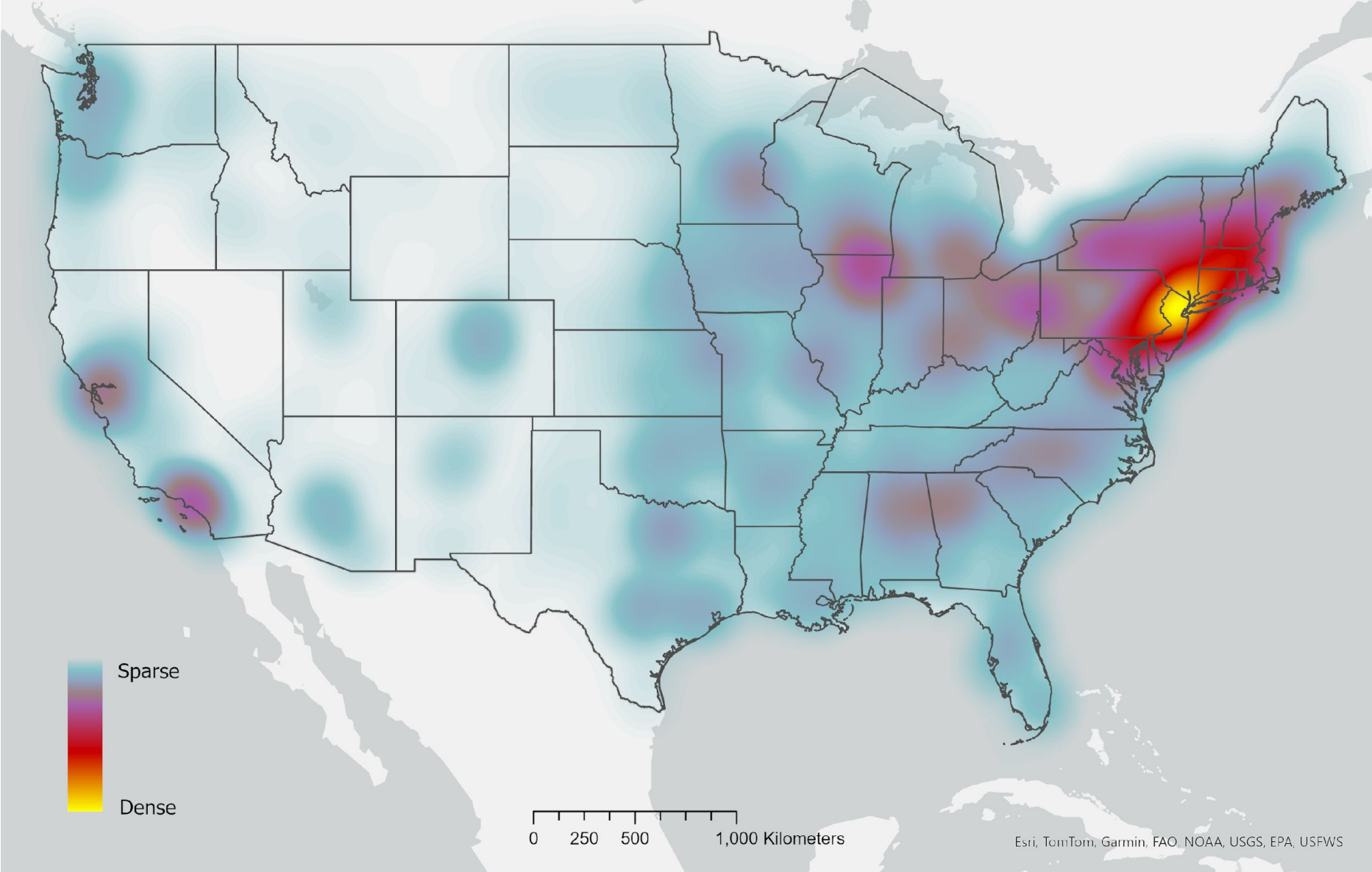
GLAM Type	5km	15km	30km
Archives	2,458	3,702	4,740
Libraries	2,054	3,555	4,625
Museums (& Galleries)	3,915	5,886	7,512
Total	8,427	13,143	16,877



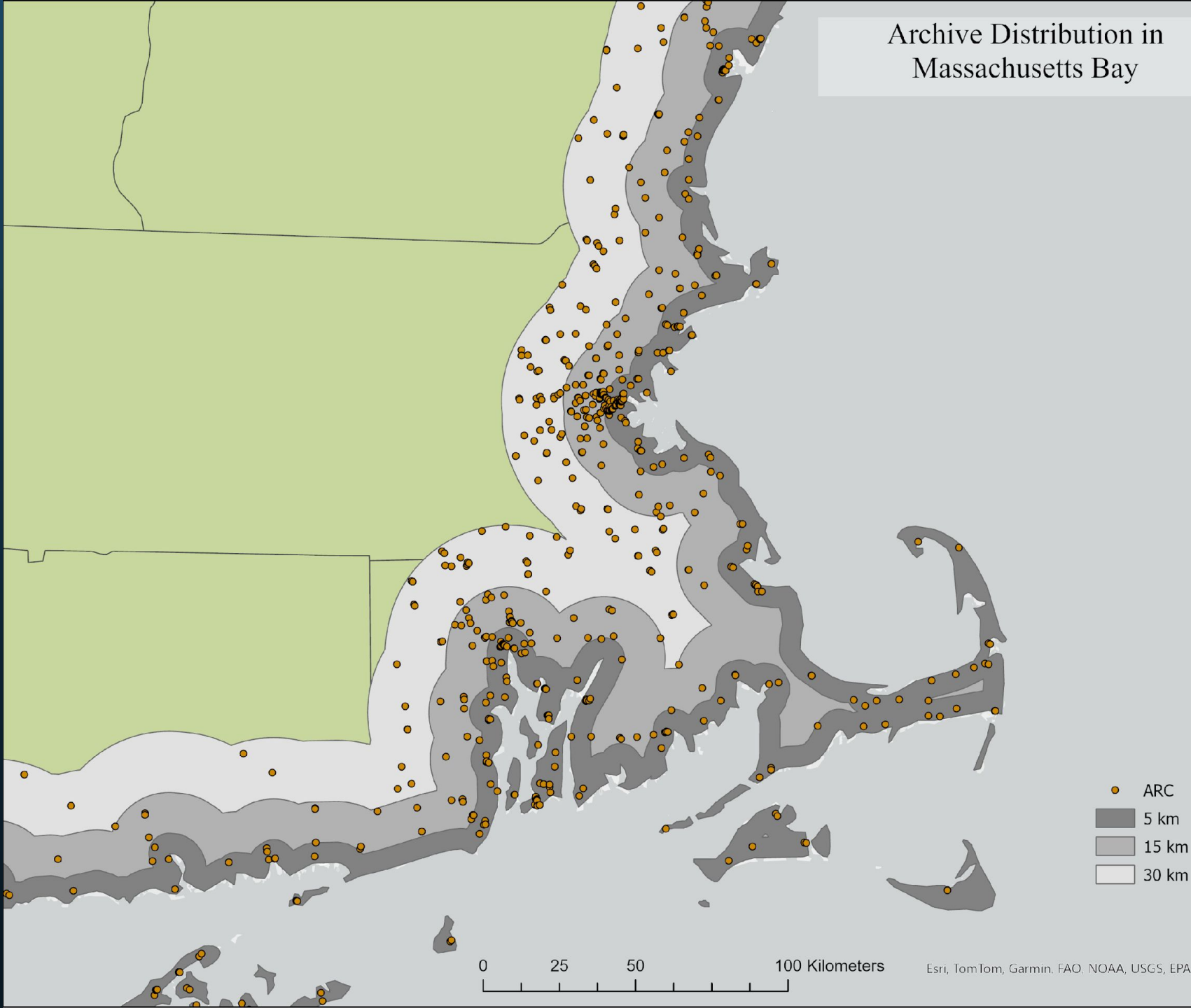
Galleries, Libraries, Archives, and Museums in Gulf Coastal States



GLAM Distribution



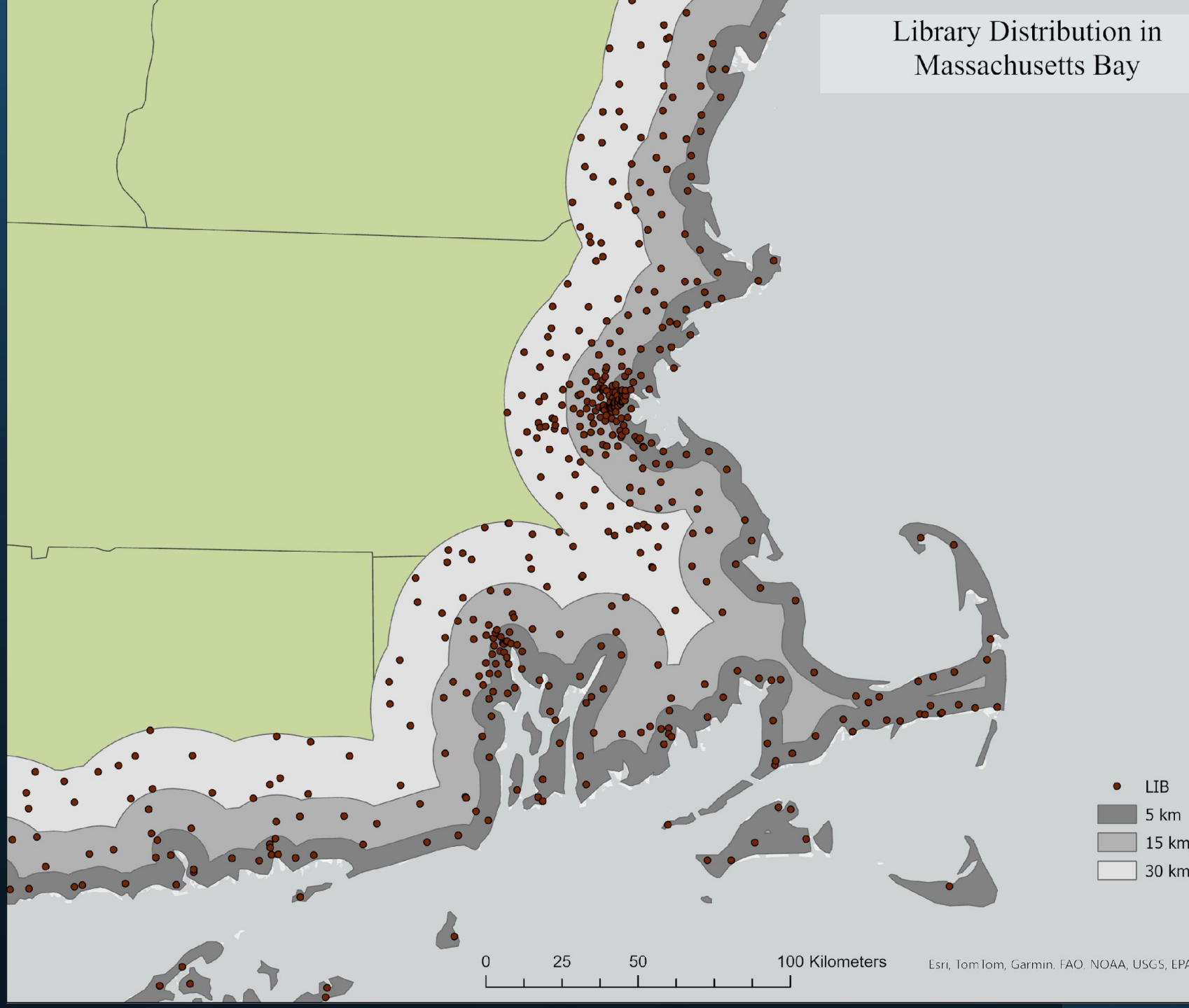
Archive Distribution in Massachusetts Bay



- ARC
- 5 km
- 15 km
- 30 km

0 25 50 100 Kilometers

Library Distribution in Massachusetts Bay

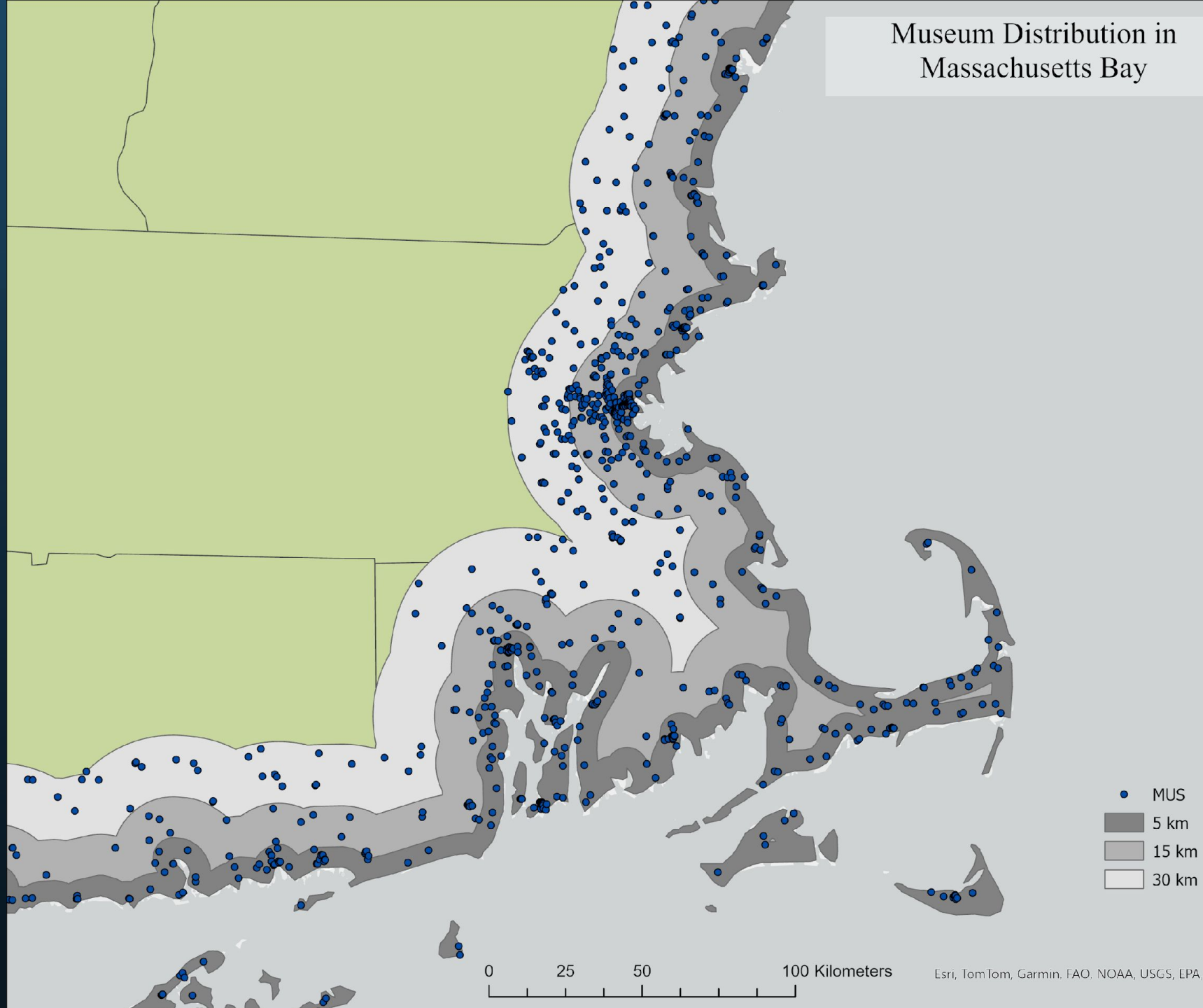


- LIB
- 5 km
- 15 km
- 30 km

0 25 50 100 Kilometers

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS

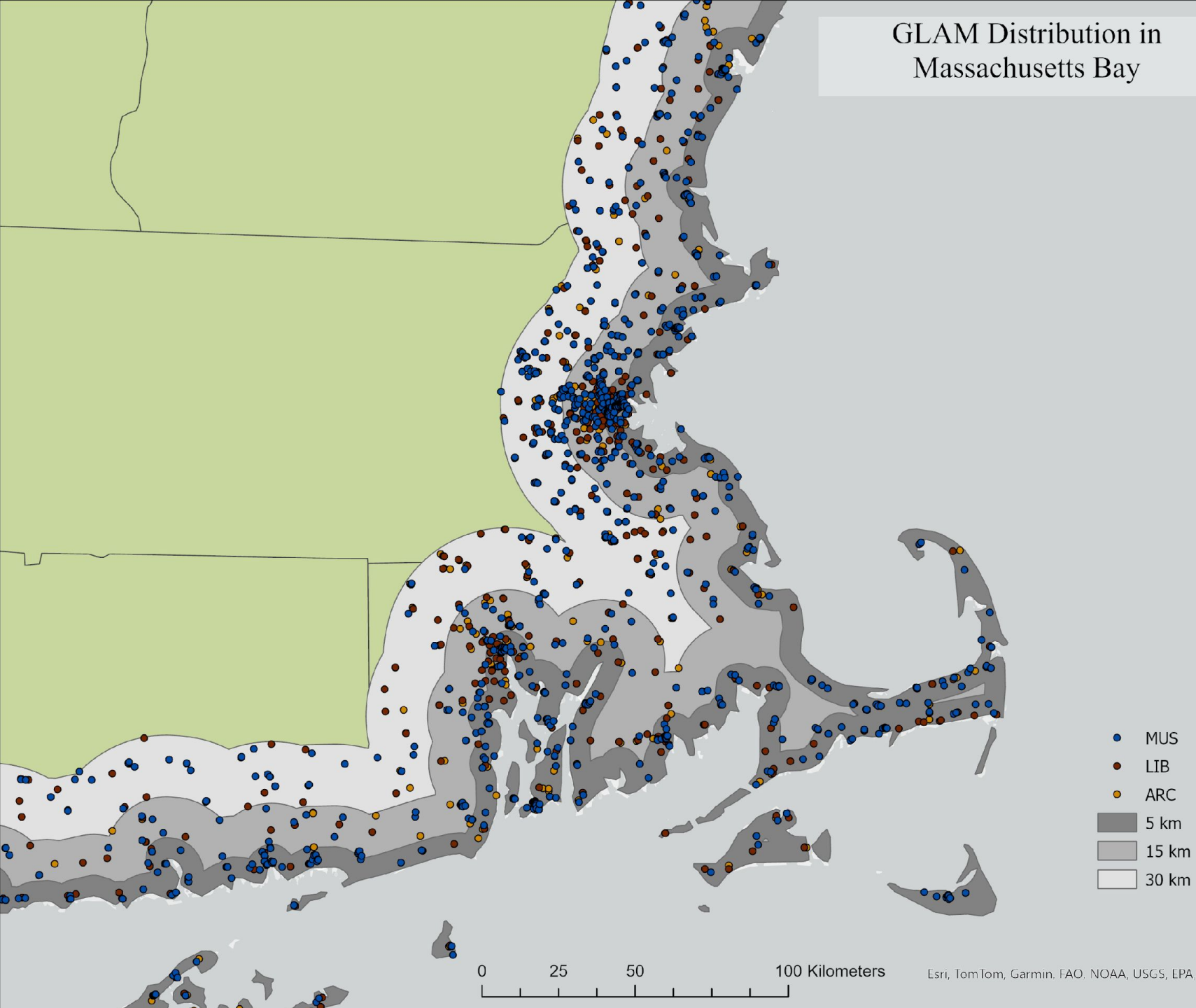
Museum Distribution in Massachusetts Bay



0 25 50 100 Kilometers

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS

GLAM Distribution in Massachusetts Bay



- MUS
- LIB
- ARC
- 5 km
- 15 km
- 30 km

0 25 50 100 Kilometers



Creating a PROTECCT-GLAM Scale

- Included 5 variables:
 - Hurricane wind occurrence & storm surge inundation
 - 3 ft of sea level rise (100-year expectation)
 - FEMA 100-year flood zones
 - Exceeding 23-27⁰C air temp
 - Over 9.3⁰C dewpoint (50% RH at 20⁰ C T_{air})
- Information Studies reliance on ⁰F and RH



Creating a PROTECCT-GLAM Scale

- 0-4 scale transformed into grade (A-F)
- Scale grade per variable and the average of 5 variables provides an overall grade for each GLAM
- Hypothetical Example
 - Sagamore Museum, Overall: F (0.4)
 - Hurricane: F (0)
 - SLR: F (0)
 - Flood: D (1)
 - Air Temp: D (1)
 - Dewpoint: F (0)



Moving Forward

- Finalize Categorical Risk Assessment Scale
- Create GIS Experiences for Online
- GLAM Climate Change Institute

**Please help us
make it better!**



THANK YOU!

Any Questions?