



Obtaining National NWI Coverage – Filling the Gaps in Alaska

ASWM

State/Tribal/Federal
Coordination
Meeting

2012



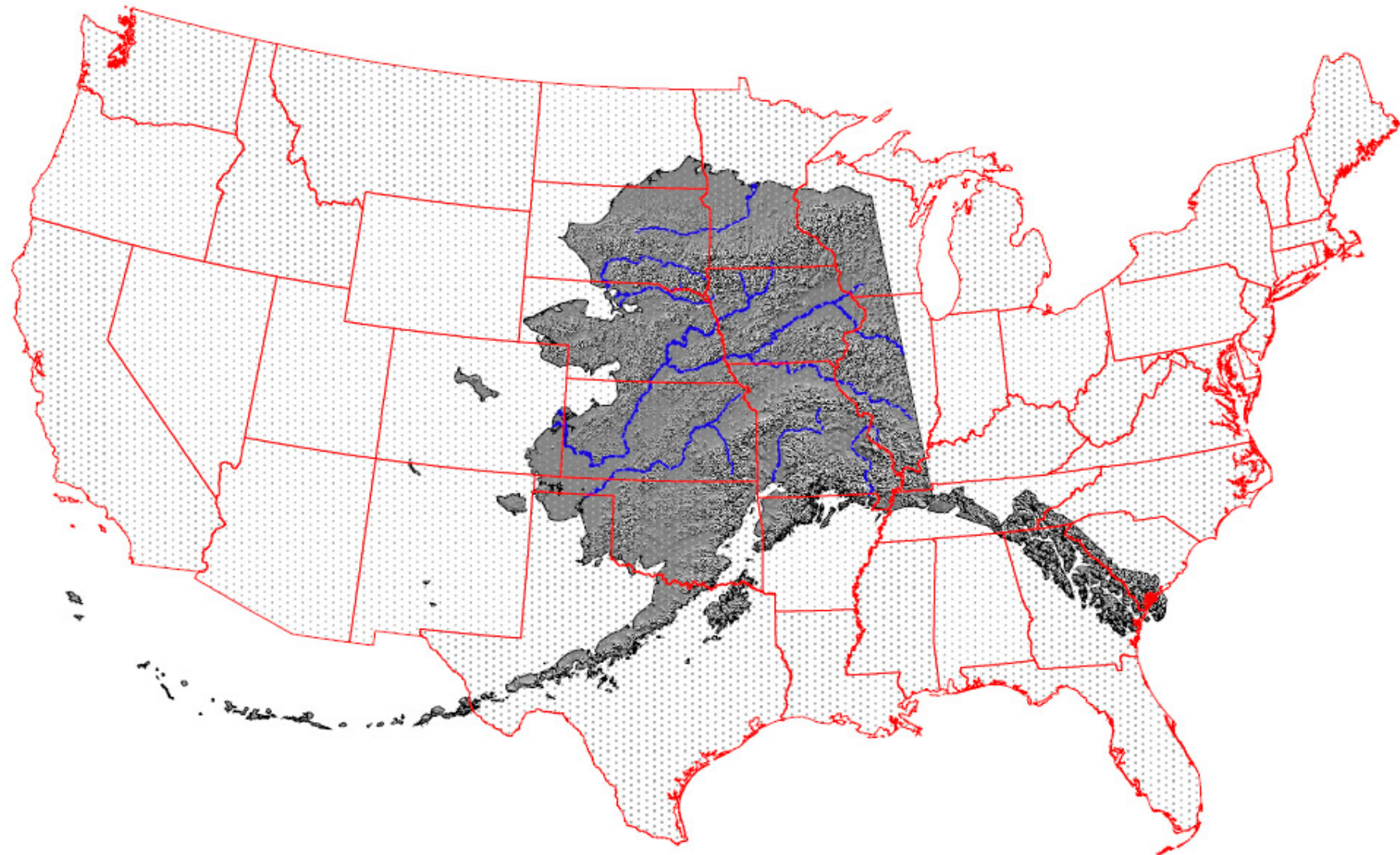
Saint Mary's
University
OF MINNESOTA



So, What Is The Problem?



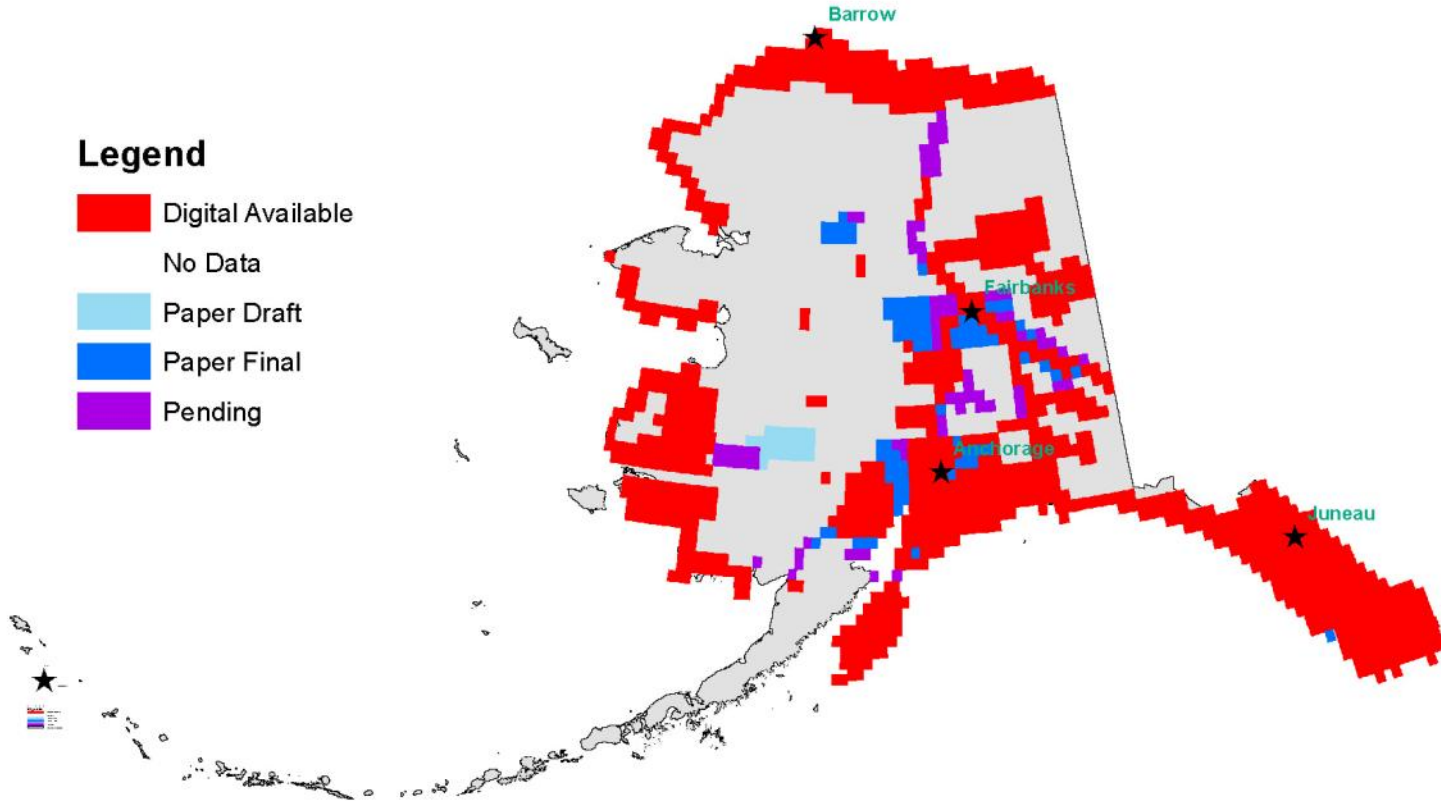
Alaska Superimposed over the Continental United States



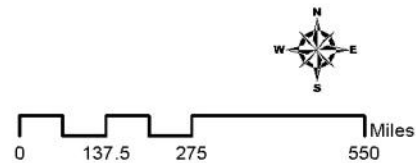
2011 NWI Mapping Status Alaska Region

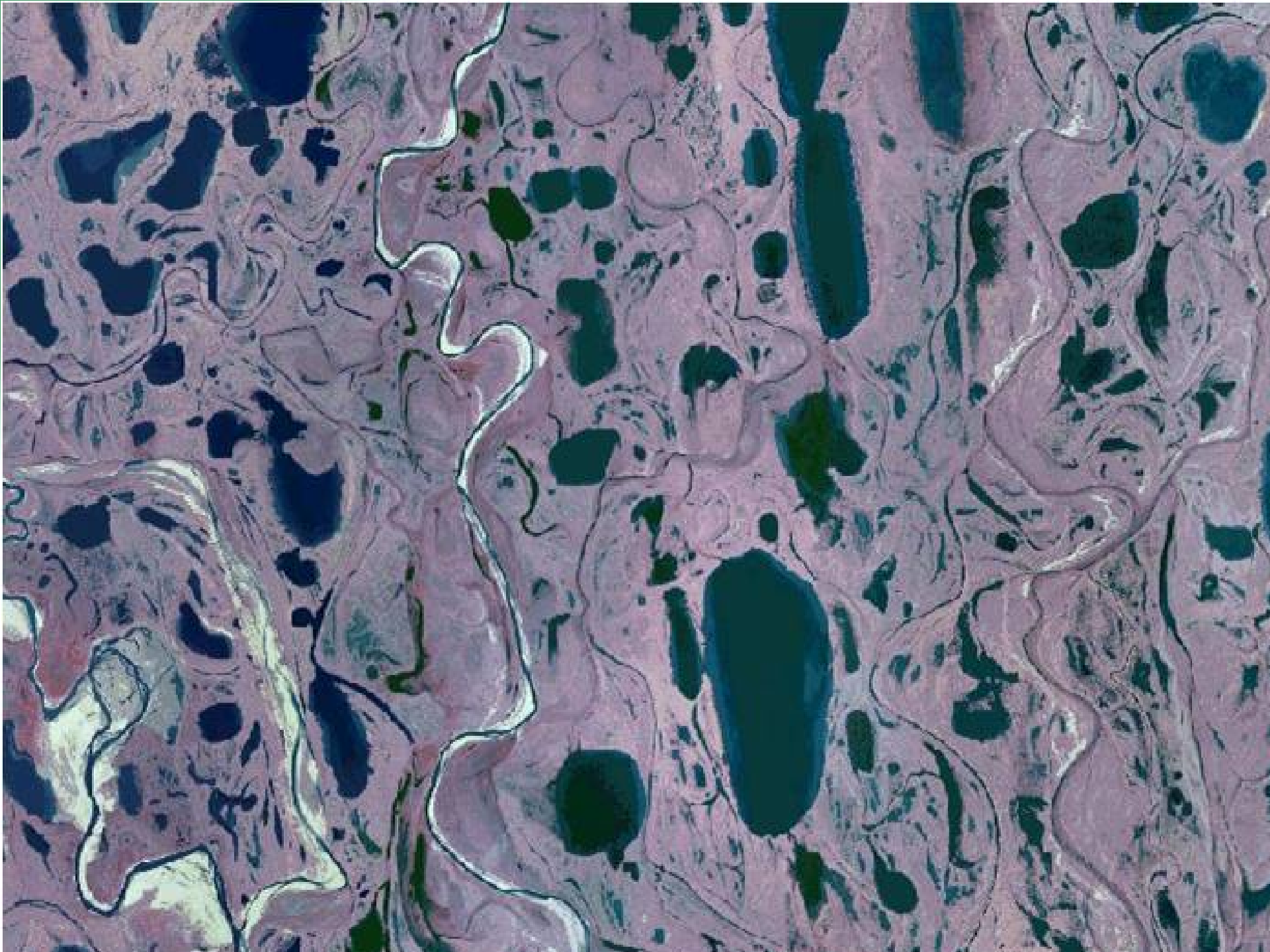
Legend

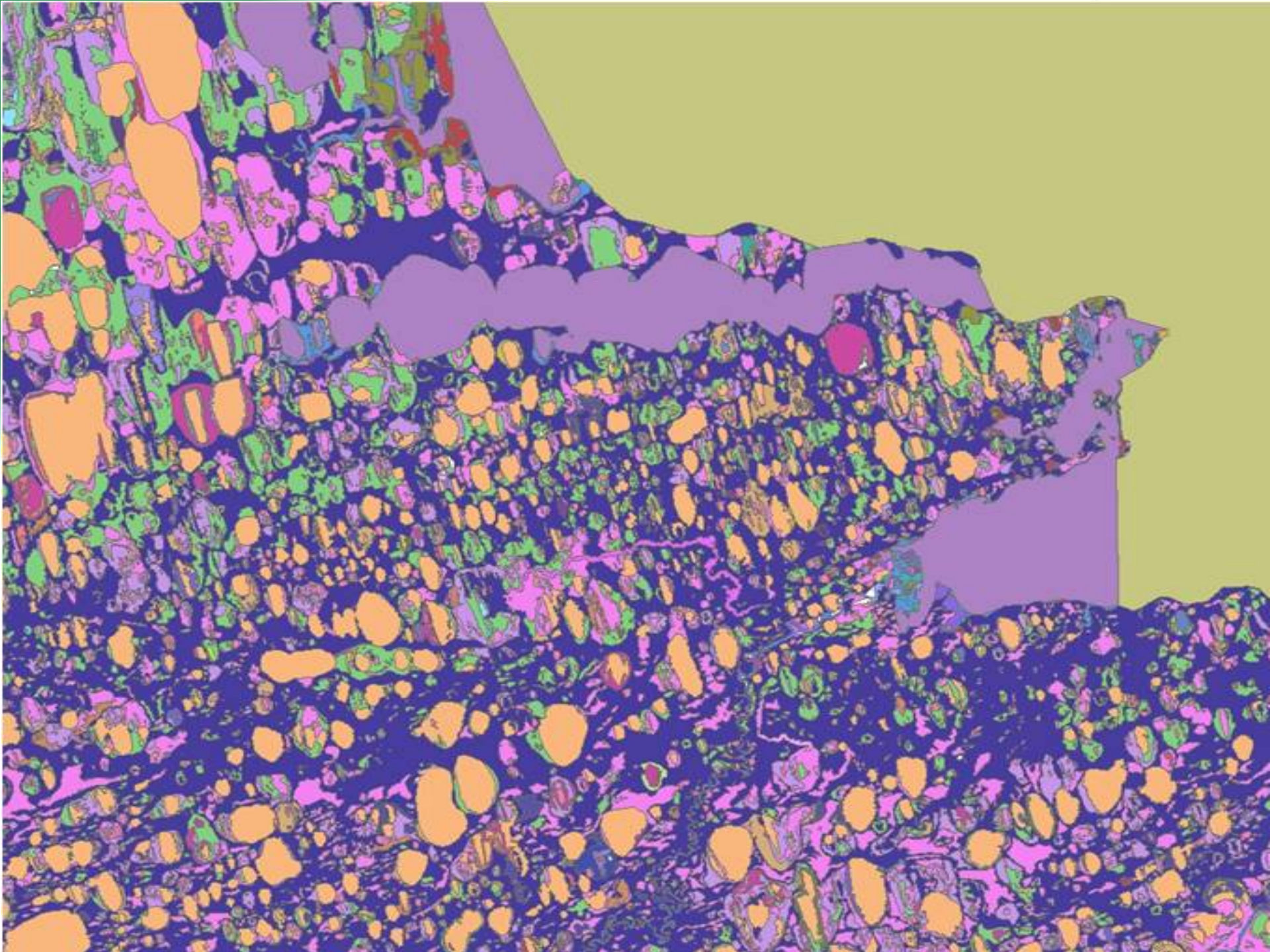
-  Digital Available
-  No Data
-  Paper Draft
-  Paper Final
-  Pending



R7 NWI U.S. Fish and Wildlife Service









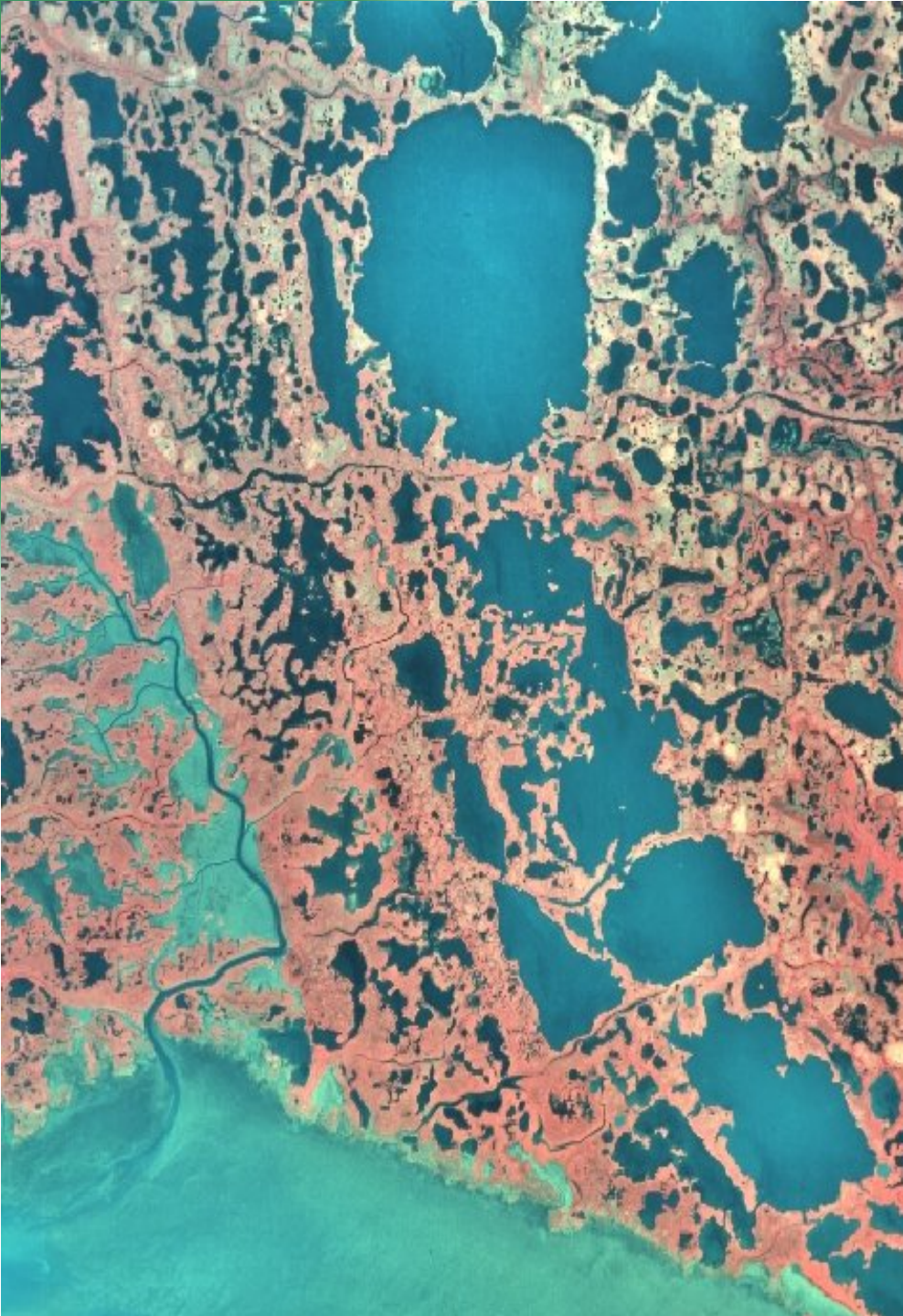
Alaska is the Frontline of Climate Change

Updated wetland mapping is critical:

- habitat inventory e.g. migratory birds
- coastal change: erosion, flooding, storm intensification etc.
- shallow lake draining and drying
- permafrost degradation and thermokarst
- vegetation encroachment and rapid succession











National Wetland Inventory Challenges

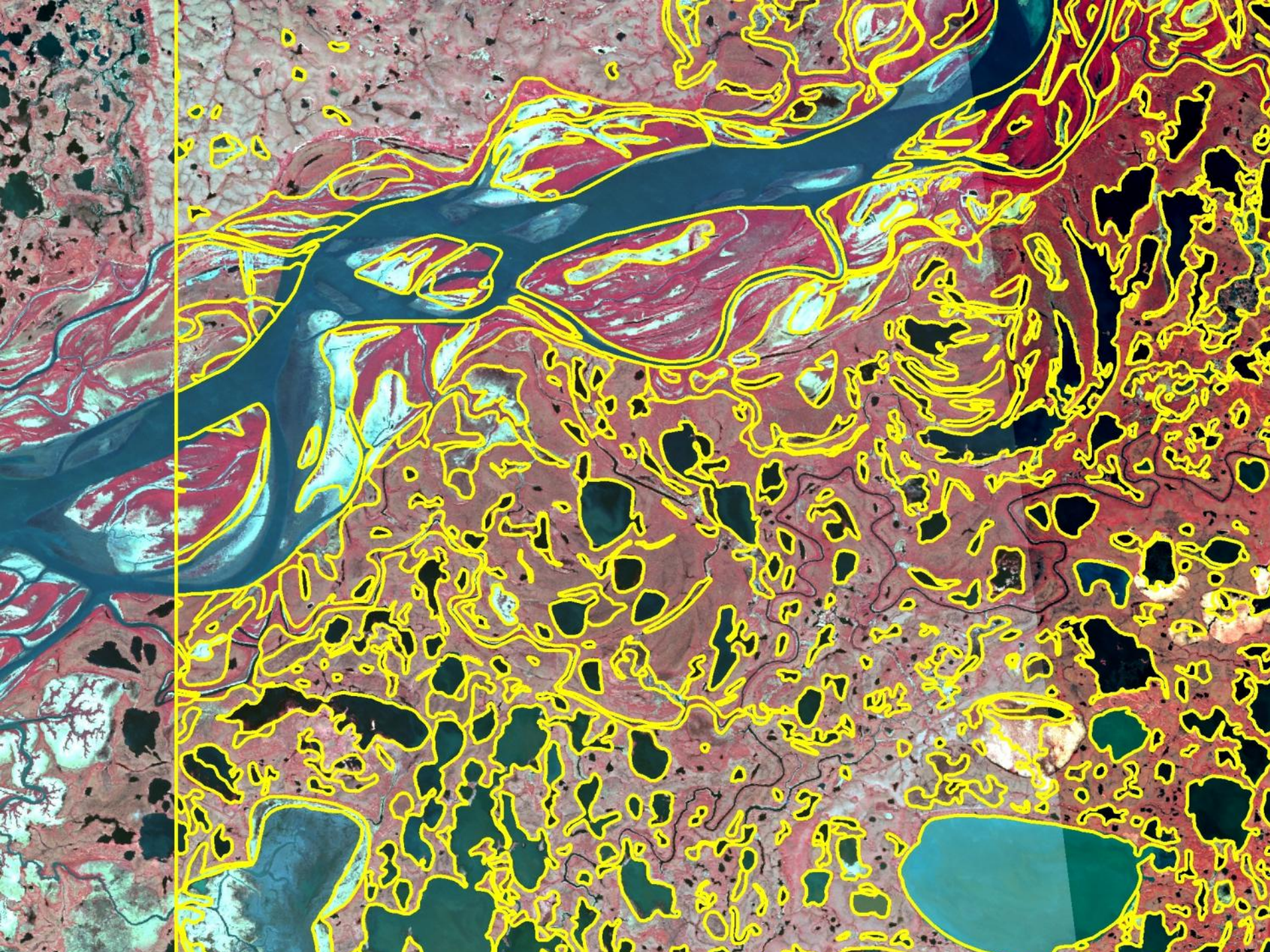
- Extent of land area to be mapped
- Diversity of the Alaska landscape
- Outdated base imagery - 1980's vintage
- Limited collateral data layers and research
- Low resolution digital elevation models
- Availability of multi-agency project funding

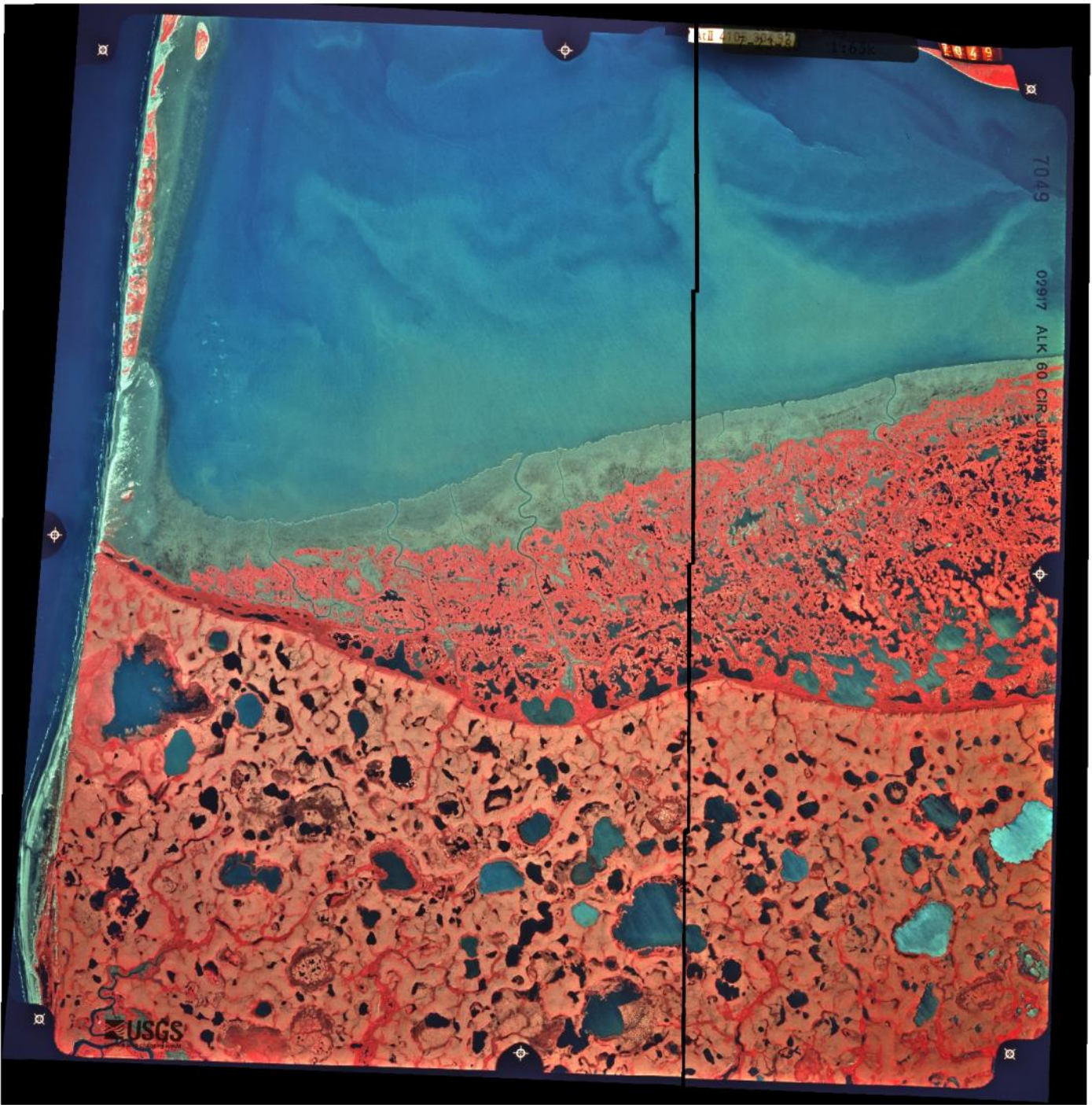


Multi-Scale Investigation of NWI Mapping Techniques

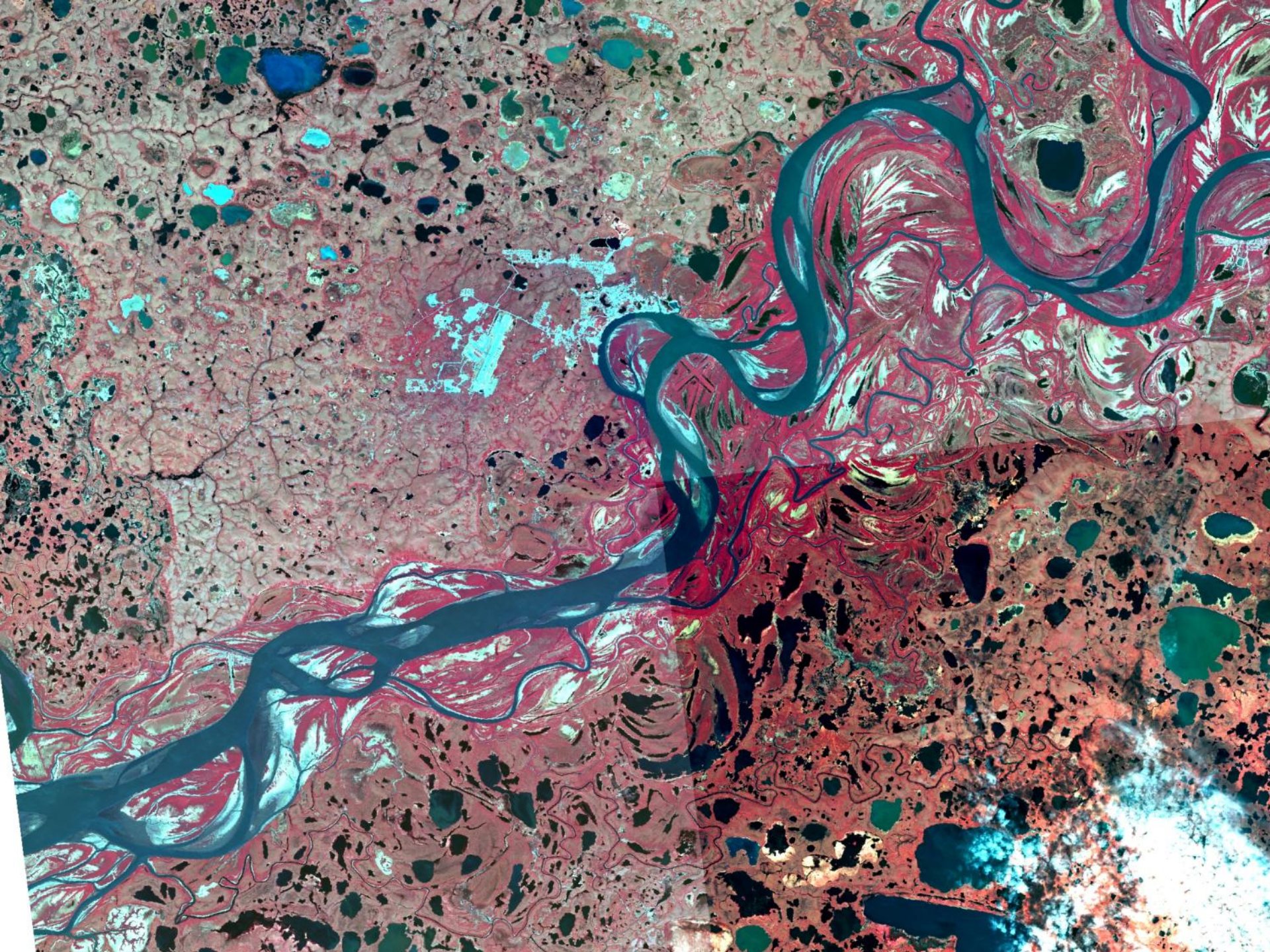
- Traditional image interpretation
- Non-traditional imagery, IKONOS, SPOT, Digital Globe (NGA)
- Various minimum mapping units or on-screen zoom levels (1:5K, 1:18K, 1:30K)
- Generalized Cowardin classification (e.g. class or sub-class level only no water regime or special modifiers)
- Detailed mapping for change assessment







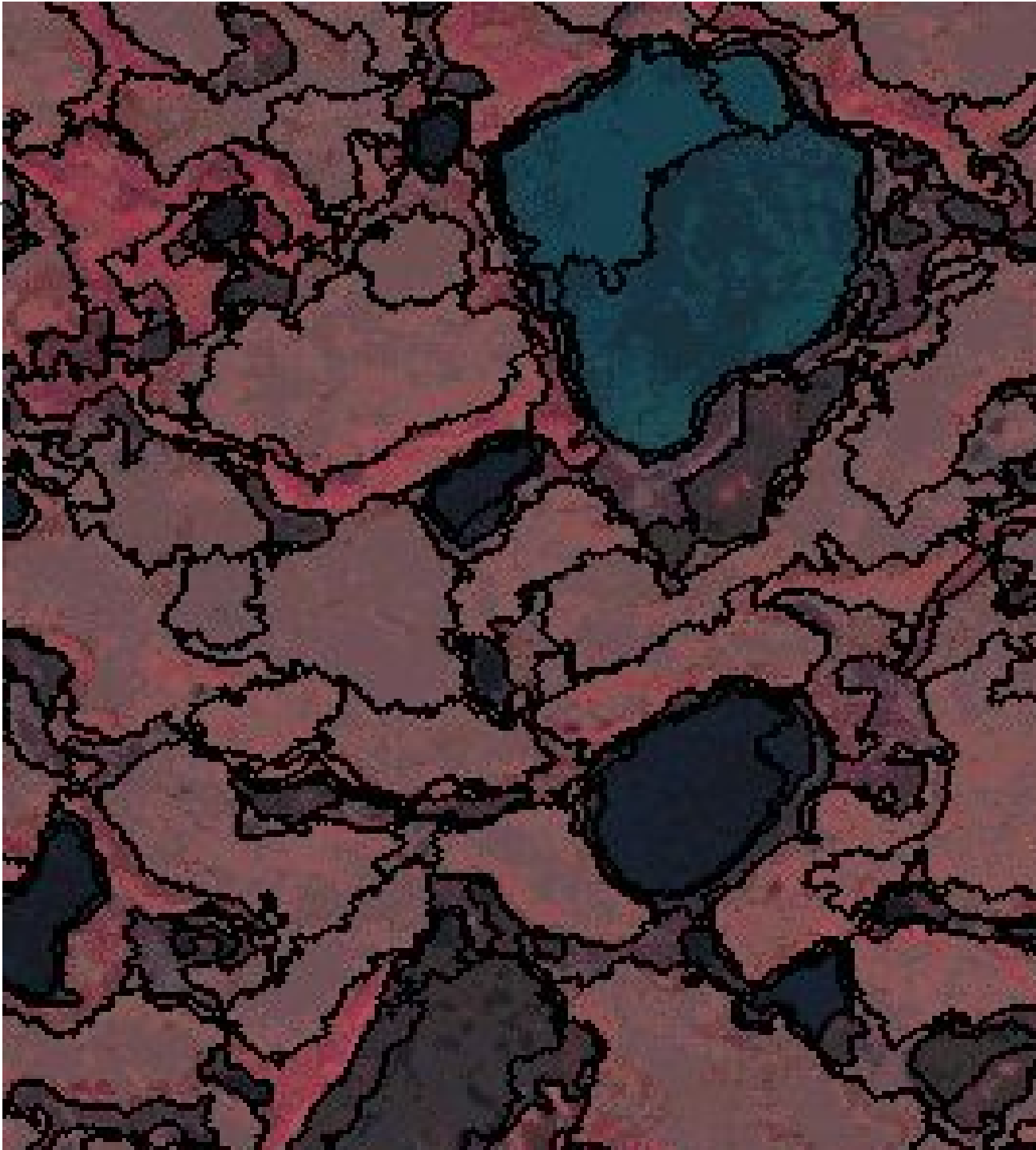


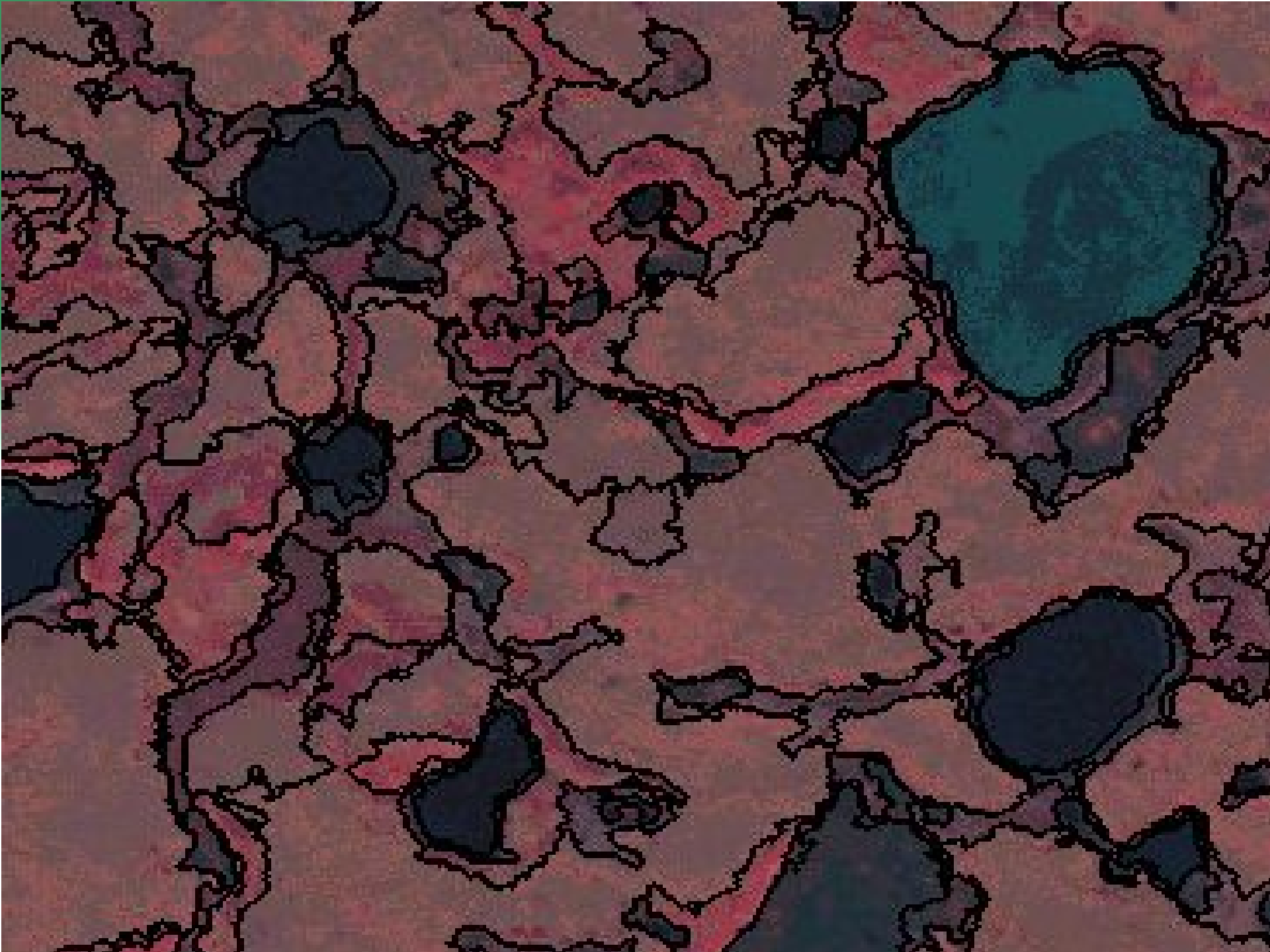


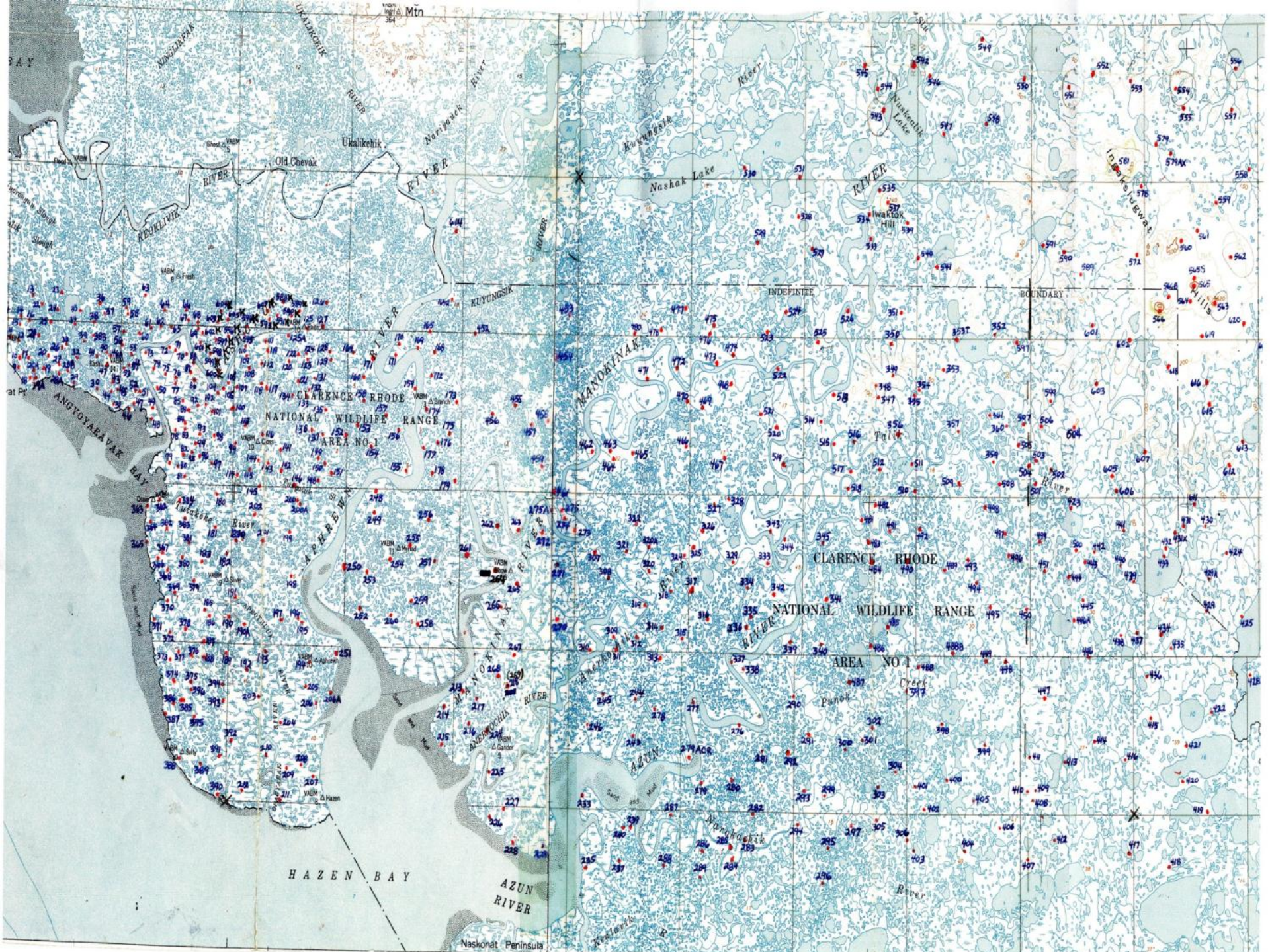
Multi-Scale Investigation of NWI Mapping Techniques

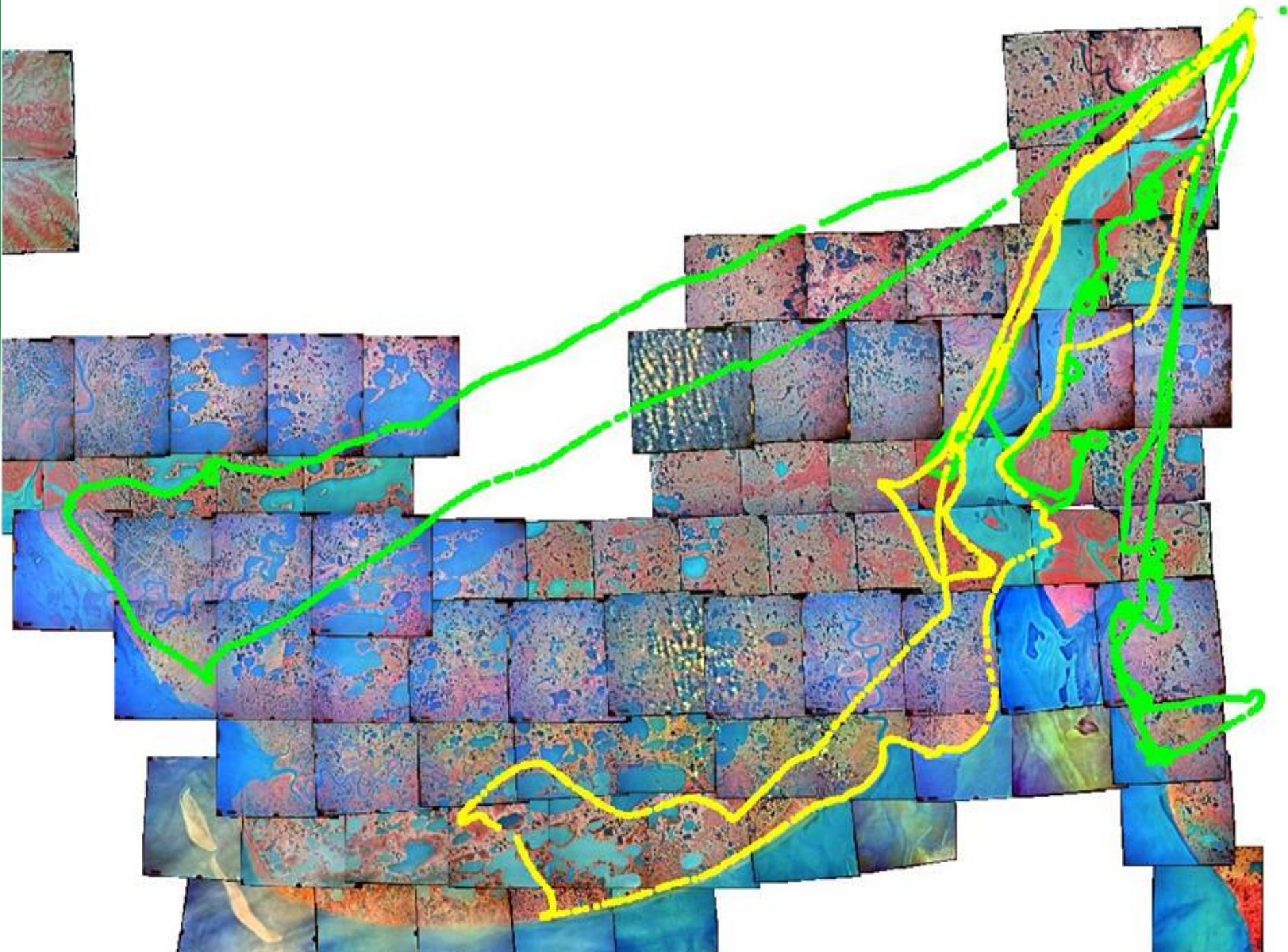
- Automated classification techniques
- Use of as much collateral data as possible including:
 - local vegetation surveys
 - LiDAR data
 - SSURGO, STATSGO
 - surficial geology mapping
- Modeling using CART tools
- Pre-mapping field trip vs. no field investigation













Final Products

- Report documenting all research findings
- NWI delineation for a variety of study locations using various types of imagery
- Set of multi-scale NWI mapping protocols that can be applied across Alaska depending on budget, imagery and collateral data availability



Questions?

