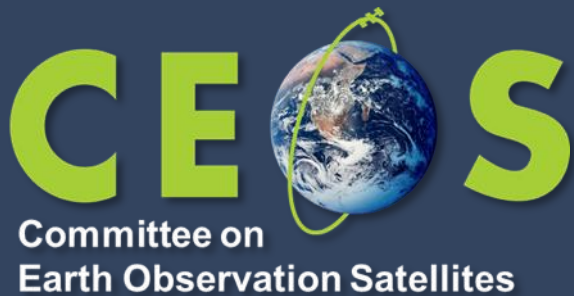


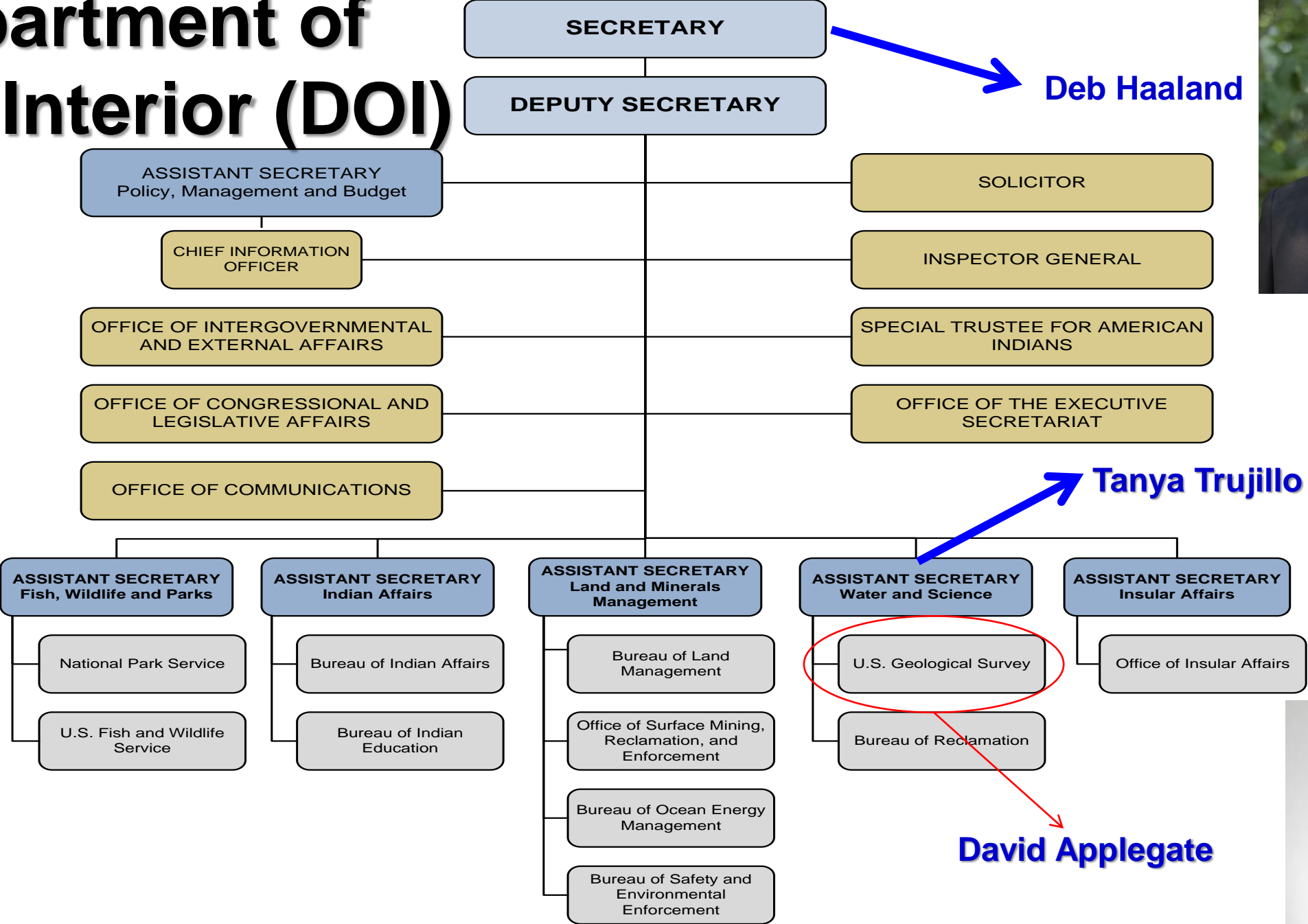
USGS Agency Updates

Celebrating
50
YEARS
of Landsat
1972-2022



Tom Sohre, USGS
USGS: 2022.10.05_11.20
WGISS-54
Tokyo, Japan (JAXA)
3-7 October 2022

Department of the Interior (DOI)



USGS Mission Areas

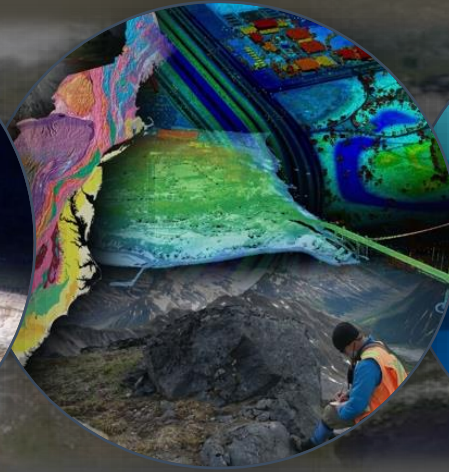
Water Resources



Natural Hazards



Core Science Systems



Ecosystems



Energy and Minerals



Vision

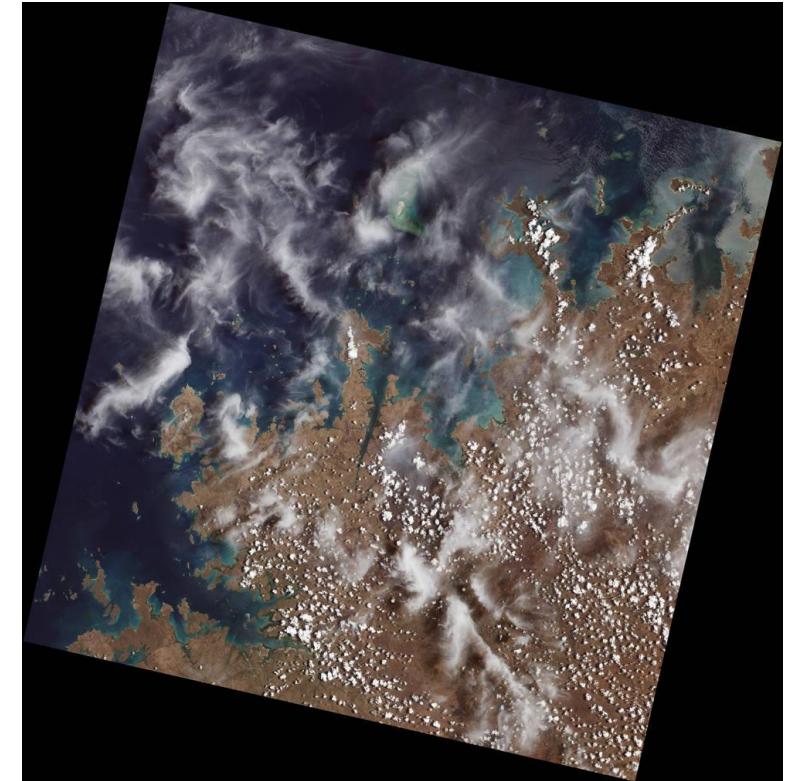
- Lead the Nation in 21st-century integrated research, assessments, and prediction of natural resources and processes to meet society's needs.

Mission

- Monitor, analyze and predict current and evolving dynamics of complex human and natural Earth system interactions
- Deliver actionable intelligence at scales and timeframes relevant to decision makers.

Landsat 9 Launch

Launched from Vandenberg SFB on 27 September 2021



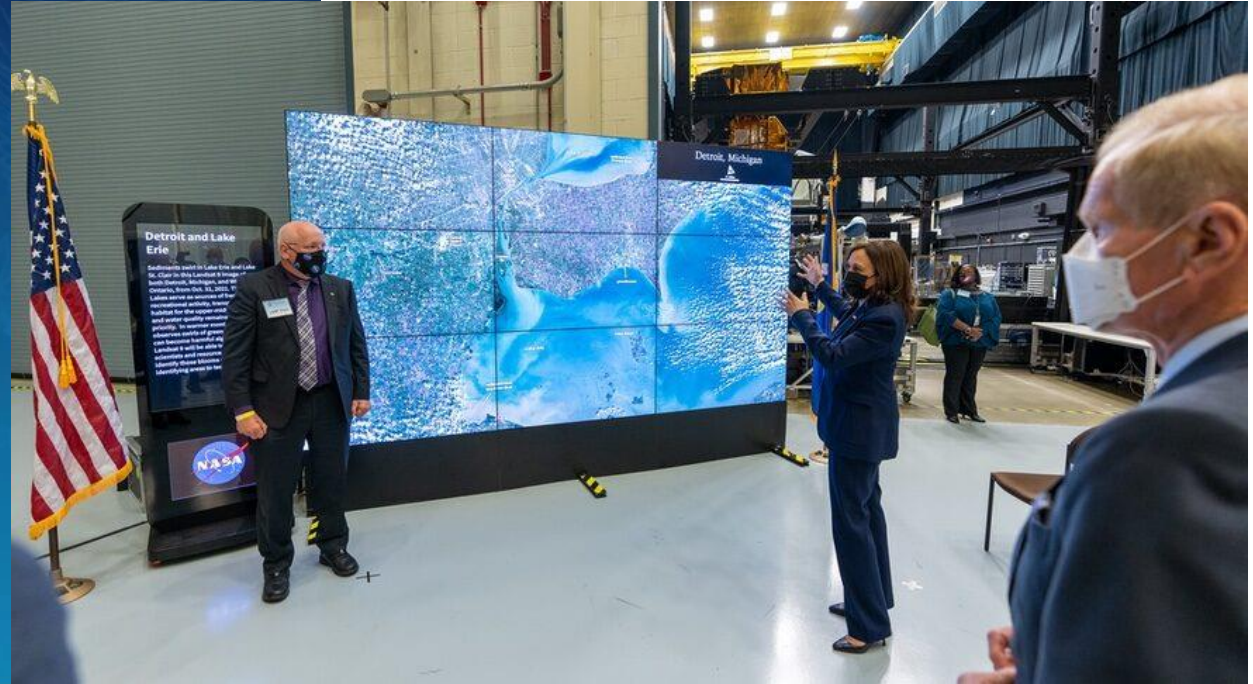
Landsat 9 “First Light” image of an area along the northwest coast of Australia

Vice President Harris Visits NASA GSFC

5 November 2021



and to adapt to the impact.



VP Harris with USGS Director Applegate Viewing OSAM-1 demonstration with Landsat 7 mockup

NASA Goddard Director Andruczyk discussing first Landsat 9 images with VP Harris (view of SE Michigan, NW Ohio, W Lake Erie, and S Lake St Clair)

National Space Council Meeting – 12/1/21



- Convened by Vice President Harris at U.S. Institute of Peace
- Announced new **Executive Order** renewing the Council; adds Interior, Agriculture, Labor, Education, and the National Climate Advisor
- Released **Space Priorities Framework** synchronizing civil, commercial and national security space communities::



“The United States will advance the development and use of space-based Earth observation capabilities that support action on climate change...”

Note: The US Global Change Research Program identified Landsat as a critical observatory for climate and environmental change research due to the unbroken length of the Landsat record and its ability to monitor remote regions with surface features such as glaciers, rainforests, permafrost, and coral reefs.

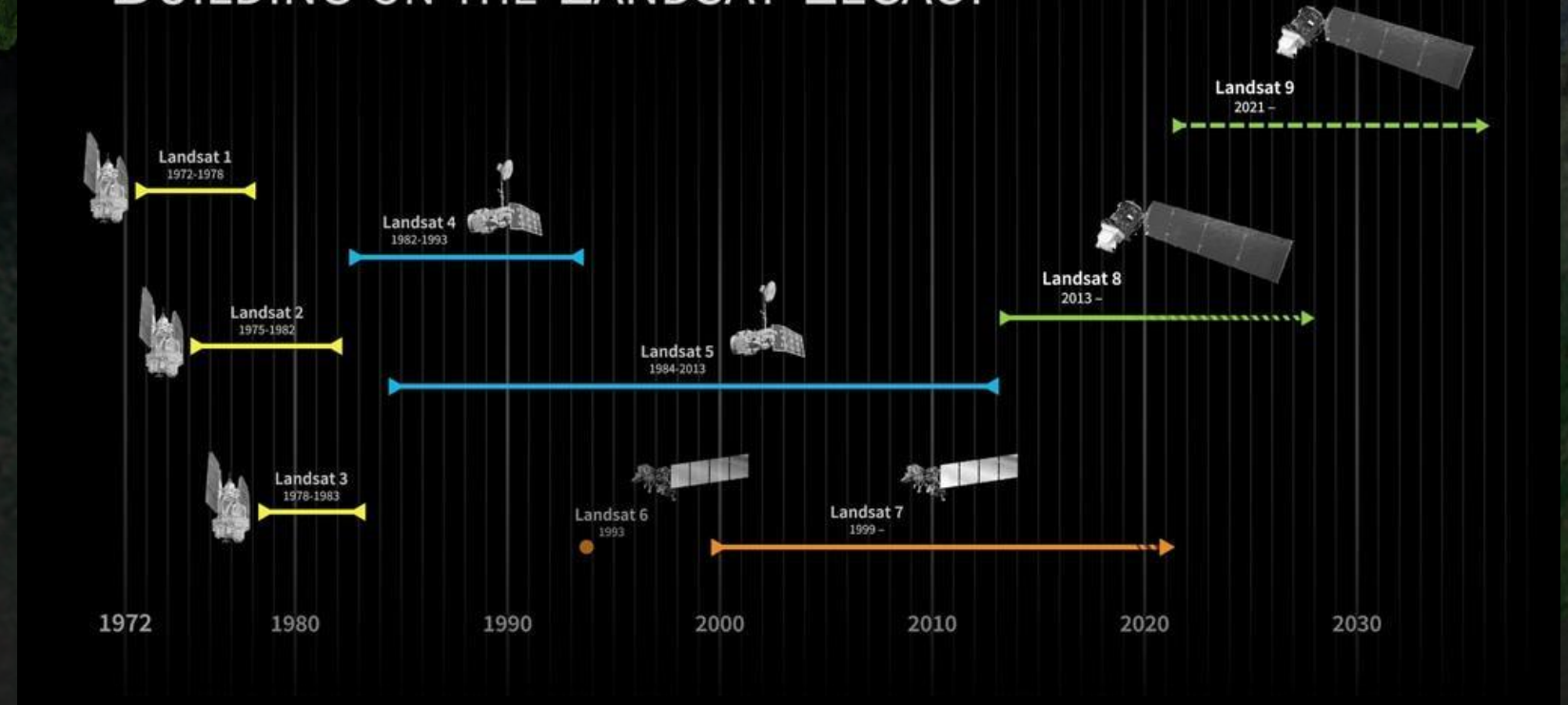
Sustainable Land Imaging

A partnership between DOI/USGS and NASA to ensure sustained access to high-quality, global, land-imaging measurements compatible with the existing 50-year Landsat record for research and operational users

- NASA responsible for developing the space segment, launch and on-orbit check-out
- DOI/USGS responsible for developing the ground segment, flight and ground system operations



BUILDING ON THE LANDSAT LEGACY



- Nearly five-decade record of land cover, land use, and vegetation condition
- Large area coverage for global, continental and regional land cover studies
- Landsat remains the most cited land remote sensing system in the peer-reviewed scientific literature—and the citation rate is increasing

Landsat Operations Status

Landsat 9 (2021 -)

Collecting more than 700 new scenes per day; full mission transition to USGS this week

Landsat 8 (2013 -)

Collecting more than 700 new scenes per day; night and off-nadir imaging of volcano and fire imaging.

Landsat 7 (1999 - 2022)

Recently lowered into storage orbit; awaiting NASA satellite rendezvous and refueling

Landsat Archive Operations

10 million unique Landsat scenes available in the near 50-year archive, with well over 100 million downloads since Landsat data become freely available in 2008.

“Collection 2” available on the Amazon Cloud.



Earth Resources Observation and Science Center (EROS)



Landsat Collection 2

Released in the Commercial Cloud – May 2021



- Improved radiometry, geometry, metadata, and access
- New tools for search and discovery
- CEOS-ARD/CARD4L-Compliant
- Continued growth in Landsat data access via more efficient processes



- Analyzing unmet CEOS-ARD/CARD4L PFS *Target-level* requirements
- **Surface Reflectance**
 - 1.1 Traceability
 - 1.2 Metadata Machine Readability
 - 2.9 Terrain Shadow Mask
 - 2.11 Solar and Viewing Geometry
 - 2.12 Terrain Illumination Correction
 - 3.1 Measurement (SI Traceable)
 - 3.2 Measurement Uncertainty
- **Surface Temperature**
 - 1.1 Traceability
 - 1.2 Metadata Machine Readability
 - 1.17 Overall Data Quality
 - 2.8 Solar and Viewing Geometry
 - 3.1 Measurement (SI Traceable)

50 YEARS OF LANDSAT SUCCESS BORNE FROM INT'L PARTNERSHIPS

Year-Long Activities

- Landsat and Social Media Products branded with 50th Anniversary Graphic
- Completion of all Landsat State Fact Sheets and State Mosaics

May

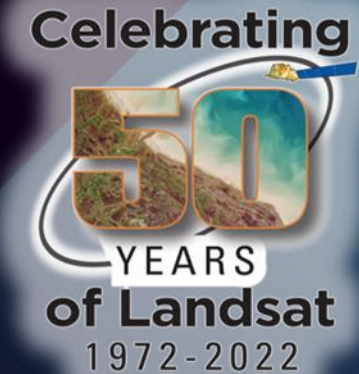
- LGSOWG South Africa – first announcement on IC Network's 50th anniversary

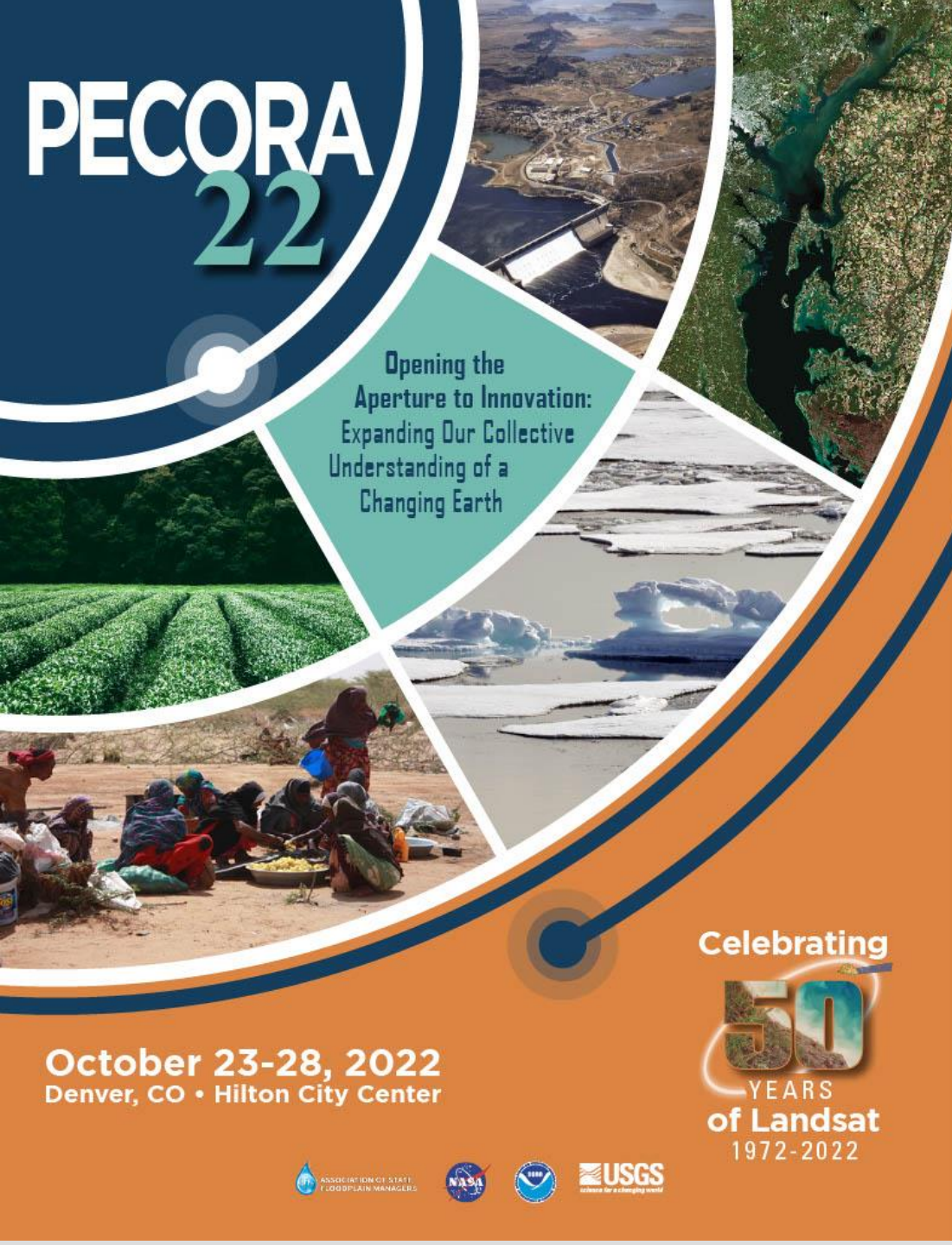
July

- Esri User Conference: July 11–15, 2022 – San Diego, CA – Map Gallery Exhibit
- July Photogrammetric Engineering & Remote Sensing Journal Cover story on Landsat's 50th Anniversary
- Landsat 50th Anniversary Events on Capitol Hill – July 21
- Resolution of Congress honoring Landsat released by the Senate
- Landsat 9 Transition Turnover Event – August 10-11 – EROS-Sioux Falls, SD (slides in backup)
 - Full 2-day schedule of events including tours and special communications products
- Planning exhibits in the National Air & Space Museum and Natural History Museum
- Many 50th Anniversary articles for media and publications
- 50th Anniversary Video and Poster

October

- Pecora-22: October 23 – 28, 2022 – Denver, CO (Theme 50th Anniversary Celebration)





Pecora-22

23-28 October 2022
Denver, Colorado USA



- Flagship land-imaging satellite applications conference; longstanding USGS-NASA partnership
- Highlights Landsat's 50th anniversary
- Features Landsat 9, Landsat Next, and the many innovative developments in government and commercial land-imaging programs
- Inviting DOI Secretary Haaland and NASA Administrator Nelson for Plenary & Evening Celebration on 26 October
- **Monday workshop on the Future of International Collaboration**
- **Website: pecora22.org**



THANK YOU!

