

United States Geological Survey

Mission: *Provide reliable scientific information to describe and understand the Earth;* minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.



Ecosystems



Energy and Mineral Resources and Environmental Health



Natural Hazards



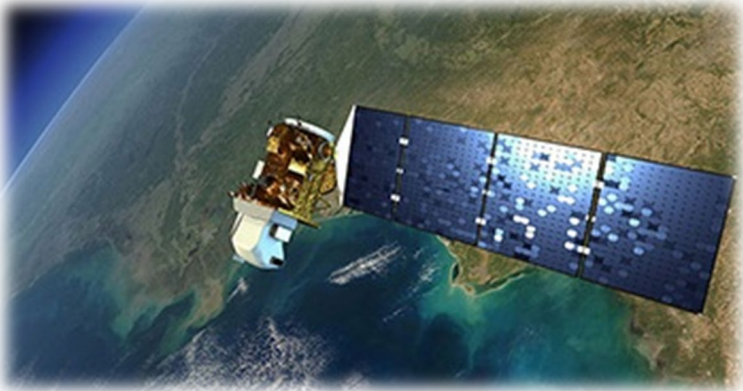
Water Resources



Core Science Systems



Harmonized Landsat/Sentinel-2 (HLS)



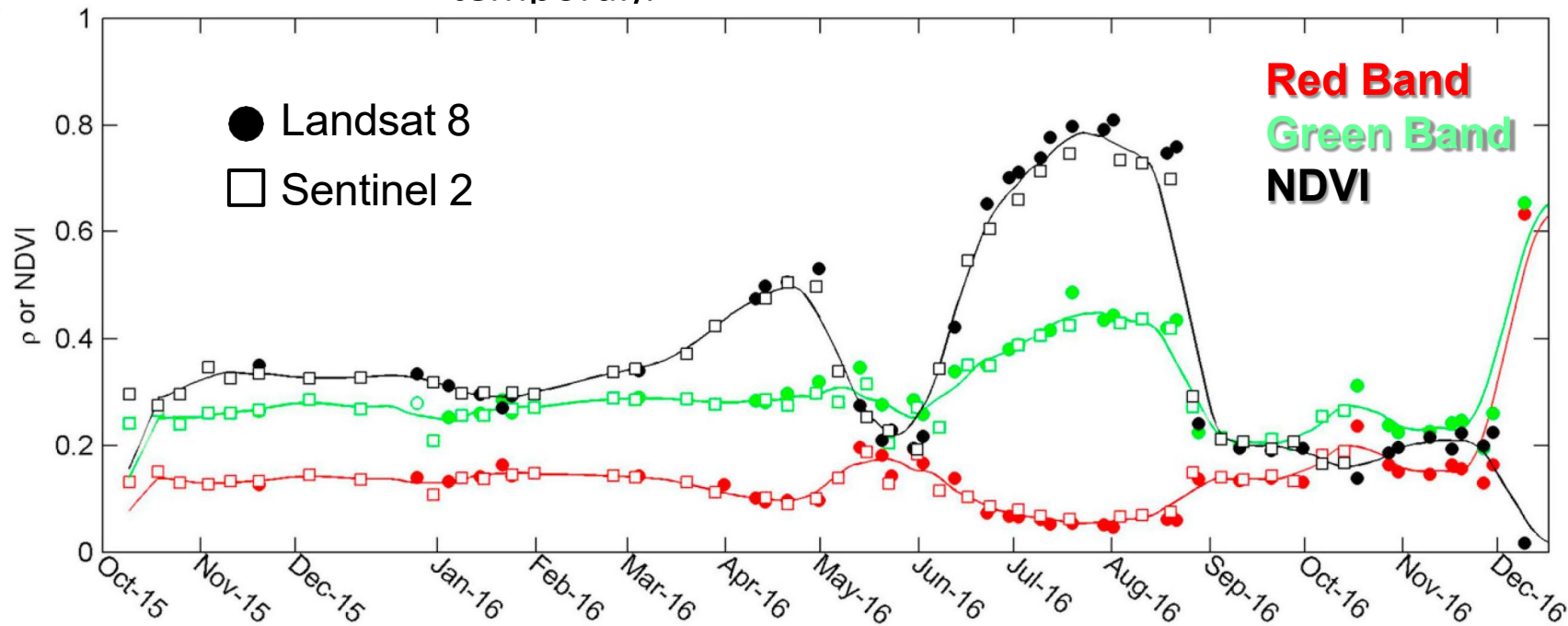
Where do we go next w/harmonization?

- Understanding the utility of different harmonization methods.
- Most fruitful applications (e.g., NRT).
- Extending HLS to L7, L9, other sensors.
- Gaps and limitations that can be addressed.
- Other dimensions to consider (e.g., spatial-temporal).



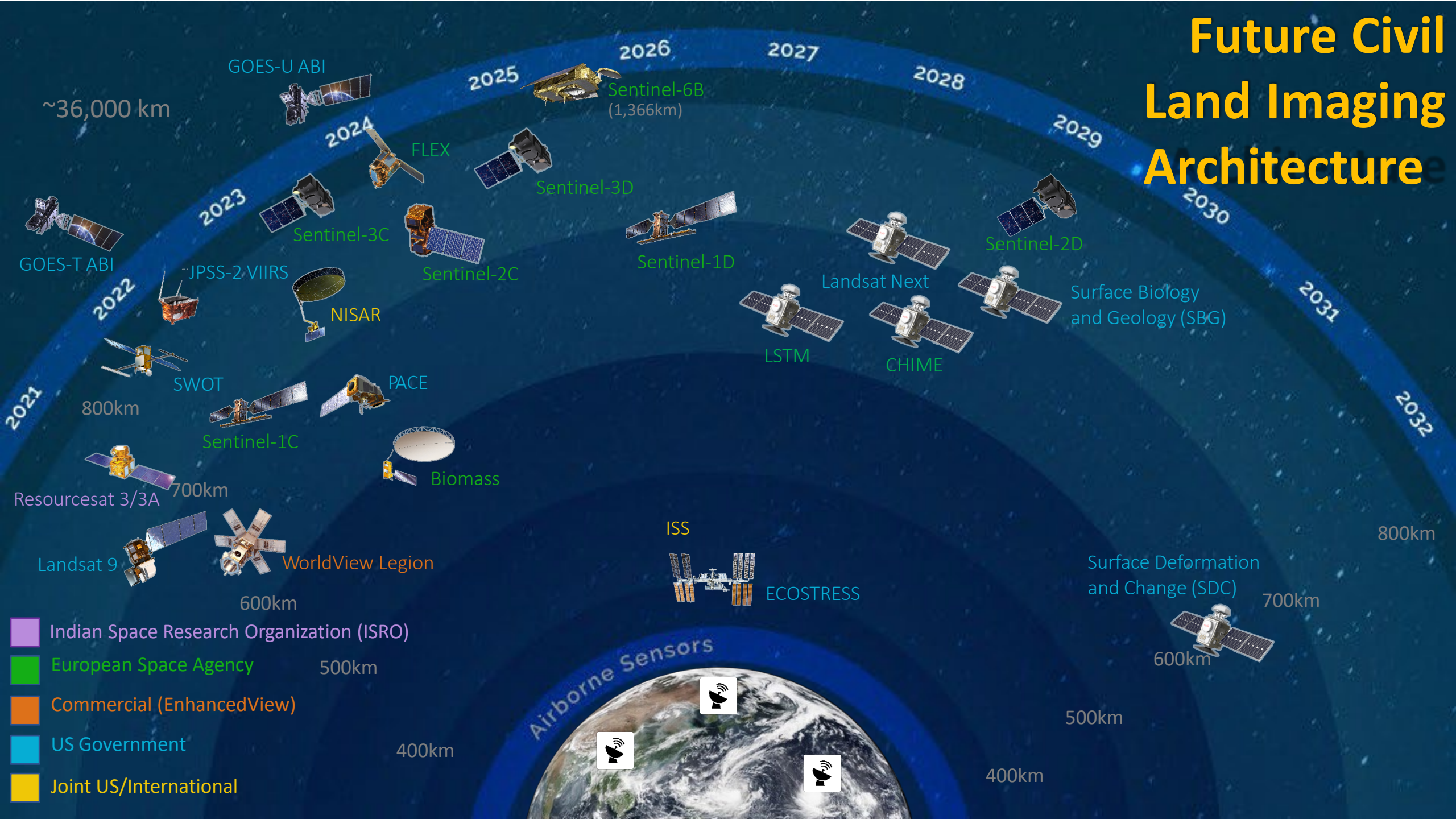
Landsat 8 (USGS)

Sentinel 2 (ESA)



Claverie, M., Ju, J., Masek, J., Dungan, J., Vermote, E., et al. The Harmonized Landsat and Sentinel-2 surface reflectance data set. *Remote Sens. Environ.* 2018.

Future Civil Land Imaging Architecture



- Indian Space Research Organization (ISRO)
- European Space Agency
- Commercial (EnhancedView)
- US Government
- Joint US/International



AI is here.

Application of AI to Earth observation data is a new frontier for EO harmonization and related activities.