Enabling Aerial and Geospatial Data to Aid Agricultural Decision-Making
U.S. Department of Agriculture

Challenge: Create digital tools that provide farmers, ranchers, and researchers with timely access to National Agriculture Imagery Program (NAIP) data to help them make important agricultural and planning decisions.

Executive champion: Denny Skiles, Director, Aerial Photography Field Office, Farm Production and Conservation Business Center, U.S. Department of Agriculture

Problem: Farmers and ranchers are part of a vital infrastructure but are often at the mercy of environmental and economic conditions that are out of their control. Aerial imagery is used as the base to create and update many geospatial datasets and products (e.g., Geospatial Information Systems [GIS]) that are used to support and assist the farming community, citizens, and researchers. NAIP imagery has increased in spatial and spectral resolution over the years. As NAIP increases in quality, the complexity and challenges in usability during the US agricultural growing seasons by farmers and citizens increases due in part to the massive size of the dataset. Thus, such aerial imagery requires robust processing. It can be challenging for those who need timely access to NAIP data to use it to manage farms, farm programs, conservation, and disaster mitigation.

Why this problem matters: Food is a necessity for survival, and our American agriculture system provides food to both the American people and the world. The ability to visualize and develop solutions to catastrophic events such as flooding, tornados, and plant disease, as well as planning considerations such as diminishing agricultural lands, natural resource distribution, disease mapping, and land conservation are key to ensuring the strength and resilience of food supply.

Vision for sprint outcomes: With user-friendly tools, citizens will have timely and reliable access to NAIP imagery for solving geospatial challenges facing farming, conservation, natural resources, and disaster preparedness.

Target end users: Farmers, ranchers, engaged citizens, rural or tribal communities, emergency managers, state and local government, federal agencies, university researchers.

Related open data sets:
- NAIP public image service (link)
- NAIP public image dates (link)
- USGS National Map (link)

Lead POCs:
- Joan Biediger, Cartographer, USDA
- Zachary Adkins, Geospatial Services Branch Chief, USDA
- John Mootz, Imagery Program Manager, USD