Workflow

STEP 1

Research Question

What question are you trying to answer?

Also consider:
- Geographic Area
- Geographic Scale
- Size of Objects you want to Detect
- Time Scale
- How Often do You Need Images?
- Start & End Dates
- Time of Day
- Wavelengths
- Budget

Do a literature review.

STEP 2

Obtain Images

Select datasets that meet the needs you outlined in Step 1.

Existing Images:
- Aerial Photography
- Satellite Imagery
- Maps

Collect Your Own:
- Drone
- Kite or Balloon
- Contract with an aerial photography company
- Schedule a satellite company

Combine Existing & New Data

STEP 3

Image Processing

Prepare your data for analysis

You might:
- Crop/Mask
- Stitch/Mosaic
- Calculate Indexes
- Build 3D Models

STEP 4

Interpretation & Measurements

Match your workflow to the needs you outlines in Step 1.

Take a course, read journal articles or text books, or learn from a colleague to develop the analysis skills you need to apply to the data to answer your question.

Examples

Question: How has the size of a single beach in California changed over time?	Datasets: Historic Aerial Images Historic USGS Topo Maps Landsat Imagery	Processing: Stitch Photos Crop Satellite Data	Measurements: Area of Beach Polygons Transect Length
Question: What is the current extent of mangroves in Florida?	Datasets: Recent Landsat Imagery	Processing: Mosaic Satellite Data	Measurements: Pixel Classification through Supervised Classification
Question: How do fertilizer application methods affect plant growth in an agicultural setting?	Datasets: Drone Imagery taken at different stages of crop development over fields with different treatments	Processing: Stitch Photos Calculate NDVI	Measurements: Develop threshold for NDVI Count pixels in each NDVI category