Point Classification Instructions

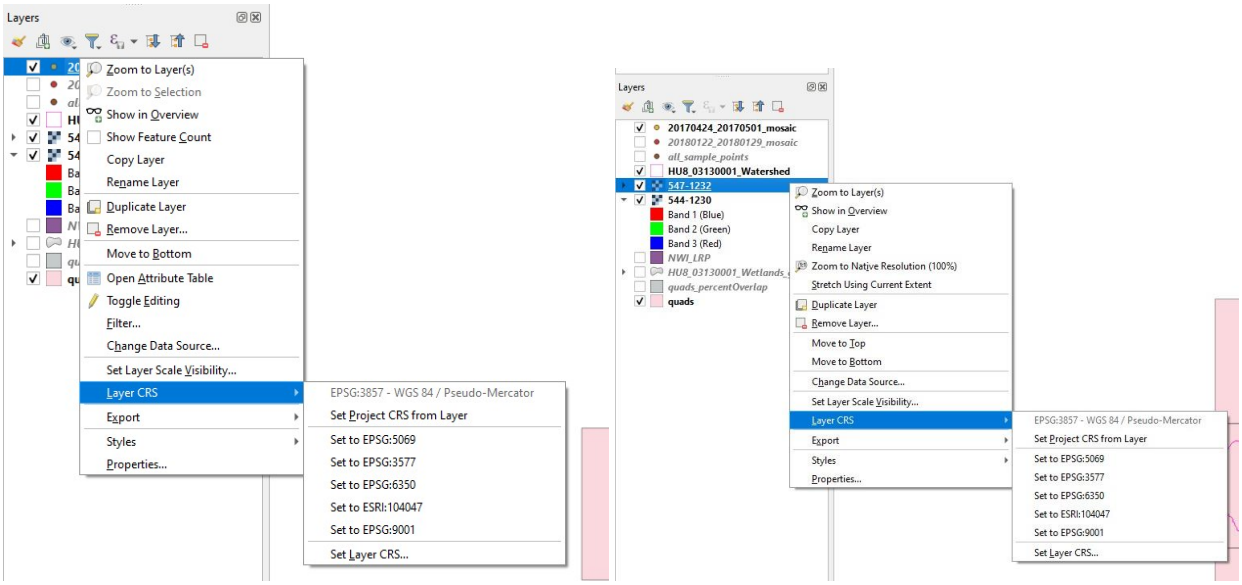
Set-up:

Download QGIS and open the shared GDrive folder (classification_testing). Inside the folder, find the 2 point shapefiles and the 2 rasters.

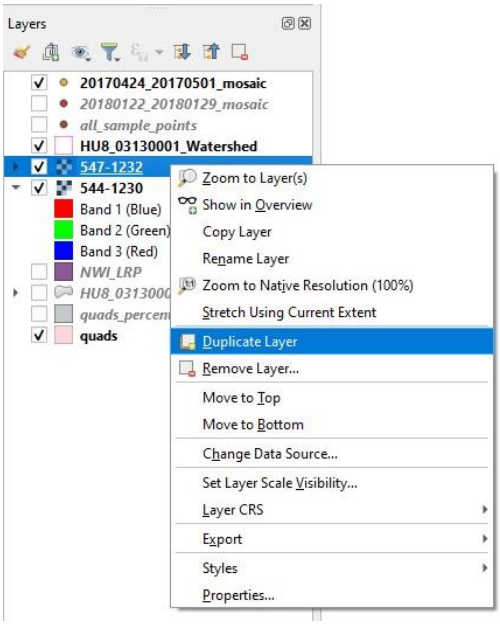
Folder Organization:

- classification_testing
  - » 2017
    - » SPRING
      - » YYYYMMDD_YYYYMMDD_mosaic
        - » XXX_XXXX.tif
        - » YYYYMMDD_YYYYMMDD_mosaic.shp

Load the shapefile and respective raster into QGIS and double check they have the same projection.



Make a duplicate of the raster.



Set the symbology on one raster to FALSE color and the symbology on the other to TRUE color. (Leave all other symbology settings as they are.)

To set the symbology, go to “Properties…” >>> “Symbology” >>> “Render type: Multiband color”.

FALSE color setup:

Multiband color

Red band: Band 4 (NIR)

Green band: Band 3 (Red)

Blue band: Band 2 (Green)

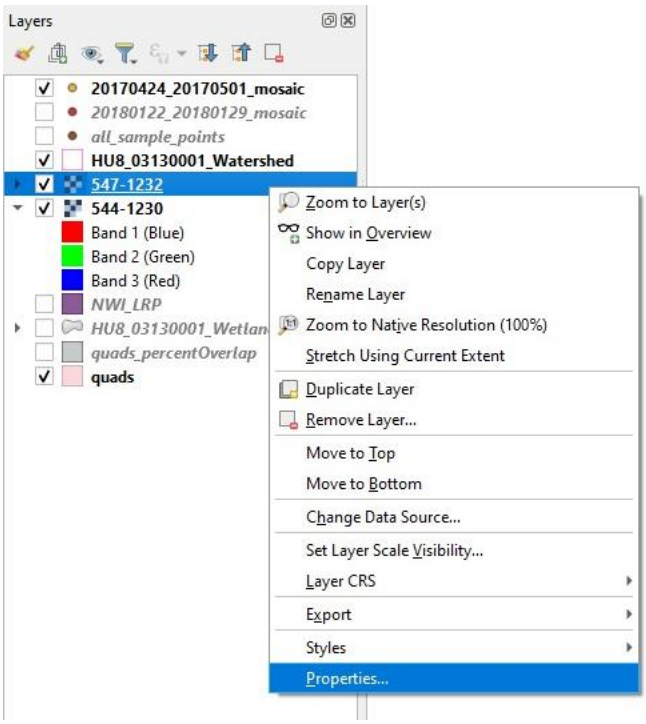
TRUE color setup:

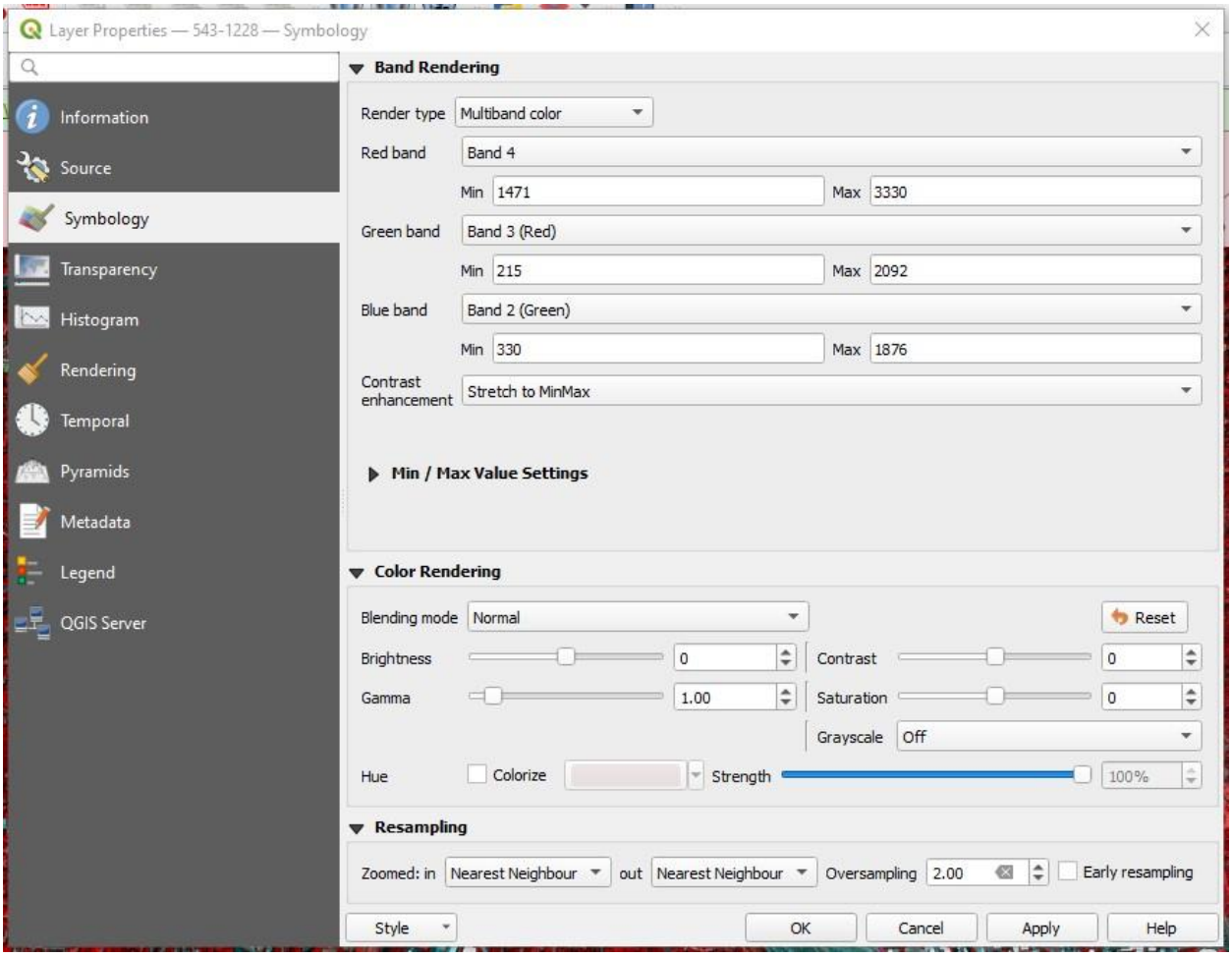
Multiband color

Red band: Band 3 (Red)

Green band: Band 2 (Green)

Blue band: Band 1 (Blue)


Layers
20170424_20170501_mosaic
20180122_20180129_mosaic
all_sample_points
HU8_03130001_Watershed
547-1232
544-1230
Band 1 (Blue)
Band 2 (Green)
Band 3 (Red)
NWI_LRP
HU8_03130001_Wetlan
quads_percentOverlap
quads
Zoom to Layer(s)
Show in Overview
Copy Layer
Rename Layer
Zoom to Native Resolution (100%)
Stretch Using Current Extent
Duplicate Layer
Remove Layer...
Move to Top
Move to Bottom
Change Data Source...
Set Layer Scale Visibility...
Layer CRS
Export
Styles
Properties...

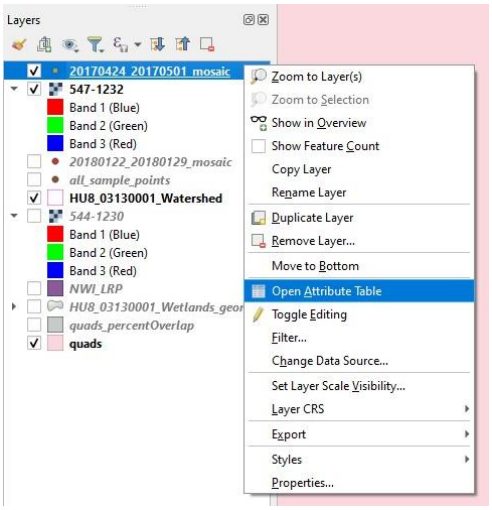

Layer Properties — 543-1228 — Symbology
Information
Source
Symbology
Transparency
Histogram
Rendering
Temporal
Pyramids
Metadata
Legend
QGIS Server
Band Rendering
Render type
Multiband color
Red band
Band 4
Min 1471
Max 3330
Green band
Band 3 (Red)
Min 215
Max 2092
Blue band
Band 2 (Green)
Min 330
Max 1876
Contrast enhancement
Stretch to MinMax
Min / Max Value Settings
Color Rendering
Blending mode
Normal
Reset
Brightness
0
Contrast
0
Gamma
1.00
Saturation
0
Grayscale
Off
Hue
Colorize
Strength
100%
Resampling
Zoomed: in
Nearest Neighbour
out
Nearest Neighbour
Oversampling
2.00
Early resampling
Style
OK
Cancel
Apply
Help

Part 1: Consistency check

Follow the set-up steps.

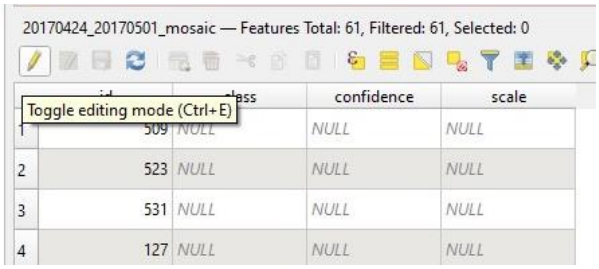
<u>Classify all of the points in each raster as ‘water’, ‘non-water', or ‘null’.</u>

1. Open Attribute Table

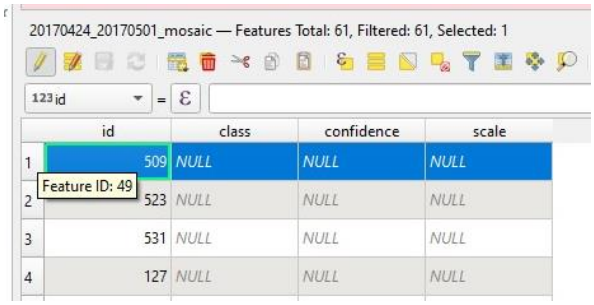


2. Dock Attribute Table

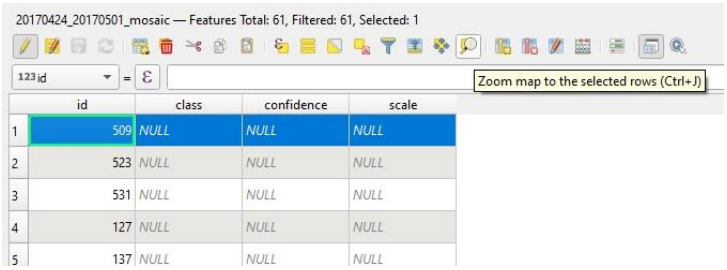
3. Toggle Editing to “On”



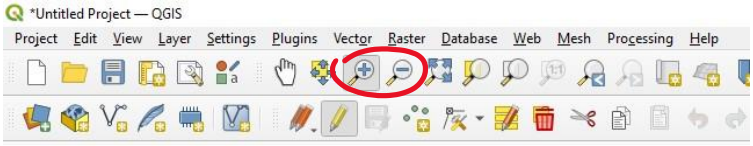
4. Select point



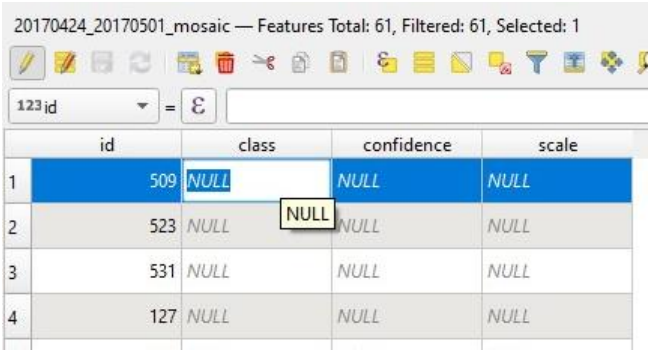
5. Zoom to the selected point



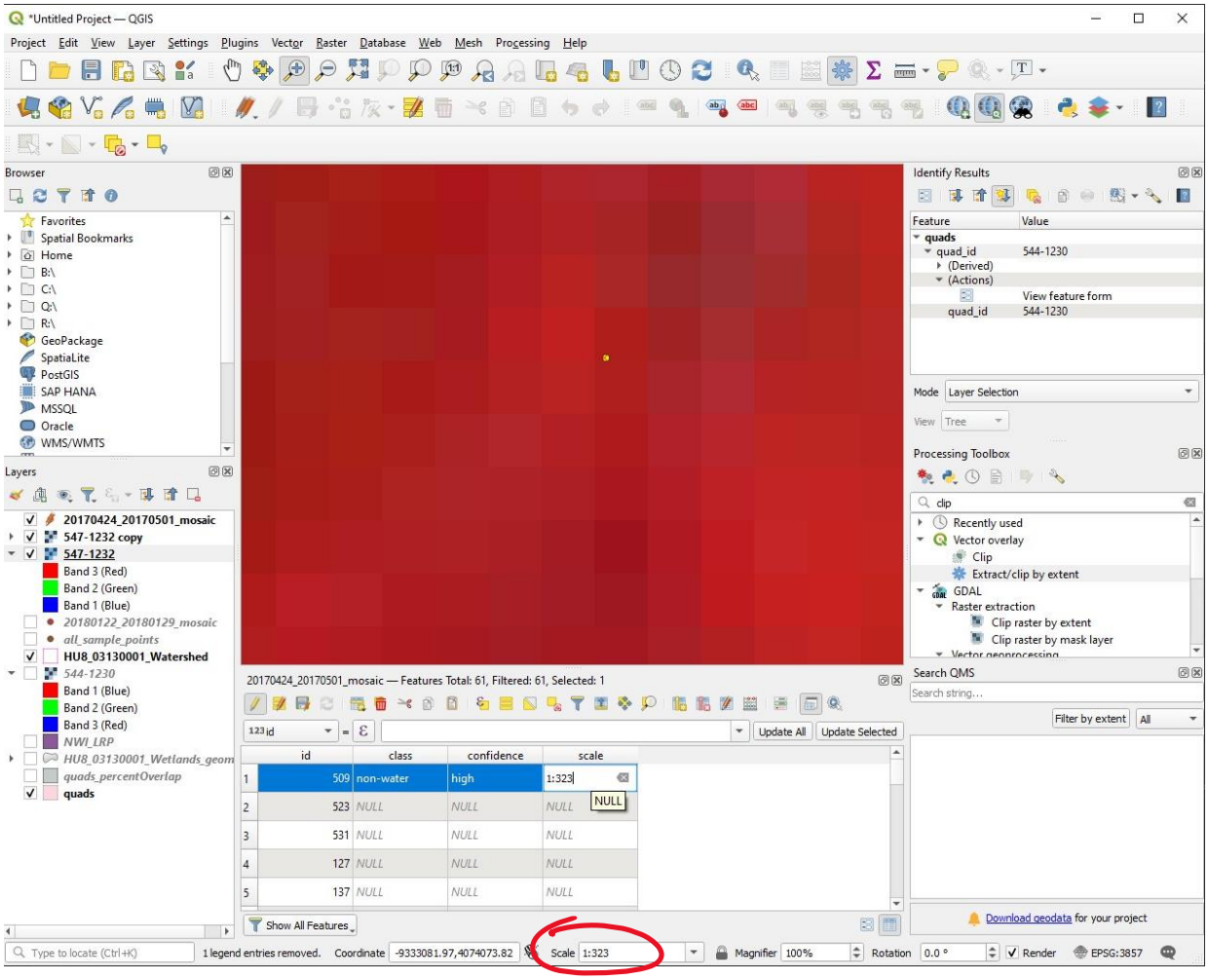
6. Zoom in/out as needed



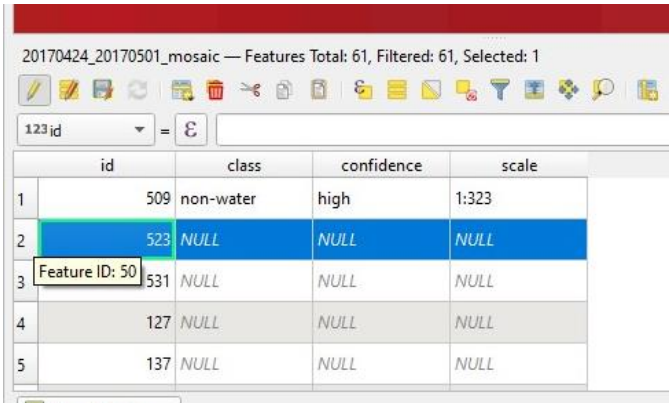
7. Edit the fields with your classification



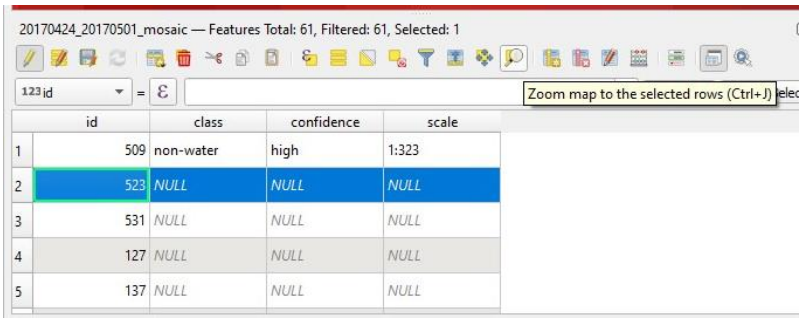
8. Note the scale of your final labeling decision (make sure you can see the actual pixel).



9. Select next point (click on number on far left)

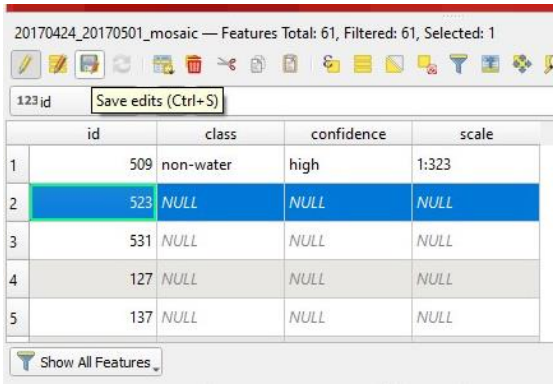


10. Zoom to the selected point and continue



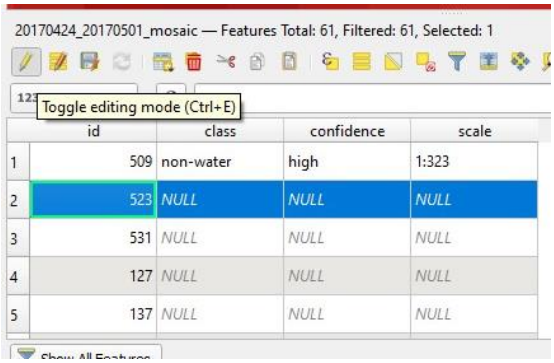
	id	class	confidence	scale
1	509	non-water	high	1:323
2	523	NULL	NULL	NULL
3	531	NULL	NULL	NULL
4	127	NULL	NULL	NULL
5	137	NULL	NULL	NULL

11. Save your edits



	id	class	confidence	scale
1	509	non-water	high	1:323
2	523	NULL	NULL	NULL
3	531	NULL	NULL	NULL
4	127	NULL	NULL	NULL
5	137	NULL	NULL	NULL

12. Toggle editing “off”



	id	class	confidence	scale
1	509	non-water	high	1:323
2	523	NULL	NULL	NULL
3	531	NULL	NULL	NULL
4	127	NULL	NULL	NULL
5	137	NULL	NULL	NULL

Rename the shapefile by adding you initials at the end and upload it to the shared folder.

Compare your classification with the other classifications.

Discuss differences between classifications and decide on how to assess points for consistency between people.

Part 2: Full classifications

Rules for Consistency (post Part 1 meeting):

- Zoom in and out to get context on the surrounding area.
    - Pixels in urban areas are more likely to have cloud shadows
    - The brightness of colors can change from season to season (winter is more brown because leaves have fallen)
    - Shallow or silty/turbid water will look different from deep, calm water (the former will be more brown in TRUE color and bright blue in FALSE color)
- If you are looking at a **mixed pixel** along a water body, lean towards classifying it as water
- Final decision zoom level 1:500
- Basemaps: Do not use.
    - Stick with just the TRUE and FALSE color mosaics.
    - I checked with Mirela, and because of the time difference in the imagery and the geolocation uncertainty (uncertainty about overlap), using basemaps can add more error than it helps.

Repeat set-up steps and point classifications, with updated rules for consistency, for all rasters.

Each mosaic folder will have its own unique shapefile labeled "YYYYMMDD_YYYYMMDD_mosaic_points.shp" with the specific points that are covered by the rasters in the mosaic. Each mosaic folder will have a maximum to 10 rasters.

Mosaic Assignments:

Darcy:

./PlanetBasemaps\2017\FALL\20170918_20170925_mosaic
./PlanetBasemaps\2017\FALL\20170925_20171002_mosaic
./PlanetBasemaps\2017\FALL\20171002_20171009_mosaic
./PlanetBasemaps\2017\FALL\20171023_20171030_mosaic
./PlanetBasemaps\2017\FALL\20171113_20171120_mosaic
./PlanetBasemaps\2017\SPRING\20170313_20170320_mosaic
./PlanetBasemaps\2017\SPRING\20170508_20170515_mosaic
./PlanetBasemaps\2017\SUMMER\20170605_20170612_mosaic
./PlanetBasemaps\2017\SUMMER\20170626_20170703_mosaic
./PlanetBasemaps\2017\SUMMER\20170814_20170821_mosaic
./PlanetBasemaps\2017\WINTER\20180205_20180212_mosaic
./PlanetBasemaps\2019\FALL\20190923_20190930_mosaic
./PlanetBasemaps\2019\FALL\20191007_20191014_mosaic
./PlanetBasemaps\2019\FALL\20191111_20191118_mosaic
./PlanetBasemaps\2019\SPRING\20190225_20190304_mosaic
./PlanetBasemaps\2019\SPRING\20190506_20190513_mosaic
./PlanetBasemaps\2019\SPRING\20190520_20190527_mosaic
./PlanetBasemaps\2019\SUMMER\20190610_20190617_mosaic
./PlanetBasemaps\2019\SUMMER\20190701_20190708_mosaic
./PlanetBasemaps\2019\WINTER\20191125_20191202_mosaic
./PlanetBasemaps\2019\WINTER\20191202_20191209_mosaic
./PlanetBasemaps\2019\WINTER\20191216_20191223_mosaic
./PlanetBasemaps\2019\WINTER\20191223_20191230_mosaic
./PlanetBasemaps\2019\WINTER\20191230_20200106_mosaic

Henry:

./PlanetBasemaps\2017\FALL\20171009_20171016_mosaic
./PlanetBasemaps\2017\SPRING\20170327_20170403_mosaic
./PlanetBasemaps\2017\SPRING\20170403_20170410_mosaic
./PlanetBasemaps\2017\SPRING\20170410_20170417_mosaic
./PlanetBasemaps\2017\SPRING\20170424_20170501_mosaic
./PlanetBasemaps\2017\SUMMER\20170529_20170605_mosaic
./PlanetBasemaps\2017\SUMMER\20170724_20170731_mosaic
./PlanetBasemaps\2017\SUMMER\20170821_20170828_mosaic
./PlanetBasemaps\2017\WINTER\20171127_20171204_mosaic
./PlanetBasemaps\2017\WINTER\20171211_20171218_mosaic
./PlanetBasemaps\2017\WINTER\20180108_20180115_mosaic
./PlanetBasemaps\2017\WINTER\20180122_20180129_mosaic
./PlanetBasemaps\2017\WINTER\20180219_20180226_mosaic
./PlanetBasemaps\2019\FALL\20190902_20190909_mosaic
./PlanetBasemaps\2019\FALL\20190930_20191007_mosaic
./PlanetBasemaps\2019\FALL\20191118_20191125_mosaic
./PlanetBasemaps\2019\SPRING\20190304_20190311_mosaic
./PlanetBasemaps\2019\SPRING\20190318_20190325_mosaic
./PlanetBasemaps\2019\SPRING\20190422_20190429_mosaic
./PlanetBasemaps\2019\SUMMER\20190624_20190701_mosaic
./PlanetBasemaps\2019\SUMMER\20190708_20190715_mosaic
./PlanetBasemaps\2019\SUMMER\20190722_20190729_mosaic
./PlanetBasemaps\2019\SUMMER\20190729_20190805_mosaic
./PlanetBasemaps\2019\WINTER\20200217_20200224_mosaic