S.J. & JESSIE E. QUINNEY
COLLEGE *of*
NATURAL RESOURCES
UtahState University

Lab 05 – On Your Own

This is sort of a test….., well, not really a "test"…., just want to see where we are..

As usual, visualize your output and provide a link to your script (or share your Repository with me as "Writer".)

For Northern Utah (or you can choose somewhere else):

var fc =ee.Geometry.Rectangle([-113.0785, 41.1063, -111.0461, 42.0004]);

Write a script that will use Landsat 8 surface reflectance imagery to identify fire scars for each year from 2015 – 2020. Convert each year's burn index to a binary image representing burned vs. non-burned areas and color the burned areas red.

You have all of the tools to do this in your previous lab assignments including:

- Filtering image collections by year and location

- Calculating normalized difference indices.

- Using the .map() command to invoke functions that will mask every image in your collection for clouds and also to add a normalized difference index as a separate band.

- After you have added the burn index to the collection, you can select only that layer for every image in the collection.

- You have used reducers like .median() and .mean() to reduce collections into a single image (hint, I would use .max() here)

- Clipping images based on a polygon (e.g. the rectangle I defined above)

- Adding an appropriate color ramp.

- Displaying the resulting image

- Using the "**Inspector**" to sample pixels

As you do this for a given year, think about the logic behind your work. For instance:

- Where should your date range begin and end, and why?

- What do you want to extract from the image and what's the best logic to use?

For every year, covert the NDBR index to a binary fire/nofire image. You've done this already in Lab 4, but here's the code snippet since you have not practiced it as much:

var fireMask = NDBRmax.lt(-0.2); // create a mask for burned areas

var fireOnly = NDBRmax.mask(fireMask); // apply the mask to the burn image

var fireBinary = fireOnly.divide(fireOnly);

R. Douglas Ramsey
Dept. of Wildland Resources
Quinney College of Natural Resources
Utah State University
Logan, Utah 84322-5230
doug.ramsey@usu.edu

Q1:   Why did I use .lt(-0.2) to generate my fireMask?? What does this do functionally and how did I come up with -0.2??

Q2:   Why would I divide the fireOnly layer by itself?

Q3:   What problems do you see with your result? How would you correct some of these problems?

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