

3a. Because the eigenimage only contains 3,5,6 bands. In the spectral reflectance curve, we will only focus on those three bands. According to the Factor loading table, July 15 bands 4 and 6 are contrasted with the other band. The thing that has higher reflectance on July 15 band 3 and band 6 will result in a lower number. The water has higher reflectance in green. So water will display low values in DNs. In addition, the vegetation has a high reflectance in July band 5 but a relatively low reflectance in band 3 and 6. So the vegetation will display in a high value. For PC2, Band 6 for both April and July contributed the most to the DNs. So the area with water will have a lower value(only band 3 contributes to the water). For PC3, the April Band 6 has a negative relationship with the DNs number. In this case, the snow which has a low reflectance in band 6 will result in a higher number. In addition, the water that has low reflectance will also result in a higher number.

3b

Yes it supports my interpretation. I set a higher value display as black color(darker) and a lower value display as white(lighter). The vegetation shows a darker value and the water is displayed by a brighter white color in PC1. In PC2, water is shown in white. In PC3, the snow and water are shown in black color.

5. The soil is orange because all of the layers have a high value(high intensity). The vegetation is in green color due to the PC1. The snow is light blue due to PC3 and the water is dark blue due to PC1, PC2 and PC3.(Red: Pc2, Green: Pc1and Blue: PC3). The water has higher intensity because it is contributed by all of the PC images. The snow is only contributed by two PC images