

Factor Loading							
	PC 1	PC 2	PC 3				
Band 1	9.70E-01	1.63E-01	9.41E-02		Eigenvalue	%variance	accumulative
Band 2	9.72E-01	1.79E-01	7.67E-02	1	9.52E+06	5.71E+01	57.1308
Band 3	9.72E-01	2.00E-01	9.21E-02	2	6.64E+06	3.99E+01	96.9824
Band 4	9.53E-01	2.79E-01	5.94E-02	3	2.69E+05	1.61E+00	98.5937
Band 5	8.16E-01	5.10E-01	-2.43E-01				
Band 6	-4.07E-01	9.05E-01	-5.36E-02				
Band 7	-3.80E-01	9.00E-01	1.58E-01				

- 3a. According to the Factor loading table, band 6 and band 7 contrast to the other band, Band 6 and 7 are the bands responsible for short-wave infrared. Things with high reflectance in short-wave infrared will have a relatively low number. The snow has a low reflectance in short-wave infrared. The pixel that has snow will have relatively low reflectance in bands 6 and 7 and higer DNs in the eigenimage. In addition, the water has low reflectance in short-wave infrared which will display a higer value. For the PC2, all of them are positive values, and bands 5, and 7 contribute the most to the eigenimage The pixel containing water will have a smaller DNs number because the reflectance of water is very low. In addition, only bands 1,2,3 and 4 are responsible for water. The pixels containing vegetation, for example, are contributed by all of the seven bands. Band 5 and 6 are in contrast with the other band which means the things that have low reflectance in near-infrared and short-wave infrared will have a high number of DNs. In this case the snow will display 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 snow and water are highlighted with a darker color. For PC2, the water is in white color. Finally, the snow is displayed in a darker color.
- 5. The vegetation is displayed in green color because of the PC1 The snow is displayed in a lighter blue due to PC1 and PC3 and the water is in a darker blue due to PC2.