



Spatial distribution in CT and AZ

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- Comparison between Aster and Landsat images in AZ
 - Spatial distribution pattern in CT and AZ

Comparison (Three pairs)

Aster	Landsat
2010_0408	2010_0409
2009_0115	2009_0116
2009_0218	2009_0116

Calendar Day	DOY	T850 (°C)	Wind speed (Knot) (850 hpa)	Dew Point (°C) (850 hpa)	Atmospheric transmission	Upwelling radiance	Downwelling radiance	Sun Elevation Angle
2009_0116 (L)	16	15.7	10.5	-22.8	0.96	0.24	0.42	31.01
2010_0409 (L)	99	17.9	7	-25.1	0.96	0.24	0.43	56.88

Comparison (Three pairs)

Aster	Landsat
2010_0408	2010_0409
2009_0115 (A)	2009_0116

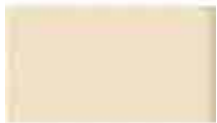
2009_0115 (A) 15.1 15.2 9.5 -21.3 10.97 2009_0116 10.19 10.34 130.04

Calendar Day	DOY	T850 (°C)	Wind speed (Knot) (850 hpa)	Dew Point (°C) (850 hpa)	Atmospheric transmission	Upwelling radiance	Downwelling radiance	Sun Elevation Angle
2010_0409 (L)	99	17.9	7	-25.1	0.96	0.24	0.43	56.88
2010_0408 (A)	98	17.1	21	-17.9	0.96	0.22	0.40	54.41

	Audubon		Highway	
	Landsat	Aster	Landsat	Aster
Albedo	0.153	0.209	0.152	0.247
NDVI	0.03	0.161	-0.049	0.089
Ts (K)	312.545	310.876	309.706	311.389
Ta (K)	291.451	290.651	293.982	293.182
Delta T (K)	21.09	20.22	15.72	18.21
K (W/m2.K)	24.7	22.69	33.2	23.39
Emissivity	0.95	0.984	0.95	0.961

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2009_0116 (L)	16	15.7	10.5	-22.8	0.96	0.24	0.42	31.01
2009_0115 (A)	15	15.2	9.5	-21.3	0.97	0.19	0.34	30.04

	Audubon		Kendall		Bright soil	
	Landsat	Aster	Landsat	Aster	Landsat	Aster
Albedo	0.171	0.326	0.168	0.335	0.281	0.498
NDVI	0.033	0.092	0.015	0.12	-0.013	0.048
Ts (K)	293.592	292.209	294.989	294.392	290.039	293.402
Ta (K)	289.251	288.751	288.956	288.751	291.470	290.970
Delta T (K)	4.34	3.46	6.0	5.94	-1.43	2.43
K (W/m2.K)	62.0	53.40	44.7	30.06	-150.98	40.34
Emissivity	0.95	0.980	0.95	0.971	0.95	0.95



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2009_0116 (L)	16	15.7	10.5	-22.8	0.96	0.24	0.42	31.01
2009_0218 (A)	49	6	7.5	-5.5	0.93	0.45	0.77	37.71

	Conifer		Irrigation		Red soil	
	Landsat	Aster	Landsat	Aster	Landsat	Aster
Albedo	0.111	0.283	0.186	0.340	0.168	0.328
NDVI	0.393	0.376	0.184	0.208	0.04	0.102
Ts (K)	287.041	284.435	292.396	297.802	292.900	296.630
Ta (K)	286.061	276.361	290.877	281.177	289.973	280.274
Delta T (K)	0.98	8.07	1.52	16.63	2.93	16.36
K (W/m2.K)	314.8	37.28	172.2	15.1	92.5	15.9
Emissivity	0.95	0.972	0.95	0.971	0.95	0.978



Spatial distribution patterns

- Draw a line of pixels including the classes as many as possible
- Get the property (NDVI, Delta T, etc.) for each pixel
- Resolution 30m * 30m
- Draw plot of property against distance

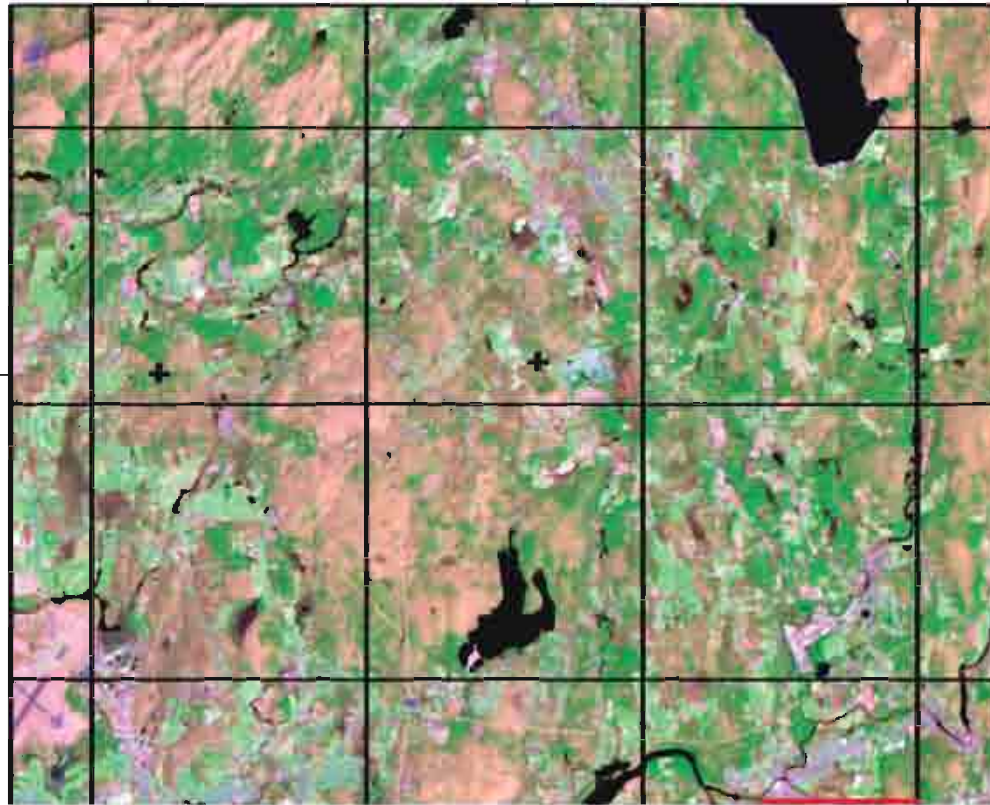
MA: 7-4-1 RGB (20030428)

72°30'W

72°25'W

72°20'W

42°15'N



42°15'N

42°10'N

MA: 7-4-1 RGB (20030428)

72°30'W

72°25'W

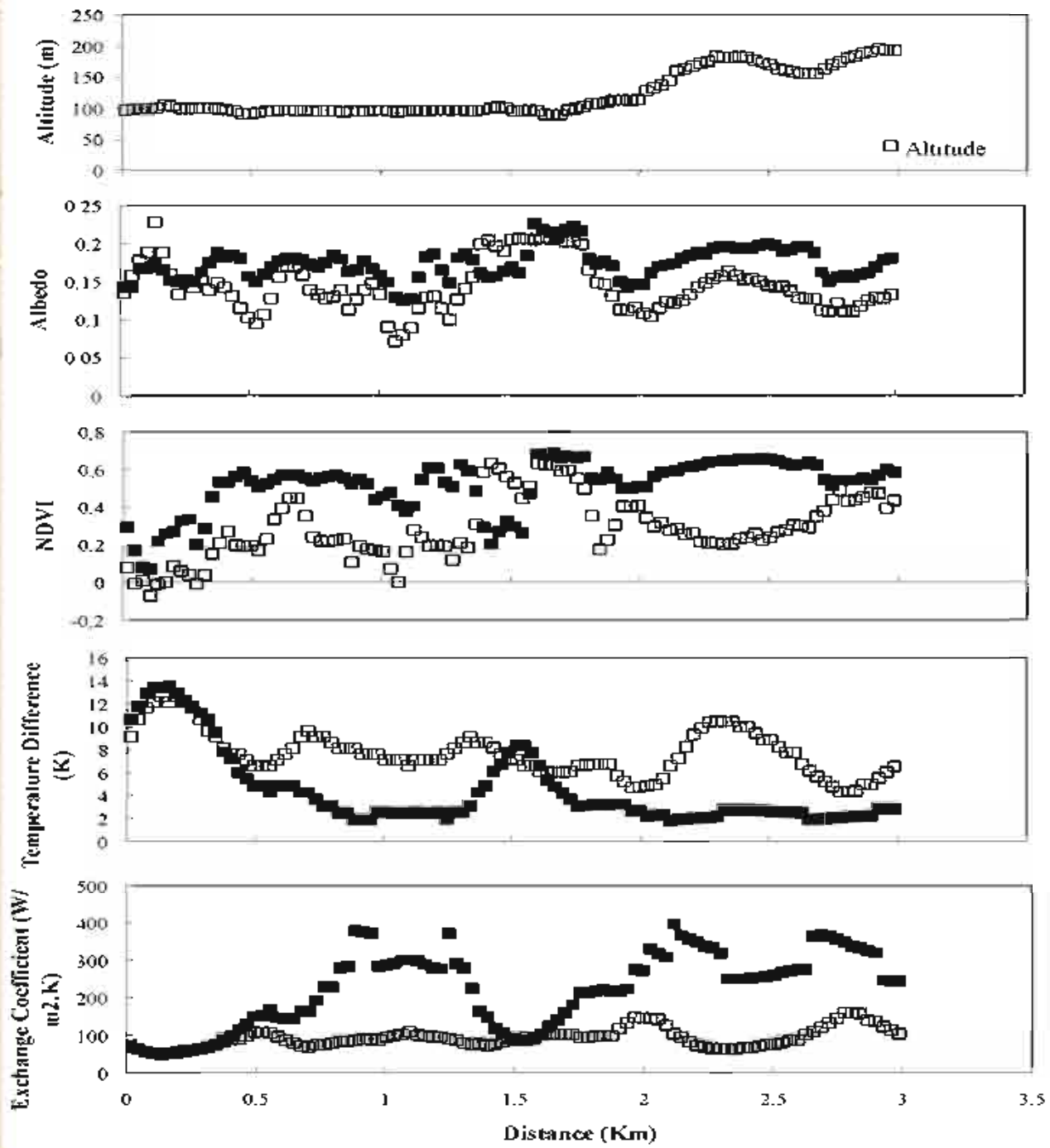
72°20'W

42°15'N



42°10'N





□ DOY118
 ■ DOY145

AZ: 7-4-1RGB (20080606)

110°5'W

110°W

32°25'N

32°25'N

32°20'N

32°20'N

110°5'W

110°W

