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Station	Elevation (m)	Aspect	Slope
Imesker	1422	315	16
Armed	1969	331	11
Tachdert	2346	184	16
Caf	2640	150	15
Neltner	3122	20	9
OukaSM	3226	131	3

Table 1: Topographic characteristics of available meteorological stations.

Tableau 1: Caractéristiques topographiques des stations météorologiques.

Band	Spectral band	Bandwidth (μm)	Nominal nadir resolution (m)
1	Blue	0.45-0.52	30
2	Green	0.53-0.61	30
3	Red	0.62-0.69	30
4	Near IR	0.78-0.91	30
5	Mid IR	1.57-1.78	30
6	Thermal	10.4-12.6	60
7	Mid IR	2.10-2.35	30

Table 2: Main characteristics of ETM+ images used in this study.

Tableau 2: Principales caractéristiques des images ETM+utilisées dans cette étude.

Date	Sun Azimuth	Sun Elevation
07 November 2002	176	42
25 December 2002	172	35
26 January 2003	167	39
11 February 2003	166	44
27 February 2003	164	49
18 May 2003	153	77

Table 3: List of ETM+ images and sun location at the time of acquisition¹.

Tableau 3: Liste des images ETM+ et la localisation du soleil au temps d'acquisition¹.

¹The Solar Position Algorithm ([Reda and Andreas, 2003](#)) was used to calculate sun position angle.

Band	Spectral band	Bandwidth (μm)	Nominal nadir resolution (m)
1	Red	0.62-0.67	250
2	Near IR	0.84-0.87	250
3	Blue	0.45-0.47	500
4	Green	0.54-0.56	500
5	Infrared	1.23-1.25	500
6	Infrared	1.62-1.65	500
7	Infrared	2.10-2.15	500

Table 4: Main characteristics of MODIS images used in this study.

Tableau 4 : Principales caractéristiques des images MODIS utilisées dans cette étude.

Period of acquisition	Stations	LRM			MSPAT		
		R^2	RMSE	BIAS	R^2	RMSE	BIAS
2003/2004	Armed	1.00	0.00	0.00	1.00	0.00	0.00
	Caf	0.56	3.14	-0.31	0.56	3.12	-0.10
	OukaSM	0.77	2.51	0.00	0.77	2.51	0.00
2004/2005	Armed	1.00	0.00	0.00	1.00	0.00	0.00
	Caf	0.91	2.00	-0.25	0.91	1.97	-0.05
	OukaSM	0.87	2.44	0.00	0.87	2.44	0.00
2005/2006	Armed	1.00	0.00	0.00	1.00	0.00	0.00
	Caf	0.85	2.23	-0.50	0.86	2.18	-0.26
	OukaSM	0.76	2.90	0.00	0.76	2.90	0.00
	Imsker	0.93	1.17	0.61	0.89	1.56	-1.24
2007/2008	Armed	1.00	0.00	0.00	1.00	0.00	0.00
	Tachdert	0.94	1.00	0.10	0.92	1.16	0.56
	Neltner	0.40	3.05	1.05	0.35	3.07	-0.31
	OukaSM	0.74	2.27	0.00	0.74	2.27	0.00

Table 5: Statistical simulation of air temperature with MSPAT model and LRM method.

Tableau 5: Statistiques des simulations de la température de l'air avec les modèles MSPAT et LRM.

Season	Number of images	Pixels	Efficiency	LRM	MSPAT	
2003/2004	42	117	RMSE (%)	6.84	5.20	
			BIAS (%)	-0.17	-0.21	
			Regression Equation	R^2	0.80	0.88
				a	0.89	0.96
				b	0.01	0.00
2004/2005	52	117	RMSE (%)	9.66	6.08	
			BIAS (%)	-3.35	-0.42	
			Regression Equation	R^2	0.63	0.83
				a	1.27	0.97
				b	0.03	0.01
2005/2006	82	117	RMSE (%)	8.07	7.60	
			BIAS (%)	-2.28	0.11	
			Regression Equation	R^2	0.75	0.78
				a	1.08	0.93
				b	0.02	0.00

Table 6: Performance in snow cover area estimating using LRM and MSPAT models.

Tableau 6: Performance de l'estimation des surfaces d'enneigement en utilisant les modèles LRM et MSPAT.