

Abstract

1. **Surveyed Area** : Pithoragarh district, Uttarakhand
2. **Total Area** : 7,23,928 ha
3. **Geographical Extent** : 29.4° to 30.3° North latitude
80° to 81° East longitude
4. **Kind of Survey** : Soil Resource Mapping using Remote Sensing & GIS Techniques
5. **Period of Survey** : April-May, 2011
6. **Agro-climatic Zone** : 1 (Western Himalayan Zone)

❖ Soil Series/ Association Mapped and their Extent

Mapping Symbol	Mapping Unit	Series Association			Area (ha)	Area (%)
1	ALj3a1	Nagrasu	Saikot	Chapora	493	0.07
2	CGf4(2)a1	Karn_Karayat	Odlak	Tunalika	386	0.05
3	CGf5a1	Dunaghat	Karn karayat		129	0.02
4	CGf5a2	Odlak	Ponkhal	Sonla	1771	0.24
5	CGf7a1	Tiloth	Kalyani	Ponkhal	919	0.13
6	CGf7a2	Kalyani	Askot	-	3411	0.47
7	CGf7d1	Kharsali	Nagtor	-	89	0.01
8	CGf9a1	Chamsali	Nail	Guruali	3557	0.49
9	CGf9a2	Askot	Jakhari	Nail	6438	0.89
10	CGf9a3	Phulibagad	Barkot	-	14116	1.95
11	CGf9c1	Balwakhana	Sauna	Irthram	4240	0.59
12	CGf9c2	Kondu	Irthram	Charma	12171	1.68
13	CGf9c3	Almora	Bhatuli	Khand	5007	0.69
14	CGf9c4	Pothibasa	Kadukhal	Syalni	6488	0.9
15	CGf9c5	Silkyara	Rampur-1	Syalni	28393	3.92
16	CGf9c6	Bhainsari	Badethi	Supri	5318	0.73
17	CGf9c7	Majikdanda	Rampur-1	-	34795	4.81
18	CGf9c8	Rampur-1	Badethi	-	35699	4.93
19	CGf9d1	Pirsal	Gopeshwar	Maniger	1574	0.22
20	CGf9d2	Kharsali	Nagtor	Supri	5266	0.73
21	CGf9d3	Kharsali	Nagtor	Banic	176039	24.32

Mapping Symbol	Mapping Unit	Series Association			Area (ha)	Area (%)
22	CGg3a1	Jouljibi	Molnau		391	0.05
23	LSf7a1	Nainipatal	Chimla	-	17422	2.41
24	LSf7c1	Thalkedar	Kunagaon	-	1942	0.27
25	LSf7c2	Kunagaon	Thalkedar	-	2059	0.28
26	LSf7d1	Chamdurga	Nali	-	863	0.12
27	LSf9a1	Chimla	Nainipatal	-	7853	1.08
28	LSf9c1	Kunagaon	Thalkedar	-	19002	2.62
29	LSf9c2	Kunagaon	Jassikhat	-	43881	6.06
30	LSf9d1	Nali	Chamdurga	-	13318	1.84
31	LSh4(2)a1	Nainisaini	Gurna	Khankara	5806	0.8
32	SLf5a1	Kajukhet	Hartauli	-	601	0.08
33	SLf6b1	Dangoli	Hartauli	-	266	0.04
34	SLf6c1	Kalun	Ratya	-	547	0.08
35	SLf7a1	Hartauli	Dangoli	Kajukhet	1530	0.21
36	SLf8c1	Kalun	Ratya	-	778	0.11
37	SLf8c2	Runikhat	Ratya	-	2179	0.3
38	SLf8d1	Ratya	Runikhat	-	154	0.02
	Rock Out Crop (ROC)				950	0.13
	Snow bound area				254047	35.09
	Habitation				674	0.09
	Waterbodies				3366	0.46
TOTAL					723928	100.00

❖ **Spatial Extent of Landscape/ Physiography Class**

Landscape	Physiography	Area (ha)	Area (%)
Alluvium (AL)	River terraces (j)	493	0.07
Complex Geology (CG)	Undifferentiated mountain side slope (f)	345806	47.77
	Narrow mountain valleys (g)	391	0.05
Limestone (LS)	Undifferentiated mountain side slope (f)	106340	14.68
	Broad mountain valleys (h)	5806	0.80
Slate (SL)	Undifferentiated mountain side slope (f)	6055	0.84
Miscellaneous	ROC	950	0.13
	Snow Cover	254047	35.09
	Habitation	674	0.09
	Waterbodies	3366	0.46
TOTAL		723928	100.00

❖ **Spatial Extent of Slope Class**

Slope class and code		Slope Range	Area (ha)	Area (%)
Very gently to gently sloping (3)		1-5 %	884	0.12
Gently to moderately sloping (4)		3-10 %	6192	0.85
Moderately to strongly sloping (5)		5-15 %	2501	0.34
Strongly to moderately steep sloping (6)		10-25 %	813	0.12
Moderately steep to steep sloping (7)		15-33 %	28235	3.90
Steep to very steep sloping (8)		25-50 %	3111	0.43
Very steep to extremely steep sloping (9)		33-50 % and above	423155	58.45
Micellaneous	ROC		950	0.13
	Snow Cover		254047	35.09
	Habitation		674	0.09
	Waterbodies		3366	0.46
TOTAL			723928	100.00

❖ **Spatial Extent of Major Land Use/ Land Cover**

Major Land Use		Area (ha)	Area (%)
Agriculture (a)		64823	8.94
Plantation (b)		266	0.04
Forest (c)		202499	27.97
Open scrub (d)		197303	27.26
Micellaneous	ROC	950	0.13
	Snow Cover	254047	35.09
	Habitation	674	0.09
	Waterbodies	3366	0.46
TOTAL		723928	100.00

❖ **Spatial Extent of Land Capability Class**

Land Capability Class (LCC)		Area (ha)	Area (%)
Land Capability Class – II-III		7076	0.98
Land Capability Class – III-IV		2501	0.35
Land Capability Class - IV		55246	7.63
Land Capability Class – VI		266	0.04
Land Capability Class – VII-VIII		197303	27.25
Forest		202499	27.97
Micellaneous	ROC	950	0.13
	Snow Cover	254047	35.09
	Habitation	674	0.09
	Waterbodies	3366	0.46
TOTAL		723928	100.00

Salient Features

1. Major area covered in the survey area is under complex geology landscape having undifferentiated mountain side slope accounting to 47.77 % followed by limestone landscape having undifferentiated mountain side slope (14.68 %).
2. Soils of the area have been classified under three Orders i.e. Entisols, Inceptisols and Mollisols. All the fifty six soil series identified in the area have been further classified into 8 Suborders; 15 Great Groups; 24 Subgroups and 37 Families and 59 Soil series.
3. The surveyed area fall under various major physiographic subdivisions viz. river terraces, undifferentiated mountain side slope, narrow mountain valleys and broad mountain valleys.
4. Forest land cover occupied the major area with 27.97 % of total geographical area followed by open scrub representing 27.26 % area and by agriculture representing 8.94 % area.
5. The area is classified on the basis of Land Capability Class (LCC), where class VII-VIII covered maximum area of 27.25 % followed by class IV (7.63 %).