

Abstract

1. **Surveyed Area** : Chamoli district, Uttarakhand
2. **Total Area** : 783513 ha
3. **Geographical Extent** : 29°22'58" & 31°04'38" North latitude
79°04'41" & 80°06'13" East longitude
4. **Kind of Survey** : Soil Resource Mapping using Remote Sensing & GIS Techniques
5. **Period of Survey** : September to October, 2010

❖ Soil Series/ Association Mapped and their Extent

Mapping Symbol	Mapping Unit	Series Association			Area (ha)	Area (%)
115	CGc5d1	Auli	Odlak	-	270	0.03
1	CGf9a1	Chamsali	Nail	Guruali	4232	0.54
2	CGf9c1	Balwakhan	Sauna	Lidha	32921	4.20
3	CGf9c2	Kondu	Lidha	Dharamgarh	30702	3.92
4	CGf9c3	Almora	Bhatuli	Khand	3003	0.38
5	CGf9d1	Pirsal	Maniger	Gopeshwar	5640	0.72
7	CGf7a1	Gwalkot	Jasauli	Khan	21715	2.77
8	CGf7a2	Sonla	Pipariyana	Gwalkot	1433	0.18
9	CGf7c1	Jageshwar	Gumla	Sat_Tal	7102	0.91
10	CGf7c2	Dharamgarh	Charma	Kondu	1369	0.17
11	CGf7d1	Gopeshwar	Pipalkothi	-	1305	0.17
12	CGf5a1	Gohad	Narayanbagad	Dunaghat	2661	0.34
14	CGf5c2	Birehi	Bendu	-	489	0.06
16	CGf4a1	Narayanbagad	Tunalika	-	89	0.01
17	ACj3a1	Nagrasu	Saikot	Sonargaon	627	0.08
19	SLf8c1	Kalun	Ratya	-	9972	1.27
20	SLf8c2	Runikhat	Ratya	-	5168	0.66
21	SLf8d1	Ratya	Runikhat	-	23	0.002
22	SLf7a1	Hartauli	Kajukhet	-	4002	0.51
25	SLf5a1	Kajukhet	Hartauli		1081	0.14
27	ACj2a1	Gauchar	Nagrasu	Bomarari	497	0.06
41	CGf9c7	Majikdanda	Rampur-1	-	46970	5.99

Mapping Symbol	Mapping Unit	Series Association			Area (ha)	Area (%)
42	CGf9c8	Rampur-1	Badethi	-	27800	3.55
43	CGf9d3	Kharsali	Banic	Nagtor	104424	13.33
44	CGf9a4	Phulibagad	Barkot	Maneri- 1	5131	0.65
45	CGf7c5	Majikdanda	Rampur-1	-	2682	0.34
47	CGf7d3	Kharsali	Nagtor	-	1350	0.17
48	CGf7a4	Kalyani	-	-	1531	0.20
101	CGf9a2	Gopeshwar	Ghat	Rampur	6175	0.79
102	CGf9c4	Pothibasa	Kadukhal	Syalni	39366	5.02
103	CGf9c5	Silkyara	Bhainsari	Syalni	40086	5.11
104	CGf9c6	Bhainsari	Badethi	Supri	8550	1.09
105	CGf9d2	Kharsali	Nagtor	Supri	15135	1.93
107	CGf7a3	Tiloth	Kalyani	Ponkhal	18147	2.32
109	CGf7c3	Bendu	Kanthargaon	Jarmala	2992	0.38
110	CGf7c4	Silkyara	Phorti	-	921	0.12
111	CGf7d2	Kharsali	Nagtor	Supri	1011	0.13
112	CGf5a2	Odlak	Ponkhal	Sonla	1705	0.22
181	CGg3a2	Mondal	Molnau	Jemrara	482	0.06
7878	ROC	-	-	-	173	0.02
8282	Snow Cover	-	-	-	321654	41.04
9898	Habitation	-	-	-	34	0.004
9999	Waterbodies	-	-	-	2893	0.37
TOTAL					783513	100

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

Landscape	Physiography	Area (ha)	Area (%)
Alluvium colluviums (AC)	River terraces (j)	497	0.06
	Uplifted river terraces (j)	627	0.08
Complex Geology (CG)	Mountain tops (c)	270	0.03
	Undifferentiated mountain side slope (f)	436637	55.71
	Narrow mountain valleys (g)	482	0.06
Slate (SL)	Undifferentiated mountain side slope (f)	20246	2.58
ROC		173	0.02
Snow Cover		321654	41.04
Habitation		34	0.004
Waterbodies		2893	0.37
TOTAL		783513	100.00

❖ **Spatial Extent of Slope Class**

Slope class and code	Slope Range	Area (ha)	Area (%)
Nearly level to very gently sloping (2)	0-3 %	497	0.06
Very gently to gently sloping (3)	1-5 %	1109	0.14
Gently to moderately sloping (4)	3-10 %	89	0.01
Moderately to strongly sloping (5)	5-15 %	6206	0.79
Moderately steep to steep sloping (7)	15-33 %	65560	8.37
Steep to very steep sloping (8)	25-50 %	15163	1.93
Very steep to extremely steep sloping (9)	33-50 % and above	370135	47.22
ROC		173	0.02
Snow Cover		321654	41.04
Habitation		34	0.004
Waterbodies		2893	0.37
TOTAL		783513	100.00

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

Major Land Use	Area (ha)	Area (%)
Agriculture (a)	69508	8.87
Forest (c)	260093	33.20
Open scrub (d)	129158	16.48
ROC	173	0.02
Snow Cover	321654	41.04
Habitation	34	0.004
Waterbodies	2893	0.37
TOTAL	783513	100.00

❖ **Spatial Extent of Land Capability Class**

Land Capability Class (LCC)	Area (ha)	Area (%)
Land Capability Class – II-III	1606	0.20
Land Capability Class – III-IV	5536	0.71
Land Capability Class - IV	62366	7.96
Land Capability Class – VI	270	0.03
Land Capability Class – VII-VIII	128888	16.45
Forest	260093	33.20
ROC	173	0.02
Snow Cover	321654	41.04
Habitation	34	0.004
Waterbodies	2893	0.37
TOTAL	783513	100.00

Salient Features

- 1.** Major area covered in the survey area is under complex geology landscape having undifferentiated mountain side slope accounting to 55.71 % followed by slate landscape having undifferentiated mountain side slope (2.58 %).
- 2.** Soils of the area have been classified under four Orders i.e. Alfisols, Entisols, Inceptisols and Mollisols. All the sixty nine soil series identified in the area have been further classified into 8 Suborders; 17 Great Groups; 28 Subgroups and 40 Families.
- 3.** The surveyed area fall under various major physiographic subdivisions viz. river terraces, uplifted river terraces, mountain tops and undifferentiated mountain side slope and narrow mountain valleys.
- 4.** Forest land cover occupied the major area with 33.20 % of total geographical area followed by open scrub representing 16.48 % area and by agriculture representing 8.87 % area.
- 5.** The area is classified on the basis of Land Capability Class (LCC), where class VII-VIII covered maximum area of 16.44 % followed by class IV (7.96 %).