

Abstract

1. **Surveyed Area** : Rudraprayag district, Uttarakhand
2. **Total Area** : 199541 ha
3. **Geographical Extent** : 30° 2' to 30° 7' North latitude
79° to 79° 4' East longitude
4. **Kind of Survey** : Soil Resource Mapping using Remote Sensing & GIS Techniques
5. **Period of Survey** : 2009
6. **Agro-climatic Region** : 1 (Western Himalayan Region)

❖ Soil Series/ Association Mapped and their Extent

Mapping Symbol	Mapping Unit	Series Association			Area (ha)	Area (%)
4	CGf9c2	Kondu	Lidha	Khand	13067	6.55
3	CGf9c1	Lidha	Balwakhani	Sauna	12821	6.43
7	CGf7c1	Chaurangikhal	Sat_Tal	Jageshwar	1705	0.85
5	CGf7a1	Gwalkot	Jasauli	-	17874	8.96
1	CGf9a1	Chamsali	Nail	Guruali	4779	2.39
2	CGf9d1	Pirsal	Gopeshwar	Maniger	2159	1.08
8	CGf7c2	Irthram	Dharamgarh	Charma	942	0.47
6	CGf7d1	Pirsal	Gopeshwar	-	3188	1.60
10	CGf5d1	Mason	Chamsali	-	260	0.13
9	CGf5a1	Dunaghat	Karn_karayat	Sonla	976	0.49
13	ACj2a1	Gauchar	Bomarari	-	474	0.24
41	CGf9c7	Rampur-1	Majikdanda	-	14881	7.46
42	CGf9c8	Rampur-1	Badethi	-	6194	3.10
43	CGf9d3	Kharsali	Nagtor	Banic	16263	8.15
44	CGf9a4	Phulibagad	Barkot	Tiloth	659	0.33
45	CGf7c5	Majikdanda	Rampur-1	-	1846	0.93
101	CGf9a2	Jakhari	Ghat	-	445	0.22
102	CGf9c4	Pothibasa	Kadukhal	Syalni	26475	13.27
103	CGf9c5	Silkyara	Rampur-1	Syalni	12940	6.48
104	CGf9c6	Badethi	Bhainsari	Supri	6071	3.04
105	CGf9d2	Kharsali	Nagtor	Supri	2172	1.09
107	CGf7a3	Kalyani	Tiloth	Ponkhal	14744	7.39

Mapping Symbol	Mapping Unit	Series Association			Area (ha)	Area (%)
109	CGf7c3	Bendu	Kanthargaon	Jarmala	4348	2.18
110	CGf7c6	Phorti	Ford	Silkyara	967	0.48
111	CGf7d2	Nagtor	Supri	Kharsali	409	0.20
112	CGf5a2	Odlak	Ponkhal	Sonla	291	0.15
32	CGf7a2	Pipariyana	Ghatia	Jasauli	351	0.18
9898	9898	Habitation	Habitation	Habitation	19	0.01
9999	9999	Waterbodies	Waterbodies	Waterbodies	1210	0.61
8282	8282	Snow cover	Snow cover	Snow cover	31011	15.54
TOTAL					199541	100

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

Landscape	Physiography	Area (ha)	Area (%)
Alluvium colluviums (AC)	River terraces (j)	474	0.24
Complex Geology (CG)	Undifferentiated mountain side slope (f)	166827	83.6
	Habitation	19	0.01
	Waterbodies	1210	0.61
	Snow cover	31011	15.54
TOTAL		199541	100

❖ **Spatial Extent of Slope Class**

Slope classes and code	Slope Range	Area (ha)	Area (%)
Nearly level to very gently sloping (2)	0-3 %	474	0.24
Moderately to Strongly sloping (5)	5-15 %	1527	0.77
Moderately steep to steep sloping (7)	15-33 %	46374	23.24
Very steep to extremely steep sloping (9)	33-50 % and above	118926	59.59
	Habitation	19	0.01
	Waterbodies	1210	0.61
	Snow cover	31011	15.54
TOTAL		199541	100

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

Major Land Use	Area (ha)	Area (%)	
Agriculture (a)	40593	20.35	
Forest (c)	102257	51.24	
Open scrub (d)	24451	12.25	
	Habitation	19	0.01
	Waterbodies	1210	0.61
	Snow cover	31011	15.54
TOTAL		199541	100

❖ **Spatial Extent of Land Capability Class**

Land Capability Classes (LCC)	Area (ha)	Area (%)
Land Capability Class – II-III	474	0.24
Land Capability Class – III-IV	1267	0.63
Land Capability Class – IV	38852	19.47
Land Capability Class – VI-VII	3857	1.93
Land Capability Class – VIII	20594	10.32
Forest	102257	51.25
Habitation	19	0.01
Waterbodies	1210	0.61
Snow cover	31011	15.54
TOTAL	199541	100

Salient Features

1. Major part of surveyed area mapped under complex geology landscape having Gneiss, Schist and Quartzite parent material. It comprises of undifferentiated mountain slope landform accounting to 83.6 %.
2. Soils of the area have been classified under three Orders i.e. Inceptisols, Entisols and Mollisols in order of their dominance. All the fifty two soil series identified in the area have been further classified into 8 Suborders; 17 Great Groups; 26 Subgroups and 36 Families.
3. The surveyed area fall under two major physiographic subdivisions viz. undifferentiated mountain slope and narrow mountain valleys.
4. Land use wise forest land occupied the major area with 51.24 % of total geographical area and it is followed by agriculture (20.25 %) and by open scrub (12.25 %).
5. Land Capability assessment of the district shows that apart from 51.25 % area is under forest, around 19.47 % of the area is under Land Capability Class IV which mainly comprises of mountain terraces under agriculture and is occurring on vulnerable slope gradient. These lands are best suited for cultivation of plantation crops/ aromatic/ medicinal herbs. Around 12.25 % areas are classified under Land Capability Class VI-VIII suited for agroforestry/ pastures. Similarly around 0.87 % area is classified under Land Capability Class II-IV occurring in valleys which is susceptible to flood hazards and suited for cereal/ pulses based cropping system.