

## Abstract

1. **Surveyed area** : Champawat district, Uttarakhand
2. **Total area** : 1,77,968 ha
3. **Geographical Extent** : 29° 5' to 29° 30' North latitude  
79° 59' to 80° 3' East longitude
4. **Kind of Survey** : Soil Resource Mapping using Remote Sensing & GIS Techniques
5. **Period of Survey** : 2010-11
6. **Agro-climatic Zone** : Western Himalayan Region

### ❖ Soil Series/ Association Mapped and their Extent

Sr. No.	Mapping Unit	Series Association			Area (ha)	Area (%)
1.	ALb2a1	Dhanuri	Deveria	Bedpur	2553	1.43
2.	ALb2c2	Khatima	Shantipur	-	4182	2.35
3.	ALb3c1	Bailprao	Haldukhatta	Tanakpur	1731	0.97
4.	ALg3a1	Deveria	-	-	448	0.25
5.	CGf9a1	Chamsali	Rampur	Guruali	19722	11.08
6.	CGf9d1	Pirsal	Maniger	-	10632	5.97
7.	CGf9c1	Lidha	Balwakhana	Amori	28775	16.17
8.	CGf9c2	Kondu	Lidha	Dharamgarh	15975	8.98
9.	CGf7a1	Gwalkot	Jasauli	Khan	6758	3.80
10.	CGf7a2	Jasauli	Gwalkot	Khan	2705	1.52
11.	CGf7d1	Pirsal	Gopeshwar	Tamat Kande	1883	1.06
12.	CGf7c1	Jageshwar	Sat_Tal	Gumla	5380	3.02
13.	CGf7c2	Irthram	Dharamgarh	Pipalkothi	4566	2.57
14.	CGf5a1	Dunaghat	Karn_karayat	Badethi	2669	1.50
15.	CGf5c1	Sat_Tal	Jageshwar	-	1758	0.99
16.	SDo4c1	Kalagarh	Padampur	-	5457	3.07
17.	SDf9a1	Nainital	Saneh	Kilolighat	5385	3.03
18.	SDf9d1	Ramgarh	Saneh	-	4146	2.33

Sr. No.	Mapping Unit	Series Association			Area (ha)	Area (%)
19.	SDf9c1	Pokharao	Papidanda	Dhari	1590	0.89
20.	SDf9c2	Chandidevi	Pokharao	-	4733	2.66
21.	SDf7a1	Nainital	Mangoli	-	3612	2.03
22.	SDf7d1	Saneh	Ramgarh	-	12978	7.29
23.	SDf7c1	Papidanda	Kumbichaur	Delighati	6731	3.78
24.	SDf7c2	Pokharao	Kumbichaur	Papidanda	12692	7.13
25.	SDf5a1	Kilolighat	Saneh	-	931	0.52
26.	SDf5d1	Saneh	Kilolighat	-	1506	0.85
27.	SDf5c1	Papidanda	Delighati	Kalagarh	1092	0.61
28.	Rock Out Crop	-	-	-	217	0.12
29.	Habitation	-	-	-	183	0.10
30.	Waterbodies	-	-	-	6978	3.92
<b>TOTAL</b>					<b>177968</b>	<b>100.00</b>

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

Landscape	Physiography	Area (ha)	Area (%)
Alluvium (AL)	Alluvial plains (b)	8466	4.76
	Stream banks (g)	448	0.25
Complex Geology (CG)	Undifferentiated mountain side slope (f)	100823	56.65
Sandstone (SD)	Undifferentiated mountain side slope (f)	55396	31.13
	Foot hill slopes (o)	5457	3.07
Micellaneous	ROC	217	0.12
	Habitation	183	0.10
	Waterbodies	6978	3.92
<b>TOTAL</b>		<b>177968</b>	<b>100.00</b>

❖ **Spatial Extent of Slope Class**

Slope classes and Code	Slope Range	Area(ha)	Area (%)
Nearly level to very gently sloping (2)	0-3%	6735	3.78
Very gently sloping to gently sloping (3)	1-5%	2179	1.22
Gently to moderately sloping (4)	3-10%	5457	3.07
Moderately sloping to strongly sloping (5)	5-15%	7956	4.47
Moderately steep to steep sloping (7)	15-33%	57305	32.20

Slope classes and Code		Slope Range	Area(ha)	Area (%)
Very steep to extremely steep (9)		33-50% and above	90958	51.11
Micellaneous	ROC		217	0.12
	Habitation		183	0.10
	Waterbodies		6978	3.92
<b>TOTAL</b>			<b>177968</b>	<b>100.00</b>

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

Major Land Use		Area (ha)	Area (%)
Agriculture (a)		44783	25.16
Forest (c)		94662	53.19
Open scrub (d)		31145	17.50
Micellaneous	ROC	217	0.12
	Habitation	183	0.10
	Waterbodies	6978	3.92
<b>TOTAL</b>		<b>177968</b>	<b>100.00</b>

❖ **Spatial Extent of Land Capability Class**

Land Capability Class (LCC)		Area (ha)	Area (%)
Land Capability Class II		2553	1.43
Land Capability Class II-III		448	0.25
Land Capability Class III-IV		3600	2.02
Land Capability Class IV		38182	21.45
Land Capability Class VI		1506	0.85
Land Capability Class VII-VIII		29639	16.65
Forest		94662	53.19
Micellaneous	ROC	217	0.12
	Habitation	183	0.10
	Waterbodies	6978	3.92
<b>TOTAL</b>		<b>177968</b>	<b>100.00</b>

**Salient Features**

1. The surveyed area fall under three landforms/ landscapes and four major physiographic subdivisions viz. alluvial plain, stream banks, foot hill slopes and undifferentiated hill side slopes. Maximum area is covered under undifferentiated mountain side slopes.

2. Major area (56.65 %) covered in the survey area is under complex geology having undifferentiated mountain side slope followed by sandstone having undifferentiated mountain side slope (31.13 %).
3. The soils found in the area have been classified under three orders i.e. Entisols, Inceptisols and Mollisols. All the forty three soil series identified in the area have been further classified into 6 Suborders, 9 Great Groups, 13 Subgroups and 25 Families.
4. As far as land use/ land cover is concerned, forest dominated the area with 53.19 % of total geographical area. Next to forest, agriculture occupied 25.16 % area, which is the mainstay of rural economy in the area.
5. The area is classified on the basis of Land Capability Class (LCC). About 25.15 % area occupied under class II to IV and about 17.5 % under class VI-VIII, out of this around 21.45% of the area categorized in class IV and 16.65 % area found to occurs in class VII-VIII.