



ENVIS
(Environmental Information System)
State of Environment & Related Issues
UEPPCB, Dehradun-248001 (Uttarakhand)



ENVIS Newsletter

Volume-3

Issue-2

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Brahma Kamal
Saussurea obvallata
State Flower



Monal
Lophoorus impejanus
State Bird



Musk Deer
Mosculus crysogaster
State Animal



Burans
Rhododendron arboreum
State Tree

Environment Calendar

February 2 World Wetland Day - On this day, in 1971, the Ramsar Convention on Wetlands of International Importance was signed. Wetlands are a very important part of our biodiversity and it is essential to see that they are well protected.

February 28 National Science Day - It is necessary to highlight the role of science in the protection of the environment. This day should be taken as a platform to put forward the message.

March 21 World Forestry Day - Activities such as the planting of trees and highlighting the urgency to increase the green cover.

March 22 World Water Day - The decision to celebrate this day has been taken recently as drinking water sources are fast depleting. The world must wake up to the problem and begin conserving it.

March 23 World Meteorological Day - Everyone has to be reminded that weather is an integral part of the environment.



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ENVIS Centre, Uttarakhand
E-mail: info@envis-ueppcb
Website: www.envis-ueppcb.com

1.0 Uttarakhand At A Glance

Formation day: 09-Nov-00
 Capital: Dehradun (Interim)
 Latitude: 28° 53' 24" N to 31° 27' 50" N
 Total Forest Area: 35,394 sq. km.
 Hilly Area : 92.57%
 Suitable for irrigation: 11.50%
 Suitable for cultivation: 11.50%
 Grazing ground: 4.25%
 Literacy: 65%
 International Boundaries with Uttarakhand :
 China and Nepal
 Uttarakhand State Flower : Brahma Kamal
 Uttarakhand State Bird : Monal
 Uttarakhand Gender ratio : 964 : 1000
 Uttarakhand Population density : 159 / sq km
 Languages Spoken:
 Kumaoni, Garhwali, Hindi.

Pilgrimage Sites :

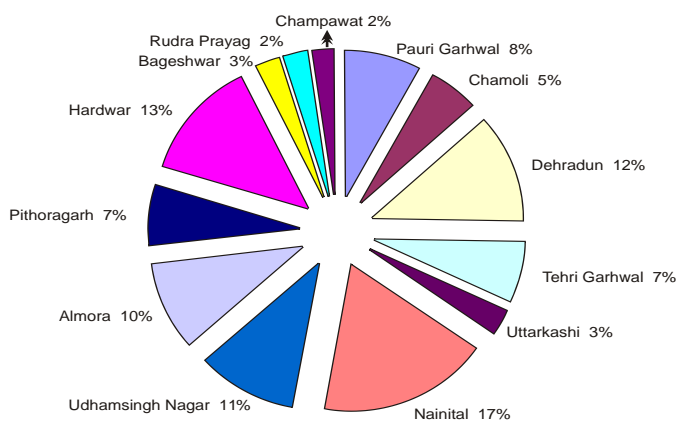
Badrinath, Kedarnath, Gangotri, Yamunotri,
 Panchkedar, Panchbadri, Panchprayag, Haridwar,
 Rishikesh, Hemkund Sahib, Purnagiri, Chittai,
 Kaliyar Sharif, Nanakmatta Sahib, Rettha Sahib
 etc.

Population (Appx.): 84.89 Lakhs
 Longitude: 77° 34' 27" E to 81° 02' 22" E
 Total Area: 53,483 Sq Km
 Forest cover: 63%
 Plains: 7.43%
 Other useful land: 2.50%
 Trees and shrubs: 4%
 Waste land: 2.25%
 High Court: Nainital.
 Uttarakhand State boundaries : UP & Himanchal Pradesh
 Uttarakhand State Tree : Rhododendron (Buransh)
 Uttarakhand State Animal : Musk Deer (Kasturi Mrig)
 Uttarakhand Districts : 13
 Uttarakhand Total villages (Census 2001) : 16,826
 Tourist And Historical Places :
 Nainital, Mussoorie, Pauri, Almora, Ranikhet, Khirsu, Champawat, Dayara, Auli, Khatling, Vediti Bugyal, Valley Of Flowers, Lansdown, Lakhamandal, Paatal Bhuvaneshwar, Gangolihaat, Jolljivi, Kataarmal, Kosini, Jageshwar, Dwarahaat, Someshwar, Baijnath, Pindari Glacier etc.

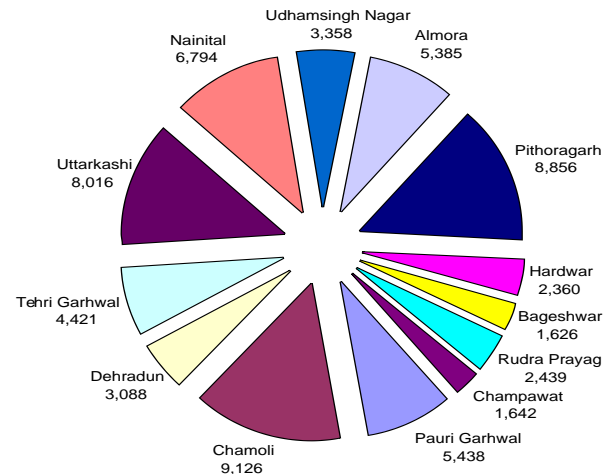
source : www.uttaranchal.wslataglc.htm

The total population of the State is 8.48 million (*Census 2001*) of which rural population is 75.33% and urban 25.67%. The population density is 159 persons per km². Population of the Scheduled Tribes in the State is 3%. The livestock population of the State is 4.94 million (*Livestock Census 2003*).

Districtwise Population (in lacs) in Uttarakhand

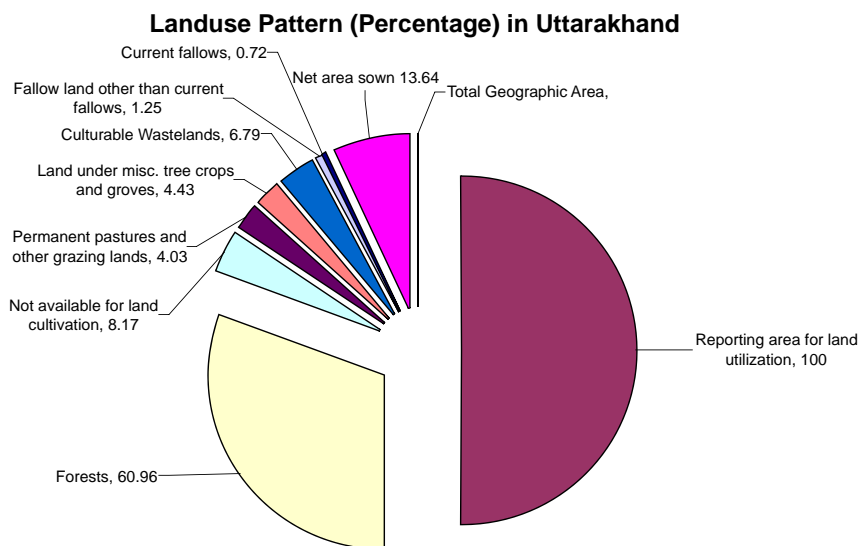


Districtwise Area (sq km) covered in Uttarakhand



Source: *Census 2001*

2.0 Landuse in Uttarakhand



Source: Land Use Statistics, Ministry of Agriculture, GOI, 2005

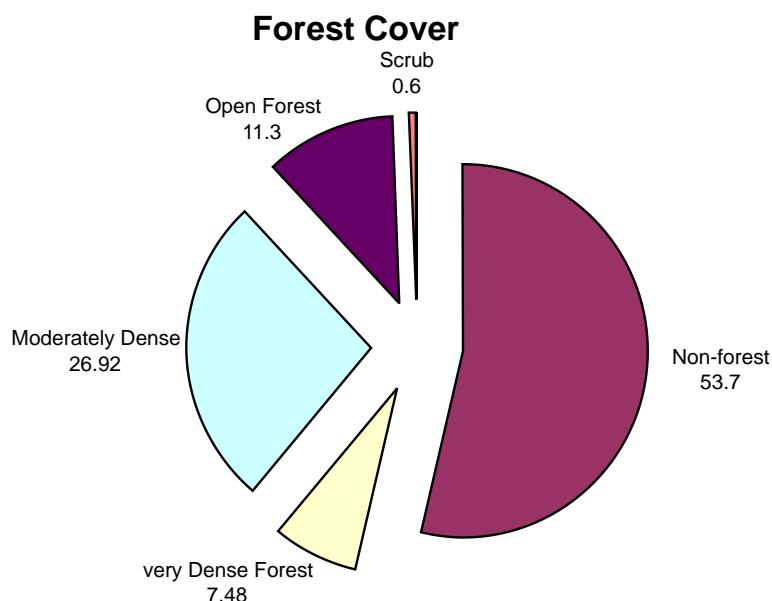
3.0 Forests in Uttarakhand

The forests of Uttarakhand are not only indispensable repositories of important plant species that give food, fuel, fodder and shelter, but are also vital for maintaining the ecosystems in and around the state. It is well recognized that forests play a pivotal role in building the socio-economic structures around the primary relationship with the natural resources. The forests are socially and economically interlinked with the people in the hills and play an important role in the general economy and development of the region.

Table 1: District-wise Forest Cover in Uttarakhand

District	Geographic area	2005 Assessment				Percent of G.A.	Change	Scrub
		Very dense forest	Mod. dense forest	Open forest	Total			
Almora	3,139	18	969	440	1,577	50.24	0	10
Bageshwar	2,246	159	875	346	1,380	61.44	0	4
Chamoli	8,030	406	1,558	734	2,698	33.60	0	7
Champawat	1,766	327	605	230	1,162	65.80	0	9
Dehradun	3,088	487	664	442	1,593	51.59	0	27
Parui Garhwal	5,329	450	2,065	756	3,271	61.38	0	64
Haridwar	2,360	29	327	274	630	26.69	-8	0
Nainital	4,251	548	1,936	604	3,088	72.64	-3	17
Pithoragarh	7,090	470	1,229	378	2,077	29.29	0	69
Rudraprayag	1,984	179	605	336	1,120	56.45	0	5
Tehri Garhwal	3,642	227	1,255	656	2,138	58.70	0	85
Udham Singh Nagar	2,542	144	246	174	564	22.19	-7	0
Uttarkashi	8,016	408	2,062	674	3,144	39.22	0	23
Total	53,483	4,002	14,396	6,044	24,442	45.70	-18	320

Source: State of Forest Report, 2005



4.0 Biological Diversity

National Parks/Sanctuaries/Biosphere Reserves/ Other Biological Resources in Uttarakhand are as follows:

Table 2- Details of National Parks/Sanctuaries/Biosphere Reserves/ Other Biological Resources in Uttarakhand

Name of National Park (NP)	Year of Estd.	Area (km ²)	District/ Location
Corbett NP	1936	520.8	Nainital, Pauri Garhwal
Gangotri NP	1989	2200	Uttarkashi
Govind NP	1990	472.08	Uttarkashi
Nanda Devi NP	1982	624.62	Chamoli
Rajaji NP	1983	820	Dehradun, Pauri Garhwal, Haridwar
Valley of Flowers NP	1982	87.5	Chamoli
<i>Wildlife Sanctuary (WLS)</i>			
Askot Musk Deer WLS	1986	599.93	Pithoragarh
Binsar WLS	1988	45.59	Almora
Govind Pashu Vihar WLS	1955	481	Uttarkashi
Kedarnath WLS	1972	975.24	Chamoli, Rudraprayag
Mussoorie WLS	1993	10.82	Dehradun
Sonanadi WLS	1987	301.18	Pauri Garhwal
Asan Barage Wetland CR	2005	4.44	Dehradun
Jhilmí Jheel CR	2005	37.83	Haridwar
<i>Biosphere Reserves</i>			
Nanda Devi Biosphere Reserves	1988	5860.69	Chamoli, Pithoragarh, Bageshwar

Source: www.wii.gov.in

5.0 Natural Hazards

5.1 Landslide

Monsoon season is particularly notorious for landslides when enhanced pore water pressure facilitates downslope movement of rock mass and debris. Despite being spared by major landslides (akin to Okhimath and Malpa of 1998) the State of Uttarakhand has significant human toll during the monsoon season. In the monsoon season of 2007 (in the 04 months extending between 1st June and 30th September, 2007) as many as 83 persons were reported dead besides massive loss of dwelling units, infrastructure, private property, animal stock and agriculture and forest land. District wise details of the losses are as given below:

Table 3: District wise details of the losses

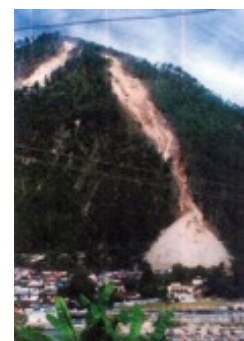
District	Human beings		Animal Loss	Loss of dwelling units		Loss of agricultural land (in hectare)
	Dead	Injured		Partial	Complete	
Almora	2	0	17	166	33	100.00
Bageshwar	3	7	15	239	25	3.46
Champawat	2	0	0	14	4	0
Pithoragarh	26	10	81	98	75	1.20
Nainital	1	3	12	97	6	0
Udhamsingh Nagar	10	1	0	0	0	0
Haridwar	5	1	19	5	4	0
Pauri Garhwal	6	5	0	1	6	0
Dehradun	0	0	2	11	6	0
Rudrapraya	0	0	1	0	2	0
Uttarkashi	4	6	0	7	8	0
Chamoli	20	9	115	163	31	0
Tehri Garhwal	4	3	11	54	17	6.3
Total	83	45	273	855	217	110.96

Source: Newsletter, 1 (1), 2007, DMMC, Department of Disaster Management, Uttarakhand

5.2 Earthquake

Earthquakes are the most visible of the disasters and impact the understanding of disasters. They have serious implications for the design of management and mitigation plans. Uttarakhand has had a history of at least one major quake in a century.

The State of Uttarakhand has witnessed two major earthquake events in the recent past (1991 Uttarkashi and 1999 Chamoli) that caused massive loss of human lives and infrastructure. Both these earthquakes occurred in the wee hours when the entire population was indoors and this enhanced human losses in these events.



Varunavat Landslide, Uttarkashi, Uttarakhand

Table 4: Details of major earthquake in Uttarakhand

S.No	date	Magnitude (Richter scale)	Epicenter at	Place	Loss
1.	20th October, 1991	6.6	30.75N latitude and 78.86E longitude with the focus lying at a depth of 12 kilometers	Uttarkashi	769 human lives
2.	29th March, 1999	6.8	30.41N latitude and 79.42 E longitude with a focal depth of 21 kilometers the quake had its epicenter at	six districts of the state that include Chamoli, Rudraprayag, Tehri Garhwal, Bageshwar, Uttarkashi and Pauri Garhwal with Chamoli and Rudraprayag	100 human lives and rendered thousands homeless in 500 villages

Source: <http://asc-india.org/lib/20060805-uttaranchal.htm>

5.3 Forest fire

Forest fires have become a basic issue of the forest and natural environment policies in most regions of the world. The fire suppression resources, has achieved an acceptable level according to the severity of this problem.

Forest fires generally occur in two phases late March and early April when the accumulation of fresh litter can burn, and May-June, when high temperatures, extreme dryness and winds turn deadwood and undergrowth into highly inflammable material. Uncontrolled forest fires, especially summer fires, can cause extensive damage to the biodiversity.



Jungle caught fire or fire was ignited by unscrupulous elements

Table 5: Forest fire affected by fire and the estimated loss during 1991-2001

Year	Fire Affected Area (Sq. Km)	Estimated Loss
1991	277	300
1992	359	200
1993	18	400
1994	60	400
1995	6220	139300
1996	55	1400
1997	12	200
1998	20	500
1999	600	1480
2000	2.32	80
2001	11.44	380

A detailed assessment of forest fires indicates that nearly 23 per cent of the forest was affected. Forest fire not only causes loss of timber but also damages the regeneration potential, soil system and cessation of increment of the existing stock.

Table 6: Forest cover affected by fire (sq Km)

Region/District	Forest Cover			Forest cover affected by fire			
	Dense Forest	Open Forest	Total Forest	Dense Forest	Open Forest	Total Forest	Percentage Affected by Fire
Kumaun							
Almora	2071	466	2537	786	72	858	33.82
Nainital	2928	640	3568	279	95	374	10.48
Pithoragarh	2188	808	2996	537	146	683	22.80
Sub Total	7187	1914	9101	1602	313	1915	21.00
Garhwal							
Chamoli	2530	622	3152	475	51	526	16.69
Dehradun	1243	327	1570	169	51	220	14.01
Garhwal	2207	969	3176	652	421	1073	33.78
Tehri	1811	749	2560	494	187	681	26.60
Uttarkashi	2634	465	3099	678	51	729	23.52
Sub Total	10425	3132	13557	2468	761	3229	23.80
Grand Total	17612	5046	22658	4070	1074	5144	22.70

Source: SoE Report, 2004

Feedback Form

Dear Information seeker,
ENVIS Centre, UEPPCB, Dehradun furnishes you with the services to collect and disseminate information related to environment of Uttarakhand. To share information with us you are requested to fill up the form given below:

Your feed back is valuable to us and will be highly appreciated.

Name:

Designation:

Department:

Address:

City:

State:

Country:

Pin:

ENVIS CENTRE TEAM

Dr. Yogita Kharayat
Senior Programme Officer
email:yogita_kh@rediffmail.com

Mrs. Sunaina Srivastava
Information Officer
email:sunainasri53@rediffmail

Mrs. Niharika Dimri
Data Entry Operator
email: niharika.dimri@rediffmail.com

USEFUL ENVIRONMENTAL WEB LINKS

[http:// www.uttaranchal.ws/ataglc.htm](http://www.uttaranchal.ws/ataglc.htm)
<http://www.wii.gov.in>
<http://asc-india.org/lib/20060805-uttaranchal.htm>

From:

ENVIS-CENTRE

Uttarakhand Environment Protection & Pollution Control Board
6-Vasant Vihar, Phase-I, Dehradun
Phone Tel-0135-2762257, web: www.envis-ueppcb.com
E-mail: info@envis-ueppcb.com