



ENVIS CENTRE, CHANDIGARH

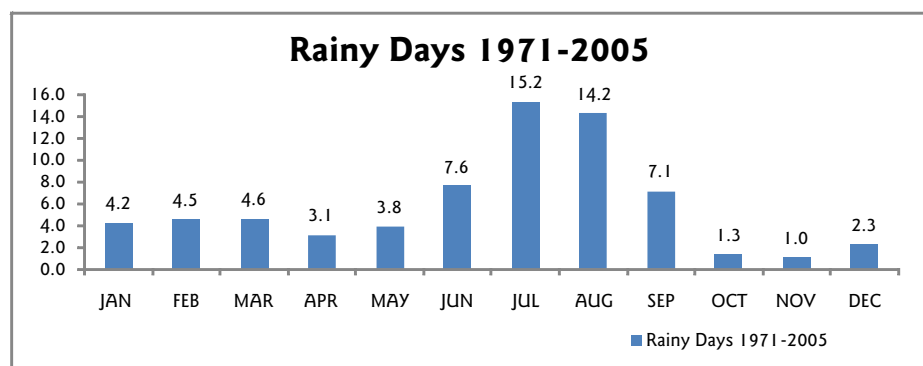
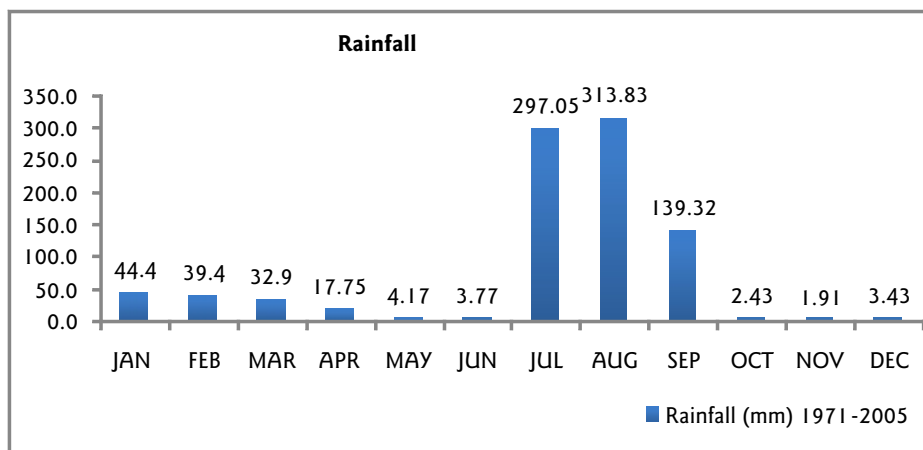
NewsLetter

P a r y a v a r a n P a t r a

Chandigarh State of Environment

Climate of Chandigarh

EDITORIAL



Chandigarh has a humid subtropical climate characterized by a seasonal rhythm: very hot summers, mild winters, unreliable rainfall and great variation in temperature (-1 °C to 41.2 °C). In winter, pieces of snow sometimes occurs during December and January. The average annual rainfall is Approx 1110.7 mm. The city also receives occasional winter rains from the west. The maximum rainfall is recorded in July and Aug with average 15 and 14 days of rainfall. The temperature in summer (from Mid-May to Mid-June) may rise to a maximum of 45 °C (rarely). Temperatures generally remain between 35 °C to 40 °C (94 - 101F).

Winters (November to Mid-March) are mild but it can sometimes get quite chilly in Chandigarh. Average temperatures in the winter remain at (max) 7 °C to 15 °C and (min) 0 °C to 8 °C. Rain usually comes from the west during winters and it is usually a persistent rain for 2–3 days with sometimes hail-storms.

Director, Environment

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Paryavaran Patra

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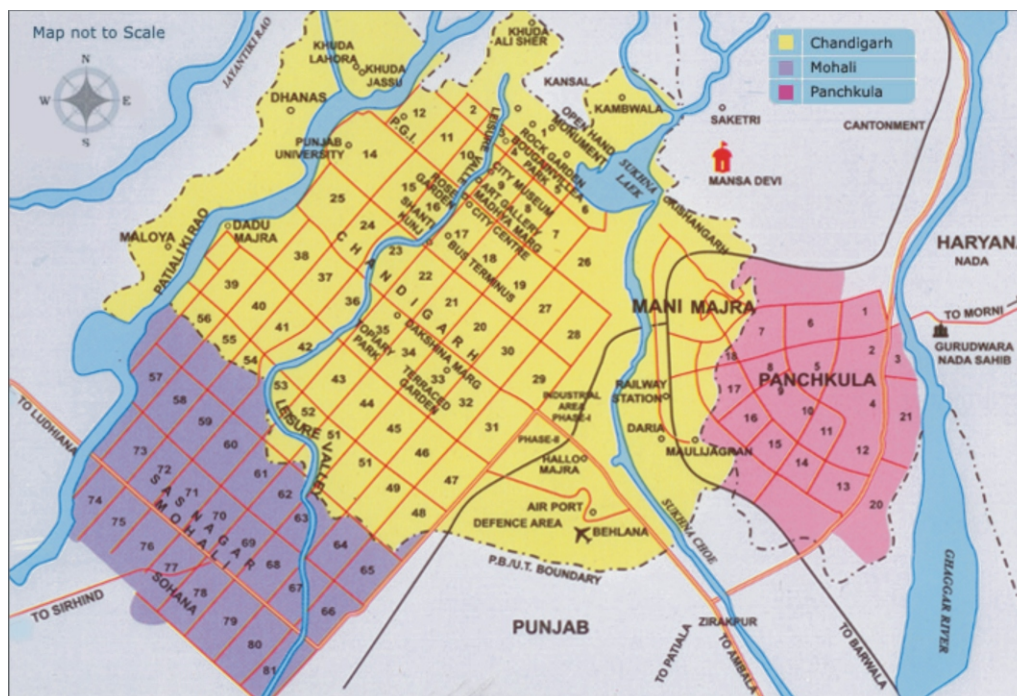
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(VOLUME 7.0.0)
Jan 2012 - Mar 2012
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Geography and climate



Geographically Chandigarh and adjoining regions of Punjab, Haryana, West Uttar Pradesh and Himachal Pradesh lie within the sub-tropical zone. The remarkable topography of this region comprising of the flat terrain with the loftiest and the most extensive mountain ranges to its north is mainly responsible for the extreme contrast in climate. Summer temperatures over the parts of this region are in excess of 45°C whereas winter temperatures over parts of this region are near to 0°C. In the winter season the region is affected by western disturbances moving eastwards and in the summer monsoon season the region is affected by monsoon systems moving westwards as well.

AVERAGE TEMPERATURE

Spring: The climate remains the most enjoyable part of the year during the spring season (from mid-February to mid-April). Temperatures vary between (max) 16 °C to 25 °C and (min) 9 °C to 18 °C.

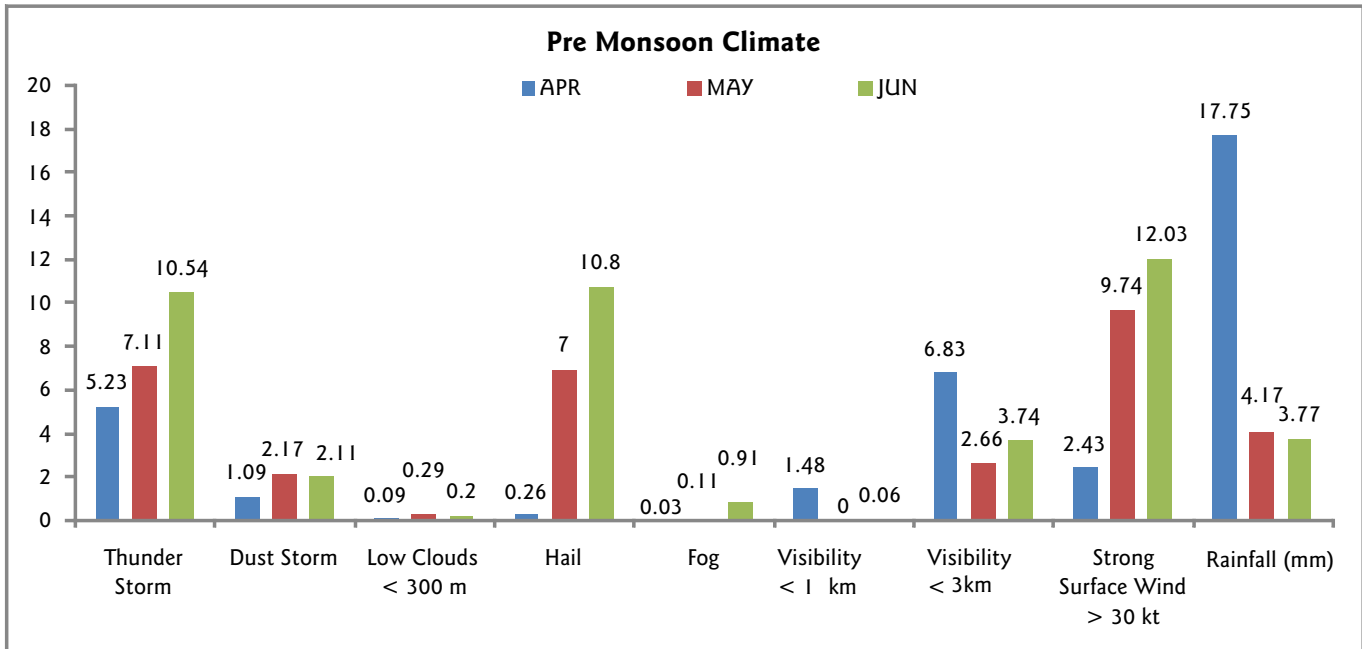
Autumn: In autumn (from Mid-September to mid November.), the temperature may rise to a maximum of 36 °C. Temperatures usually remain between 16° to 27° in autumn. The minimum temperature is around 11 °C.

Summer: The temperature in summer (from Mid-May to Mid-June) may rise to a maximum of 45 °C (rarely). Temperatures generally remain between 35 °C to 40 °C (94 - 101F).

Monsoon: During monsoon(from mid-June to mid-September), Chandigarh receives moderate to heavy rainfall and sometimes heavy to very heavy rainfall (generally during the month of August or September). Usually, the rain bearing monsoon winds blow from south-west/ south-east. Mostly, the city receives heavy rain from south (which is mainly a persistent rain) but it generally receives most of its rain during monsoon either from North-west or North-east. Maximum amount of rain received by the city of Chandigarh during monsoon season is 195.5 mm in a single day.

Winter: Winters (November to Mid-March) are mild but it can sometimes get quite chilly in Chandigarh. Average temperatures in the winter remain at (max) 7 °C to 15 °C and (min) 0°C to 8 °C. Rain usually comes from the west during winters and it is usually a persistent rain for 2–3 days with sometimes hail-storms

Pre Monsoon Climate



☞ General weather during this season remains hot and dry. However, this spell is broken by westerly systems and Induced lows, which move across Pakistan and J&K. The seasonal weather vis-a-vis aviation weather hazards can be characterised as under:-

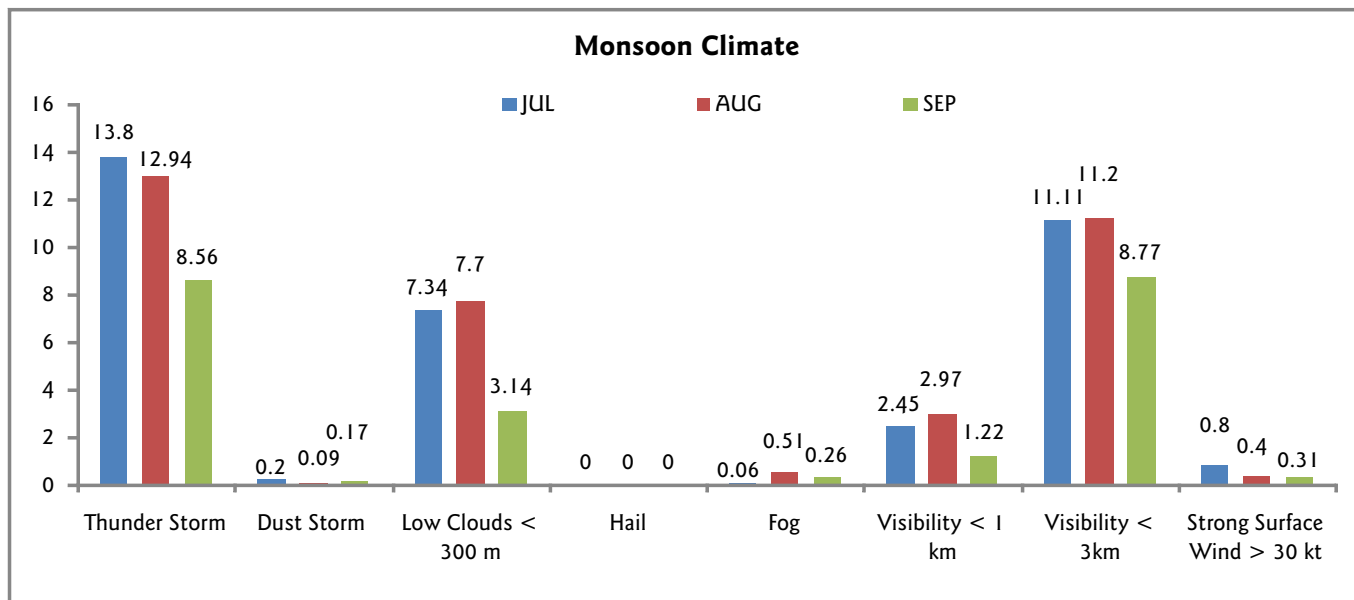
☞ (a) Surface Temperature. The temperature shows increasing trend till mid June, though average maximum temperature for the season is around 38°C, highest maximum temperature recorded was 45.6°C on 08 June 1995. May and June shows temperature exceeding 40.0°C on a number of days.

☞ (b) Visibility / Dust haze / DRW. When the low-pressure area is over central Pakistan with strong pressure gradient over northwest India in association with upper level trough, strong dry south/southwesterly winds resulting in thick dust haze / dust raising winds reducing visibility (< 3km over the region). This dust haze / dust raising winds over this base is more prominent if stations in Rajasthan (Nal and Suratgarh) and Bhatinda report dust haze / dust raising winds. At times surface as well as in-flight visibility reduces to < 1km thus hampering the flying. The frequency of dust haze increases from mid May till third week of June.



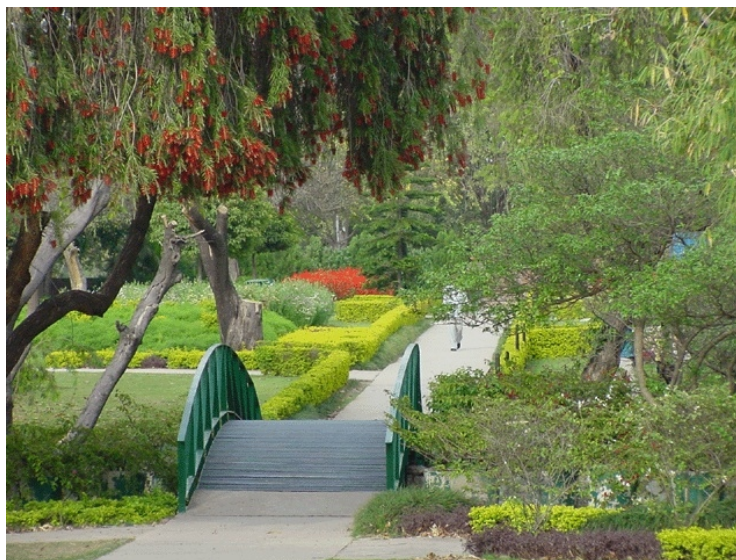
☞ (c) Thunder Storm / Dust Storm. Presence of western disturbance associated with cyclonic circulation / zone of convergence and supported by westerly trough, 4 to 6° west of low level system, results in wide spread thunder storm / dust storm activity over the base. These thunder storm / dust Storms are sometimes accompanied with wind speed exceeding 40-50 kt from westerly / northwesterly direction. Sometimes due to shifting of low level anticyclone to Bay, the moisture reaches North India resulting in wide spread convective activity over the region

Monsoon Climate



Brief analysis of aviation weather hazards are illustrated below: -

(a) Thunderstorm, Dust storm, Hail and Gale. Like pre-monsoon, this is also a season of very high frequency of thunderstorms. However, it is observed that as the season progresses, frequency of thunderstorm also decreases. Frequency of thunderstorm in July is 13.8 days, which comes down to 12.9 days in the month of August and further decreases to 8.6 days in the month of September. Unlike pre-monsoon the presence of Dust storm is not felt much. Incidence of Hail is practically nil during the entire season. However, Strong Surface Wind > 30 kt (Gale) shows its presence, particularly in the first month of the season.



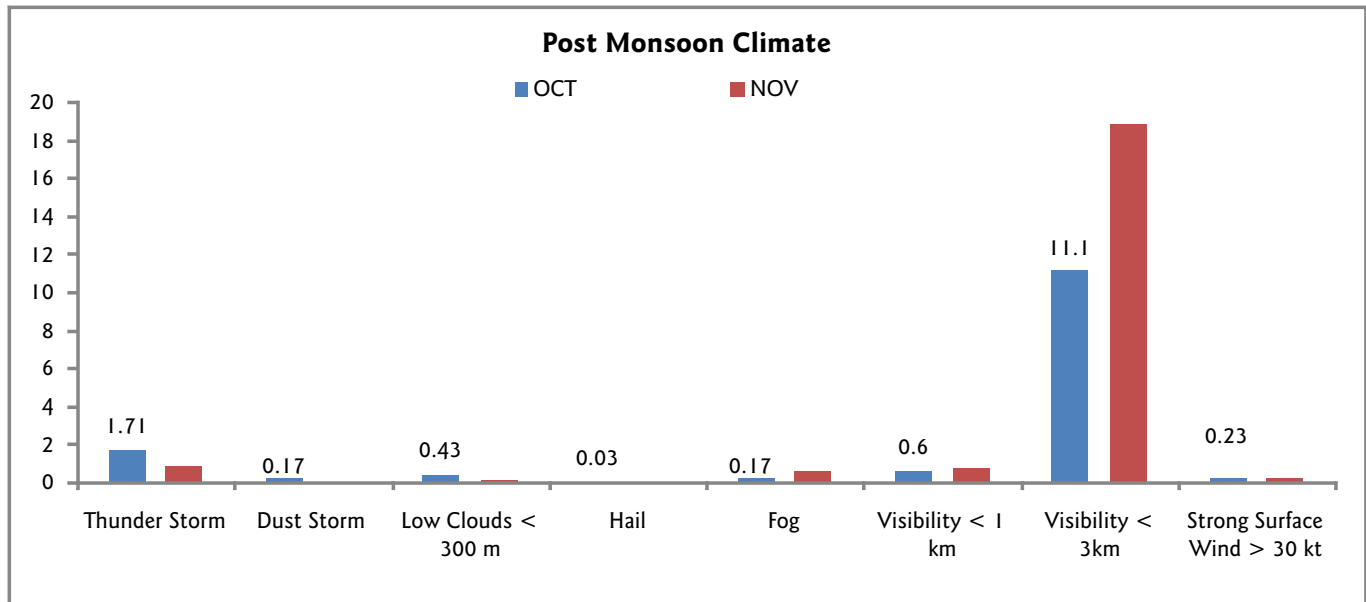
(b) Poor visibility. The main cause of poor visibility is precipitation. Poor visibility < 1 km is observed during heavy precipitation. In the case of poor visibility < 3 km it is felt on all the months of the season. In July and August frequency is 11 days each, which decreases to 8.8 days in September.

(c) Precipitation. Since, this season accounts for 75 - 80 % of annual rainfall, the first two months receives rainfall on 2 / 3 days of the month. It is 19.7 days in July and 19.2 days in August. The frequency reduces to 11.1 days in September.

(d) Low Clouds. Low clouds < 300 m is one of the main aviation weather hazards during this season. Its frequency is 7.3 days in July, 7.7 days in August and 3.1 days in September. The peak time of occurrence is in the morning between 0600 - 0900 hrs.

POST MONSOON CLIMATE

Post Monsoon Climate



☞ Generally good weather conditions prevail during this season, however this spell is broken by westerly system over J&K.

☞ (a) Thunderstorm. The frequency of thunderstorm reduces drastically in this season. The mean frequency of thunderstorm during October is 1.7 days, which comes down to 0.9 days in November. Most of the time thunderstorms occur in association with precipitation.

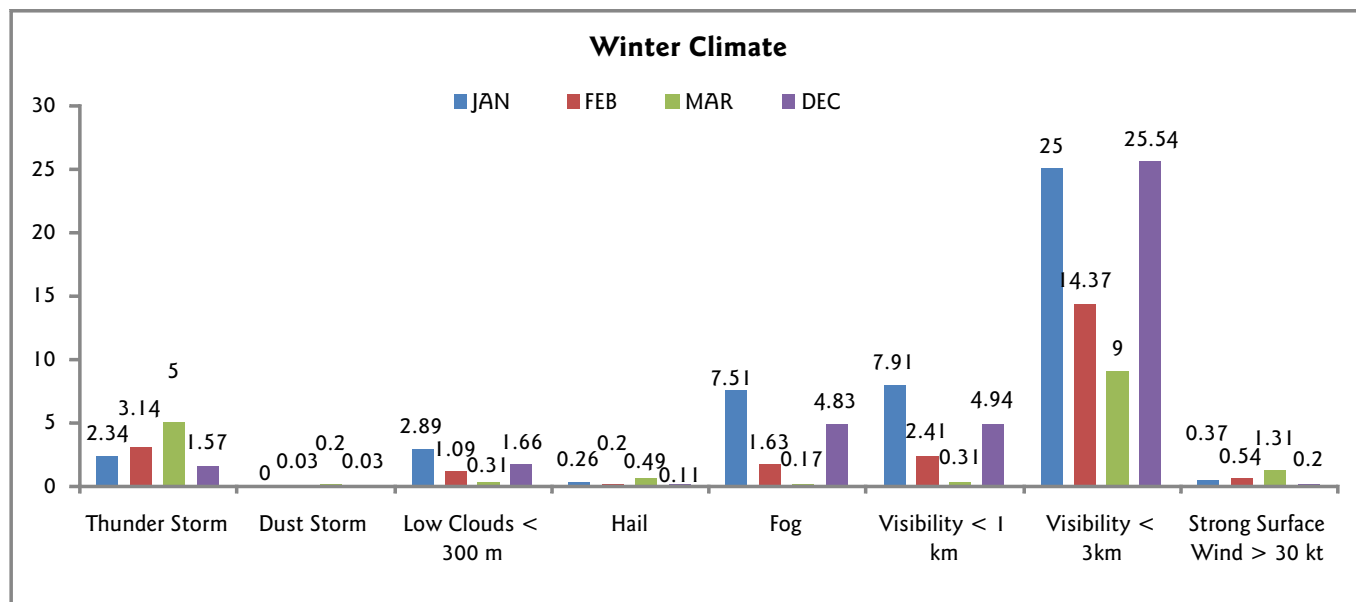
☞ (b) Poor visibility. The main cause of poor visibility is Haze / Mist and at times precipitation. Poor visibility < 1 km is observed during heavy precipitation and at times with Fog. Poor visibility < 3 km occurs in both the months of the season mainly due to Haze / S'Haze. The mean frequency of occurrence is 11 days in October and increases to 18 days in November.

☞ (c) Precipitation. As the rainy season is over, frequency of precipitation also reduces as the season progresses and is around 01 to 02 days only in both the months.

☞ (d) Low Clouds. The frequency of Low clouds < 300 m less than 01 day.



Winter



The seasonal characteristics of aviation weather hazards can be discussed as under.

(a) Weather. Clear skies, fine weather and poor visibility are the normal features in this month. These dry spells are broken at regular intervals by eastwards moving western disturbances. The active western disturbance / Induced low-pressure areas cause scattered to wide spread weather activity over northwest parts of the country. Inactive weather systems give rise to partly cloudy/cloudy weather with medium/high clouds.



(b) Visibility. Fog / mist / haze / smoke haze is a common feature in morning and evening hours through out the season and thus visibility is the most prominent and common aviation weather hazards in this season. At times under the favorable conditions fog remains through out the day on many occasions during the season.

(c) Surface Wind. Surface winds are generally west/northwesterly 10 - 15 kt during forenoon / afternoon hours, towards evening it becomes light and during night / early morning becomes variable to light northeasterly.

(d) Temperature. The lowest temperature of the year is recorded in this season. January is the coldest month for this base. Occasionally sub zero temperature are observed during third week of December to end of January. Diurnal temperature range is of the order of 15 degree centigrade. After the movement of active western disturbance across north India the fall



Dear Information Seeker,

ENVIS CENTRE, Chandigarh furnishes you with the services to collect and disseminate information related to environment of Chandigarh. To share information with us you are requested to fill up the form given below.



Your feedback is valuable to us and will be highly appreciated

- Name _____
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- Address _____
_____ City _____
- State _____ Country _____ Pin _____
- Phone _____ Fax _____
- Email _____

Your views on scope of improvement :

- Interest Area _____

I would like to have information on following :



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(Data Entry Operator)

Rain Fall in Chandigarh

- ☞ Mean yearly rainfall is approx 1100 mm
- ☞ The major amount of rainfall is during the months of July, August and September because of south west monsoon.
- ☞ Rainfall drastically reduces during October, November and December.
- ☞ A second insignificant maxima of rainfall is during the winter months.
- ☞ The number of days of rainfall is significant in the months of July and August.
- ☞ The lowest number of days is during the month of October to December.



Winged Guests of Winters



Heavenly Pleasant Monsoon



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To,

Book Post

Note : While every care has been taken in compilation of the information available for this newsletter. However, readers must make thorough confirmation/enquiries at their own level before acting upon any data/information provided to the readers. Any discrepancy brought in the notice of ENVIS CENTRE, Chandigarh will be highly appreciated.

