

## Rainfall distribution in Latur District: A Geographical Study

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### Abstract

A study of rainfall distribution is of immense help in agricultural planning and development. The present paper is an attempt to identify spatial distribution of rainfall on ten tehsils of Latur District. For this purpose ten tehsils of Latur district have been selected. The author use data from the Secondary sources. *Rainfall distribution in Latur District* is very using full to assess rainfall pattern in the study region. People of the study region basically depend on primary activities such as Agriculture activities. Most of the agriculture depends on Monsoon, so economic condition of most of the rural area of the study region is not up to the mark. Agriculture is the prime occupation in the study region. In the study region there is variation of rainfall distribution in case of spatial as well as seasonal. The study used taluka wise rainfall data from the last 21 years of Latur district .The analysis shows that uneven rainfall distribution in the study region.

**Key Words:** Rain fall, Monsoon, Planning, Uneven, Region, Study

### Introduction:

Latur district is a district of Marathwada division in the state of Maharashtra. The average rainfall of Latur district is 70 cm to 80 cm. Most of the rainfall comes from southwest monsoon. Latur district receives 84.10% of its rainfall from southwest monsoon. Most of the economy of Latur district is based on agriculture, so the role of rainfall is very important. Agriculture in Latur district is also dependent on rainfall. Even in the barrages that are built in the reservoirs, the amount of water storage depends on the amount of rainfall receives in monsoon. There are ten taluks in Latur district. In these ten taluks, the distribution of rainfall is uneven. This area is located on the Balaghat Plateau at an altitude of 630 m above sea level. Latur is the largest soybean trading center in India . The climate of the region is hot, and dry. The main occupation of the people here is agriculture and this agriculmostly on rain and ground water. Agriculture plays a major role in the .overall economy of the district as food grains, cash crops and commercial crops are grown from agriculture . This study is useful to understand the distribution of It is necessary to .nd groundwater level rainfall a This study is also useful for water .understand the utility of ground water in human life and use it properly .water resources management and conservation ,its supply ,resources

### Study Region

For the present research paper, Latur District (Maharashtra State) of Marathwada region is selected as a study region. Marathwada is the region comprising the eight districts. Latur district is one of the district in the Marathwada region. ghat Plateau at of 630 m above sea level This area is located on the Bala . Latur district has ten talukas. There are 948 villages in latur district. Latur district is located in south east part of state. It lies between 17 52' N to 18 50' N latitude and 76 18' E to 77 12' E longitude. The total geographical area of district is 7157 sq. Km which contributes 2.39 percent of the state and 11.34% of Chhatrapati Sambhajnagar division. According to the 2011 census, the total rural population of the district was 1829216. and total population was 2454196.

### Objectives

- 1) The main objective of this study is to assess the taluka wise rainfall distribution
- 2). To know the geographical situation of the study area
- 3) To know the natural factors affecting on Rainfall distribution

### Data Sources and Methodology:

For the present research paper data has been collected through secondary sources. Secondary data is collected from Zilla Parishad Latur district. Socio Economic Survey Abstract of Latur District. Census hand book, district statistical abstract District Senior Geologist, Groundwater Survey and Development Latur, journal and internet. Secondary information has been used for writing the present paper Published and . unpublished information has been used for the study

The primary and secondary data thus collected is processed. The processed data is presented in the form of table, graphs, and diagrams.

#### Precipitation in Latur District :

The climate of Latur district is mainly monsoon type. There are three main seasons found in Maharashtra as well as Latur district. Summers are very hot and winters are mild cold. The rainy season, available from June to September. Annual average Precipitation of the district 765mm .It's over, Rainfall in the district increases from north to North-East. 84.10% of the total annual rainfall in the district receives in monsoon season during June to September.

There is uneven distribution of Rain fall in the study region. There are average 47 rainy days in the district. Lowest rainy days 42 found in Ausa tehsil and highest rainy days 49 in Ahmedpur and Udgir tahsil. .

#### Analysis of Rain fall Distribution in Latur District:

In this research paper data of last 21 years is used of analysis (2001 to 2021).Latur district is part of Marathwada division. Rainfall is main sources of Agriculture activities .Agriculture is backbone of Latur district economy. Latur district has 10 talukas .Average rain fall of the district is 75 cm. Latur district receives moderate rain fall. But in some times it receives less than average ,due to this, study region faces so many problems like scarcity of water for drinking purpose as well as other uses like lack of water for industry ,agricultural activity and other uses. So rain fall is playing very vital role in overall development.

#### 1. Taluka wise Rain fall in Latur District (2001 -2011)

The average rain fall during 2001-2011, in the district is 695.1 mm. The year 2005 recorded the highest rainfall and the average rainfall for this year was 1014 .mm . In the year 2006 recorded lowest rainfall in the period of 2001 to 2011. In the study region less than average Precipitation receives in talukas like Latur, Shirur Anantpal, Deoni, Jalkot and Nilanga . In the study region more than average Precipitation receives in talukas like Renapur, Ahmedpur, Chakur Ausa and Udgir

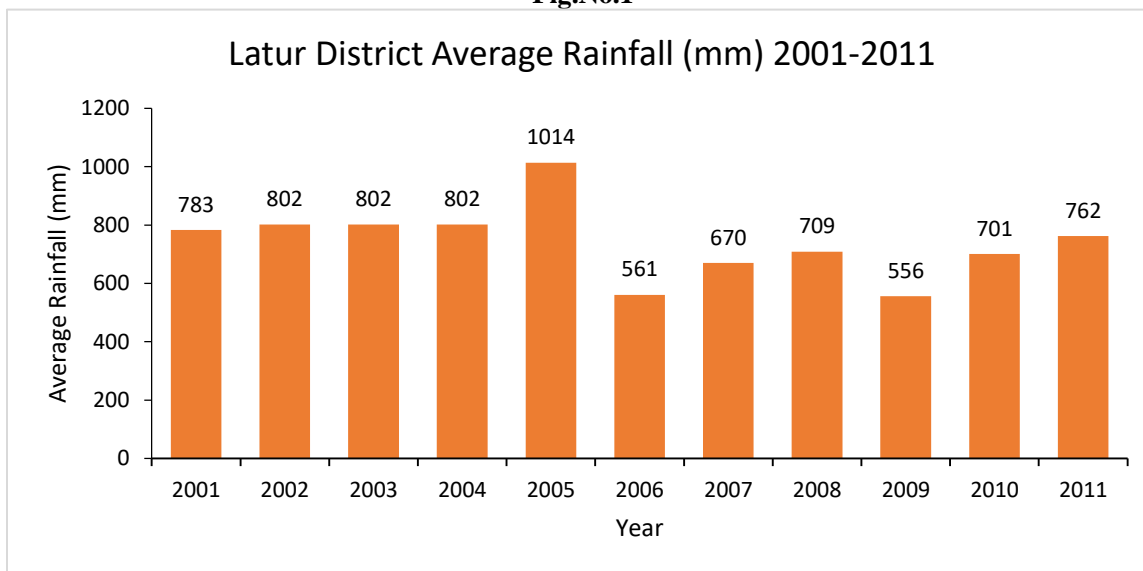
**Table 1.1 Rainfall in Latur District (mm) Year 2011-2001**

S.No.	Taluka	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average (2001-11)
1	Latur	714	714	714	714	1094	810	734	781	652	770	583	626
2	Renapur	712	714	714	714	1027	525	693	766	523	710	860	724
3	Ahmedpur	846	880	880	880	1006	670	512	540	450	740	830	784
4	Chakur	780	880	880	880	1062	744	692	744	500	796	1008	815
5	Ausa	813	813	813	813	922	426	613	658	521	710	819	712
6	Nilanga	711	711	711	711	962	581	575	644	588	688	565	562
7	Udgir	902	902	902	902	1027	582	700	733	499	794	523	770
8	Shirur Anantpal	-	-	-	-	-	398	673	754	614	610	634	614
9	Deoni	-	-	-	-	-	475	781	719	435	603	986	666
10	Jalkot	-	-	-	-	-	399	736	753	779	592	810	678
	average	783	802	802	802	1014	561	670	709	556	701	762	695.1

**Table no1.1 shows that lalukawise and year wise rainfall information of Latur district (2001-2011).**

In the year 2005 study region receives maximum rain fall and in 2006 receives less rain fall. Chakur taluka receives highest rainfall and Nilanga taluka receives less rain fall.

Fig.No.1



**2. Taluka wise Rain fall in Latur District (2012 -2019)**

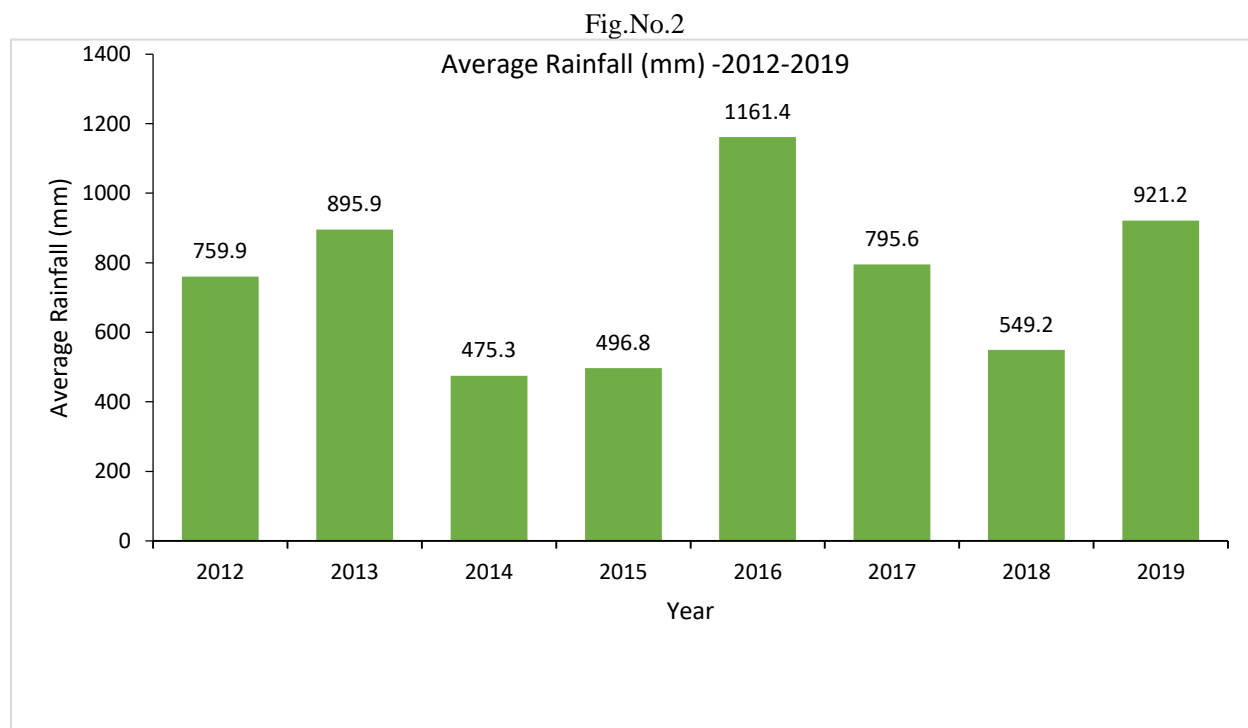
During the period 2012-19 average rainfall in the study region is **756. 57mm** . In the year2016 recorded the highest rainfall **1161.4 mm**. In the year 2014 recorded lowest rainfall during the period of 2012 to 2019. In the study region less than average precipitation found in talukas like Latur, Shirur Anantpal, Ausa and Udgir. In the study region more than average precipitation found in talukas like Renapur, Ahmedpur, Chakur.Deoni, Jalkot, and Nilanga during 2012 to 2019 year.

**Table No.1.2 (Rainfall in Latur District (mm (Year-2012 2019)**

A.No	Talukas	2012	2013	2014	2015	2016	2017	2018	2019	Average
1	Ahmedpur	839.3	1000	487.3	399.8	1174.6	799.4	606	886.4	<b>774.1</b>
2	Ausa	523.9	831.5	398	413.2	1009.6	722.1	531	1019	<b>681.03</b>
3	Chakur	819.3	851	556.2	469.3	1320.4	885.8	613.6	794	<b>788.7</b>
4	Deoni	962.9	976.6	502.6	649.7	1131.2	879.5	477.2	1046	<b>828.2</b>
5	Jalkot	1008	876	431	506.5	1164	766.1	556.9	972.9	<b>785.1</b>
6	Latur	582.7	758.2	506.2	483.7	1038.6	767.6	445.1	804.8	<b>673.3</b>
7	Nilanga	636.2	940.5	524.8	573	1186.2	774.4	621.1	1027	<b>785.4</b>
8	Renapur	860.4	867.5	455.3	577.7	1224.5	952.6	532.2	856.3	<b>790.7</b>
9	ShIrrur Anantapal	565.6	874.7	465.7	480	1275.9	771.9	596.8	900.4	<b>740.2</b>
10	Udgir	800.5	983.4	426	415.9	1088.7	636.7	512.5	904.8	<b>721.06</b>
	<b>Average</b>	<b>759.9</b>	<b>895.9</b>	<b>475.31</b>	<b>496.8</b>	<b>1161.4</b>	<b>795.6</b>	<b>549.2</b>	<b>921.2</b>	<b>756.7</b>

**District Social and Economic Review Source**

**Table No 1.2 shows that lalukawise and year wise rainfall information of Latur district.** In the year 2016 study region receives maximum rain fall and in 2014 receives less rain fall.Deoni taluka receives highest rainfall and Latur taluka receives less rain fall.



#### 4. Annual Rain fall Distribution year 2001 to 2021.

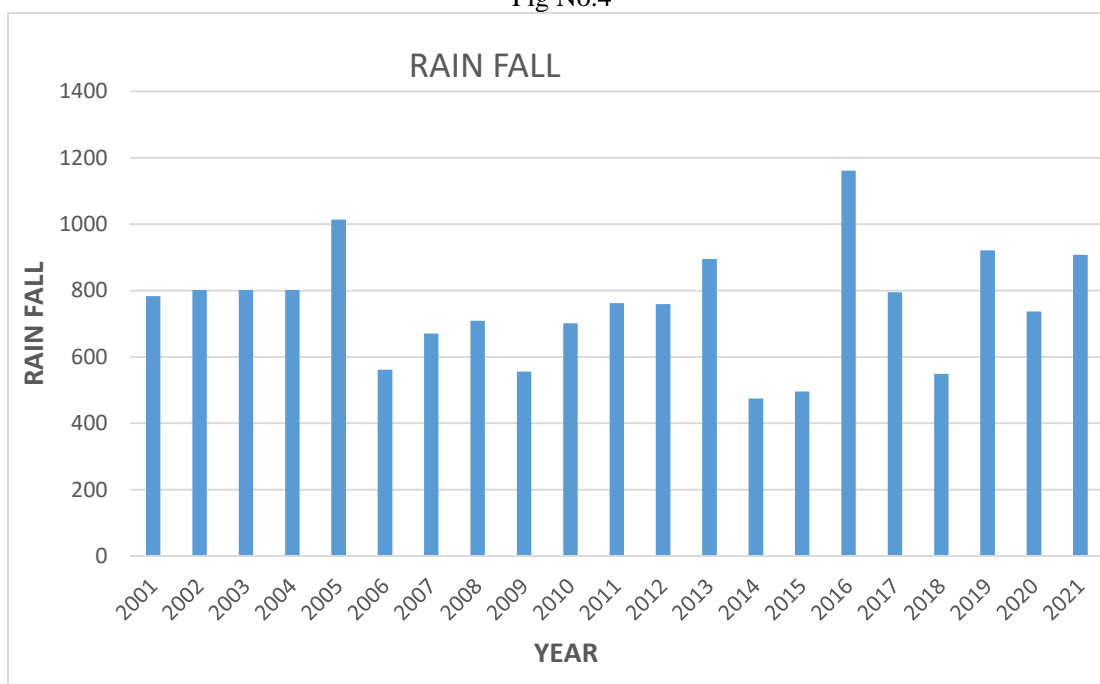
Table no 1.4 showing the annual rain fall received by study region from 2001 to 2021. In this duration, year 2016 receives highest rain fall while 2014 receives minimum amount of rain fall and average rain fall during last 21 years is 76 cm. During the period of 2001 – 2021, in Latur District Seasonal rainfall is shown. These figures indicate that 2016 is the year with the highest seasonal rainfall at 1161 mm. The lowest is the rainfall recorded in 2014 was 475 mm. There is much more variation in the rain fall distribution in the study region. In the 21 years of span we observed that year 2014 and 2015 Latur district receives less than 500 mm rain fall. Year 2005 and 2016 have experience of more than 1000mm rain fall. Eight times study region receives less than average rain fall. Due to this study region face water scarcity as well as less in agriculture production also. When the study region receives less than average rain fall then district faced drinking and domestic water problem.

**Table no. 1.4 Latur District Annual Rain fall Distribution.**

YEAR	RAIN FALL (MM)
2001	783
2002	802
2003	802
2004	802
2005	1014
2006	561
2007	670
2008	709
2009	556
2010	701
2011	762
2012	759
2013	895
2014	475

2015	496
2016	1161
2017	795
2018	549
2019	921
2020	736.9
2021	907.7

Fig No.4



**Conclusion:**

Studying the last 21 years rainfall data of Latur district shows that the average rainfall in Latur district is 765 mm. considering the rainfall in the last 21 years it is seen as the average of the study area. Due to below average rainfall, Latur district faced severe water shortage and therefore Latur had to bring water from Miraj Sangli by rail only due to less amount of rainfall. Looking at the trend of last 21 years, in the year 2016 is the highest rainfall in Latur district. During year 2001To2011 Nilanga taluka shows the lowest rainfall while Chakur taluka has the highest rainfall. During the period 2012 to 2019. Latur taluka has receives lowest rainfall and Deoni taluka has the highest rainfall. Distribution of high rainfall in eastern region moderate rainfall distribution in western region while low rainfall distribution is observed in southwestern region of the study region. After studying the rainfall distribution in Latur district it is observed that the average rainfall in Latur district, during the last 21 years. But the distribution of rainfall is uneven in annual as well as taluka wise. There is much more variation in the rain fall distribution in the study region. In the 21 years of span we observed that year 2014 and 2015 latur district receives less than 500 mm rain fall .Year 2005 and 2016 have experience of more than 1000mm rain fall. Eight times study region receives less than average rain fall. Due to this, study region faced water scarcity as well as less in agriculture production also. When the study region receives less than average rain fall then district faced drinking and domestic water problem.

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