



**National Agromet Advisory Service Bulletin**  
**Based on**  
**Extended Range Weather Forecast (ERFS)**

**Validity: (22<sup>nd</sup> November to 5<sup>th</sup> December 2019)**

**Date of issue: 22<sup>nd</sup> November 2019**

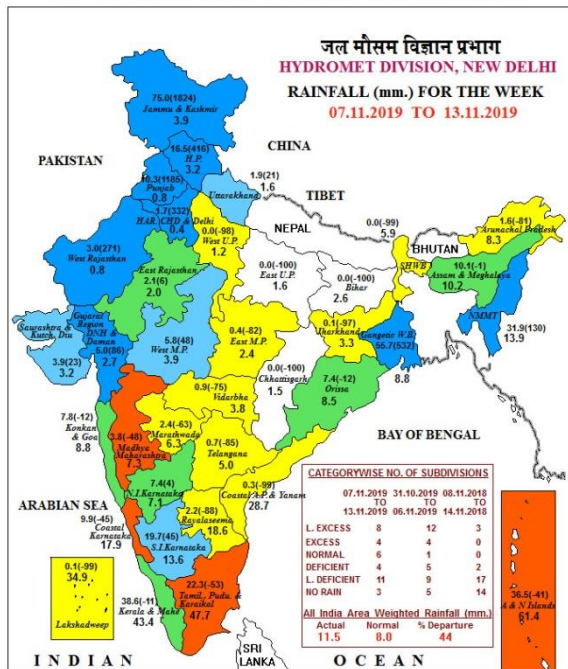
**Issued by**  
**Indian Council of Agricultural Research (ICAR)**  
**All India Coordinated Research Project on Agricultural Meteorology (AICRPAM),**  
**Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad.**  
**&**  
**Earth System Science Organization**  
**India Meteorological Department**

## Realized Rainfall and Extended Range Forecast (Rainfall and Temperatures)

### Realized Rainfall

(7<sup>th</sup> to 20<sup>th</sup> November, 2019)

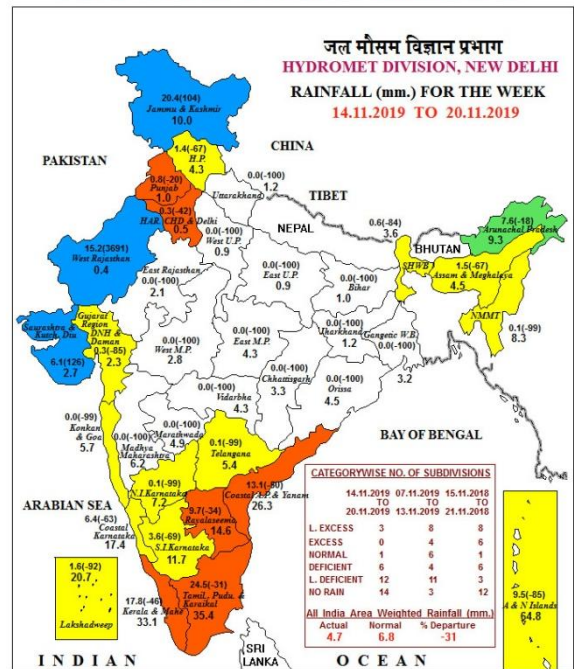
#### भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



**LEGEND:** L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)  
DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

**NOTES:**  
(a) Rainfall figures are based on operational data.  
(b) Small figures indicate actual rainfall [mm.], white bold figures indicate Normal rainfall [mm.]  
Percentage Departures of Rainfall are shown in Brackets.

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(a) Rainfall figures are based on operational data.  
(b) Small figures indicate actual rainfall [mm.], white bold figures indicate Normal rainfall [mm.]  
Percentage Departures of Rainfall are shown in Brackets.

- Normal or above normal rainfall occurred in both the weeks in Jammu & Kashmir, West Rajasthan and Saurashtra & Kutch.
- Normal or above normal rainfall occurred in either of the two weeks in Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, East Rajasthan, Gujarat Region, West Madhya Pradesh, Konkan & Goa, Odisha, Gangetic West Bengal, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura (NMMT), North Interior Karnataka, South Interior Karnataka and Kerala & Mahe.
- Below normal rainfall/no rain occurred in both the weeks in Sub-Himalayan West Bengal & Sikkim, East Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Marathwada, Vidarbha, Coastal Karnataka, Telangana, Andhra Pradesh & Yanam, Tamil Nadu Puducherry & Karaikal, East Uttar Pradesh, Bihar, Jharkhand, Lakshadweep and Andaman & Nicobar Islands.

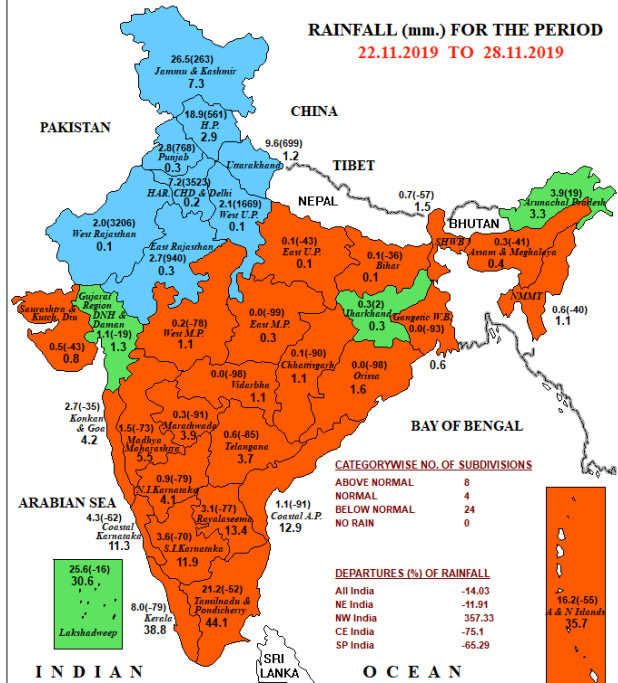
## Extended Range Forecast System

### Rainfall forecast maps for the next 2 weeks (IC – 20 November)

(22<sup>nd</sup> November to 5<sup>th</sup> December 2019)

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**Rainfall Forecast Map - Normal RF Based Categories**

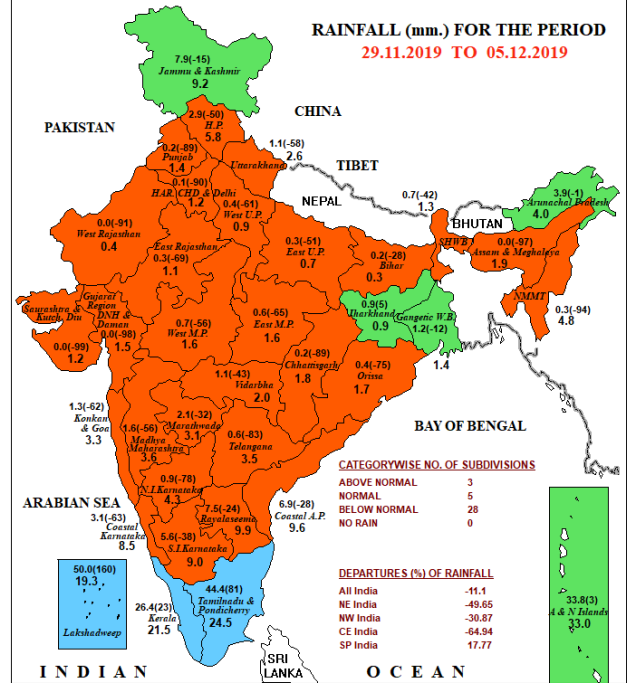


**LEGEND:** ■ ABOVE NORMAL (+20% OR MORE) ■ NORMAL (+19% TO -19%)  
■ BELOW NORMAL (-20% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

**NOTES:**  
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 Percentage Departures of Rainfall are shown in Brackets.

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**Rainfall Forecast Map - Normal RF Based Categories**



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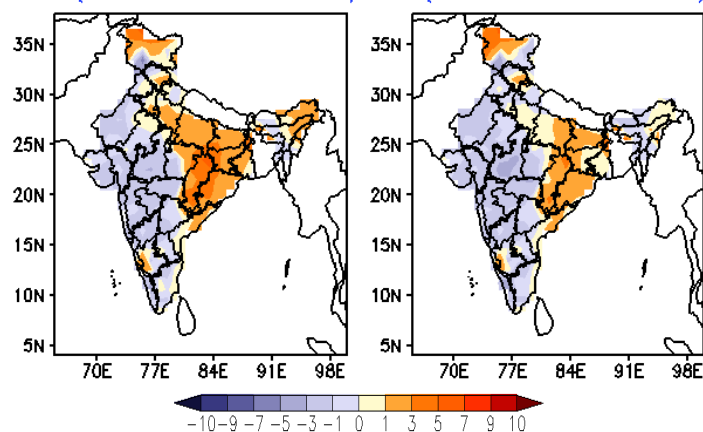
- **Week 1 (22.11.2019 to 28.11.2019):** Western Disturbance associated precipitation over extreme north India met-subdivisions (Jammu & Kashmir, Ladakh, Himachal Pradesh, Punjab, Haryana and Uttarakhand) during week 1. Extreme south peninsula will also get slight northeast monsoon rainfall, although it will be below normal.
- **Week 2 (29.11.2019 to 05.12.2019):** Northeast monsoon rainfall over south peninsula is expected to increase.

**Maximum and Minimum temperature anomaly ( $^{\circ}\text{C}$ ) forecast  
for next 2 weeks (IC – 20 November)  
(22<sup>nd</sup> November to 5<sup>th</sup> December 2019)**

**MME forecast Tmax anomaly (Deg C)**

(Week1: 22Nov–28Nov)

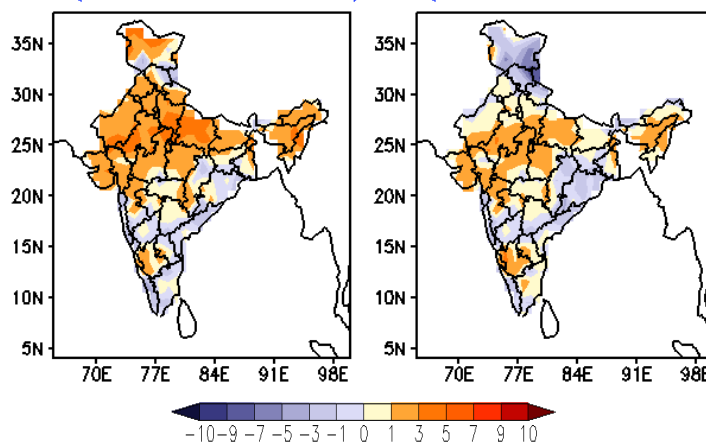
(Week2: 29Nov–05Dec)



**MME forecast Tmin anomaly (Deg C)**

(Week1: 22Nov–28Nov)

(Week2: 29Nov–05Dec)



**Maximum Temperature (Tmax)**

- **Week 1 (22.11.2019 to 28.11.2019) and Week 2 (29.11.2019 to 05.12.2019):** Tmax anomaly will be mostly negative over central, western and southern parts of India. However, over the eastern parts over Indo Gangetic Plain, extreme northern most parts of India and northeast India it will be above normal.

**Minimum Temperature (Tmin)**

- **Week 1 (22.11.2019 to 28.11.2019) and Week 2 (29.11.2019 to 05.12.2019):** Above normal Tmin expected over northern and central parts of India.

## **Strategic Agricultural Planning based on rainfall during next two weeks till 5th December 2019**

### **Agromet Advisories**

#### **Kerala**

Amount of rainfall received over Kerala during the period from 01 Oct. - 21 Nov. 2019 is 579.6 mm (34% excess). The extended range weather forecast for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) is below normal for week 1 and above normal for week 2.

- Due to cloudy weather, there is a chance of leaf folder attack in Mundakan Paddy. It can be controlled by using trichogramma cards (2CC per one acre). If the attack is severe, spray Quinalphos @ 2ml/liter of water.
- There is a chance of attack of spodoptera in banana and vegetables. Destroy the affected leaves along with the spodoptera.
- There is a chance of mahali disease in arecanut during rainy season. Therefore, spray 1% Bordeaux mixture as a prophylactic measure. Take necessary phyto sanitary measures and provide proper drainage facilities.

#### **Tamil Nadu**

Amount of rainfall received over Tamil Nadu is 288.7 mm (-8% deficit) during the period of 01 October to 21 November 2019. The extended range weather forecast for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) is below normal for week-1 and above normal for week 2.

- Prevailing weather condition is favorable for leaf hopper incidence in cotton. It is advised to spray any one of the insecticides (500 litre spray fluid/ha), Imidacloprid 200 SL @ 100 ml or Methyl demeton 25 EC 500ml/ha or Dimethoate 30 EC 500 ml/ha or NSKE 5% @ 2 kg/ha.
- Prevailing weather condition is favorable for sucking pest bean aphids and leaf hopper incidence in pulses. To control the incidence, spray any one of the insecticides (Spray fluid 500 litre/ha) Emamectin benzoate 5%SG 220 g/ha or Indoxacarb 15.8%SC 333 ml/ha or NSKE 5% twice followed by triazophos 0.05%.
- To control shoot fly in sorghum, spray any one of the insecticide Dimethoate 30 EC @ 500 ml/ha or neem seed kernel extract 5%.
- Farmers are advised to monitor fall army worm incidence (Spodoptera Frugiperda) in maize. To control the incidence, spray any one of the insecticide Azardirachtin 1 EC @ 2 ml/l or Thiodicarb 75 WP @ 2 g/litre or Emamectin benzoate 5 SG @ 0.4 g/litre or Spinetoram 12 SP @ 0.5 ml/litre.

#### **Maharashtra**

Rainfall received over Madhya Maharashtra is 227.2 mm (149% large excess), over Marathwada is 255.6 mm (193% large excess), Vidharbha is 63.8 mm (-7% deficit) and Konkan region 281.3 mm (115% large excess) during 01 Oct. - 21 Nov. 2019. The extended range weather forecast for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) over Madhya Maharashtra, Marathwada, Konkan, Vidharbha are below normal for week-1 and week-2.

### *Konkan*

- Due to cloudy and humid weather condition, there is a possibility of incidence of tea mosquito bug and thrips in vegetative flush of cashewnut. To protect the flush of cashew, spray Profenophos 50% EC @10 ml/10 litre of water.
- Situation of clear sky and increase in temperature may lead to accelerate evaporation, hence provide irrigation to arecanut orchard at 4 to 5 days interval.
- Due to cloudy and humid weather condition, there is a possibility of incidence of anthracnose on new flush of mango. If incidence is noticed, spray 1% Bordeaux mixture or 0.1% Carbendazim 10 g per 10 litre of water.

### *Madhya Maharashtra*

- For control of sucking pest in Pomegranate, Custard apple and Ber, spray Rogor (Dimethoate)@1.5 ml/litre of water.
- For the control of Alternaria leaf spot and leaf eating caterpillar safflower, spray Carbendazim+ Mancozeb combine fungicide @200 g + *Cypermethrin* @15 ml/10 litre of water.
- Vijay and Digvijay variety of chickpea should be used for sowing in dryland area.

### *Vidharbha*

- In pigeonpea at bud initiation and flowering stage, install pheromone traps at a distance of 50 m @ 5/ha for monitoring of Helicoverpa. For control of initial infestation, spray of 5% neem seed extract. For leaf folder remove the webbed leaves along with larvae and destroy them.
- Transplanting of 4-6 week old seedlings of tomato, cabbage and cauliflower and seed sowing of onion nursery, radish carrot, leafy vegetables can be initiated during this period.

### *Marathwada*

- For management of pod borer in pigeon pea crop, take a spray of Quinalphos 25 % @ 20 ml or Emamectin benzoate 5 % @ 4.4 g/10 litre of water.
- For management of pink bollworm in cotton crop, make use of pheromone traps @ five/hector. Spray of Thiodicarb 75 WP @ 20 gm or Imamectin benzoate 5 % SG @ 4 g/10 litre of water is advised.

### **Gujarat**

Amount of rainfall received over Gujarat is 82.6 mm (240% large excess) during 01 Oct. to 21 Nov. 2019. The extended range weather forecast provided for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) over Gujarat region is normal for week 1 and below normal for week 2.

- Prepare land for the sowing of potato. Recommended short duration cultivars of potato are Punkharaj, Kufari Chandramukhi, Kufari Jawahar, Kufari Bahar, Asoka; long duration cultivars viz., Kufari Laukar, KufariJyoti, Kufari Badshah, Kufari Sinduri, Satalaj etc.

- In pigeon pea crop, Fenvalerate 20% SC@5ml/10litre of water spray is advised for effective control of heliothis and pod fly at the stage of initiation of flowering and 50% of pod formation.

### **Rajasthan**

Rainfall received during 01 Oct.- 21 Nov. 2019 over East Rajasthan is 32.4 mm (70% large excess) and over west Rajasthan is 39.8 mm (342% large excess). The extended range weather forecast for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) over East Rajasthan is above normal for both weeks and below normal for both weeks.

- This is right time for normal sowing of wheat as the mean temperature is around 20°C and suitable for sowing of wheat for getting higher yield. The improved varieties are Raj-4037, Raj-3077, Raj- 3765, HD-2864, GW-322, Raj-1555, HI-8498, HI-1544 and Lok-1.
- Complete sowing of barley during this week. Improved varieties are: RD-2052, RD-2503, RD-2715 (Dual purpose), and RD-2552.
- Weather is also suitable for transplanting of onion and garlic.

### **Jammu**

Rainfall received during 01 Oct.-21 Nov. 2019 in Jammu is 129.8 mm (125% large excess). The extended range weather forecast for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) is above normal for the week 1 and normal for week 2.

- Due to availability of sufficient moisture in the soil, farmers are advised to continue the sowing of various wheat varieties viz., PBW-644, WH-1080 and PBW-396 for rainfed areas and PBW-550, DBW-16, Raj-3077, RSP-303, WH-1105, HD-2987 under irrigated area.
- Due to availability of sufficient moisture in the soil, Application of 1<sup>st</sup> dose of urea is advised in the rapeseed and mustard crop.
- Attack of hairy caterpillar is observed in all cole crops. Spray of Dichlorovos @ 1.0ml/litre of water or Chloropyrifos 20EC @ 1.5ml/litre of water during clear weather at weekly interval is advised.

### **Jharkhand**

Amount of rainfall received over Jharkhand is 132.9 mm (62% large excess) during 01 Oct. to 21 Nov. 2019. The extended range weather forecast provided for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) over Jharkhand is normal for week-1 and week-2.

- If sufficient moisture is available in the fields, farmers can select rainfed improved varieties like C 306, K 8027, HDR 77 and HD 2643 (Ganga) etc. Farmers having five to six irrigations can go for irrigated (upto Nov) varieties like K9107, HUW.
- Farmers opting for mustard crop, may prepare their fields and select the improved varieties of seed like Shiwani, Pusa Bold, Pusa mustard.
- The recommended varieties for Deshi (indigenous) gram are BG-372, BG-256, KWR-108, Pant G-186, Pant G 114 and for Kabuli gram are HK-94-134, BG-1053, BG-1003 etc.

## Chhattisgarh

Amount of rainfall received over Chhattisgarh is 101.0 mm (50% excess) during 01 Oct. to 21 Nov. 2019. The extended range weather forecast provided for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) over Chhattisgarh is below normal for week-1 and week-2.

- After rice harvesting residual moisture should be properly conserved and can be utilized for *rabi* crops sowing by zero seed drill.
- Newly borne calves should be prevented from exposure to cold condition. Floor should be covered with paddy straw litter which provides insulation. All milch animals should be kept in specially protected and cattle sheds during night.

## Odisha

Amount of rainfall received over Odisha is 186.8 mm (57% excess) during 01 Oct. to 21 Nov. 2019. The extended range weather forecast provided for next two weeks 22 -28 Nov. and 29 Nov.-05 Dec. 2019) over Odisha is below normal for week-1 and week-2.

- The prevailing cloudy weather may aggravate the infestation of aphid in pulses and powdery mildew in pulses and clole crops pulses. Spray Imidachloprid 5 ml/10 litre of water or Metacystox 20 ml/10 litre of water to control aphid and spray 50 g Sulfex per 10 litre water to control powdery mildew is advised.
- Give staking to Banana to avoid breaking of trees during heavy wind conditions.

## Himachal Pradesh

Amount of rainfall received over Himachal Pradesh is 42.7 mm (9% normal) during 01 Oct. to 21 Nov. 2019. The extended range weather forecast provided for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) on rainfall over Himachal Pradesh is above normal for week 1 and below normal for week 2.

- Dingri mushroom can be sown in closed room, with temperature at 25-28°C and relative humidity of 80-85 % for good crop.
- Farmers should protect their milch animals and their young ones from morning/evening low temperature by covering them with gunny bags during night and ample exposure to sunlight during day time to avoid pneumonia.
- Farmers before sowing *rabi* crop, should clean fields and add well decomposed FYM or compost before sowing the crops.

## Bihar

Amount of rainfall received over Bihar is 25.5 mm (-62% large deficit) during 01 October to 21 November 2019. The extended range weather forecast provided for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) for rainfall over Bihar is below normal for week 1 and week 2.

- Present weather is suitable for sowing of gram. Pusa-256, KPG-59(Udai),KWR-108,pant G-186 and Pusa-372 varieties of gram are recommended for sowing in north Bihar region.
- Sowing of potato is advised. Kufri jyoti, Kufri ashoka, Kufri chandramukhi, Kufri badhsha, Kufri



lalima, Kufri sinduri, Kufri arun, Kufri anand, Kufri pusker, Rajendr aalu 1, Rajendr aalu 2 and Rajendr aalu 3, varieties of potato are recommended for north Bihar region.

### **Hisar**

Amount of rainfall received over Hisar is 7.5 mm (-39% deficit) during 01 Oct. to 21 Nov. 2019. The extended range weather forecast provided for next two weeks (22 -28 Nov. and 29 Nov.-05 Dec. 2019) on rainfall over Hisar is above normal for week-1 and below normal for week-2.

- Due to anticipated weather conditions, sowing of wheat may be postponed to avoid soil crusting.
- Protect animals from low temperature during night. Provide plenty of clean drinking water and green forage with mineral mixture as per requirement. Adopt recommended vaccination schedule.
- Apply requirement based irrigation in existing vegetable crops and monitor for insect-pests .

### **West Bengal**

Amount of rainfall received over West Bengal is 232.9 mm (61% large excess) during 01 October to 21 November 2019. The extended range weather forecast provided for next two (22 -28 Nov. and 29 Nov.-05 Dec. 2019) on rainfall over West Bengal is below normal for weeks-1 and normal for week-2.

- Start nursery bed preparation for boro rice with recommended varieties viz., Supriya, Jamini, Bhupen, IET-2233 etc.
- In the prevailing weather, there is a chance of attack of Black-rot of crucifers in the cabbage and cauliflower. Apply 1 g Streptocycline in 10 litre of water and spray thoroughly on a dry day.

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