Monthly Agromet Bulletin

National Agromet Centre

Pakistan Meteorological Department Islamabad

Vol: 4-2013 **April 2013**

Highlights…

- Light to moderate rainfall with isolated heavy spells was reported from the agricultural plains of the country during the month. Hails with dust storms were also reported in some areas of Punjab and KP. These heavy rains/ hail damaged/affected crops, livestock and infrastructure in some areas of KP and Punjab.
- Slightly warmer temperature trend was observed in most of the agricultural plains of the country.
- ETo remained normal to below normal and R.H exhibits mixed trend in most of the agricultural plains of the country.
- Agricultural-Soil's Temperature observed normal to cooler than normal in most of the agricultural plains except Sindh, where it observed as slightly warmer than normal.
- Spraying/manual weedicides operations on standing crops and orchards, harvesting/threshing of wheat in lower parts of the country, harvesting/crushing of sugarcane and irrigation as per requirement were the major field activities during the month.
- Keeping the present soil moisture and weather prevailing in most of the agricultural plains, farmers should complete sowing of cotton in areas where land is free to fully utilize the present soil moisture.

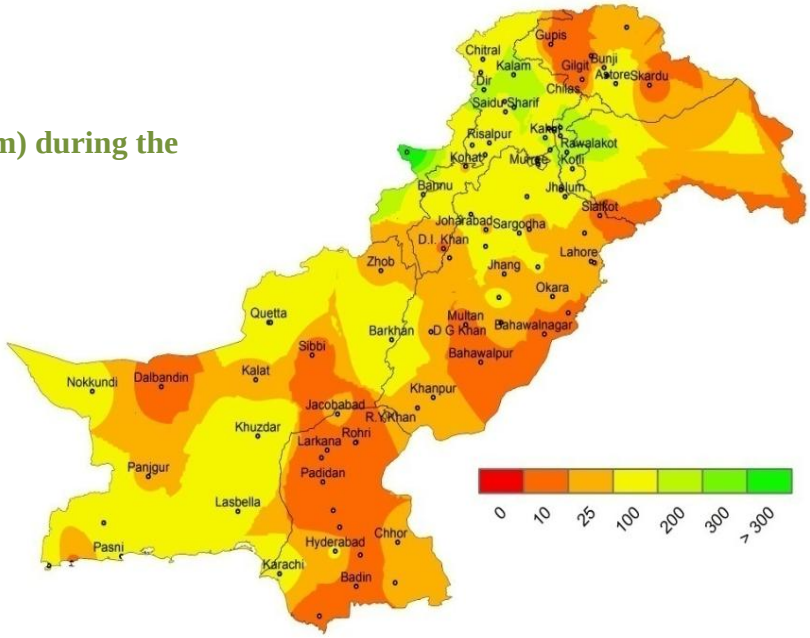
Contents

Pattern-in-Chief: **Arif Mahmood**, Director General,
Editor-in-Chief: **Dr. Khalid M Malik**, Director, Editor: **Muhammad Ayaz**, Meteorologist
Published by: National Agromet Center (NAMC), Pakistan Meteorological Department,
P.O.Box:1214, Sector: H-8/2, Islamabad, PAKISTAN
Tel: +92-51-9250592, **Fax:** +92-51-9250362 ,Email: dirnamc@yahoo.com
Website: http://namc.pmd.gov.pk/

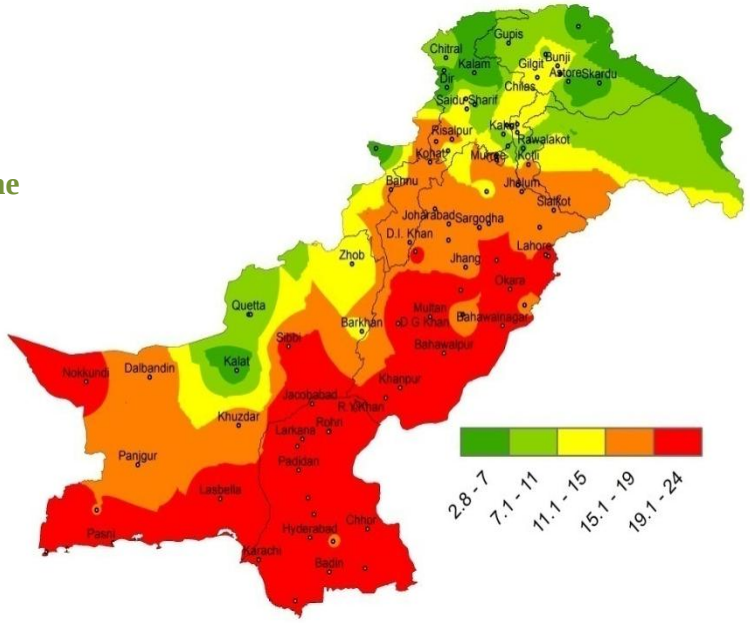
EXPLANATORY NOTE

1. This Agro-meteorological bulletin is prepared on the basis of data from 15 stations of Pakistan Meteorological Department (PMD). These stations, selected in consultation with the agricultural authorities, represent major agricultural areas of the country. There are still important agricultural areas which are not represented by the stations included in the bulletin. This may be (a) because there are no PMD stations in these areas and /or (b) the fact that we had to limit the number of stations due to the requirement of speedy data communication and processing (both of which are important for producing and dispatching timely agro-meteorological bulletins).
2. Due to the above, all inferences and conclusions hold true primarily for the above areas and not for Pakistan territory which include areas that may not be very important from the agricultural point of view and the climate of which may not bear directly on agriculture in the major producing areas.
3. The precipitation probability graphs at the end of the bulletin are computed using the long term records of these stations. The precipitations of the current season are plotted in this probability back ground. The use and interpretation of these graphs is clarified by an example. If the precipitation of a month in a station talley to an 80% probability, this means that 80% of the years (or on average 8 out of 10 years or 4 out of 5 years) the precipitation is equal to or less than the amount which was received during this month. One can also conclude that in 20% (100% - 80%=20%) of the years (or on the average 2 out of 10 years or one out of 5 years) the precipitations during this month exceeds the present level.
4. The evapotranspiration graphs at the end of the bulletin are based on computations using long term records of these stations. The evapotranspiration of the current season are plotted against this background. The reference crop evapotranspiration (ETo) is indicative of the evaporative demand of the prevailing atmospheric condition. It shows the rate of evapotranspiration from an extended surface of 8-15cm tall green grass cover of uniform height, actively growing. Evapotranspiration is, very roughly, 70% to 80% of ETo. However, it ranges from below 10% for a crop just emerging from the soil to over 100% for well watered densely planted tall crops under windy condition.
5. The normally expected weather of next month is prepared on the basis of premise of normal or near normal weather prevailing during the coming month. As such it should not be confused with synoptic weather of the next month.
6. In the tables, the values in the parentheses are based on 1961 to 1990 normal. Normal values (in parenthesis) of Soil Temperatures are based upon 10 years data. Dotted line **(---)** means missing data. Solar radiation intensities are computed from sunshine duration using co-efficient developed by **Dr. Qamar-uz-Zaman Chaudhry** of Pakistan Meteorological Department.

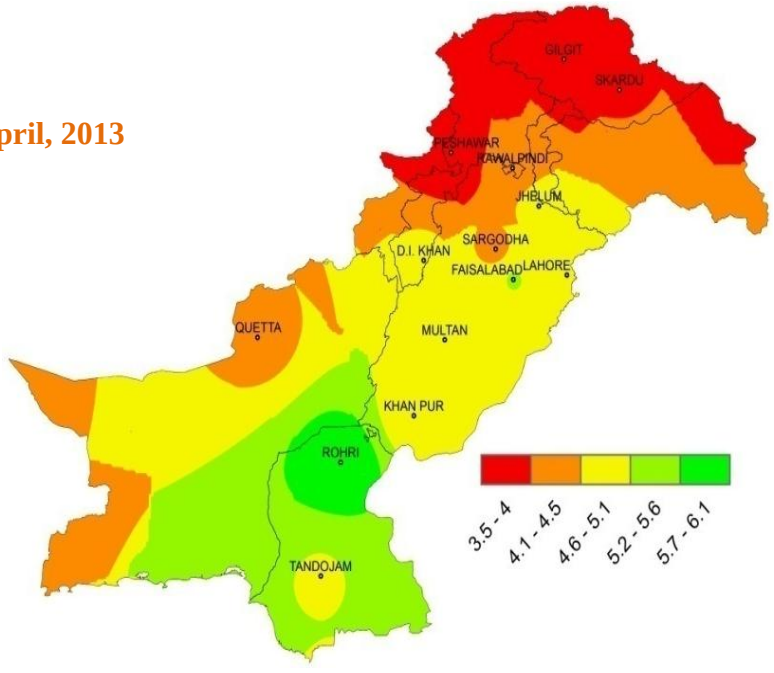
Rainfall distribution (mm) during the month of April, 2013



Minimum Temperature (°C) during the month of April, 2013



ETo (mm/day) during the month of April, 2013



CROP REPORT DURING APRIL, 2013

Harvesting/threshing of wheat and other Rabi crops and sowing of Kharif crops especially cotton and maize were the major field activities during the month. Operations of chemical spraying against pest attacks on fruit orchards and irrigation practices as per requirement were also in progress during the month. Pace of growth and development of standing crops both in irrigated and rainfed areas remained satisfactory due to favorable weather conditions.

In **Punjab:** Harvesting and threshing of wheat crop is in full swing and good yield is expected this year both in rainfed and irrigated planes. Harvesting and threshing of oilseed, Gram and Lentil is also in progress and better yield is expected due to favorable weather conditions during the season. Growth of seasonal vegetables is reported satisfactory and picking of early grown verities is in progress. Growth of fruit orchards including mangos is reported satisfactory. Mango orchards are reported mostly at fruit formation stage.

In **Sindh:** Threshing of wheat crop is almost completed throughout the province and good yield is expected. Sowing of cotton crop has been completed in most of the growing area and the crop is at germination or early growing stage. Castor oil is growing satisfactory and its picking is in progress. Safflower is near to maturity stage and its growth has reported well. Threshing of linseed has been reported in progress. Sunflower is growing well and is reported at flowering stage. Growth of summer vegetables is reported satisfactory and their picking is in full swing. Mangoes are growing at full fruit formation stage. However gusty wind reported in the last days of this month have damaged the orchards to some extent.

In **Khyber Pakhnunkhwa:** Overall growth and development of wheat crop in the province is reported satisfactory. The crop is growing at maturity stage. No pest attack has been reported so far on the crop. Harvesting/threshing of the crop has started in the lower planes of the province. Growth of summer vegetables has been reported satisfactory. Harvesting/marketing of winter vegetables is also in progress in upper hilly areas of the province. Growth of fruit orchards is also reported satisfactory and are at flowering stage. Chemical spraying on orchards against insects and fungus attacks was in progress. Attacks of aphids and mealy bug have been reported.

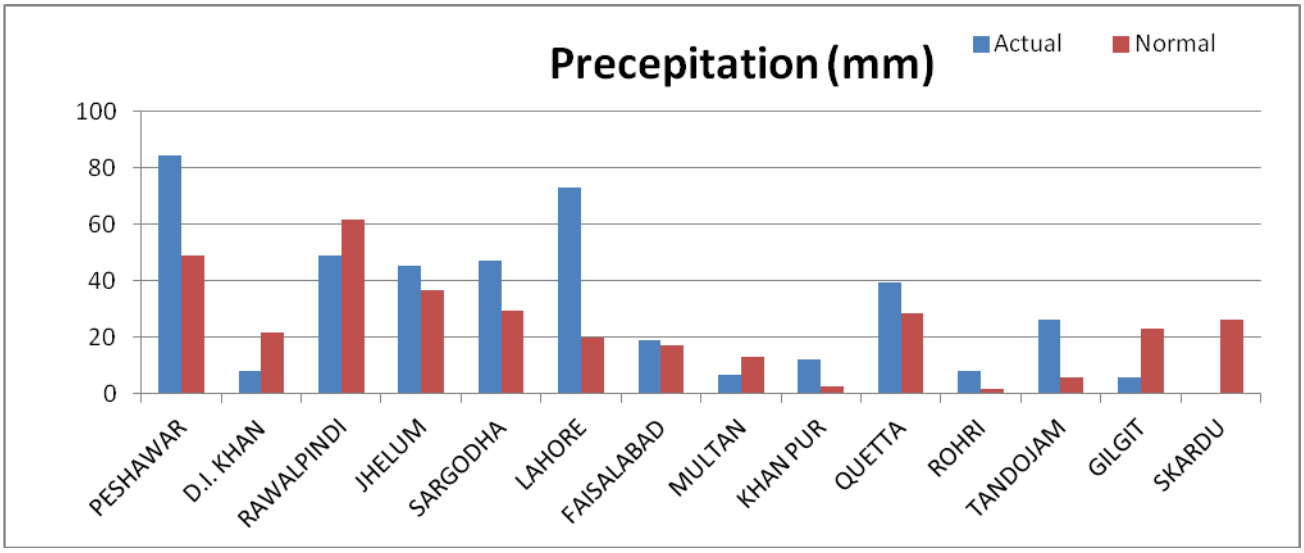
In **Balochistan:** Condition of standing crops like wheat, maize and canola has been reported satisfactory. Wheat crop is at maturity/full maturity and its growth is reported satisfactory. Growth of fruit orchards and that of seasonal vegetables is satisfactory and picking/harvesting is in progress.

In **Gilgit Baltistan**: The growth of wheat crop is in progress and is reported satisfactory. The crop is at stem extension/shooting stage in most of the regions. The growth of seasonal orchards and vegetables is also reported satisfactory.

Moisture Regime during April, 2013

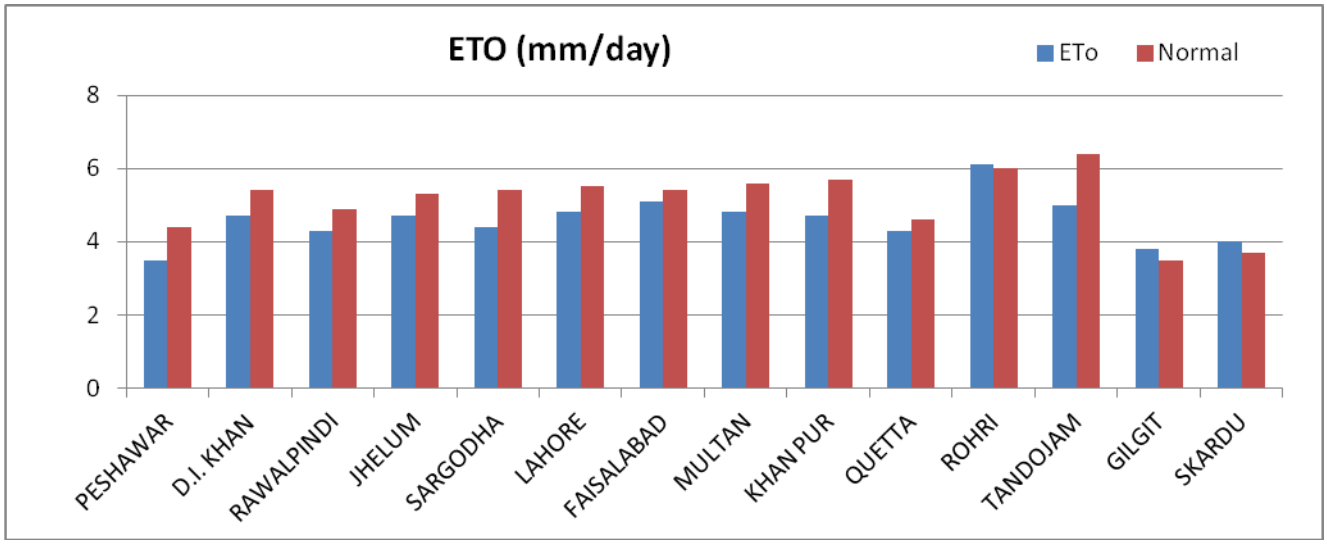
Winter rains generally continue from December to March in Pakistan. April and May are comparatively drier months in the pre-monsoon period. During this April, mix trend was observed in the agricultural planes of the country. It is depicted in the graph bellow for monthly precipitation that at some locations it remained above normal like Peshawar, Jhelum, Sargodha, Lahore, Faisalabad, Quetta and Tandojam Whereas, at rest of the specified places it (precipitation) remained below normal.

Overall in the country, the highest amount of rainfall was reported 432.0 mm at Parachinar, followed by 163.2 mm at Rawalakot, 148.5 at Pattan, 137.0 mm at Kalam, 128.0 mm at Malam Jabba, 126.0 at Dir and 101.2 mm at Murree.

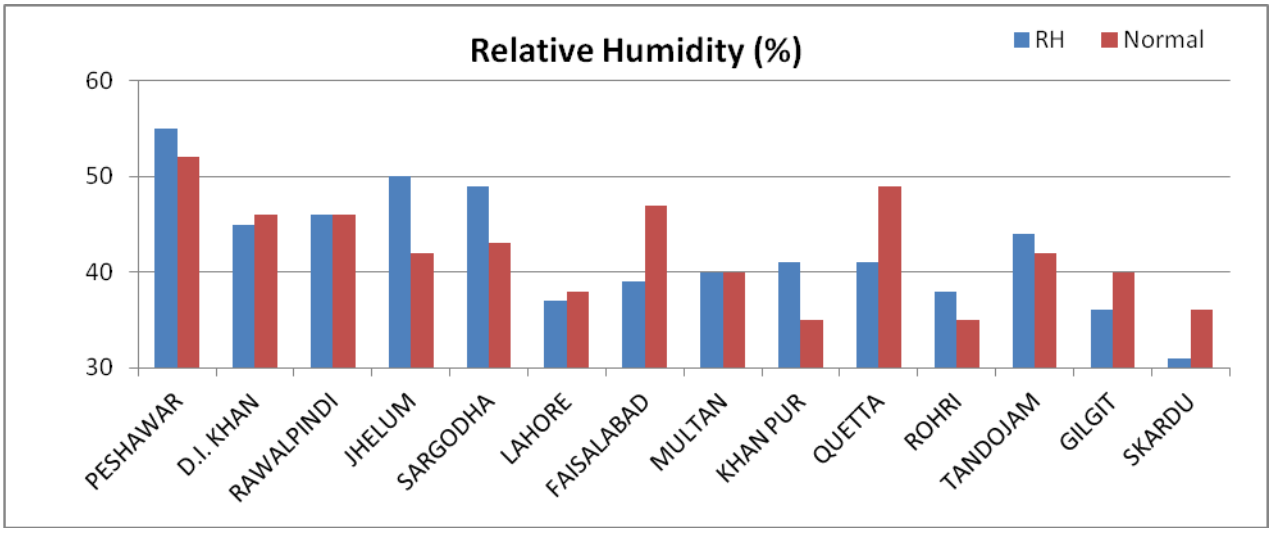


Number of rainy days recorded in the most of the agricultural planes ranged from 01 to 24 days. The maximum number of rainy days in the country was observed 24 at Parachinar, followed by 16 days at Peshawar and 15 days at Malam Jabba and Rawalakot each.

The evaporative demand of the atmosphere represented by reference crop evapotranspiration (ETo) remained normal to below normal in most of the agricultural planes of the country except Rohri in upper Sindh where it remained slightly above normal and in the northern areas.



The mean daily Relative Humidity (R.H) showed mixed trend in the country. It followed almost the same trend as in case of monthly precipitation. Maximum value of mean Relative humidity was observed 55% at Peshawar followed by 50% at Jhelum, 48% at Sargodha and 46% at Rawalpindi. The minimum value was observed 31 % at Skardu. Maximum number of days with mean R.H greater or equal to 80% was observed only for a single day at Peshawar and Quetta each.

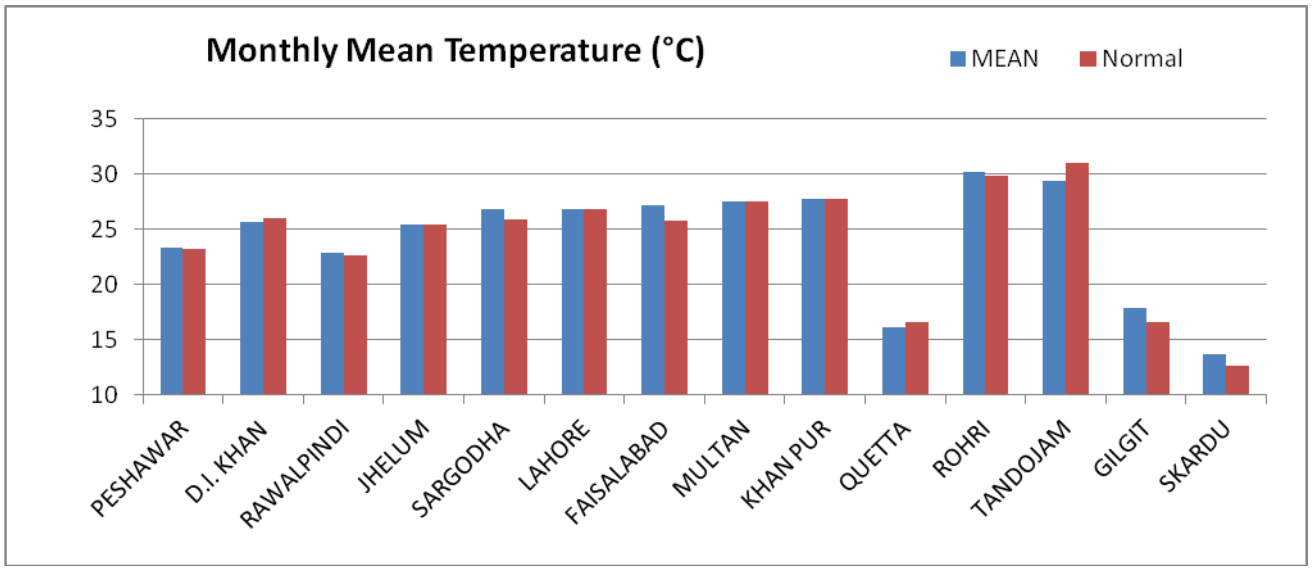


From overall analysis, it is evident that satisfactory rains were received in most of the agricultural planes of the country during the month .Overall good rains were received during this Rabi season which not only put positive impact on the standing crops but has also provided sufficient moisture for the upcoming crops at initial stages. But at the mean time expected heat waves with dust storms in this stage of pre-monsoon period may produce some moisture stress; especially in the rainfed areas in the lower half planes of the country.

Temperature Regime during April, 2013

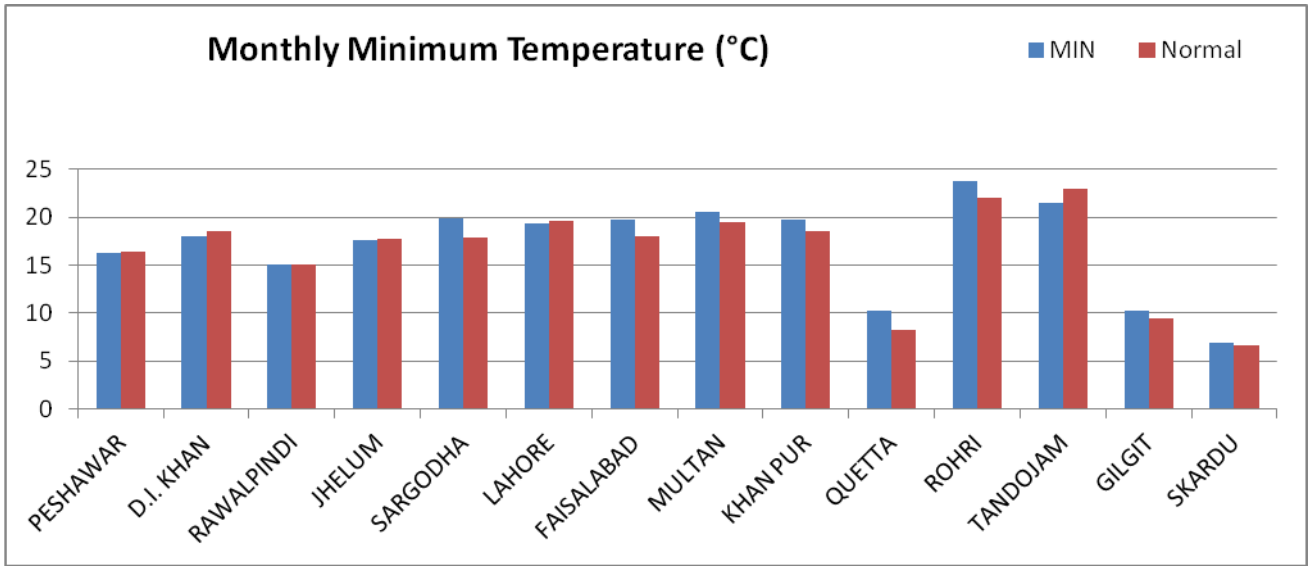
Temperature plays vital role in the growth and development of crops. Thermal regime showed mostly normal trend in the agricultural planes of the country.

Mean daily temperature remained almost normal in most of the agricultural planes of the country except at Sargodha, Faisalabad, Gilgit and Skardu where it remained above normal by 1-2°C and Lahore and at Tandojam where it remained below normal by 2°C. Mean daily temperature ranged 23 - 26°C in Khyber Pakhtunkhwa, 23 to 25°C in Potohar plateau, in remaining parts of Punjab it ranged 27-28°C, in Sindh it ranged 29-30°C, in Gilgit Baltistan region it ranged 13 to 18°C and was observed 16.5°C in Quetta valley.

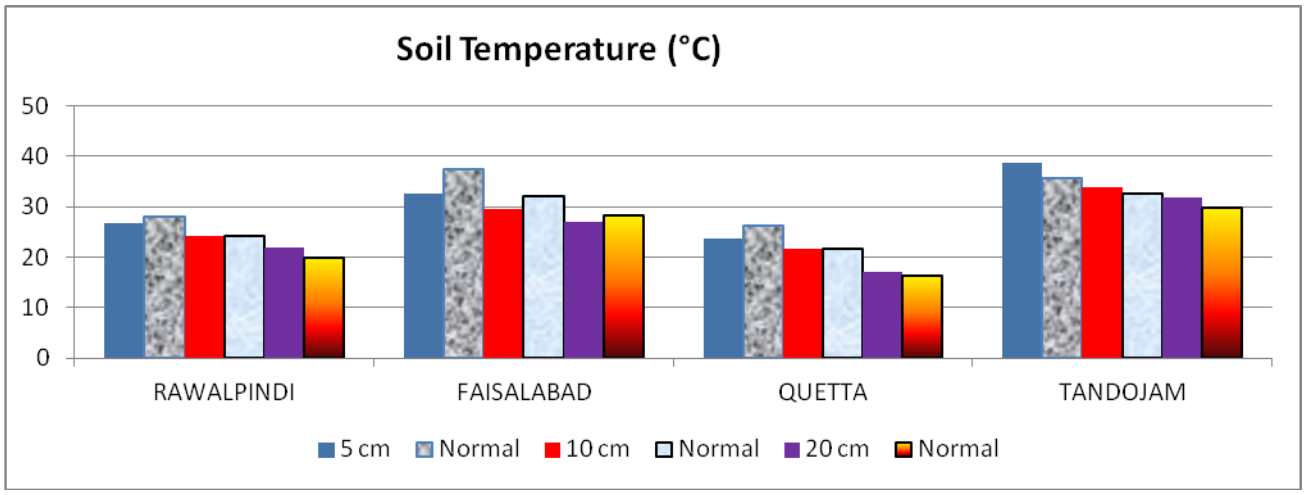


The night time temperature represented by mean minimum remained normal to above normal by 1 to 2°C in most of the agricultural planes of the country. In the upper half of the country it remained normal except a few locations while in the lower half it remained slightly higher than the normal. The lowest minimum temperature was recorded 0.0°C at Kalam.

Maximum number of stress days with minimum temperature less than or equal to 0°C was observed nil in agricultural planes due to seasonal rise in temperature. Number of stress days with maximum temperature greater or equal to 40°C and R.H. less than or equal to 30% was observed for 02 days at Khanpur only.



Temperature for agricultural soils showed mixed trend in most of the agricultural plains of the country. All over the country it remained below normal in the shallow as well as root-zone layers except at Tandojam where it remained well above normal by about 3.5°C. At Faisalabad and Quetta it remained 1-2°C lower than normal. The minimum value for 5 cm depth was recorded at Quetta as 23°C where as the maximum figure recorded at Tandojam as 38°C. Whereas for root-zone layers like 20 cm, the minimum & maximum values for soil temperature recorded as 17 & 31°C at Quetta and Tandojam respectively.

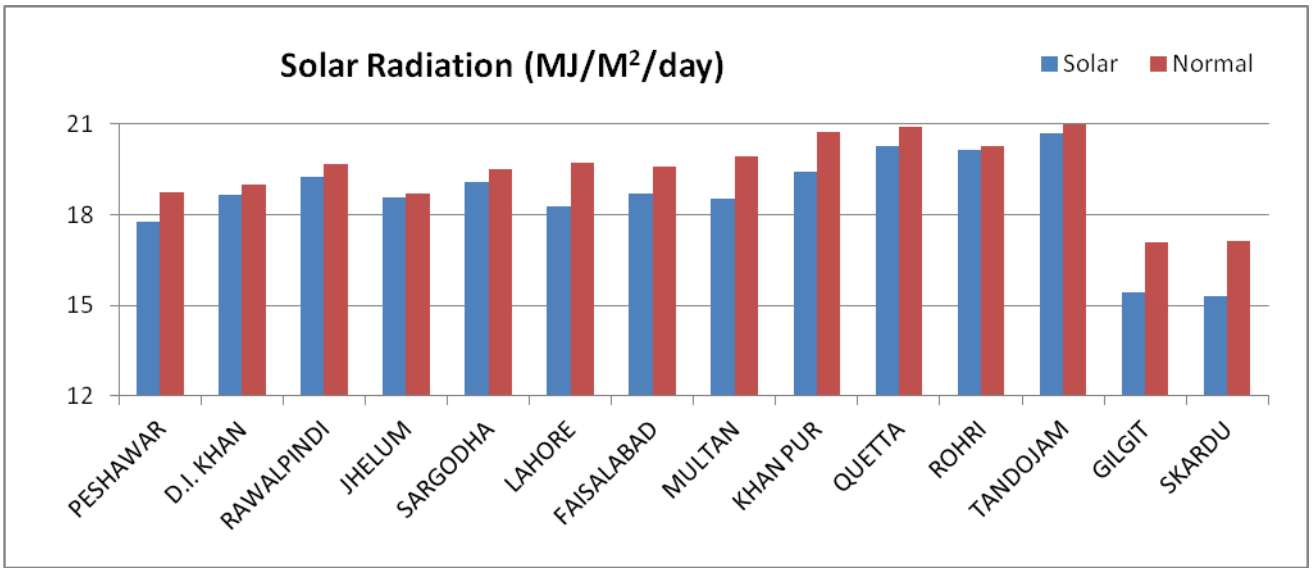


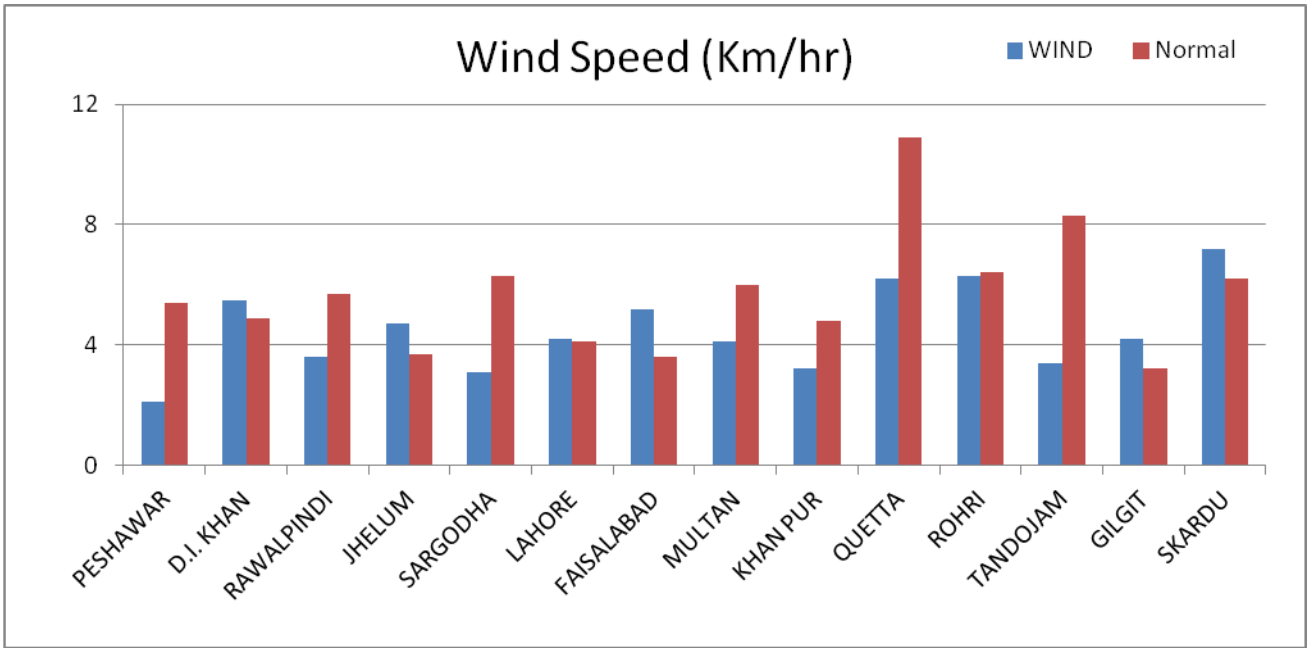
From the general analysis of soil temperature behavior in this month, it is concluded that at the present the agricultural soil is not being affected by any significant moisture stress due to above normal rains in most of the agricultural plains during the Rabi season. However the soil data indicates slightly dry conditions in most of the agricultural plains except Faisalabad region.

Sowing of coming Kharif crops is started. At the germination stage main Kharif crop (cotton) requires sufficient moisture. The farmers are advised to make use of the available soil moisture properly so that the water /moisture requirement of the crop may be fulfilled and the crop may not damage at this initial stage.

Solar Radiation and Wind Regime during April, 2013

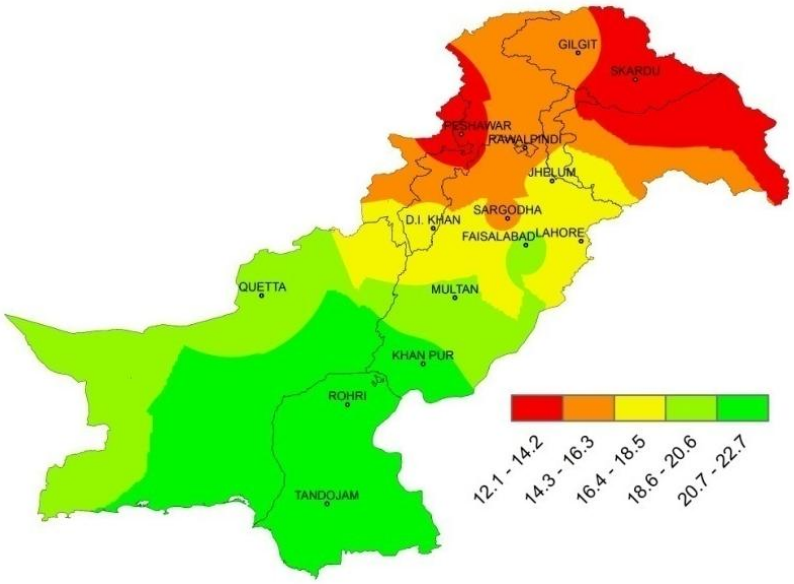
Total bright sunshine hours and solar radiation intensity remained well below normal in most of the agricultural plains especially in the northern belt and the lower half of the country. Mean wind speed throughout agricultural plains of the country reached up to 7 km/h (recorded at Skardu) with mainly North-Wards direction.



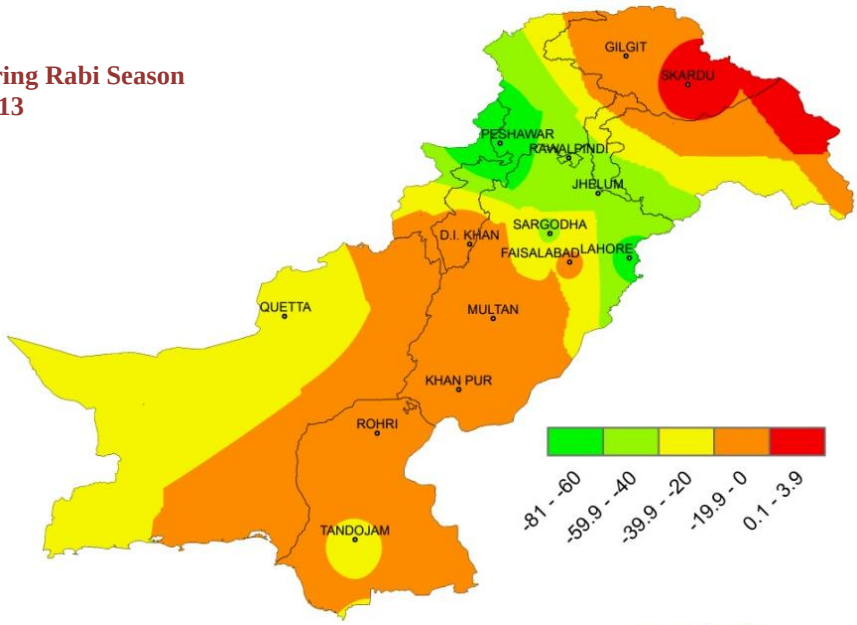


Comulative Rainfall, ETo and water stress for Rabi Season (Oct to April)

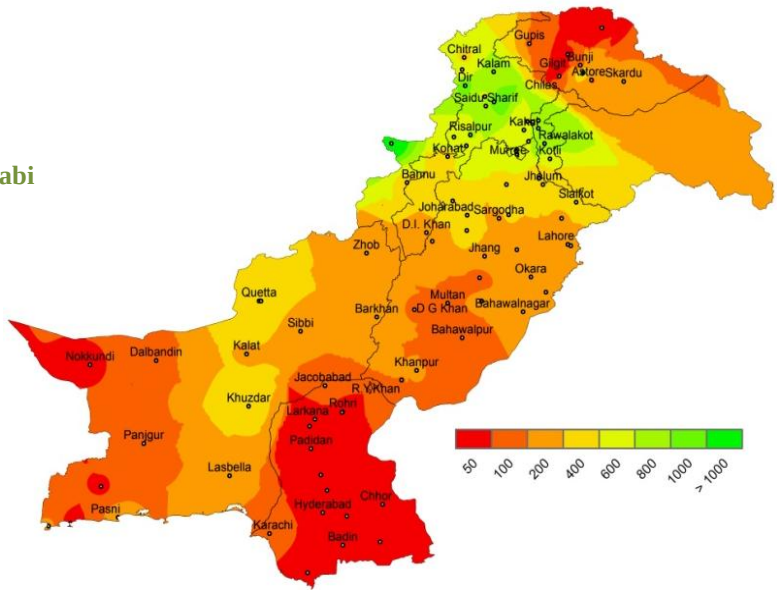
Cumulative ETo (m m) during Rabi Season up to April, 2013



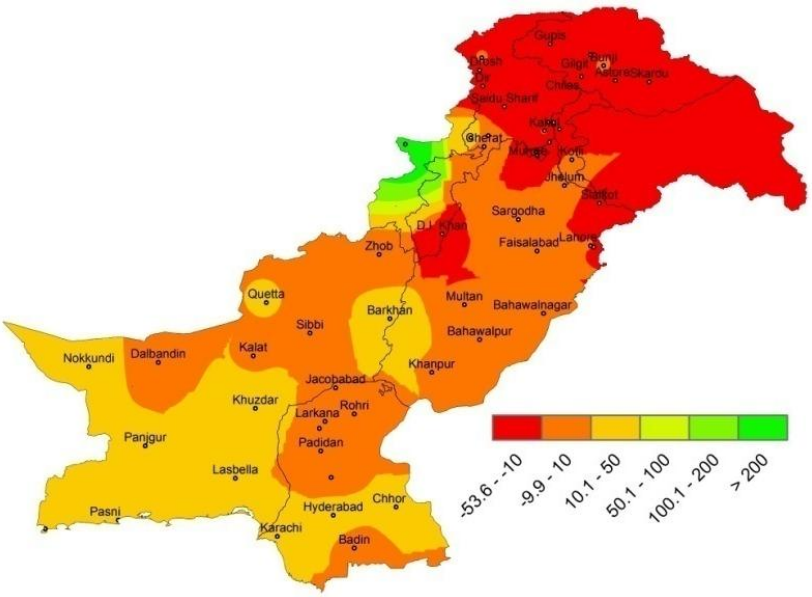
Water Stress (Rain-ETo) during Rabi Season up to April, 2013



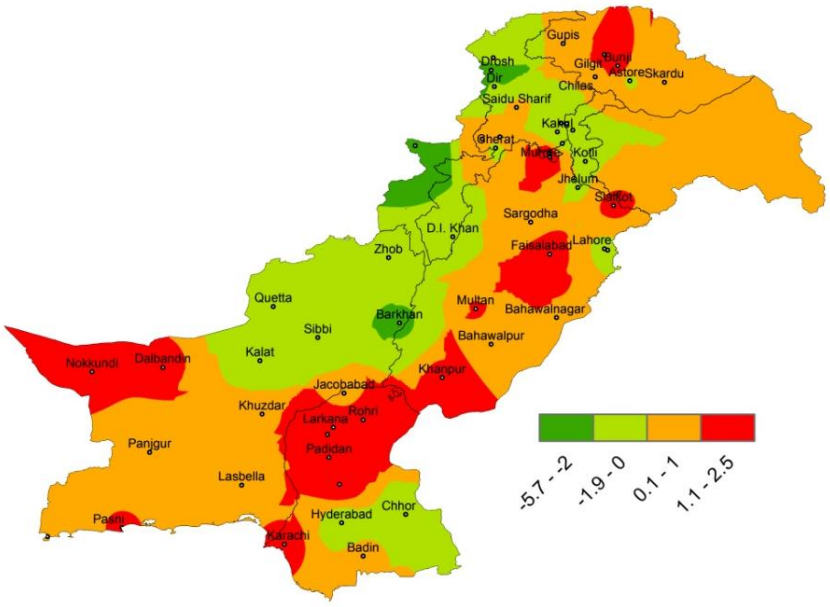
Cumulative rainfall (mm) during Rabi Season up to April, 2013



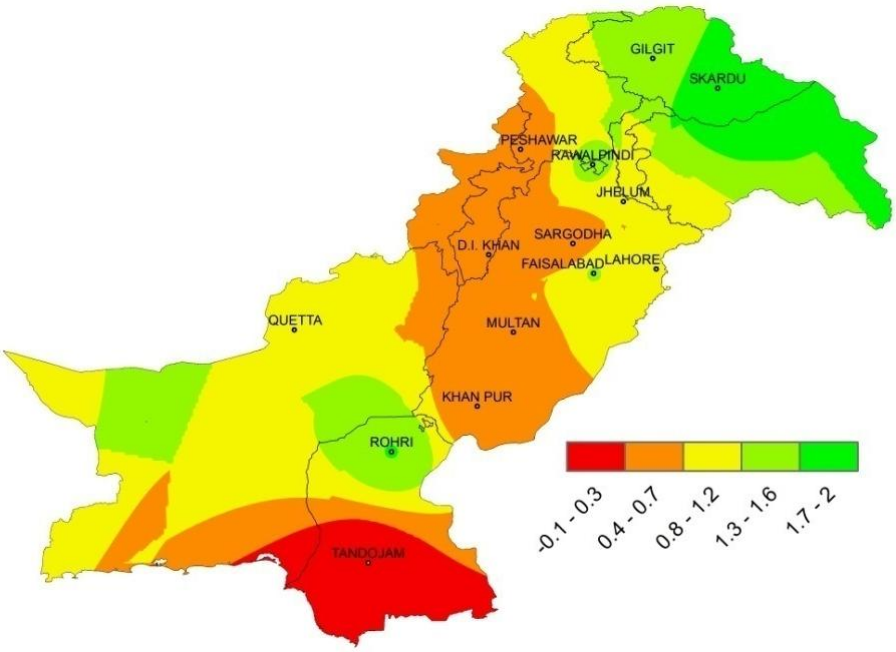
Rainfall Departure from Normal (mm) during the month of April, 2013



Minimum Temperature Departure from Normal (°C) during the month of April, 2013



ETo Departure from Normal (mm/day) during the month of April, 2013



Normally Expected Weather during May, 2013

According to long term average, precipitation over Potohar plateau and upper Khyber Pakhtunkhwa ranges between 25 mm and 40 mm, Central Punjab and Southern Khyber Pakhtunkhwa 10 mm to 25 mm and rest of the agricultural plains of the country less than 10 mm. The probability of occurrence of rainfall during May over Potohar plains is given below:

AMOUNT/ DATES	PERCENTAGE PROBABLITY OF OCCURANCE OF DIFFERENT AMOUNTS OF RAINFALL IN MAY					
	1-5	6-10	11-15	16-20	21-25	26-31
10mm	20	25	16	13	26	17
15mm	12	16	12	7	14	12
25mm	4	8	8	5	8	4

The evaporative demand of the atmosphere during May would shoot up as compared to April due to drier and hotter crop atmosphere. It is expected to range between 6 mm/day and 8 mm/day throughout the country.

The mean daily air temperature may range between 30-35°C in most of the lower elevated agricultural plains of the country. In high agriculture plains of Balochistan it may be close to 25°C. Mean maximum temperature may range between 35 to 40°C over most parts of Khyber Pakhtunkhwa and northern Punjab, it may range from 40 to 45°C in most of the Sindh plains and central Punjab. In Quetta valley it would be close to 30°C. Mean minimum temperature is expected to remain close to 25°C in most parts of Khyber Pakhtunkhwa and upper Punjab whereas it would be between 20 to 25°C over the agricultural plains of central Punjab and adjoining areas of Sindh. In Quetta valley it may remain around 12°C. Moderate to severe hygrothermal stress is expected over most of the low elevation agricultural areas of the country.

Duration of bright sunshine hours may increase considerably all over the country due to clear sky and higher solar angle. The duration may increase to 9.5-11 hrs/day. Direction of wind would be northwest to north with 6 km/hour speed over the plains of Punjab and Khyber Pakhtunkhwa. The intensity of solar radiation may range from 21 MJ/M^2/day to 24 MJ/M^2/day over most of the agricultural plains of the country. The water requirements for healthy growing, full canopied crop in different regions of the country are given below:

S.No	Region	Water Requirements	
		mm	Cubic Meter/Hectare
1	Khyber Pakhtunkhwa, High Plains of Balochistan & Northern Punjab.	180	1800
2	Central and Southern Punjab	200-210	2000-2100
3	Upper Sindh and adjoining Balochistan	220	2200
4	Lower Sindh	240	2400

Seasonal Weather Update

Introduction

A variety of methods including dynamical models, statistical methods, regional expert judgments and combination of them have been used to generate long-range weather forecast by the different climate prediction centers around the world. National Agromet Center (NAMC), Pakistan Meteorological Department adopts an ensemble approach to formulate its seasonal weather outlook for Pakistan (on experimental basis), taking into consideration available products from major climate prediction centres and different Global Climate Models (GCMs).

Regional weather (precipitation and temperature) outlook is predicted from different global climate models by using persisted sea surface temperature on 0000 May 01, 2013. That might be somewhat different from actual weather because of time to time variation in Sea Surface Temperature (SST) during the season. Accuracy of Outlook seasonal weather mainly depend upon SST used in global climate models. Even with use of accurate SST, still is uncertainty in the climate forecast due to chaotic internal variability of the atmosphere.

Synoptic situation

- The convergence area of maximum winds at 200 hPa (Jet stream) is expected to be same as normal location as well as strength. Intensity of zonal winds is expected slightly above than normal over extreme northern parts during May.
- Current synoptic situation indicates normal patterns with verity of air pockets of low air pressure in the Arabian sea at 500 hPa.
- Surface temperature pattern is expected on higher side than normal (1982-2010) during May, 2013 over the country, especially well marked over central and southern parts.
- North Atlantic Oscillation (NAO) is in slightly Negative phase (nearly zero) and may cause to shift western disturbances towards south during coming months. (Data source: CPU, monthly mean index)
- Most of the set of dynamical and statistical model predictions neutral conditions for the May-Jun-Jul (MJJ).During March to mid April the observed ENSO conditions in the neutral ENSO condition. The SST anomaly in the Nino3.4 regions during recent period is -0.2. Data source: http://iri.columbia.edu/climate/ENSO/currentinfo/SST_table.html
- Arabian Sea Surface Temperatures are normal to slightly above normal.
- Caspian Sea surface temperatures are normal to slightly below normal.
- Mediterranean Sea surface temperatures are normal to slightly above normal.
- Bay of Bengal Sea Surface Temperatures are below than normal over western coast.

Seasonal Weather Outlook (May- Jul, 2013)

Synthesis of the latest model forecasts for May- Jul 2013 (MJJ), current synoptic situation and regional weather expert's judgment indicates that the southern and central parts of the country may receive normal rainfall while northern parts may receive slightly normal rainfall during early season. However normal to below normal rainfall is expected throughout the country during rest of the season. Slightly warmer-than-normal conditions may occur in the central parts of the country. The extreme northern parts of the country may experience normal to below normal conditions in early months and then temperature will shoot up during end of the predicted months. Current synoptic condition leads to enhance the chances of development of depression in the Arabian Sea. Neutral-ENSO condition is expected to persist throughout the predicted period.

Precipitation:

The forecasts for the period May – Jul 2013 show that normal weather pattern/ track of weather systems will be expected during the period. The southern and central parts may receive normal rainfall while northern parts of the country may receive slightly above than normal rainfall during May. However, normal to slightly below normal rainfall is expected all over the country during the season. As a whole normal rain will occur all over of the country**.**

- Normal rainfall over Gilgit Baltistan
- Normal to slightly below normal precipitation over KP and Kashmir
- Normal to slightly above normal over, Punjab, Sindh and Baluchistan

Temperature:

The persisting synoptic situation leads to be slightly above normal maximum temperature in all parts of the country. Maximum temperature of central and southern parts will rise abruptly from May and will continue till June. During May, above normal maximum temperature is expected over central parts of the country.

Probably 1^{o} C higher surface maximum temperatures are expected over central parts of the country whereas normal maximum temperatures are expected over extreme northern parts of the country

Depression Development

More chances for development of depression in the Arabian Sea during May.

Monthly Quantitative Weather Forecast

Precipitation is in mm/month

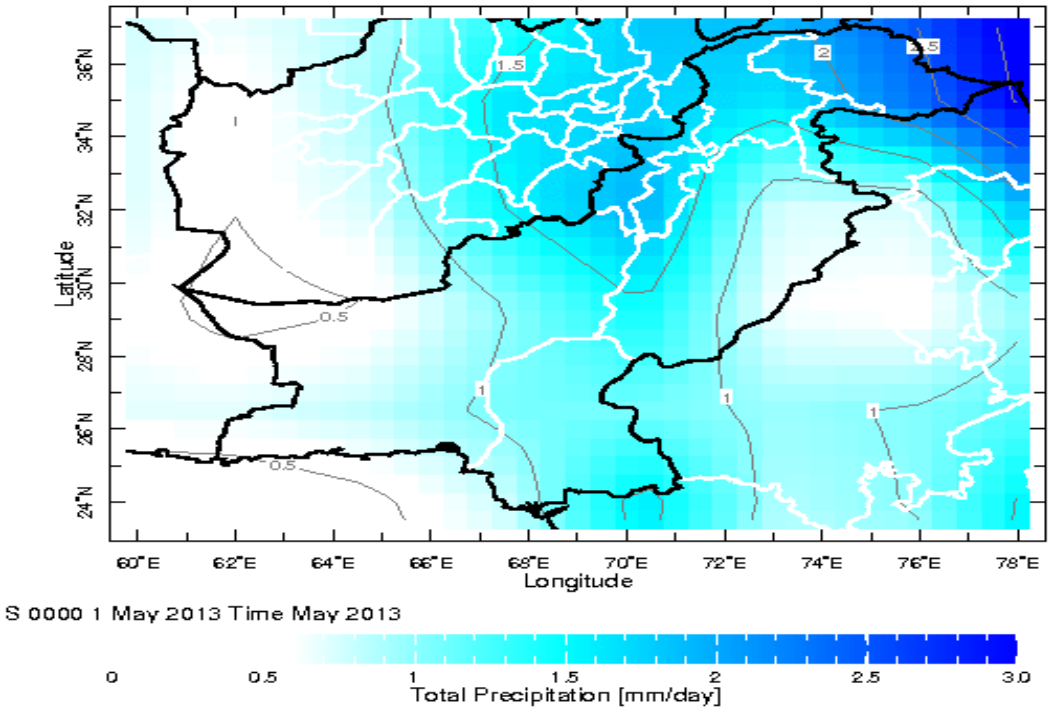
May-2013		
Province	**Average**	**Expected**
GB	***27.6***	***Above Average***
KP	***41.1***	***Below. Average***
AJK	***57.8***	***Below. Average***
FATA	***29.0***	***Average***
PUNJAB	***17.1***	***Average***
BALUCHISTAN	***8.2***	***Above Average***
SIND	***3.7***	***Above Average***
Pakistan	***15.2***	***Above Average***

Below Average > -10 %, Average precipitation range = -10 to +10 %, Above Average > +10 %

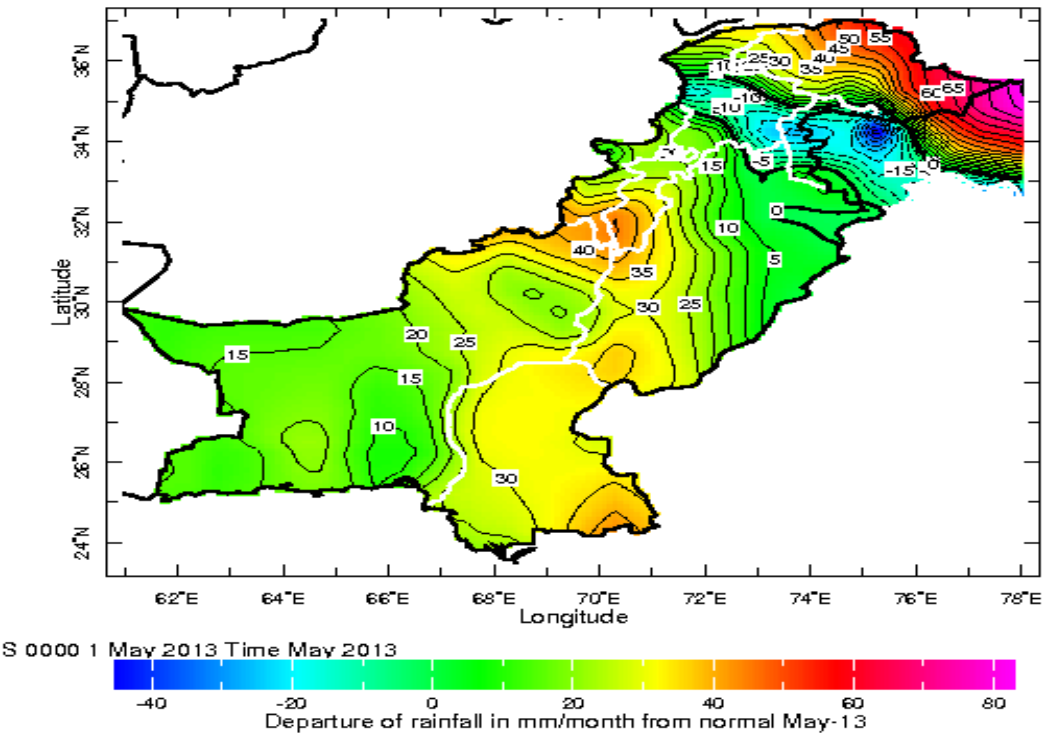
Note: Average precipitation is computed by using Global Precipitation Climate Center (GPCC) gridded data by resolution ($0.5°$x0.5^{o}) latitude by longitude. Ensembles of different climate models are used for computation of expected precipitation over the region.

1. Spatial distribution of expected rainfall during coming season (GCM-ECHAM)

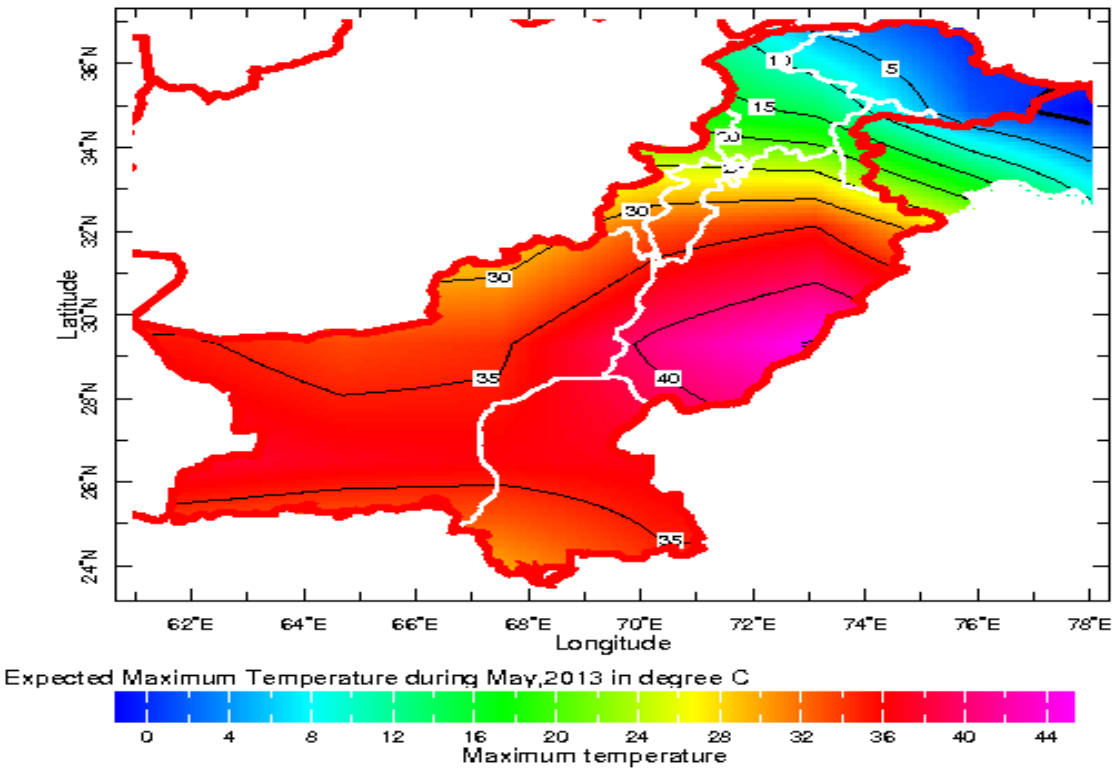
May, 2013



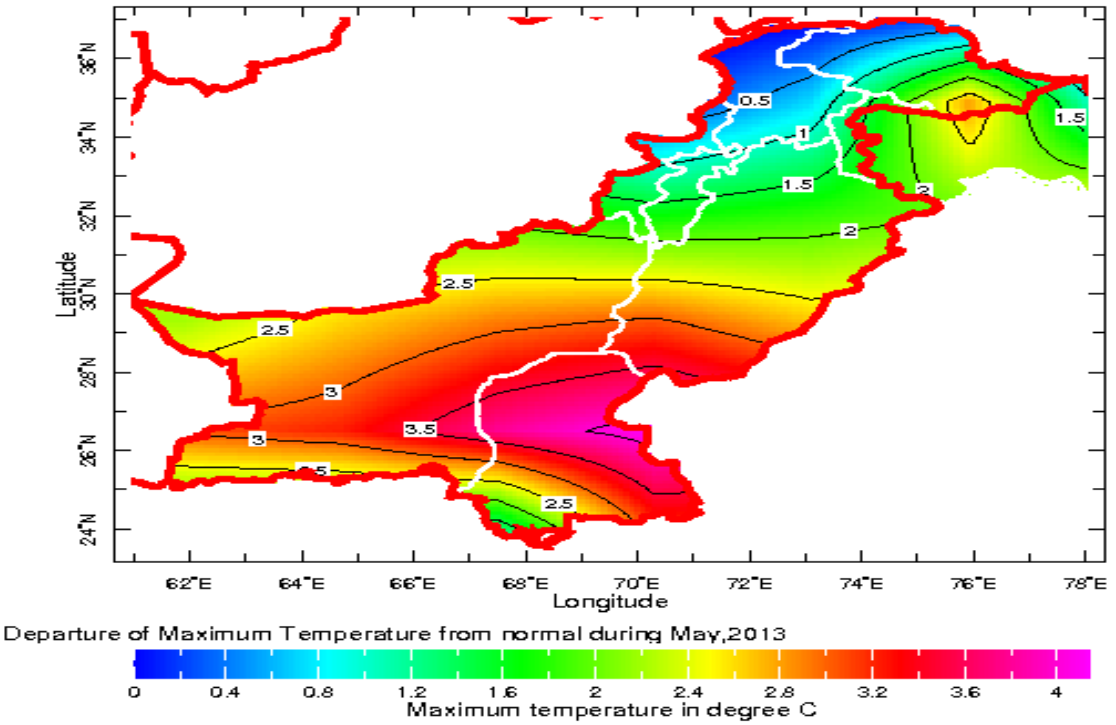
2. Monthly departure from normal (rainfall) during coming season May, 2013



3. Spatial distribution of expected maximum during May, 2013



4. Departure of expected maximum Temperature during May, 2013



محکمہ موسمیات، اسلام آباد

مئی 2013ء میں کاشتکاروں کے لئے زرعی موسمیاتی مشورے

ماہ اپریل میں ملک کے بیشتر میدانی علاقوں میں گندم کی کٹائی/ گہائی مکمل ہو چکی ہے اور جنوبی علاقوں میں کپاس کی کاشت جاری ہے تاہم کچھ شمالی علاقوں میں مسلسل بارشوں، ژالہ باری اور جھکڑ چلنے سے گندم کی کٹائی متاثر ہوئی ہے۔ مئی کے مہینے میں گرمی کی شدت میں مزید اضافہ ہو جائے گا اور وقتاً فوقتاً تیز آندھی اور ژالہ باری بھی متوقع ہے۔ اس لئے موسم کی اس غیر یقینی صورتحال کو مدنظر رکھتے ہوئے شمالی علاقوں کے کسان گہائی جلد سے جلد مکمل کرلیں۔ کاشتکار اپنی سہولت کیلئے مندرجہ ذیل زرعی موسمیاتی مشورے ملحوظ خاطر رکھیں۔

۱۔ کٹائی اور گہائی کا عمل موسمی پیشگوئی کے عین مطابق کریں۔ اس سے پہلے کہ فصل ضرورت سے زیادہ پک جائے اور دانے زمین پر گرنا شروع ہو جائیں فصل کی بروقت کٹائی اور گہائی مکمل کرلیں۔ اگر بارش متوقع ہو تو فصل کو نہ کاٹیں اور گہائی کا عمل بھی روک دیں اور اکٹھی کی ہوئی گندم کو اگر ممکن ہو تو پلاسٹک سے ڈھانپ لیں کیونکہ بارش سے اناج اور بھوسہ کا معیار بری طرح متاثر ہوتا ہے۔

۳۔ اگر آپ کا ذاتی تھریشر نہیں ہے تو کرائے کے تھریشر کے لئے کٹائی کے دوران ہی اپنا نمبر لگالیں تاکہ کٹائی کے بعد گہائی کیلئے آپکو زیادہ دیر انتظار نہ کرنا پڑے۔ جیسا کہ ہم پہلے ذکر کر چکے ہیں کہ مئی کے موسمی حالات نہایت غیر یقینی ہوتے ہیں۔ اگر آپ بہتر سمجھیں تو کمبائن ہارویسٹر سے اپنی فصل کی کٹائی اور گہائی کروالیں اس میں بھوسہ کی پیداوار قدرے کم ملتی ہے مگر آپ کی فصل متوقع موسمی نقصان یا تاخیر سے محفوظ ہو جاتی ہے۔ دوسری فصل کی کاشت کیلئے زمین بھی فوری خالی ہو جاتی ہے۔

۴۔ گندم کی فصل سے فارغ ہونے والے کھیت کو ہل چلا کر کھلا نہ چھوڑیں بلکہ سہاگہ چلا کر لیول کردیں تاکہ مئی کے مہینے میں بڑھتی ہوئی شرح تبخیر زمین سے زیادہ پانی کے ضیاع کا سبب نہ بنے۔ خاص کر خودرو جڑی بوٹیوں کو زمین میں دبا دیں یا اکٹھا کر کے آگ لگا دیں۔ اگر بارش ہوگی تو زمین زیادہ پانی جذب کرنے کی صلاحیت رکھتی ہوگی ورنہ پانی جذب ہونے کی بجائے بہہ کر دوسرے کھیتوں میں چلا جائے گا۔ بارانی علاقوں کے کسانوں کیلئے یہ طریقہ بے حد مفید ثابت ہوگا۔ بارش ہونے کی صورت میں ان کو چاہیے کہ خریف کی فصل فوری طور پر کاشت کردیں۔

۵۔ پنجاب اور بالائی سندھ میں خالی ہونے والی زمین کپاس اور چاول کیلئے تیار کرنا شروع کردیں۔ اپنی تمام تر کھیتی باڑی موسمی پیشگوئیوں کے مطابق کریں۔ موسمی پیشگوئیوں کے سلسلے میں اخبار، ریڈیو، ٹیلیویژن سے مربوط رہیں اور اگر کوئی زرعی موسمیاتی مسئلہ درپیش ہو تو ہمارے مندرجہ ذیل دفاتر آپ کی بخوبی مدد کر سکتے ہیں۔

۱۔ محکمہ موسمیات، نیشنل ایگرومیٹ سینٹر، پی۔ او۔ بکس نمبر 1214، بیکٹر ایچ ایٹ ٹو، اسلام آباد۔ فون نمبر:-051-9250299

۲۔ محکمہ موسمیات، نیشنل فوڈ کاسٹنگ سینٹر برائے زراعت، پی۔ او۔ بکس، 1214، بیکٹر ایچ ایٹ ٹو، اسلاآباد۔ فون نمبر:051-9250364

۳۔ محکمہ موسمیات، ریجنل ایگرومیٹ سینٹر، بزدبارانی یونیورسٹی، مری روڈ، راولپنڈی۔ فون نمبر:-051-9290635

۴۔ محکمہ موسمیات، ریجنل ایگرومیٹ سینٹر، ایوب ریسرچ انسٹیٹیوٹ، جھنگ روڈ، فیصل آباد۔ فون نمبر:-041-2657047

۵۔ محکمہ موسمیات، ریجنل ایگرومیٹ سینٹر، ایگریکلچر ریسرچ انسٹیٹیوٹ، ٹنڈو جام۔ فون نمبر:-0222-766583

۶۔ محکمہ موسمیات، ریجنل ایگرومیٹ سینٹر، ایگریکلچر ریسرچ انسٹیٹیوٹ، سریاب روڈ، کوئٹہ۔ فون نمبر:-081-9211211

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کپاس کی کاشت پر موسمی اثرات

پاکستان ایک زرعی ملک ہے اور ملکی ترقی کا انحصار زرعی پیداوار پر ہے ملکی آبادی کا اکثریتی حصہ زراعت اور اس سے متعلقہ صنعتوں سے منسلک ہے۔ کپاس پاکستان کی اہم نقد آور فصل ہے۔ جس کی پنجاب اور سندھ کے نہری علاقوں میں کاشت ہوتی ہے۔ کُل پیداوار کے لحاظ سے پاکستان کپاس پیدا کرنے والے ممالک میں چوتھے نمبر پر ہے جبکہ فی ایکڑ پیداوار کے لحاظ سے پاکستان کا شمار عام طور پر آخر میں ہوتا ہے۔ پاکستان کے زیادہ تر برآمدات اور صنعت سے متعلق لیبر کی ایک بڑی تعداد کے روزگار اور گزر بسر کا انحصار کپاس کے اچھی پیداوار پر ہے۔ کپاس کی مجموعی پیداوار میں پنجاب کا حصہ تقریباً 80 فیصد اور سندھ کا تقریباً 15 فیصد ہے جبکہ بلوچستان کے کچھ نہری علاقوں اور خیبر پختونخواہ کے جنوبی علاقوں میں بھی کپاس کی کچھ کاشت ہوتی ہے۔ پاکستان میں کپاس کی نشوونما اور پیداوار میں ردوبدل کا انحصار بنیادی طور پر اچھے بیج کی بروقت فراہمی، بروقت کاشت، بروقت کھادوں کی فراہمی بمعہ زہر کے تدارک کیلئے بروقت اسپرے، مناسب مقدار میں پانی کی فراہمی اور برسات کے دوران بارشوں پر ہے سندھ اور پنجاب کے کسانوں کیلئے جو کپاس کاشت کرتے ہیں درجہ ذیل موسمی مشورے پیش نظر ہیں

1۔ یہ موسم گرما (ربیع) کا اہم فصل ہے جس کی کاشت پنجاب میں اپریل / مئی / جون اور سندھ میں اپریل / مئی میں ہوتی ہے۔ پاکستان میں کپاس کے فصل کیلئے پانی کی ضرورت تقریباً 550 سے 700 ملی میٹر تک ہے۔ درجہ حرارت اور ہوا میں نمی کے فرق کی وجہ سے سندھ میں پانی کی ضرورت مون سون سے پہلے پنجاب کے مقابلے میں نسبتاً زیادہ ہوتی ہے۔ جبکہ مون سون کے دوران جنوبی پنجاب میں کپاس کے فصل کیلئے پانی کی ضرورت سندھ سے بڑھ جاتی ہے۔ سندھ کے بالائی علاقوں میں پانی کی طلب زیریں سندھ سے زیادہ ہے اس طرح وسطی پنجاب کے زرعی میدانوں کے مقابلے میں گرم اور نسبتاً خشک جنوبی علاقوں میں پانی کی طلب زیادہ ہوتی ہے۔

2۔ کسان عام طور پر ربیع کے فصلوں کی دیر سے کٹائی کی وجہ سے زمین کی تیاری میں تاخیر کرتے ہیں جس کی وجہ سے کپاس کی کاشت میں بھی تاخیر ہو جاتی ہے۔ جس کی وجہ سے کپاس کا پودا ابتدائی نشوونما کے دوران جب پودا انتہائی کمزور اور نازک ہوتا ہے۔ سورج کے تیز شعاعوں اور انتہائی زیادہ درجہ حرارت کا سامنا کرتا ہے پودے کیلئے پانی کی ضرورت بڑھ جاتی ہے جس کی وجہ سے فصل کی ابتدائی نشوونما متاثر ہو جاتی ہے۔ فصل کیلئے پانی کی ضرورت کو سامنے رکھ کر کپاس کی کاشت سندھ میں 15 اپریل سے 15 مئی اور پنجاب میں مئی کے مہینے میں مکمل ہونی چاہئے۔ وقت پر کاشت نہ ہونے والی فصل پر مضر کیڑوں خصوصاً جڑوں پر فنجائی کا حملہ بھی زیادہ ہوتا ہے۔ کپاس کے پودے کی بہترین نشوونما کے لئے ضروری ہے کہ شروع کے اُگاؤ (Germination) کے دوران درجہ حرارت 18 °C سے 30 °C، غیر جنسی نشوونما (Vegatitive growth) کے دوران 20 سے 40 دن کے وقت جبکہ رات کو 27°C-12°C ہو جبکہ شروع کے پھول بنے سے لیکر ٹینڈے بننے تک درجہ حرارت 27 سے 32 ڈگری سینٹی گریڈ ہونا چاہئے اور یہ تب تک ممکن ہے جب فصل کی کاشت بروقت ہو۔

3۔ فصل کی کاشت کیمیائی کھادوں، آبپاشی اور ہر قسم کیمیائی اسپرے سے مثبت نتائج حاصل کرنے کیلئے موسمی معلومات انتہائی ضروری ہے ورنہ فصل کی کاشت، کیمیائی کھادوں کے استعمال، آبپاشی اور اسپرے وغیرہ کے فوراً بعد بارش نقصان کا باعث بنتی ہے۔ اس لئے کسان بھائیوں سے گزارش ہے کہ ہر وقت موسم سے باخبر رہے۔ مندرجہ ذیل فون نمبر پر آپ کو مفت موسمی مشورے مل سکتے ہیں۔

۱۔ محکمہ موسمیات نیشنل اگرومیٹ سینٹر پی۔او۔بکس نمبر **1214** بیکن ہاؤس ایٹ ٹو، اسلام آباد۔فون نمبر:۔ **051-9250299**

۲۔ محکمہ موسمیات نیشنل فورکاسٹنگ سینٹر برائے زراعت پی۔او۔بکس نمبر **1214** بیکن ہاؤس ایٹ ٹو، اسلام آباد۔فون نمبر:۔ **051-9250363-4**

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تحریر: محمد ایاز
کمپیوٹر کمپوزنگ: علی مان شاہ

مضمون کے ماخذ۔

1-Techenical Report **"An Analysis of Weather and Cotton Crop Development in Lower Sindh (2007-2012)"** by Muhammad Ayaz, Meteorologist, NAMC, Pakistan Meteoroligcal Department,Islamabad.

2-**Onset of Pest Attack on Cotton Crop of Punjab in Terms of Meteorological Parameters (2006-2010), MS-Dissertation** by Muhammad Zeshan, Assistan Meteorologist ,NAMC,Pakistan Meteoroligcal Department,Islamabad.

3-Online Literature of PARC/NARC **(www.parc.gov.pk/).**

4.Waddle,1994,**WMO No. 134 final .Agro meteorlogy of some selected crops, Agrometeorology of Cotton production.**

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