

Monthly Agromet Bulletin

National Agromet Centre

Pakistan Meteorological Department Islamabad



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Jun 2013

Highlights...

- Light to moderate rainfall was reported from the agricultural plains of the country during the month, which positively affected crop growth in the country.
- Mostly normal temperature trend was observed in the agricultural plains of the country.
- ETo remained normal to below normal and R.H exhibits above normal in most of the agricultural plains of the country.
- Agricultural-Soils observed normal to below normal trend in most of the agricultural plains, which indicates satisfactory soil moisture conditions.
- Spraying/manual weedicides operations on standing crops and orchards, harvesting/threshing of wheat in upper parts of the country, and irrigation as per requirement were the major field activities during the month.

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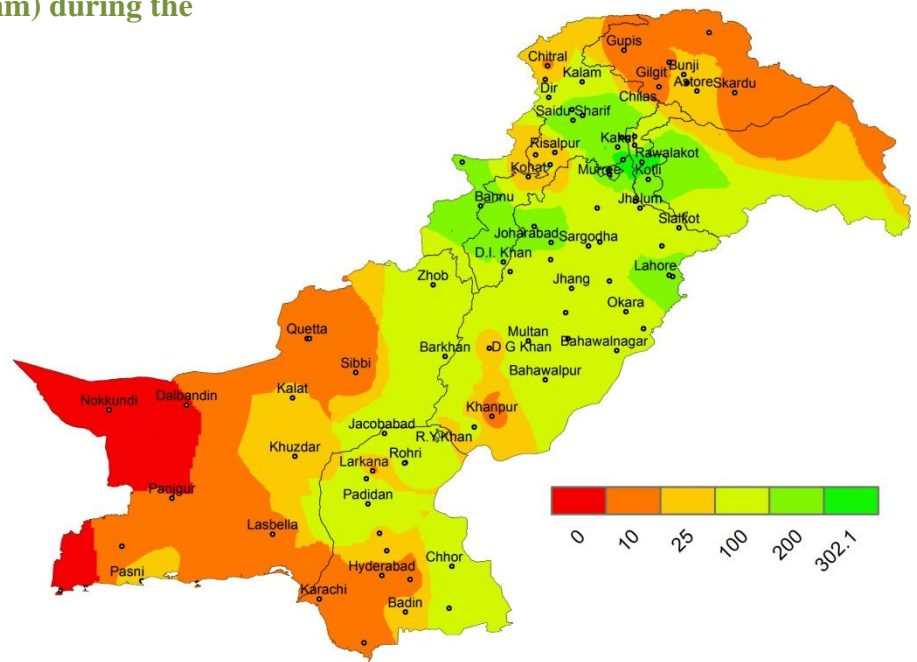
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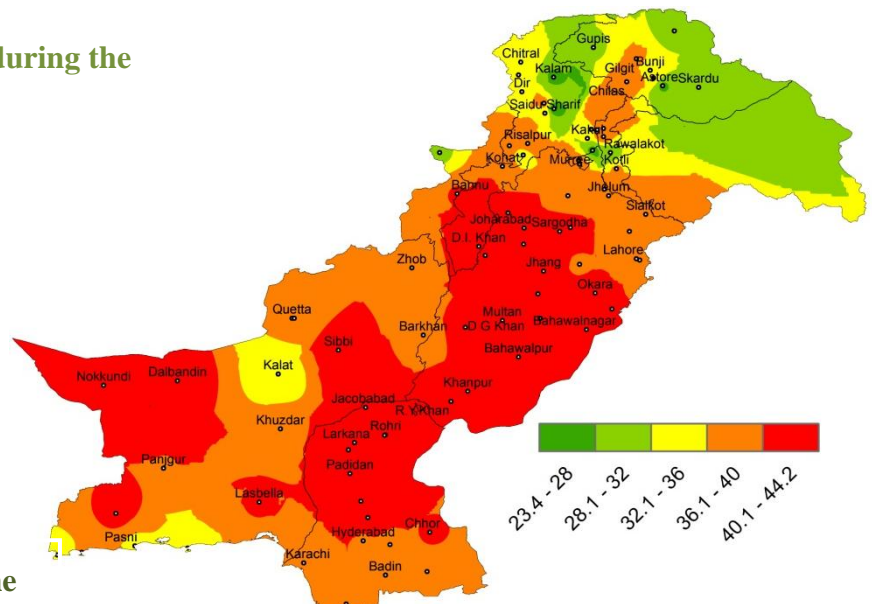
EXPLANATORY NOTE

1. This Agrometeorological 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 agrometeorological 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 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.
4. Summer Season/ Kharif season is considered from April/May to October/November and winter from November to April. Mean Daily Maximum Temperature images are included in Summer and Daily Mean Minimum Temperature images are included in Winter in the Bulletin.
5. 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. Doted line (---) means missing data. Solar radiation intensities are computed from sunshine duration using co-efficients developed by **Dr. Qamar-uz-Zaman Chaudhry** of Pakistan Meteorological Department.

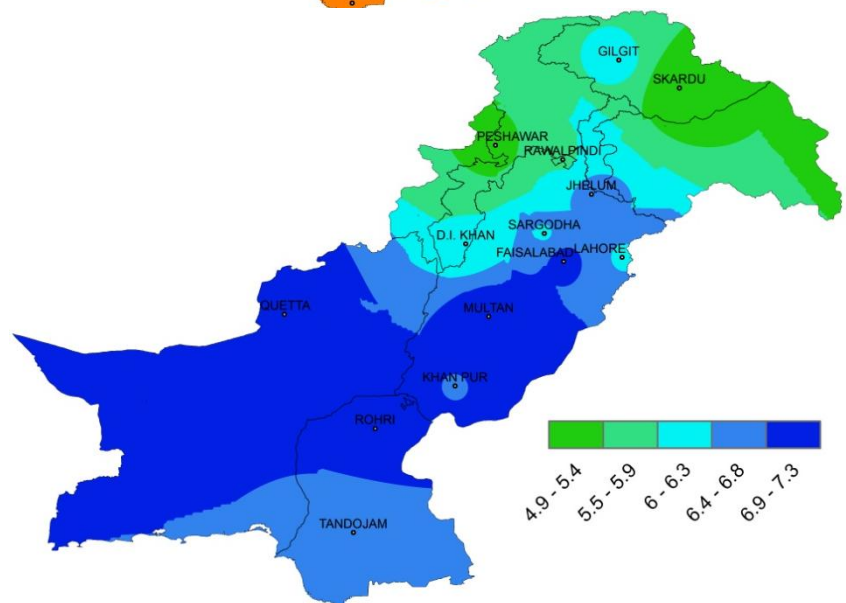
Rainfall distribution (mm) during the month of June, 2013



Maximum Temperature (°C) during the month of June, 2013



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



CROP REPORT DURING JUNE, 2013

Picking of seasonal vegetables and fruits, removal of weeds manually and through weedicides and application of pesticides were the major field activities in most of the agricultural plains of the country.

In **Punjab**: Sowing of cotton was in progress during the month. The germination and early growth of the crop is reported satisfactory. Early sown varieties are at fruiting/boll maturing stage. Attacks of sucking pests and white fly have been observed at various places. In time and proper use of pesticides by the farmers may protect the crops from these attacks at this important stage of crop's life cycle. Transplantation of rice coarse varieties is in progress. Transplantation of Basmati reported at final stage. The condition of standing sugarcane crop has been reported satisfactory and is growing well. However, good rains to maintain crop water requirement are required for a well healthier growth of the crop. On the other side, light attack of borer has been reported at certain places near Faisalabad and Sahiwal. The standing spring maize crop is reported at maturity stage. Harvesting/threshing of sunflower is started at some places. Sowing of autumn maize has started and germination of the crop is reported satisfactory. Overall condition of standing fruits and vegetables is reported satisfactory in the province due to favorable soil and atmospheric conditions observed during the month.

Sindh: Cotton crop is in flowering/ boll formation stage and is growing in a satisfactory. Light pest attack has been reported from some areas but is under control. Sugarcane crop is also growing satisfactory. Transplantation of rice crop is almost done and general conditions of the crop are reported satisfactory. The harvesting/threshing of sunflower/safflower/linseed/castor is completed. Sowing of Sesame is completed and its germination reported as normal. Picking of mango is going to be completed soon and good production reported this year due to favorable conditions. Condition and production of seasonal vegetables is also reported satisfactory.

In **Khyber Pakhtunkhwa**: Sowing of Hybrid varieties of maize crop has been completed and sowing of open pollinated varieties is in progress. Early growing maize varieties are growing satisfactory. Condition of sugarcane is reported satisfactory and normal growth is reported. Seasonal fruits have ripened and are available in the market. All vegetables are growing in normal condition and farmers are obtaining normal production. Harvesting of potato crop in plain areas is completed and normal production is expected. Harvesting of onion is almost completed and production remained satisfactory. Harvesting of sunflower is in progress in the plain areas of the province. Picking of other seasonal vegetables and some fruit orchids was in progress during the month.

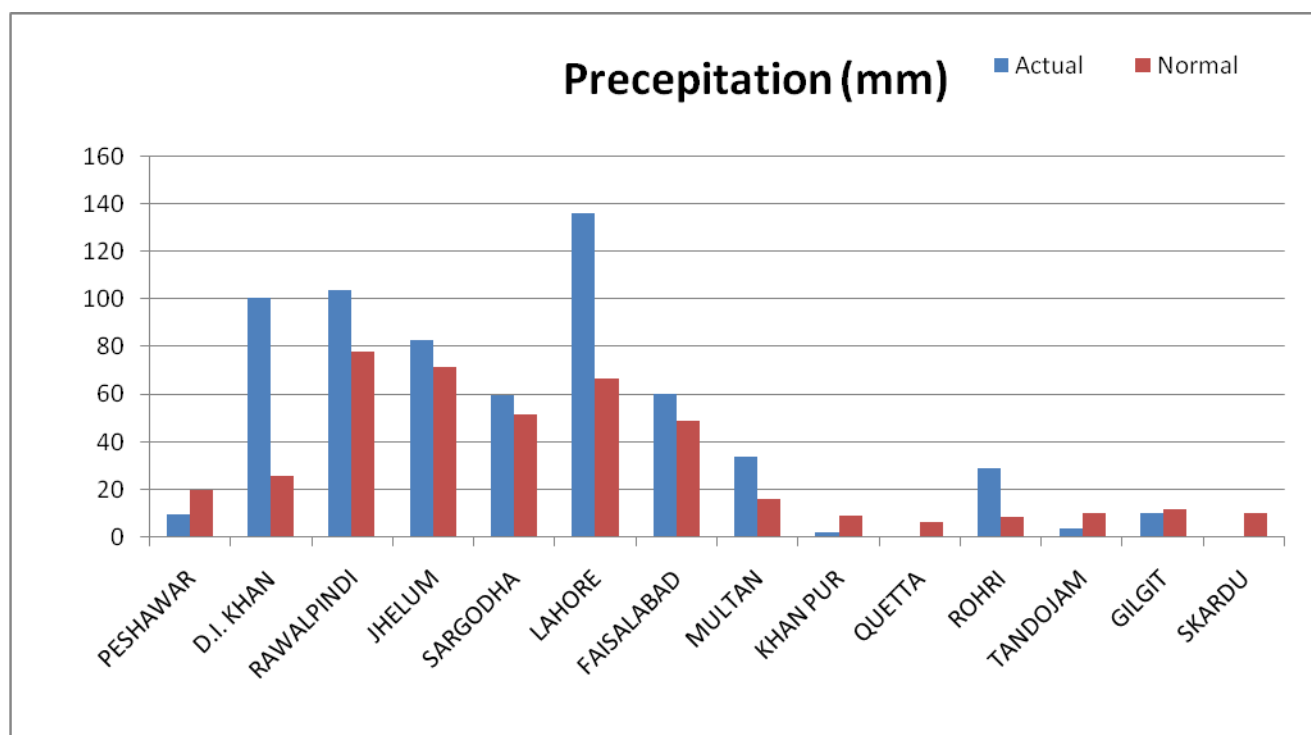
In **Balochistan**: Apple/almond orchards are growing normal. Harvesting/growth of seasonal fruits and vegetables are reported satisfactory. Harvesting of musk melon has been started in northern parts of the province. Sowing/germination of cotton in Nasirabad division are reported satisfactory.

In **Gilgit Baltistan**: Harvesting of wheat crop is completed and normal yield is expected. Sowing of maize is in progress. Growing / picking of summer vegetables and seasonal fruits are satisfactory. Harvesting of potato crop is in progress and normal production is expected

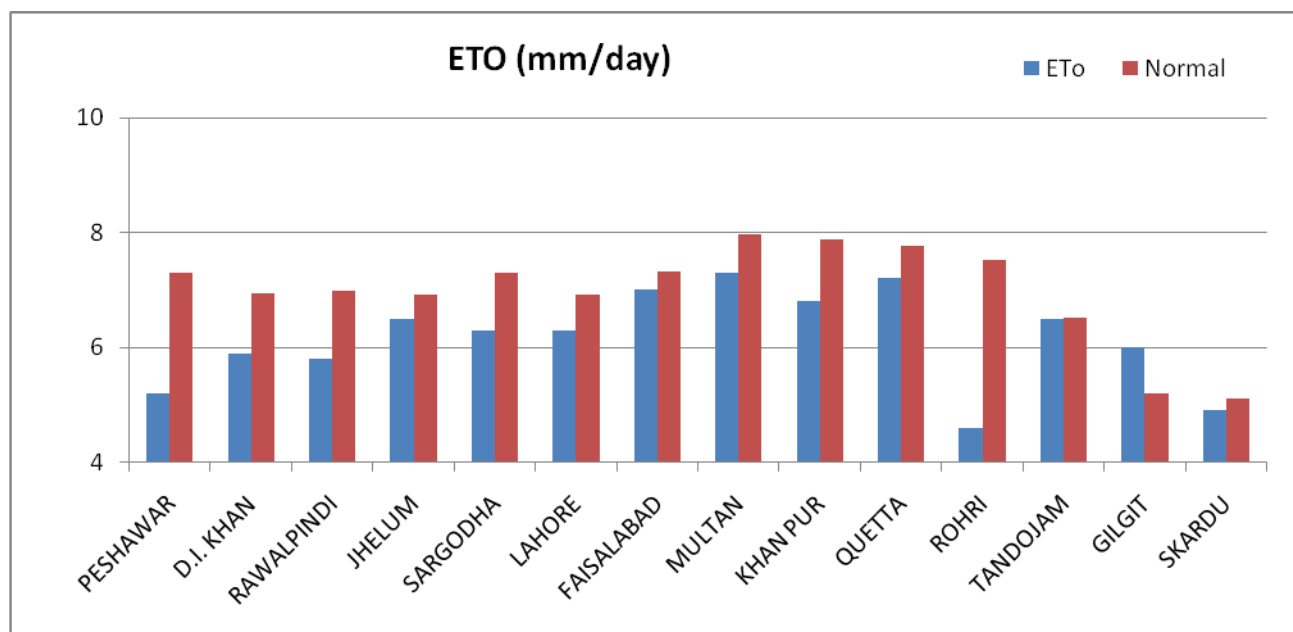
Moisture Regime during June, 2013

Generally June is the hottest and one of the driest months in Pakistan. However during this June light to moderate rain was reported in most of the agricultural plains of the country. Above normal rain was reported in lower KPK, northern and Central Punjab and lower Sindh. Whereas below normal rainfall is reported in the agricultural plains of upper KPK, Potohar region, parts of southern Punjab, upper Sindh, Gilgit Baltistan and Balochistan.

The highest amount of rainfall reported in the month was 303 mm at Murree followed by 276mm at Rawalakot, 211 at Balakot and 194mm at Saidusharif. Maximum number of rainy days was reported 12 at Jhelum followed by 10 days at Gilgit and 8 days at D.I.Khan and Lahore each.

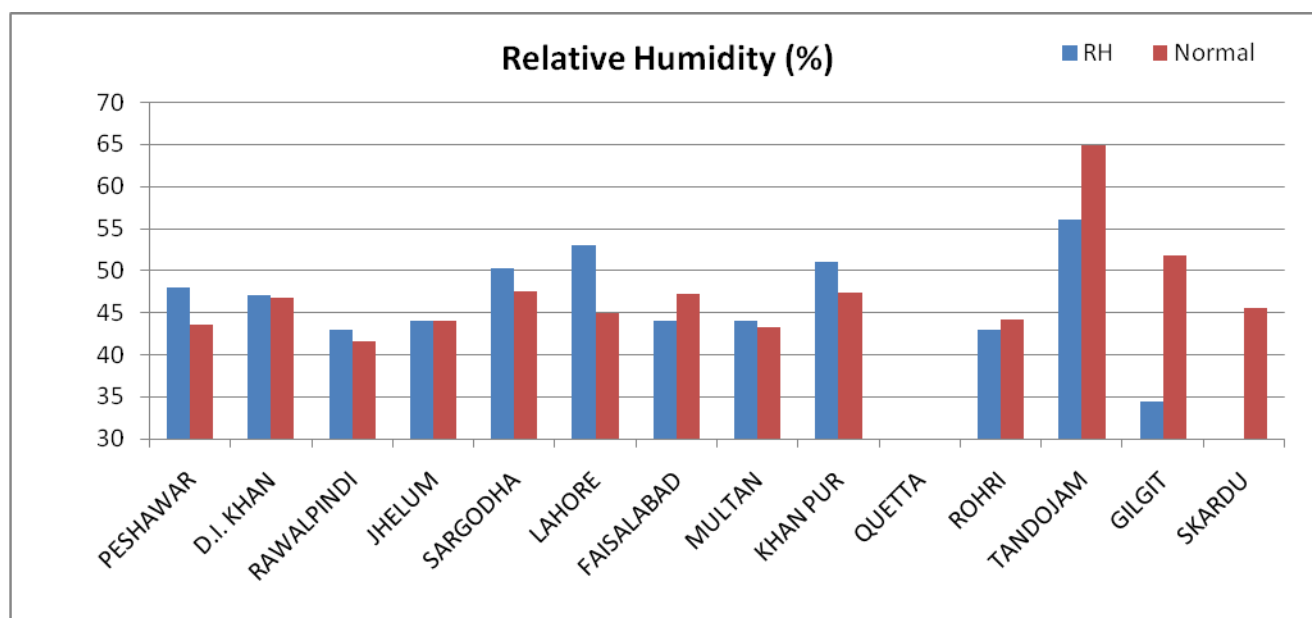


The evaporative demand of the atmosphere represented by reference crop evapotranspiration (ET_o) was observed mostly below normal except Gilgit where it remained above normal. The highest value of ET_o was observed at Multan and lowest value was observed at Skardu.



The mean daily Relative Humidity (R.H) which generally remains low in this month (due to relatively clear skies) remained above normal in upper parts of the country and Quetta region including KPK, Punjab and observed below normal in Sindh and Gilgit Baltistan region.

Maximum value of mean Relative Humidity was observed 56% at Tandojam, followed by 53% at Lahore and 51% at Khanpur while the minimum value was observed at Quetta (29%). Number of days with mean R.H greater or equal to 80% was observed nil at all agricultural plains of the country due to comparatively hot and dry weather observed during the month.

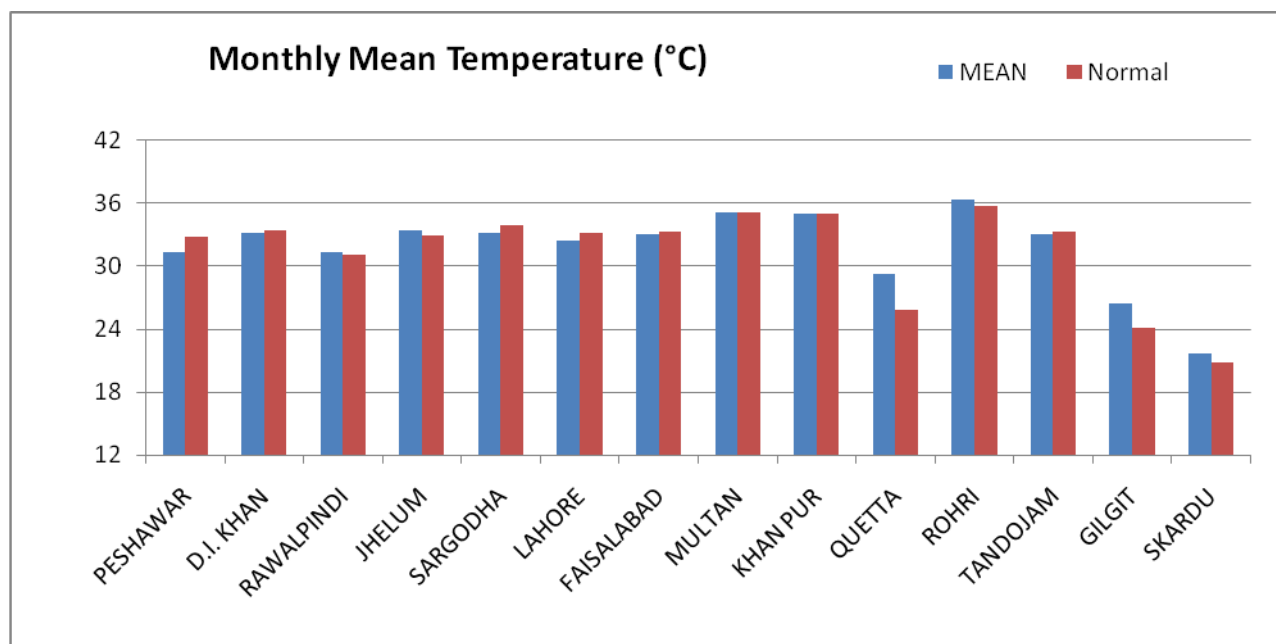


The combined impact of above normal relative humidity, below normal ETo along with satisfactory rainfall in most of the agricultural plains of the country indicates satisfactory moisture conditions. Monsoon rains may further help to bring normal moisture condition for standing crops. However hot and wet conditions sometime favor pests attack on standing crops, especially in sugarcane and cotton growing areas. Reports of pest's attacks have already been reported on cotton in certain areas. Therefore farmers must be careful about timely and proper use of pesticides to avoid/minimize such losses during monsoon season.

Temperature Regime during June, 2013

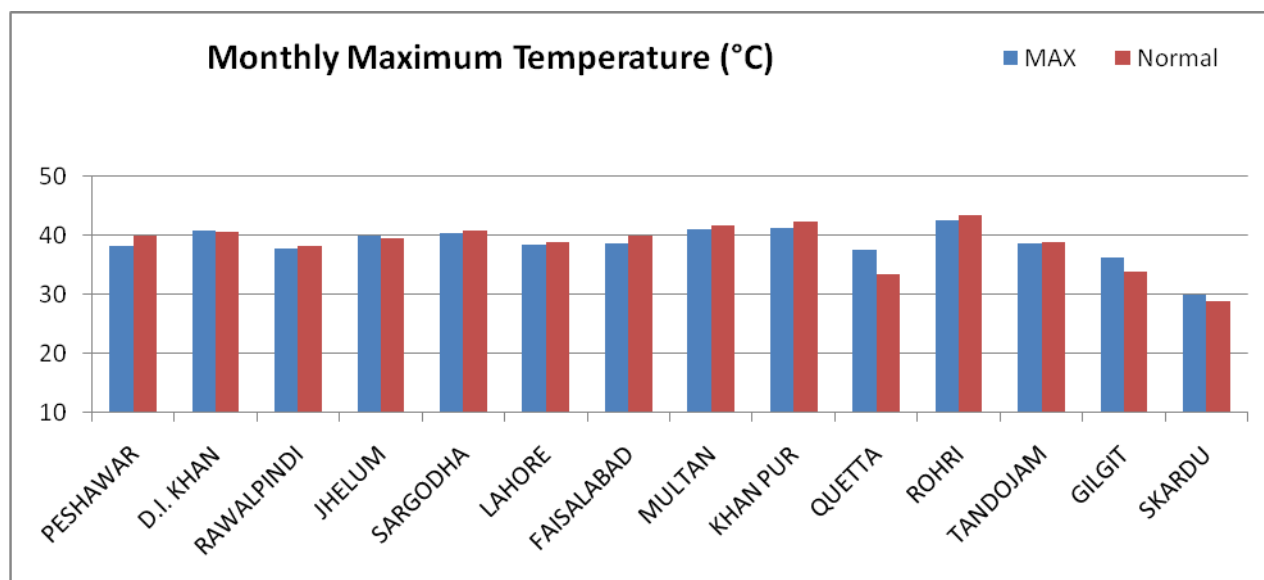
Temperature plays vital role in the growth and development of crops. Thermal regime in this month showed mostly normal trend in most of the agricultural plains of the country.

Mean daily temperature remained normal to below normal by 1-2°C in KPK, most of the agricultural plains of Punjab and Sindh. Whereas it remained above normal by 1-3°C at represented by Peshawar and high elevated plains of Gilgit Baltistan and Quetta valley. Mean daily temperature ranged 31- 33°C in Khyber Pakhtunkhwa, 31-34°C in Potohar region and 32-35°C in the remaining agricultural plains of Punjab. In Sindh it ranged 33 to 36°C, 22 to 26°C in Gilgit Baltistan region and it was observed 26°C in the high elevated agricultural plains of Balochistan represented by Quetta valley.



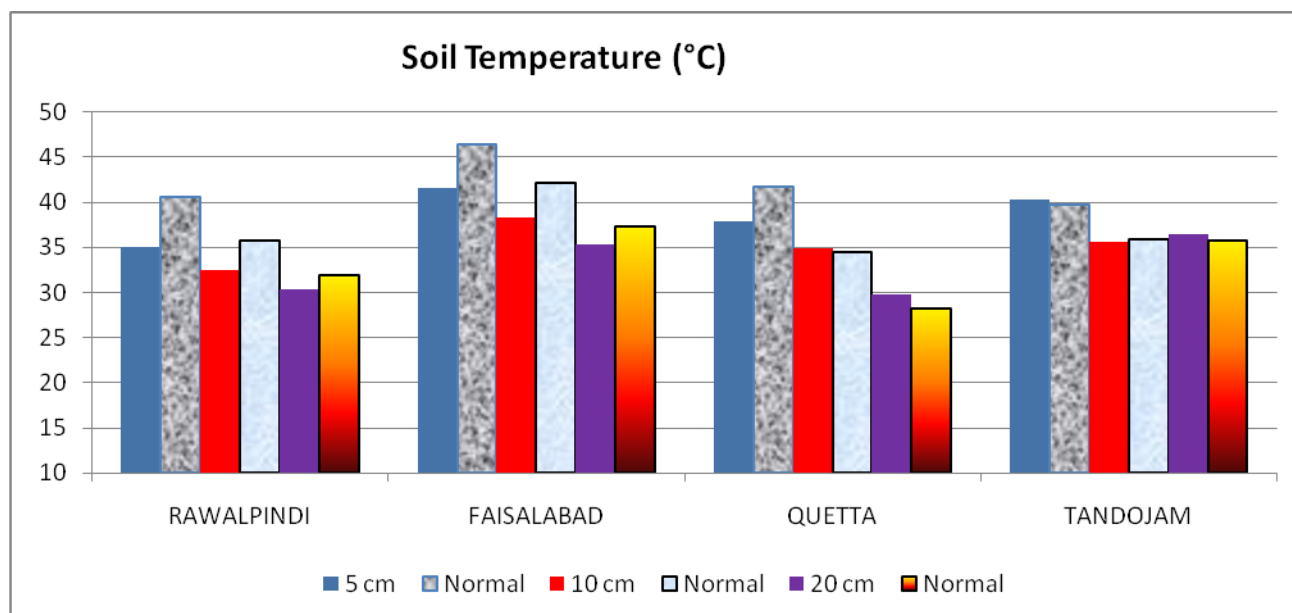
The day time temperature represented by mean maximum remained normal to below normal by 1-2°C in most of the agricultural plains of KPK and Punjab and observed normal to above normal by 2-4°C in lower parts including Sindh, northern hilly areas of Balochistan and Gilgit Baltistan region. The highest maximum temperature in the agricultural plains of the country was recorded 48.0 °C at Rohri.

Maximum number of stress days with maximum temperature greater or equal to 40°C and R.H less than or equal to 30% was observed 7 days at Faisalabad, 6 days at Multan and Gilgit each, 4 days at Jhelum and 2 days at Peshawar and Sargodha each.



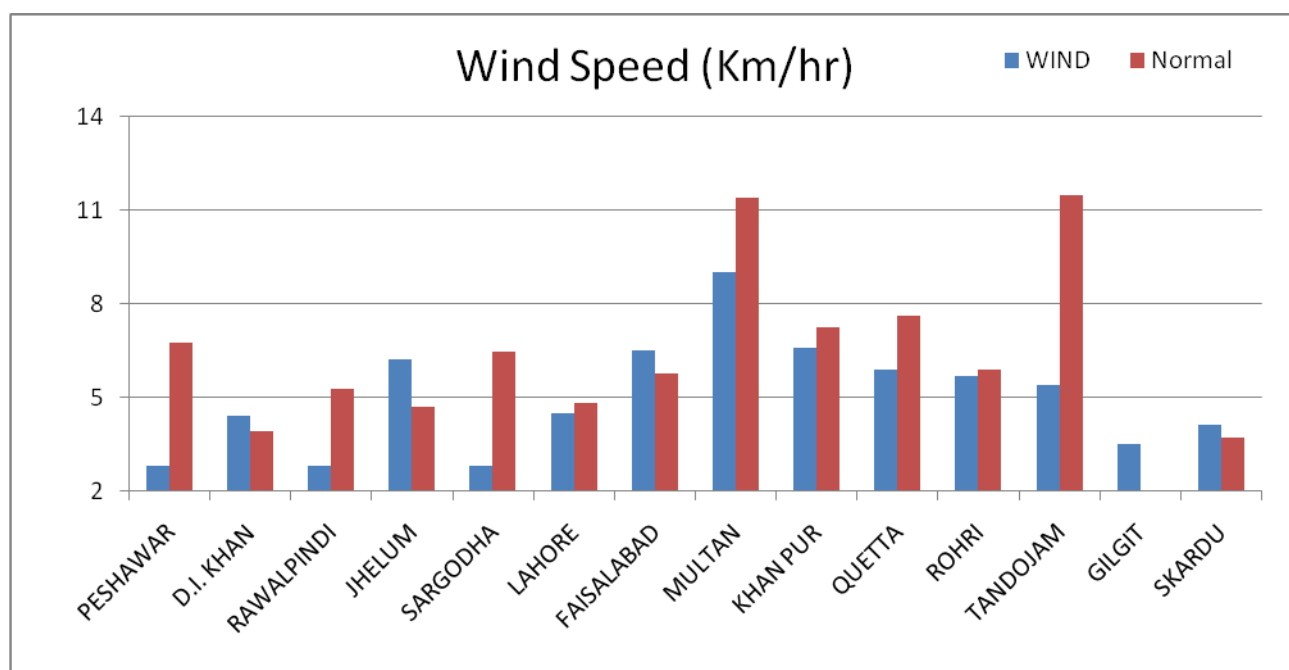
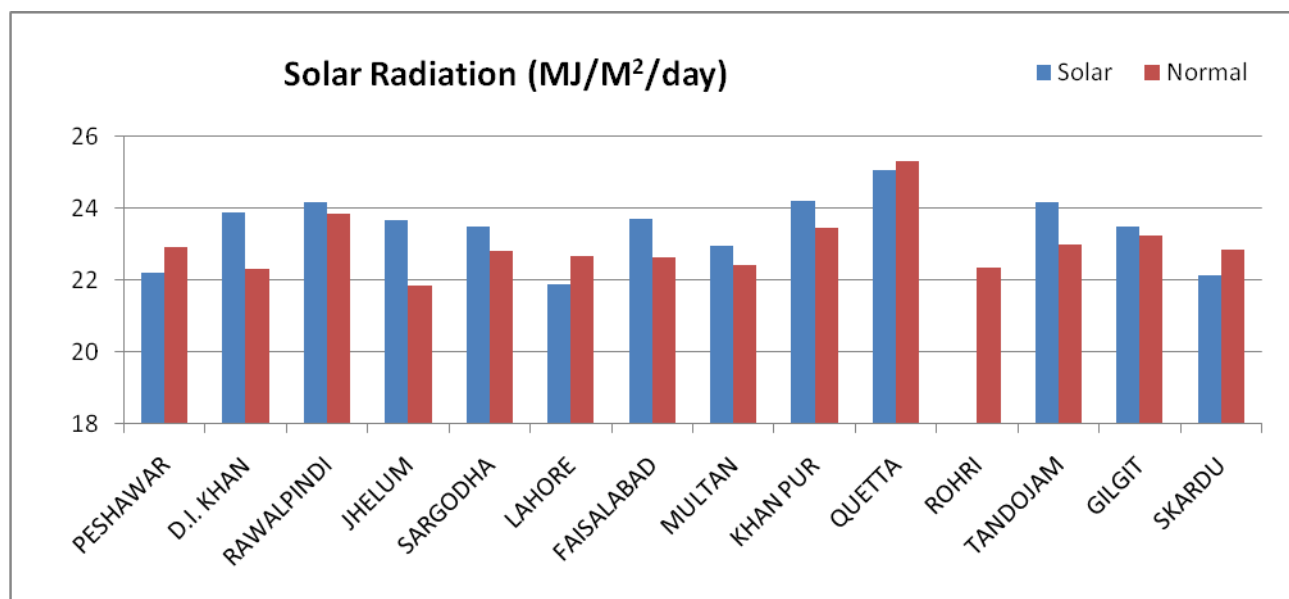
Agricultural soils showed cooler trend in the shallow as well as deep soils but the drop was observed more significant at shallow and intermediate layers (major root zone). In upper parts of the country represented by Rawalpindi and Faisalabad, drop in the soil temperature was more significant than lower parts represented by Tandojam and Quetta.

From the general analysis of soil behavior it has been observed that this June remained comparatively normal than the previous Kharif season. Soil temperature data also reveal that soil moisture condition is in satisfactory range, which may be further improved due to coming monsoon season.



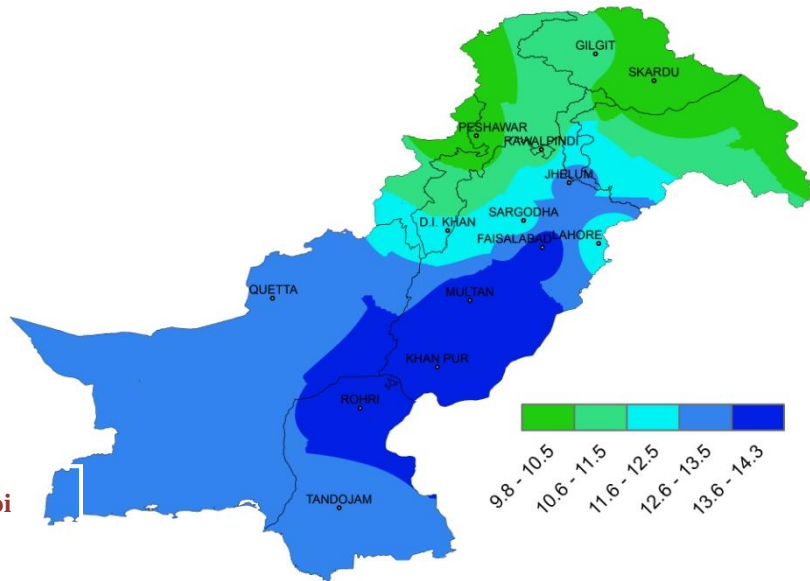
Solar Radiation and Wind Regime during June, 2013

Total bright sunshine hours and solar radiation intensity showed mixed trend in the country. These values remained normal to above normal in most of the agricultural plains of the country except upper KPK, Lahore and Skardu in Gilgit Baltistan where these values remained below normal. Mean wind speed ranged throughout agricultural plains of the country between 3 to 9 km/h with North-West and South to Southwest trend.

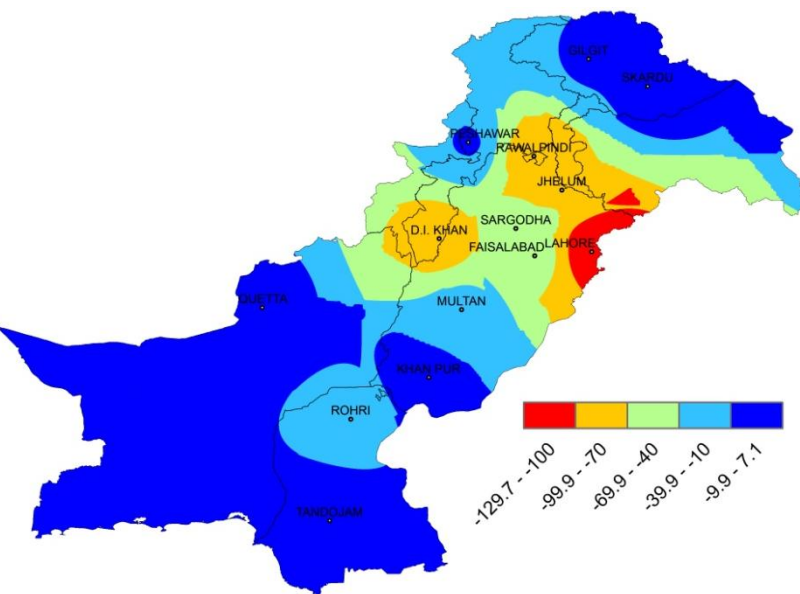


Comulative Rainfall, ETo and water stress for Rabi Season (Sep to May)

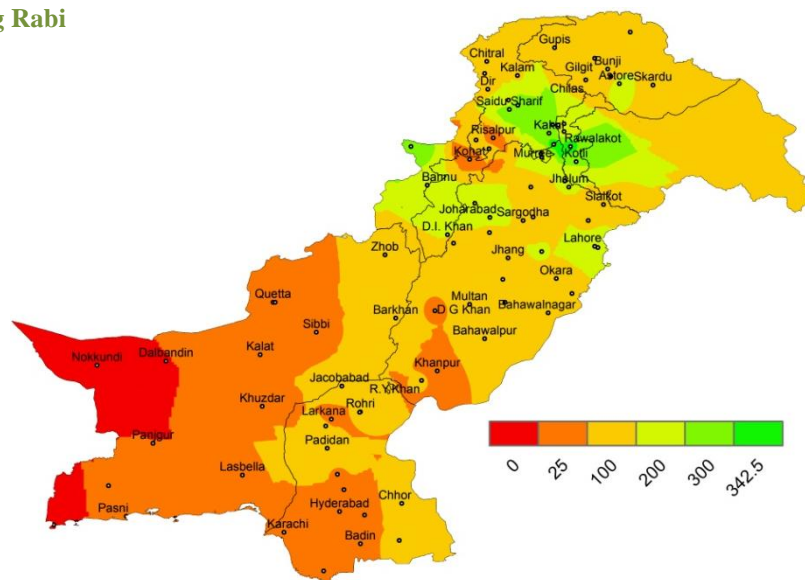
Cumulative ETo (m m) during Rabi Season up to June, 2013



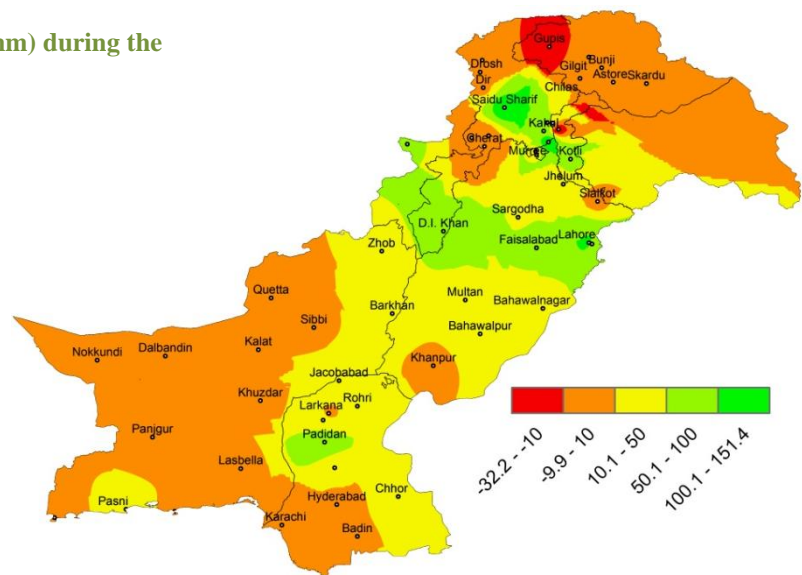
Water Stress (Rain-ETo) during Rabi Season up to June, 2013



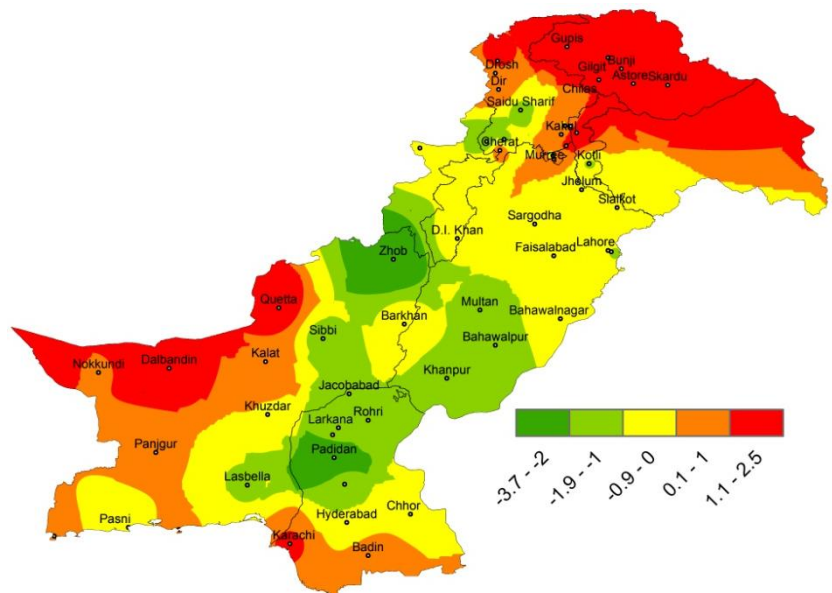
Cumulative rainfall (mm) during Rabi Season up to June, 2013



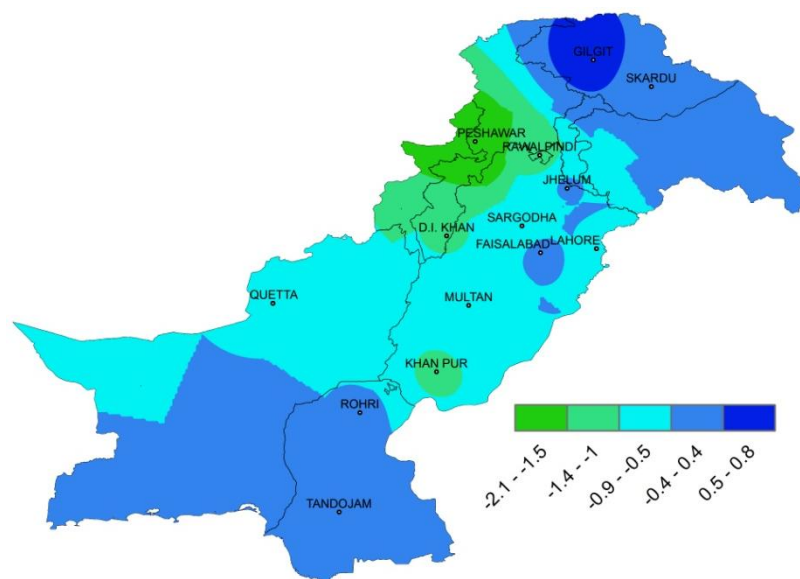
Rainfall Departure from Normal (mm) during the month of June, 2013



Maximum Temperature Departure from Normal (°C) during the month of June, 2013



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



Normally Expected Weather during July, 2013

July is generally a rainy month over Pakistan. Monsoon currents invade the northeastern parts, along with southeasterly winds whereas southwesterly flow prevails across the coastal belt. Existence of heat low over Balochistan and adjoining areas of Sindh and Punjab provides the driving force to monsoon which is now attaining full swing. Monsoon rains is normally during the first week of July. All Pakistan seasonal prediction of Monsoon (July-September) is expected to be +05-15% of the long term average. The probability of occurrence of rainfall on pentade basis over Potohar plains during July is as given below:-

Amount Dates	PERCENTAGE PROBABILITY OF OCCURRENCE OF DIFFERENT AMOUNT OFF RAINFALL IN JULY					
	1-5	6-10	11-16	17-20	21-25	26-31
10 mm	53	53	66	66	75	83
15 mm	49	45	58	65	73	80
25 mm	38	39	47	56	60	75

This year Northern parts of Punjab which forms the monsoon belt are expected to receive 250 mm precipitation, Central Punjab about 200 mm and southern Punjab as well as KPK around 150 mm. Sindh and Balochistan may get significant amount of precipitation from Agrometeorological point of view during the month. However, areas adjoining the coast would experience July precipitation ranging between 100 mm and 200 mm.

Evaporative demand of the atmosphere is likely to maintain the level of June, which was close to normal. ETo values may range between 5 and 8 mm/day throughout the country with an increasing trend toward south. The mean daily R.H% is also expected to range from 60% to 70% except arid zone where it may be around 40%.

The mean daily temperature is likely to vary from 30 to 34°C over low elevation plains whereas in and around Quetta valley, it may be about 28°C. The mean daily maximum temperatures may range between 35°C and 40°C and minimum temperature 24 to 28°C. The minimum temperature averaged over the month of July may be around 20°C. The occurrence of moderate or severe hygrothermal stress is not expected anywhere in the country because of increasing level of relative humidity due to monsoon air mass.

The water requirement of full-canopied crop is given as under:-

S.No	Region	Water Requirement	
		(mm)	Cubic Meter/ Hectare
1	Northern and Central Punjab and Lower KPK	300-330	3000-3300
2	Southern Punjab and Balochistan	365-370	3650-3700
3	Upper KPK	380-385	3800-3850

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

- No significantly change in location, convergence areas, strength and movement of zonal winds at 200 hPa (Jet stream) during current month from normal.
- Geo-potential height at 500 hPa over the region follows normal patterns with less intensity during start of the season and gradually weaken with time
- No significantly change is expected in Surface temperature pattern from normal (1982-2010) during Jun, 2013 over the country. However, surface temperature is on higher side than normal over Indian region.
- North Atlantic Oscillation (NAO) is in slightly positive phase (nearly zero) and may cause to shift western disturbances towards north during coming months. (Data source: CPU, monthly mean index)
- Most of the set of dynamical and statistical model predictions neutral conditions for the Jun-Jul-Aug (JJA). During Mid May the observed ENSO conditions in the slightly on negative side (La Nina) 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.
- Caspian Sea surface temperatures are normal to slightly above normal.
- Mediterranean Sea surface temperatures are normal to slightly above normal.
- Bay of Bengal Sea Surface Temperatures are slightly below than normal over western coast.

Seasonal Weather Outlook Summary (Jul- Sep 2013)

Synthesis of the latest model forecasts for Jul- Sep2013 (JAS), current synoptic situation and regional weather expert's judgment indicates that normal rainfall is expected all over the country with slightly below normal to normal during July. However, normal rainfall is expected during August and above normal during September. Normal temperature is likely to occur in the all over the country with slightly below normal over eastern parts of the country during August and higher than normal over extreme northern parts. Neutral-ENSO condition is expected to persist throughout the predicted period.

Weather outlook***Normal during July, Normal during August and above normal during September”***

- I. Average ($\pm 10\%$) rainfall is expected during monsoon season 2013.
- II. Intensity and frequency of monsoon will be slightly below normal to normal during July. It will increase gradually during August over central parts of the country. However, during last phase of the monsoonal rainfall (September) more than normal rainfall will be occurred over plan monsoonal areas of Punjab and Sindh.
- III. Monsoonal weather systems are likely to hit over central and upper Punjab, lower Sindh. No weather spell is expected to hit over upper sindh and southern Punjab regions during July.
- IV. Ist phase of Ramadan is likely wet over central and upper Punjab, GB, KP and Kashmir.
- V. 2nd and 3rd Phase of Ramadan would be dry and humid with higher day temperature over southern parts of the country.
- V. Influence of western disturbances over extreme northern parts and Baluchistan will dominate during whole monsoon season
- VI. Expected Maximum day temperature will be above normal all over the country except eastern parts of Punjab during July. In Aug, above normal temperature is likely to prevail all over the country with highest over western Baluchistan. Day temperature will drop below than normal over northern parts of the country during Sept, while still become above normal over southern parts of the country.
- VII. Flash flooding over foot hills of the Sulaiman ranges can not be ignored during last phase (September) of monsoon
- VIII. No thread of meteorological drought over Baluchistan during current season
- IX. Maximum day temperature will be on higher side during last phase of summer season (Aug-Sep) from the normal throughout the country.

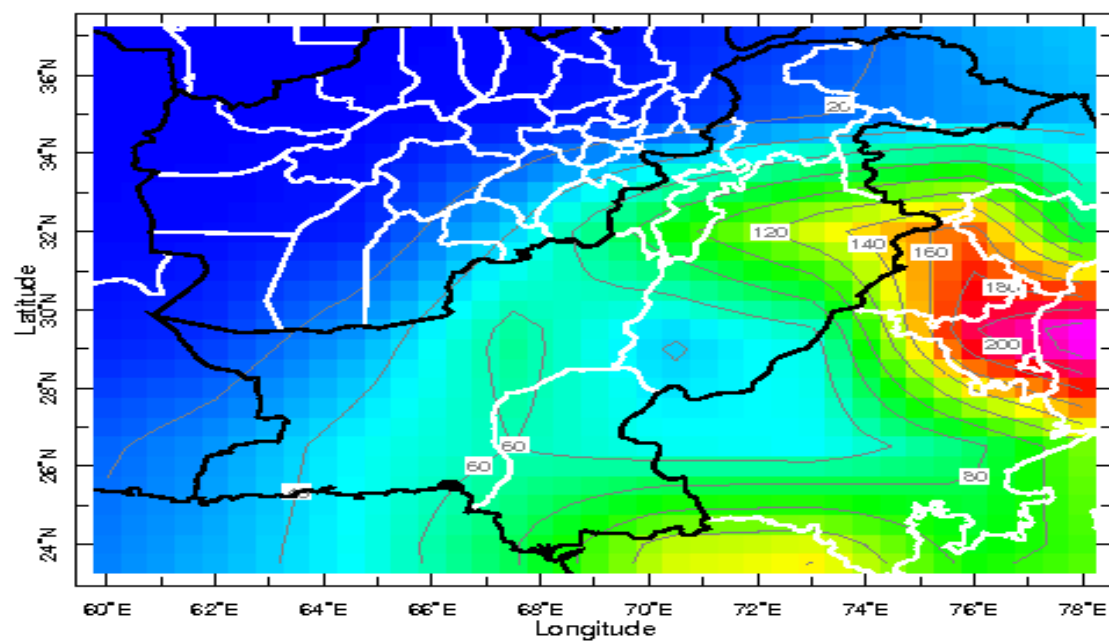
Monthly Quantitative Weather Forecast

	Jul-2013		Aug-2013		Sep-2013		Jul-Sep	
	Average	Expected	Average	Expected	Average	Expected	Average	Expected
GB	15.9	Abv.Ave	16.8	Abv.Ave	12.4	Abv.Ave	45.1	Abv.Ave
KP	99.5	Blw.Ave	92.5	Blw.Ave	42.7	Blw.Ave	234.7	Blw.Ave
AJK	181.0	Blw.Ave	160.7	Blw.Ave	70.9	Blw.Ave	412.5	Blw.Ave
FATA	61.7	Ave	67.0	Ave	29.7	Abv.Ave	158.4	Ave
PUNJAB	105.3	Blw.Ave	96.1	Abv.Ave	36.8	Abv.Ave	238.2	Ave
BALUCHISTAN	29.5	Abv.Ave	22.2	Abv.Ave	4.8	Abv.Ave	56.5	Abv.Ave
SIND	63.5	Ave	60.2	Blw.Ave	20.2	Abv.Ave	143.9	Ave
Precipitation is in mm/month								
Pakistan	60.7	Ave	54.5	Ave	20.3	Abv.Ave	135.5	Ave

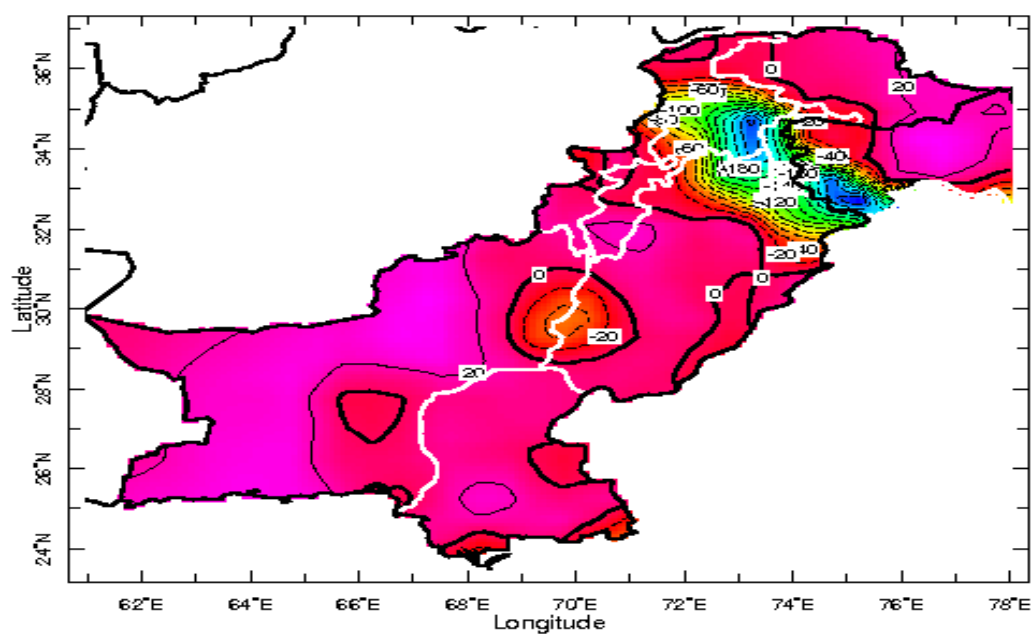
- *Below Average (Blw. Ave) < -10 %*,
- *Average precipitation range (Ave) = -10 to +10 %*,
- *Above Average (Abv.Ave) > +10 %*

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

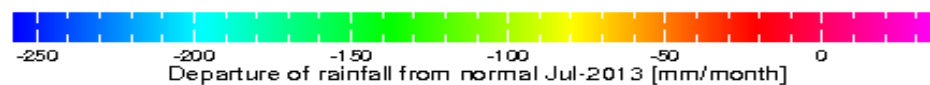
Spatial distribution of expected rainfall and departure from normal during
Jul, 2013



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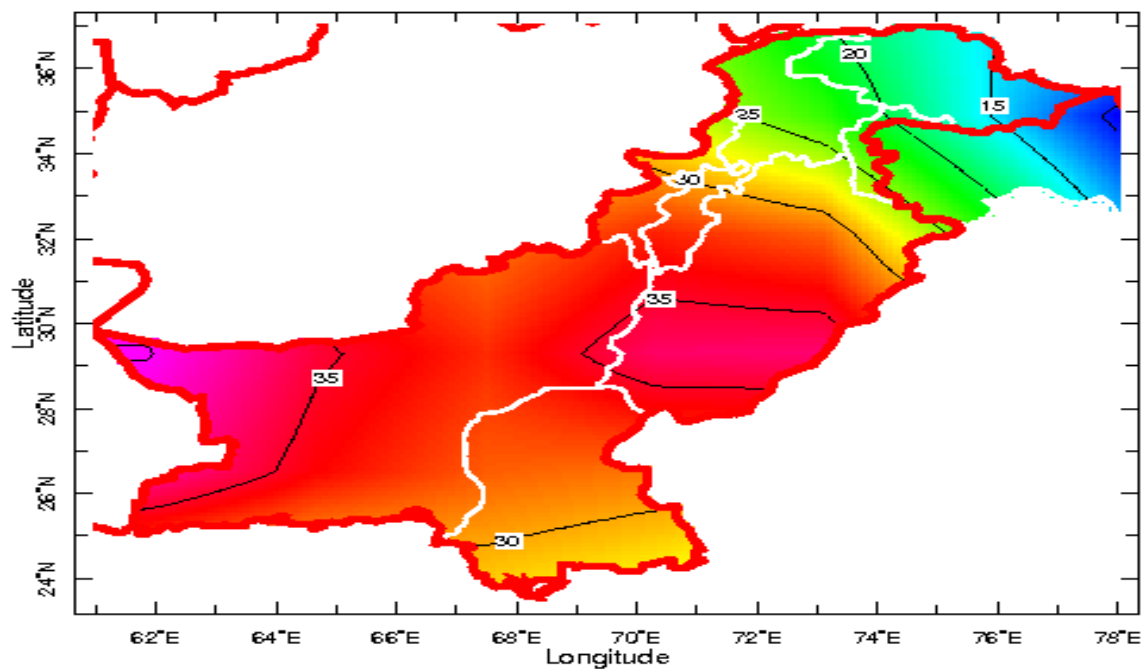


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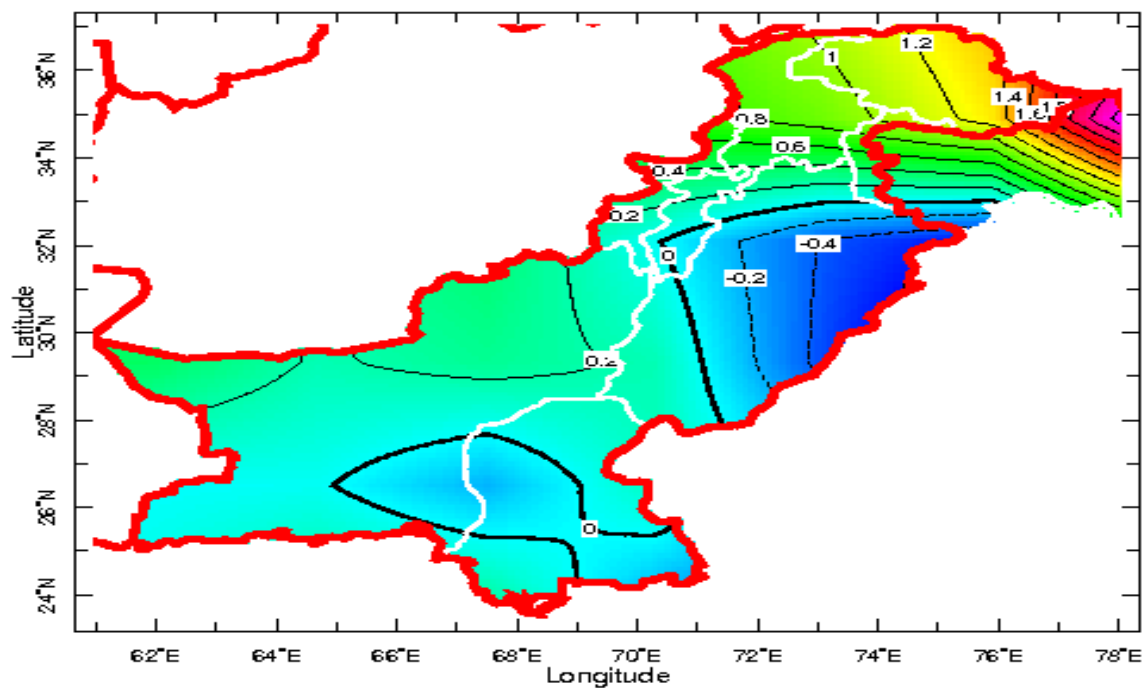
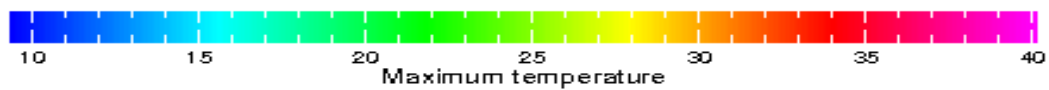


Spatial distribution of expected maximum temperature and departure of max. temperature during

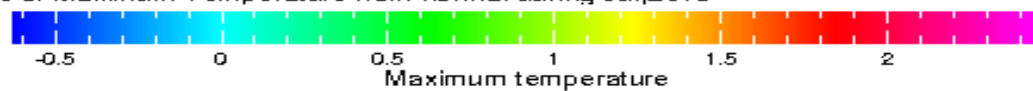
Jul, 2013



Expected Maximum Temperature during Jul,2013



Departure of Maximum Temperature from normal during Jul,2013



کپاس کی فصل پر برسات کے دوران موسمی اثرات

پاکستان ایک زرعی ملک ہے اور ملکی ترقی کا اٹھارہویں پیراوار ہے ملکی آبادی کا اکثریتی حصہ زراعت اور اس سے متعلقہ صنعتوں سے منسلک ہے۔

کپاس پاکستان کی اہم نقد اور فصل ہے۔ جس کی پنجاب اور سندھ کے نہری علاقوں میں کاشت ہوتی ہے۔ گل 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۔ یہ موسم گرما (ربیع) کا اہم فصل ہے جس کی کاشت پنجاب میں مئی/جون اور اس سے پہلے 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 کیوجہ سے سندھ میں پانی کی ضرورت مون سون سے پہلے پنجاب کے مقابلے میں سب سے 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۔ پاکستان کے زیادہ تر برآمدات اور صنعت سے متعلق لیبر کی ایک بڑی تعداد کے روزگار اور گزر بسر کا اٹھارہ کپاس کا 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 پختونخوا کے جنوبی علاقوں میں بھی کپاس کی کچھ کاشت ہوتی ہے۔ پاکستان میں کپاس کی نشوونما اور پیداوار میں ردوبدل کا اٹھارہ نیا دی طور پر اچھے بیج کی بروقت فراہمی، بروقت کاشت، بروقت کھادوں کی فراہمی، مضر کیڑوں 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:

۱: کپاس کے نشوونما کے دوران مضر رساں کیڑوں کے حملوں کا موسمی تبدیلیوں سے گہرا تعلق ہے۔ عام طور پر یہ مشاہدہ کیا گیا ہے کہ موسم برسات کے گرم مرحلے میں کپاس پر سب سے زیادہ رس چوسنے والے کیڑے مثلاً جیبا نیڈز (چوس تھیلہ)، سفید مکھی، سست تھیلہ اور مختلف اقسام کی سنڈیاں حملہ آور ہوتی ہیں۔ ٹینڈے کی سنڈیوں اور لشکری سنڈی کے تدارک کے لئے کھیت کے ارد گرد لائنوں میں باجرہ کاشت کریں تاکہ اس پر آنے والی چڑیاں اور پرندے سنڈیوں کو کھا جائیں۔ کیمیائی انسداد لے لے اپنے علاقہ کے زرعی توسیعی کارکنان کے مشورہ کے بغیر دوائی نہ کریں بصورت دیگر نقصان کا حشر ہوگا۔ لیکن کئی دفعہ موسم گرما میں فصل کا سامنا مسلسل گرم اور خشک موسم سے بھی ہوتا ہے۔ جس کے دوران جوڈوں وغیرہ کا حملہ متوقع ہوتا ہے۔ اس لئے کسان حضرات گرم مرحلے میں کپاس کے دوران بروقت کیمیائی اسپرے سے فصل کو مزید نقصان سے بروقت بچایا جاسکتا ہے۔ رس چوسنے والے کیڑوں کا حملہ اس وقت سب سے زیادہ ہوتا ہے۔ جب دن کا درجہ حرارت 35 سے 40 ڈگری سینٹی گریڈ کے درمیان ہو اور ہوا میں نمی کا تناسب 40 فیصد سے زیادہ ہو۔ اس سے کم نمی یا درجہ حرارت پر ان کیڑوں کا حملہ بتدریج کم ہو جاتا ہے۔ 40 ڈگری سینٹی گریڈ سے زیادہ درجہ حرارت پر رس چوسنے والے کیڑوں کے حملوں کے حملہ زک جاتے ہیں۔ بارش کے دوران کپاس کی فصل پر کیڑوں کا حملہ زک جاتا ہے بارشوں کے بعد کیڑوں کا حملہ دوبارہ شروع ہو جاتا ہے خصوصاً ملٹی ہلک کا حملہ انتہائی سطح پر پہنچ جاتا ہے۔

۲: موسم برسات کے دوران فصل میں کھڑا پانی کپاس کے پودے کے لئے سخت نقصان دہ ہے۔ کھڑے پانی کیوجہ سے پودے کی نشوونما 3 سے 4 دن کے بعد زک جاتی ہے اور پودے مر جھٹا شروع ہو جاتے ہیں۔ اس لئے کسان حضرات سے گزارش ہے کہ کپاس کے فصل کیساتھ ایسی فعلیں کاشت کی جائیں جو کہ کپاس کے مقابلے میں کھڑے پانی سے کم نقصان دہ ہوں مثلاً کما اور دھان کی فصل وغیرہ۔ مون سون کے بارشوں کے دوران زائد کھڑا پانی ساتھ میں ان فصلوں کی طرف بہا کر فصل کو مزید نقصان سے بچایا جاسکتا ہے۔ اس کے علاوہ 2010ء کے سیلابی بارشوں اور فصل میں کھڑے پانی کے دوران لیف کرل وائرس (LCV) کے حملے بھی کافی بڑھ گئے تھے۔ اس لئے فصل کو جلد از جلد زائد پانی سے خالی کرنا چاہئے۔ لیف کرل وائرس (LCV) کے انسداد کے لئے مربوط طریقہ انسداد اپنائیں۔ متبادل میزبان فصلوں، جڑی بوٹیوں کا انسداد، متاثرہ حصوں اور ٹڈیوں کو اکھاڑ کر یا اکھٹا کر کے جلا، مدافعت کی اقسام، ایک سے زائد اقسام کی کاشت، سفید مکھی کا تدارک، چھدرائی سے متاثرہ پودوں کا نکالنا اور فصلوں کے ہیر پھیر سے بیماری کے تسلسل تدارک میں مدد ملتی ہے۔

۳: مشاہدے سے یہ بات سامنے آئی ہے کہ کپاس کے فصل کو بارشوں کے دوران سب سے زیادہ نقصان (Boll formation or Boll opening) ٹینڈے کے دوران ہوتی ہے مسلسل بارش سے پودے سے ٹینڈے (Boll) گرنے شروع ہو جاتے ہیں اور حاصل پیداوار بہت کم ہو جاتی ہے۔ کسان حضرات سے گزارش ہے کہ اس نقصان پر قابو پانے کیلئے متعلقہ زرعی محکمے کے مشوروں کی مطابقت اس کا تدارک کیا جائے۔

۴: مون سون کے دوران کپاس کے کھیت میں جڑی بوٹیاں زیادہ اگنا شروع کر دیتی ہیں۔ جس سے کپاس کی فی ایکڑ پیداوار میں خاطر خواہ کمی واقع ہوتی ہے۔ کسان حضرات سے گزارش ہے کہ فصل کی بوئی ہمیشہ تر میں کریں بصورت دیگر وڑ کم ہونے کی صورت میں بیج کو 5 تا 6 سم گہرائی بھونک کر کاشت کریں۔ جب پودے چھوٹے ہوں تو کھیت میں وڑ آنے پر قطاروں کے درمیان غل چلا کر یا جب پودے بڑے ہوں تو کیمیائی اسپرے کر کے غیر ضروری جڑی بوٹیوں پر قابو پایا جاسکتا ہے۔

۵: عام طور پر زیادہ بارشوں کے نتیجے میں فصل کی برہوتری بہت تیز ہو جاتی ہے۔ اگر پودے کی عمر دو ہفتے کے بعد اس کا اوپر والے حصے کی لمبائی 19 انچ سے زیادہ ہو جائے تو فصل کا قدر ضرورت سے زیادہ بڑھ جاتا ہے جس کیوجہ سے اس پر پھول زیادہ دیر سے آتے ہیں اور بالآخر فصل کی عمر اور پیداوار میں تاخیر ہو جاتی ہے۔ جس سے گل پیداوار میں کمی آنے کے امکانات ہوتے ہیں اور ملکی فصل (ربیع) کی کاشت بھی دیر سے ہو جاتی ہے۔ ایسے حالات میں پودوں کو پانی کی فراہمی میں کمی یا کھاد ساتھ ساتھ زراعت کے مشورے کی مطابقت کیمیائی مادوں کا مناسب استعمال کر کے نشوونما کو کم کیا جاسکتا ہے تاکہ پودے کی پختگی (maturity) بروقت مکمل ہو۔ کپاس کی قسم اور موسمی حالات کو مد نظر رکھ کر فصل کو پہلا پانی 30 سے 50

دن بعد لگائیں۔ باقی پانی 15 تا 20 دن کے وقفے سے لگائیں اور وسط اکتوبر سے پہلے آخری آبپاشی کریں۔ آخری آبپاشی کپاس کی قسم اور موسمی حالات کو مد نظر رکھ کر کریں۔
۲: فصل کی کاشت کمپانی کھادوں، آبپاشی اور ہر قسم کمپانی اسپرے سے مثبت نتائج حاصل کرنے کیلئے موسمی معلومات انتہائی ضروری ہے ورنہ فصل کی کاشت، کمپانی کھادوں کے استعمال، آبپاشی اور اسپرے وغیرہ کے فورا 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 ایگرو میٹ سینٹر پی۔ او۔ بکس نمبر 1214، بیکلراج ایٹ ٹو، اسلام آباد۔ فون نمبر: 051-9250299

۲- محکمہ موسمیات، نیشنل فور کاسٹنگ سینٹر برائے زراعت پی۔ او۔ بکس نمبر 1214، بیکلراج ایٹ ٹو، اسلام آباد۔ فون نمبر: 051-9250363-4

تفصیلی موسمی معلومات کیلئے محکمہ موسمیات کی ویب سائٹ "www.namc.pmd.gov.pk" ملاحظہ کریں

تحریر: محمد ایاز

کمپیوٹر کمپوزنگ: علی مان شاہ

مضمون کے ماخذ:-

- 1- Technical Report " An Analysis of Weather and Cotton Crop Development in Lower Sindh (2007-2012)" by Muhammad Ayaz, Meteorologist, NAMC, Pakistan Meteorological Department, Islamabad.
- 2- Onset of Pest Attack on Cotton Crop of Punjab in Terms of Meteorological Parameters (2006-2010), MS-Dissertation by Muhammad Zeeshan, Assistant Meteorologist, NAMC, Pakistan Meteorological Department, Islamabad.
- 3- Online Literature of PARC/NARC (www.parc.gov.pk/).
- 4- Waddle, 1994, WMO No. 134 final. Agro meteorology of some selected crops, Agrometeorology of Cotton production.