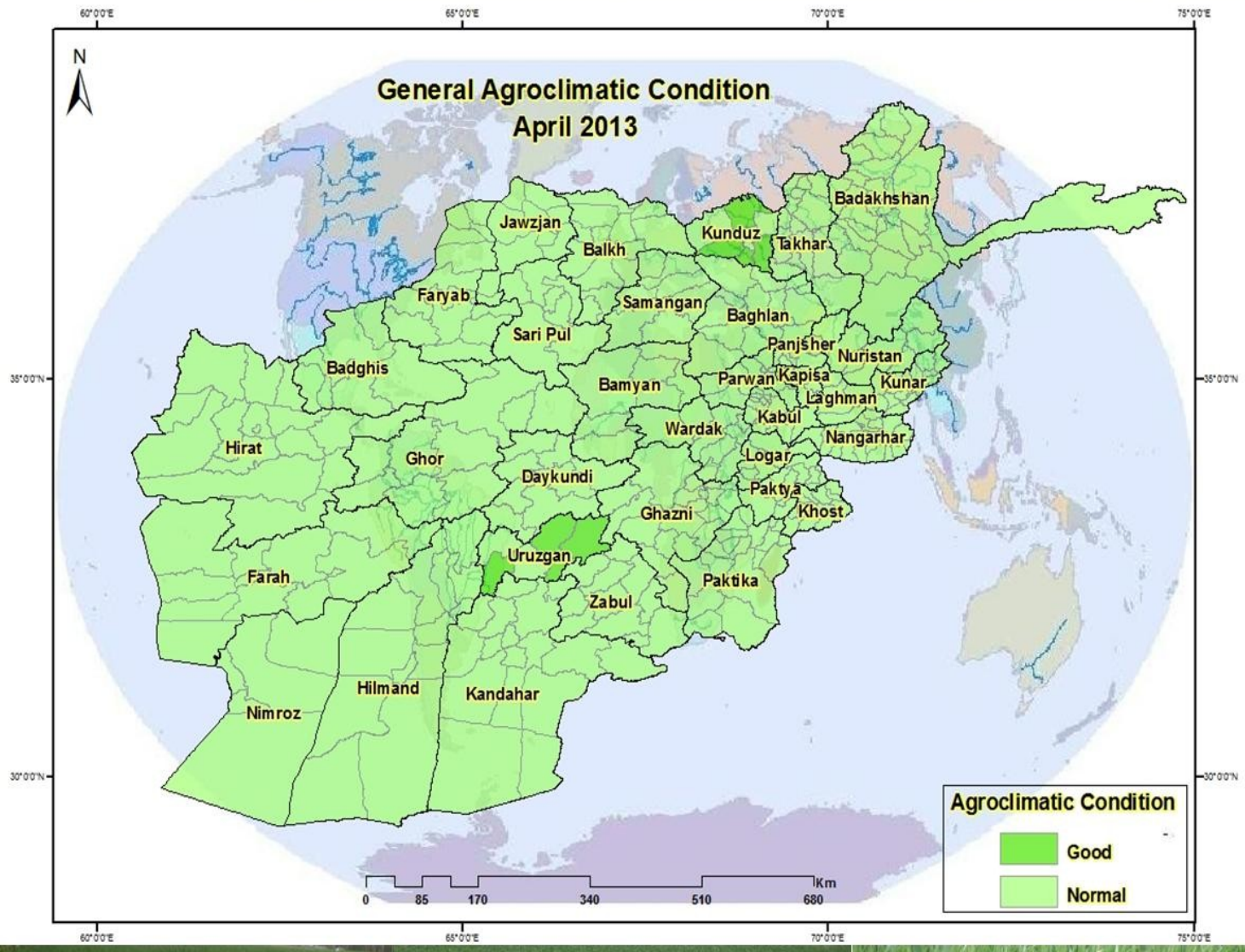
Issue No: 98
April: 2013

The Afghanistan Agrometeorological Monthly Bulletin

Topics Crop Information Precipitation Temperature NDVI



Adverse Factor 1

Crop Condition 2

Crop Stage 3

The Agromet Project of USGS, is working together with the Ministry of Agriculture, Irrigation and Livestock (MAIL) and the Afghan Meteorological Authority (AMA) of Ministry of Transport (MoT)

BULLETIN

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The Afghanistan's Agromet Monthly Bulletin is being Published on monthly Bases in Dari and English Languages.

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Rainfall Situation

Snowfall Situation

Temperature

Data Source:

Ministry of Agriculture , Irrigation and Livestock (MAIL), Agromet Project , Afghan Meteorological Authority (AMA), United States Geological Survey (USGS).

Summary

During the month of April 2013 Afghanistan received light to moderate rainfall, the rainfall during this month was mostly accompanied with liquid precipitation and rainfall occurrence mostly concentrated in the Eastern,Northeastern Northern and some parts in the Central Highlands.

However temperature gradually rose during the month of April 2013, cooler temperature prevailed during this month and the minimum temperature remained at freezing in the North-eastern and Hindokosh mountains. During the month of April 2013, temperature had mostly negative departure ranging around 1 – 4 C°.

Crop Stage, Crop Condition and Adverse Factor

Zone	Province	District	Station	Wheat		
				Crop Stage	Crop Condition	Adverse Factor
Central	Kabul	Shakardara	Karizmir	Vegetative	Normal	Weeds
		Paghman	Paghman	Vegetative	Normal	Not Existed
		Kabul	Darulaman	Vegetative	Normal	Not Existed
		Surubi	Surubi	Grain Filling	Normal	Shortage of Input
	Panjsher	Dara	Dara	Vegetative	Normal	Not Existed
		Dashtak	Dashtak	Vegetative	Normal	Not Existed
	Parwan	Syagerd	Gorband	Vegetative	Normal	Not Existed
		Charikar	Charikar	Vegetative	Normal	Not Existed
	Kapisa	Mahmoodraqi	Mahmoodraqi	Flowering	Normal	Weeds
		Kohistan	Kohistan	Flowering	Normal	Weeds
	Wardak	Maidan shehr	Maidan shehr	Vegetative	Normal	Not Existed
		Sayed Abad	Sayed Abad	Emergence	Normal	Not Existed
	Logar	Pole Alam	Pole Alam	Vegetative	Normal	Not Existed
	Bamyan	Bamyan	Bamyan	Vegetative	Normal	Not Existed
		Yakawlang	Yakawlang	Vegetative	Normal	Not Existed
		Panjab	Panjab	Emergence	Normal	Not Existed
		Shebar	Shebar	Emergence	Normal	Not Existed
		Kohmard	Kohmard	Vegetative	Normal	Not Existed
	Ghazni	Andar	Bande Sardi	Vegetative	Normal	Not Existed
	Dikondy	Nili	Nili	Vegetative	Normal	Poor Rainfall
		Khideer	Khideer	Emergence	Normal	Not Existed
East	Nangarhar	Agam	Agam	Flowering	Normal	Not Existed
		Batikot	Ghaziabad	Grain Filling	Normal	Not Existed
		Jalalabad	Farm jaded	Grain Filling	Normal	Not Existed

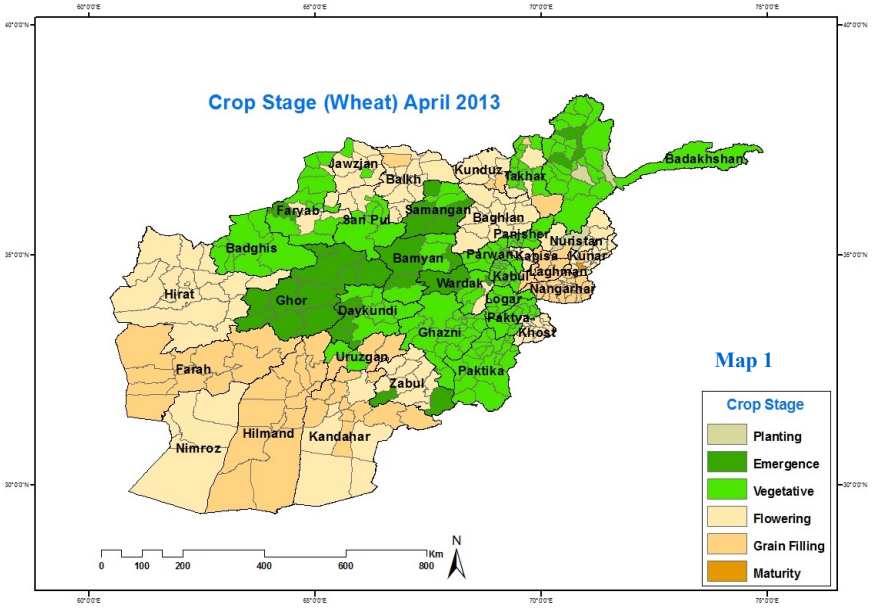
Crop Stage, Crop Condition and Adverse Factor

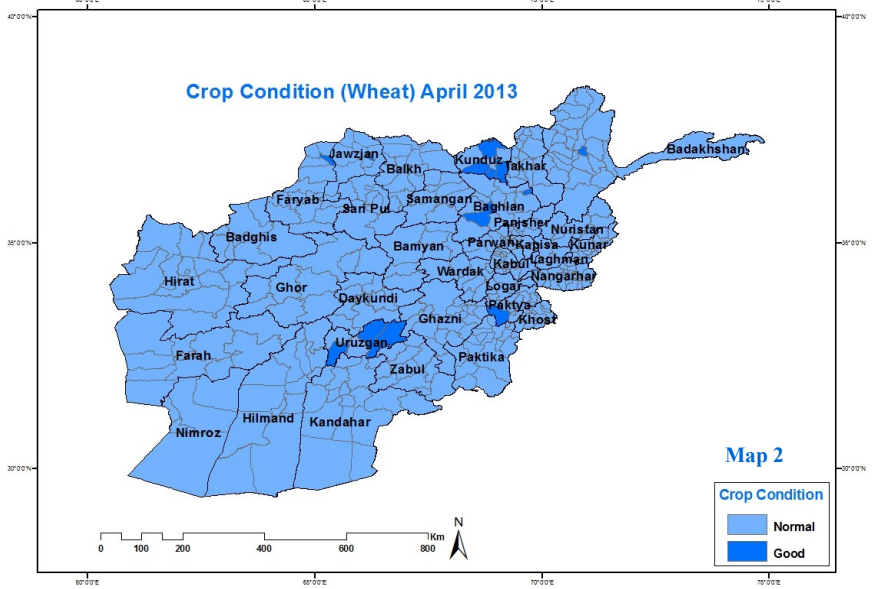
Zone	Province	District	Station	Wheat		
				Crop Stage	Crop Condition	Adverse Factor
East	Kunar	Asmar	Asmar	Flowering	Normal	Not Existed
		Asad Abad	Asad Abad	Grain Filling	Normal	Not Existed
		Chawkay	Chawkay	Maturity	Normal	Not Existed
	Laghman	Mihtarlam	Mihtarlam	Grain Filling	Normal	Not Existed
		Qarghay	Qarghay	Grain Filling	Normal	Not Existed
		Alengar	Alengar	Grain Filling	Normal	Not Existed
	Noristan	Paroon	Paroon	**Planting**		
		Do Ab	Do Ab			
		Norgaram	Norgaram	Grain Filling	Normal	Not Existed
		Waigal	Waigal	Flowering	Normal	Not Existed
		Wama	Wama	**Planting**		
North East	Takhar	Taluqan	Taluqan	Flowering	Normal	Weeds
		Rostaq	Rostaq	Vegetative	Normal	Not Existed
		Aqmasjad	Aqmasjad	Vegetative	Normal	Not Existed
	Kunduz	Imam Sahib	Imam Sahib	Flowering	Good	Not Existed
		Qaliazal	Aqtipa	Flowering	Normal	Not Existed
		Khan Abad	Khan Abad	Grain Filling	Good	Not Existed
		Kunduz	Kunduz	Flowering	Normal	Not Existed
		Archi	Archi	Flowering	Normal	Not Existed
		Chardara	Chardara	Flowering	Good	Not Existed
		Ali Abad	Ali Abad	Grain Filling	Good	Not Existed
	Baghlan	Pulikhomri	Pozaishan	Flowering	Normal	Not Existed
		Doshy	Doshy	Flowering	Normal	Not Existed
	Badakhshan	Argo	Argo	Emergence	Normal	Not Existed
		Baharak	Baharak	Vegetative	Good	Not Existed
		Ashkashm	Ashkashm	Emergence	Normal	Not Existed
		Khash	Khash	Vegetative	Normal	Poor Rainfall
		Faiz Abad	Faiz Abad	Vegetative	Normal	Not Existed
South East	Khost	Khost	Khost	Flowering	Normal	Pest & Disease
		Khost	Shimal	Flowering	Normal	Not Existed
		Ali Sher	Ali Sher	Flowering	Normal	Pest & Disease
	Paktia	Zormat	Rohani Baba	Emergence	Good	Not Existed
		Gardiz	Tera	Vegetative	Normal	Not Existed
	Paktika	Urgon	Urgon	Vegetative	Normal	Not Existed
		Sharana	Sharana	Vegetative	Normal	Not Existed
		Khair kot	Khair Kot	Vegetative	Normal	Not Existed

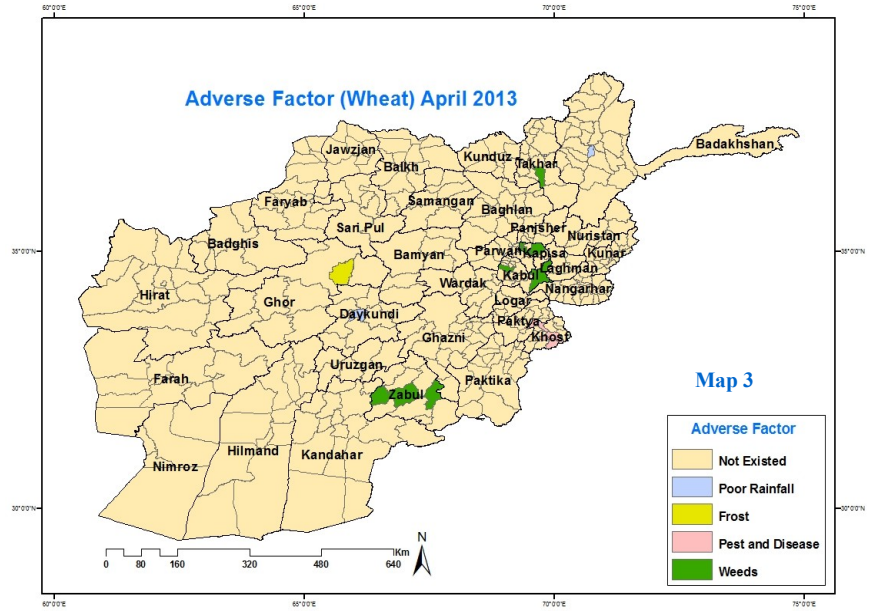
Crop Stage, Crop Condition and Adverse Factor

Zone	Province	District	Station	Wheat		
				Crop Stage	Crop Condition	Adverse Factor
South	Nimroz	Zaranj	Zaranj	Flowering	Normal	Not Existed
	Kandahar	Kandahar	Kandahar	Grain Filling	Normal	Not Existed
		Kohkaran	Kohkaran	Flowering	Normal	Not Existed
	Zabul	Qalat	Qalat	Flowering	Normal	Weeds
	Urozgan	Tirin Kot	Tirin Kot	Grain Filling	Good	Not Existed
	Hilmand	Nad Ali	Nad Ali	Grain Filling	Normal	Not Existed
		Greshk	Greshk	Grain Filling	Normal	Not Existed
		Nawa	Nawa	Grain Filling	Normal	Not Existed
		Lashkargah	Bolan	Grain Filling	Normal	Not Existed
North	Balkh	Takhta pol	Dihdadi	Flowering	Normal	Not Existed
		Mazar shareef	Mazare shareef	Flowering	Normal	Not Existed
		Nahrishahi	Nahrishahi	Flowering	Normal	Not Existed
		Dawlat Abad	Dawlat Abad	Grain Filling	Normal	Not Existed
	Jawzjan	Sheberghan	Sheberghan	Flowering	Normal	Not Existed
		Darzab	Darzab	Vegetative	Normal	Not Existed
		Aqcha	Aqcha	Flowering	Good	Not Existed
	Saripul	Saripul	Saripul	Flowering	Normal	Not Existed
		Sancharak	Sancharak	Vegetative	Normal	Not Existed
		Sozmaqala	Sozmaqala	Vegetative	Normal	Not Existed
	Faryab	Maimana	Maimana	Flowering	Normal	Not Existed
		Andkhoy	Andkhoy	Flowering	Normal	Not Existed
		Garzeewan	Garzeewan	Vegetative	Normal	Not Existed
	Samangan	Aibak	Aibak	Vegetative	Normal	Not Existed
		Dara Souf	Dara Souf	Emergence	Normal	Not Existed
		Sar bagh	Sarbagh	Emergence	Normal	Not Existed
North West	Badghis	Maqur	Maqur	Vegetative	Normal	Not Existed
		Qalainow	Qalainow	Vegetative	Normal	Not Existed
	Ghor	Chaghcharan	Chaghcharan	Emergence	Normal	Not Existed
		Dawlat yar	Dawlat yar	Emergence	Normal	Frost
	Hirat	Shindand	Shindand	Flowering	Normal	Not Existed
		Hirat	Hirat	Flowering	Normal	Not Existed
		Zindajan	Zindajan	Flowering	Normal	Not Existed
		Gwazara	Falahat	Flowering	Normal	Not Existed
		Hirat	Farm Urdokhan	Flowering	Normal	Not Existed
	Farah	Farah	Farah	Grain Filling	Normal	Not Existed

Wheat Crop Stage, Condition and Adverse Factor Maps







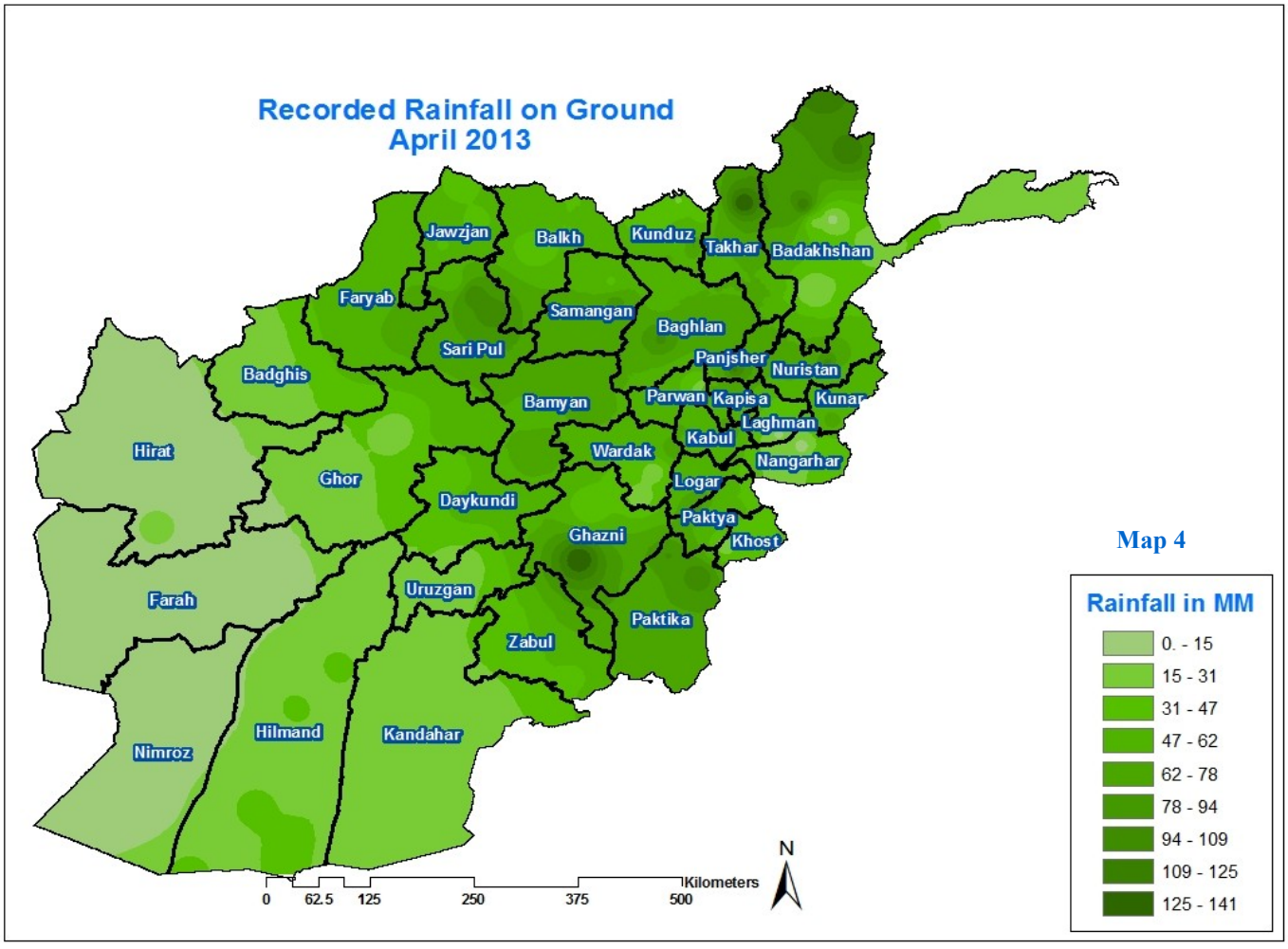
Data Source:Agromet Network

During the month of April 2013 Afghanistan received light to moderate rainfall, the rainfall during this month was mostly accompanied with liquid precipitation and rainfall occurrence mostly concentrated in the Eastern, Northeastern Northern and some parts in the Central Highlands.

Comparison of rainfall data for the month of April 2013 with the same month in 2012 (Chart1) shows that in general rainfall had significant decrease during the month of April 2013 over the same month of last year , but recorded data in different stations shows variable situation as in some station rainfall had slight increase while in some other stations rainfall had decrease.

Comparison of rainfall data for the month of April 2013 with the same month of long term average (Chart1) shows that in most parts of the country there is no change in rainfall during the month of April 2013 over the same month of long term average.

During the month of April 2013, most amount of rainfall has occurred in some parts of Northeastern, some parts of the Eastern region, some parts of Capital, and some parts of Southeastern region, but West part of the Central Highlands, Northwestern region, and Southern region has received moderate rainfall. The Southwestern and western regions experienced low amount of rainfall during this month.



Rainfall is the result of different factors, such as orographic features topography of land, land surface structure phenomena (with having different material with different colors, land surface natural construction, nearness to water sources and forest or mountainous areas.

Taking in consideration the altitude, latitude, and closeness to river and water sources, there might be big difference in the amount of rainfall and in number of rainy days in different areas. For example, the central region of from Bamyan along to the mountainous area of Pamir and Hindukush has been set up a high pressure which caused to produce regional rainfall in its related provinces such as Ghor, Bamyanand the skirt areas of Pamir, Salangs and Badakhshan.

As it is mentioned from the below table , two extremes of rainfall can be considered , one in Faizabad with having the amount of 120.5mm , and the other extreme is in Zaranj with the amount of 4mm, analytically it can be said that several cyclones were coming from Caspian-Sea and Mediterranean-Sea along with streamline and set up over the central and North-east regions like Faizabad, and Pamir skirts. So a low pressure was dominated over Faizabad from 5 to 11 April, and caused intense precipitation in the provinces like Badukhshan, another cyclone were coming from the eastern side of Caspian – sea in a saturated condition along with streamline towards the West and North-west of Afghanistan passing through the central regions with a trajectory to the South-east , East and North-est of AfghanistanProvinces like Kabul , Urgone , Sardi, Gardiz, Paghman and Bamyan were occupied by the mentioned cyclone during the period of 9 to 26 April 2013 which caused sequences rainfall in the mentioned provinces, accordingly. There was a stable and calm weather conditions in Zaranj without any variations in consistency of regional air masses. So these provinces with having small amount of rainfall constitute the warm and calm air over Farah, Zaranj and their relevance areas, so Zaranj and Farah can be considered as the bellow extreme rainfall which is indicating the dry period in the mentioned regions. If we consider LTA and 2012 average as the comparison values along with 2013 observational values, then it can be found that, the areas of Ghaziabad, Kabul, Logar, Paghman, Asmar, Jalalabad, Mehtarlam, Baghlan, Zaranj, Ghazni, Khost, Farah, Hirat, Qala-e-Naw,and Shindand are the areaswhich their rainfall values has been recorded below the recorded rainfall in 2012ave and long term average so, these areas can be accepted as the driest areas during the month of April 2013.The areas which their rainfall values has been recorded below the line of 2012 average are called relatively dry, such as Kabul, Logar, Paghman, Asmar, Ghaziabad, Jalalabad, Mehterlam, Baghlan, Saripul, Zaranj, Ghazni, Khost, Urgone, Farah, Hirat, Qala-e-Naw and Shindand.

In this respect the areas in which their rainfall values has been recorded below the line of Long term average are called intense dry, such as Kabul, Logar, Paghman, Asmar, Ghaziabad, Jalalabad, Mehterlam, Baghlan, Kunduz, Taluqan, Aibak, Uruzgan, Zaranj, Ghazni, Khost, Farah, Hirat, Qala-e-Naw and Shindand.

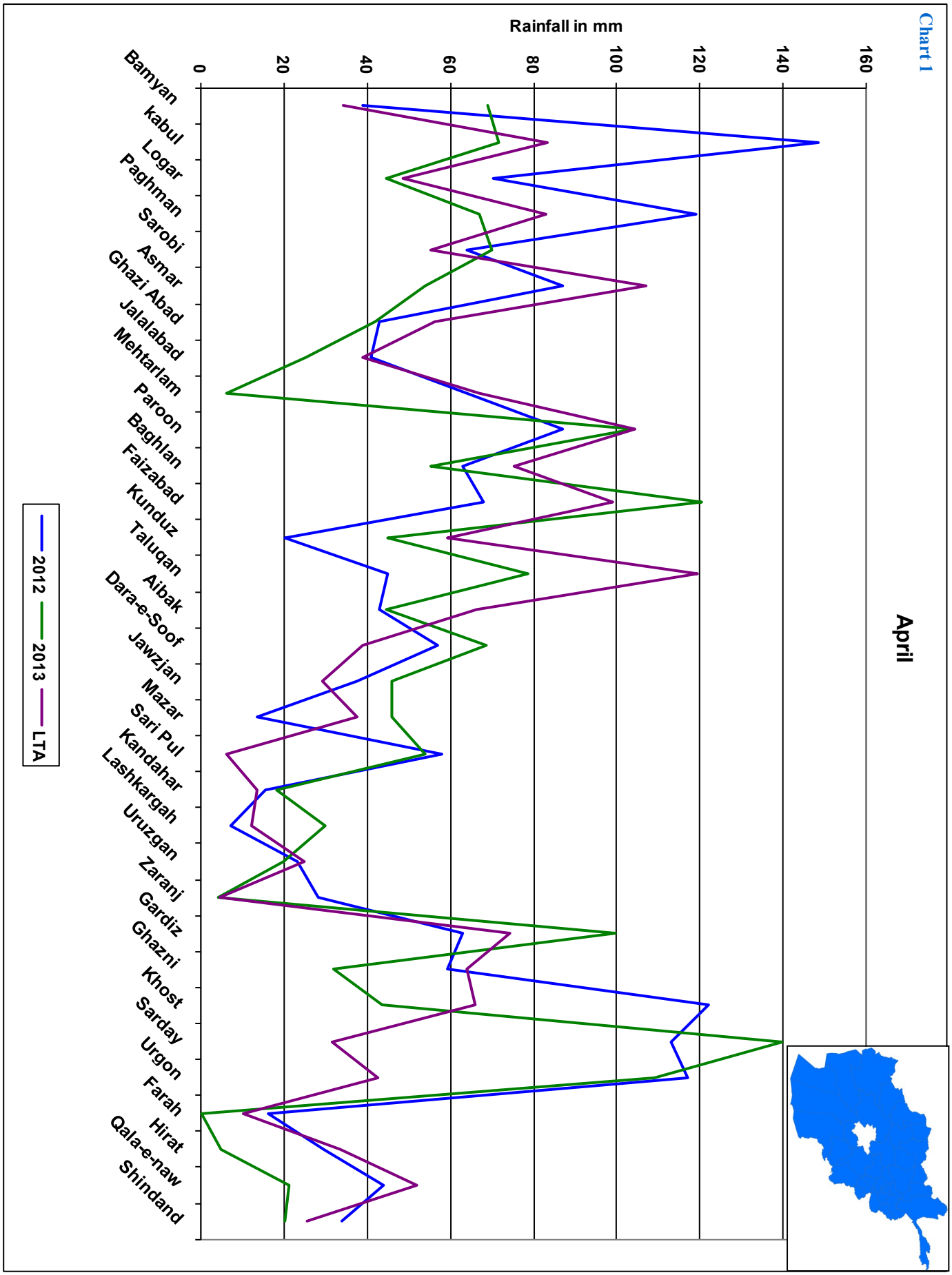
At this point we are focusing on the areas with the proper and positive deviation which is suitable and good for agricultural, the mentioned areas rainfall values must be over the line of both 2012 average and long term average such as Bamyan,Sarobi, Paroon, Faizabad, Dara-e-Soof, Jawzjan, Mazar-e-Sharif, Kandahar and Lashkergha.

The above analysis of the rainfall situation is valid just for the month of April 2013. In this regard if we refer to the satellite images, it might be seen that the provinces of Hirat, Farah, and Nimrooz is indicating the amount of rainfall between 0 and 15mm, the provincessuch usBadghis, Ghore, Hilmand, Kandahar and Uruzgan presenting from 15 to 31mm rainfall.

Precipitation

Station Name	April 2013			Deviation	Comparison	Prediction
	2012	2013	LTA			
bamyan	39	68.8	34.3	-34.5	Above normal	No dryness.
Kabul	148.7	71.7	83.2	11.5	Bellow normal .	Dryness.
Logar	70.4	44.5	48.6	4.1	Bellow normal	Dryness.
Paghman	119	67	83.1	16.1	Bellow normal	Dryness.
Sarobi	64	70	55.1	-14.9	Above normal	No dryness.
Asmar	87	54	107	53	Above normal	No dryness.
Rainfall in April 2013 decreased with respect to 2012						
Ghazi Abad	43	42	56.3	14.3	Bellow normal	Dryness.
Jalalabad	41	25	38.9	13.9	Bellow normal	Dryness.
Mehterlam	64	6	66.9	60.9	Bellow normal	Dryness.
Paroon	87	104	104	0.3	No change	No change .
Baghlan	63	55.4	75.2	19.8	Bellow normal	Dry.
Faizabad	68	120.5	99.2	-21.3	Above normal	No dry.
.Kunduz	20	45	59.2	14.2	Bellow normal	Dry.
Above stations are involve 60% with dryness in comparison with 2012						
Taluqan	45	78.5	119	40.8	Bellow normal	Dry.
Aibak	43	44.5	66.4	21.9	Bellow normal	Dryness.
Dara-e-soof	57	68,6	38.9	-29.7	Above normal	No dryness.
Jawzjan	37.6	46	29.2	-16.9	Above normal	No dry
Mazar sharif	13.5	46	37.6	-8.4	Above normal	No dry
Sari pul	58	54	6.1	-47.9	Above normal	No dryness.
Kandahar	15.5	18	13.6	-4.4	Above normal	No dryness.
Lashkargah	7	30	12.2	-17.8	Above normal	No dryness.
Uruzgan	23	19.8	24.7	4.9	Bellow normal	Dry.
Zaranj	28	4	4.4	0.4	Bellow normal	Dry.
Gardiz	63.1	99.6	74.2	-25.4	Above normal	No dryness.
Ghazni	59.1	32	63.8	31.8	Bellow normal	Dryness.
Khost	122	43.4	66.1	22.7	Bellow normal	Dry.
Sardi	113	140	31.6	-108.4	Above normal	No dry
Urgon	117	109	42.4	-66.6	Above normal	No dryness.
Farah	16	0	10.1	10.1	Bellow normal	Dryness.
Hirat	29.4	4.8	33.6	28.8	Bellow normal	Dryness.
Qala-e-naw	44	21	51.8	30.8	Bellow normal	Dryness.
Shindand	34	20	25.5	5.5	Bellow normal	Dryness.

Chart 1



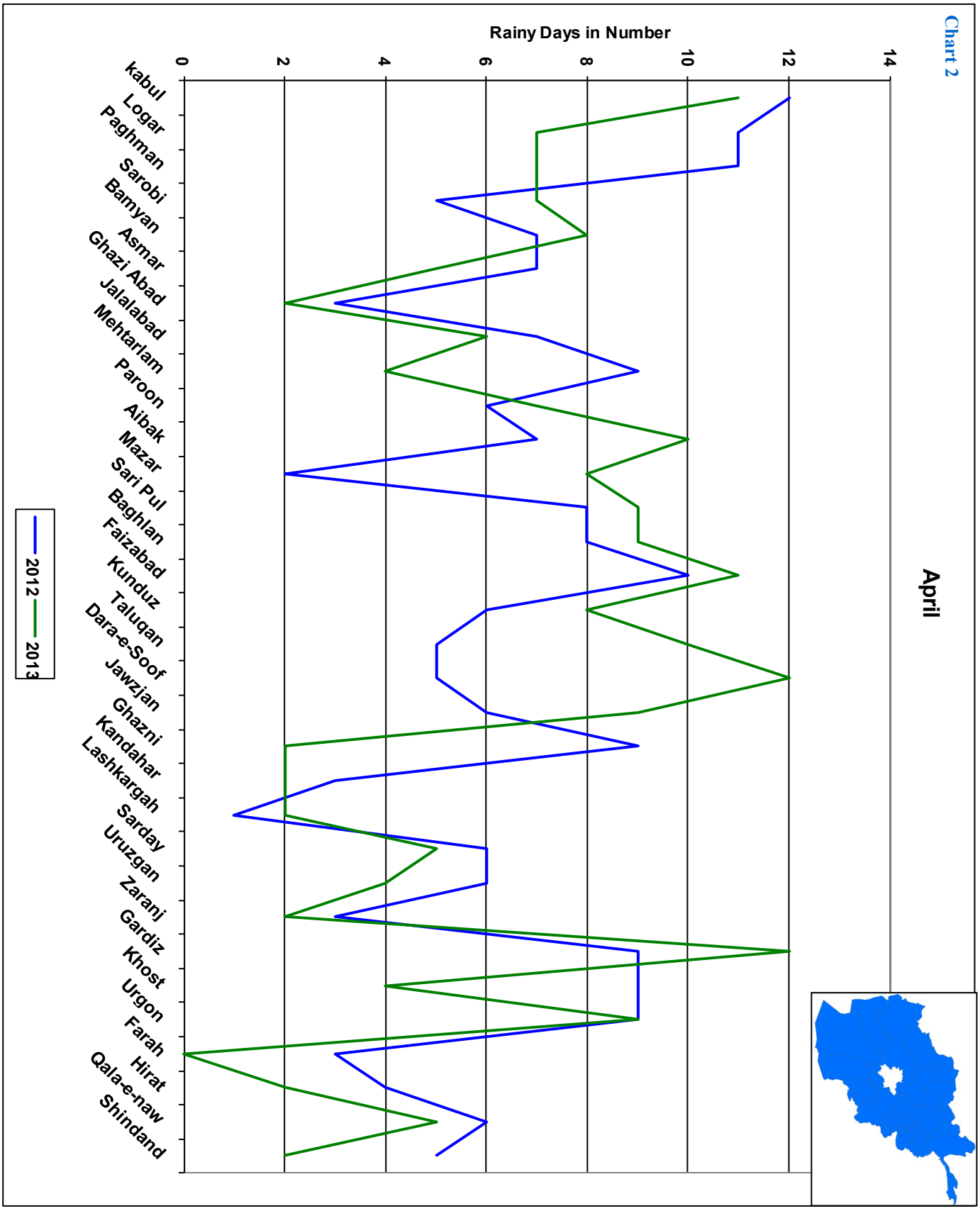
Data Source:Agromet Network

Rainy Days

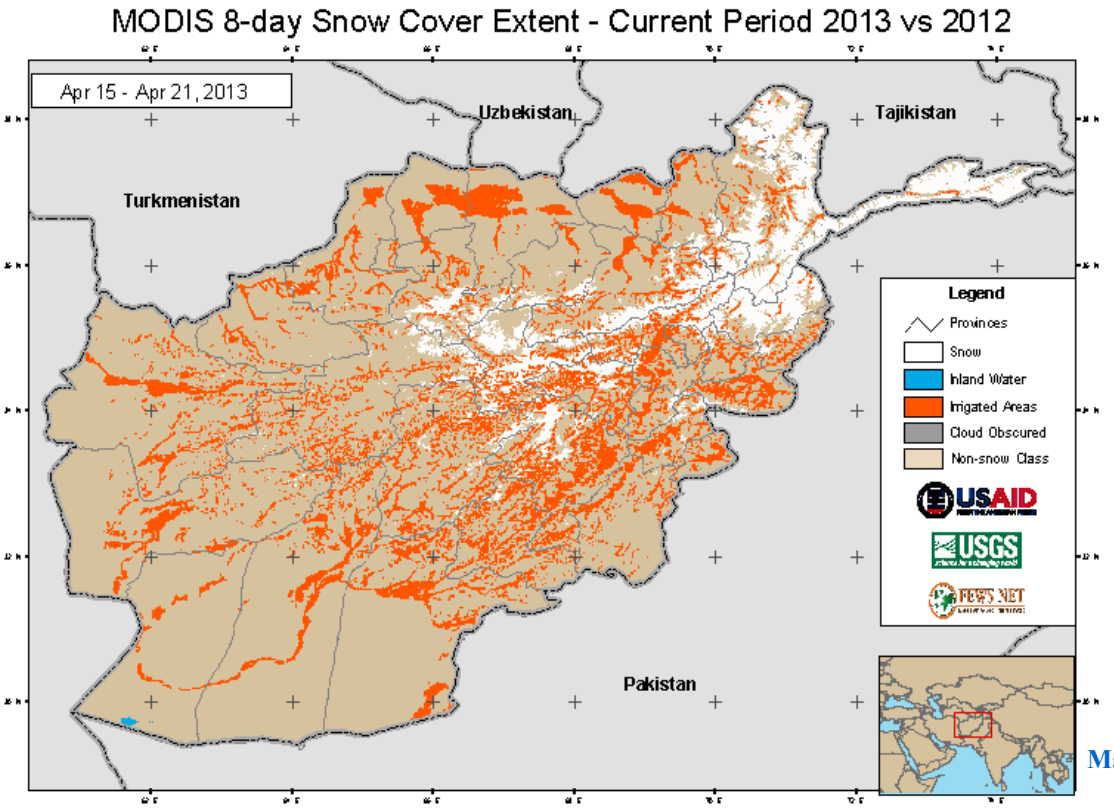
According to the bellow table, the number of rainy days in April 2013 is more than the rainy days in April 2012 as in Kabul, Faizabad, and Gardiz with having 11 days of rain Furthermore, there are 12 rainy days in Dara-e-Soof and in Gardiz during the month of April 2013.

Table 2
Comparison Prediction with respect to (2012)

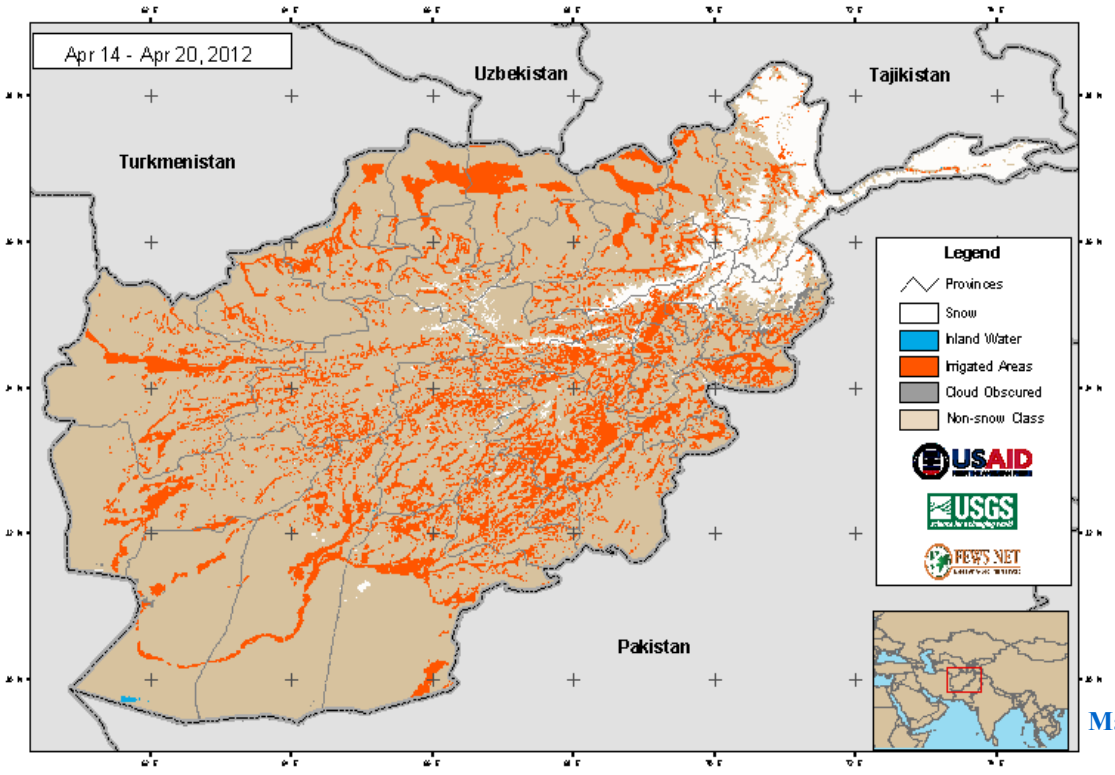
No	Station Name	April 2013		
		Rainy Days		
		2012	2013	
1	Kabul	12	11	Dry
2	Logar	11	7	No dryness.
3	Paghman	11	7	Dry
4	Sarobi	5	7	No dryness.
5	Bamyan	7	8	No dryness.
6	Asmar	7	5	No dryness.
7	Ghaziabad	3	2	No dryness.
8	Jalalabad	7	6	No dryness.
9	Mehterlam	9	4	No dryness.
10	Paroon	6	7	No dryness.
11	Aibak	7	10	Dry
12	Mazar	2	8	No dryness.
13	Saripul	8	9	No dryness.
14	Baghlan	8	9	No dryness.
15	Faizabad	10	11	No dryness.
16	Kunduz	6	8	Dry
17	Taluqan	5	10	No dryness.
18	Dara-e-soof	5	12	No dryness.
19	Jawzjan	6	9	Dry
20	Ghazni	9	2	Dry
21	Kandahar	3	2	Dry
22	Lashkergah	1	2	Dry
23	Sardy	6	5	Dry
24	Uruzgan	6	4	Dry
25	Zaranj	3	2	Dry
26	Gardiz	9	12	No dryness.
27	Khost	9	4	Dry
28	Urgone	9	9	No dryness.
29	Farah	3	0	Dry
30	Hirat	4	2	No dryness.
31	Qala-e-naw	6	5	Dry
32	Shindand	5	2	Dry



Comparison of rainy days for the month of April 2013 with the same month of last year(Chart2) shows that there was no significant change in rainy days during the month of April 2013 over the same month of last year, but likely had light increase compared to last year.



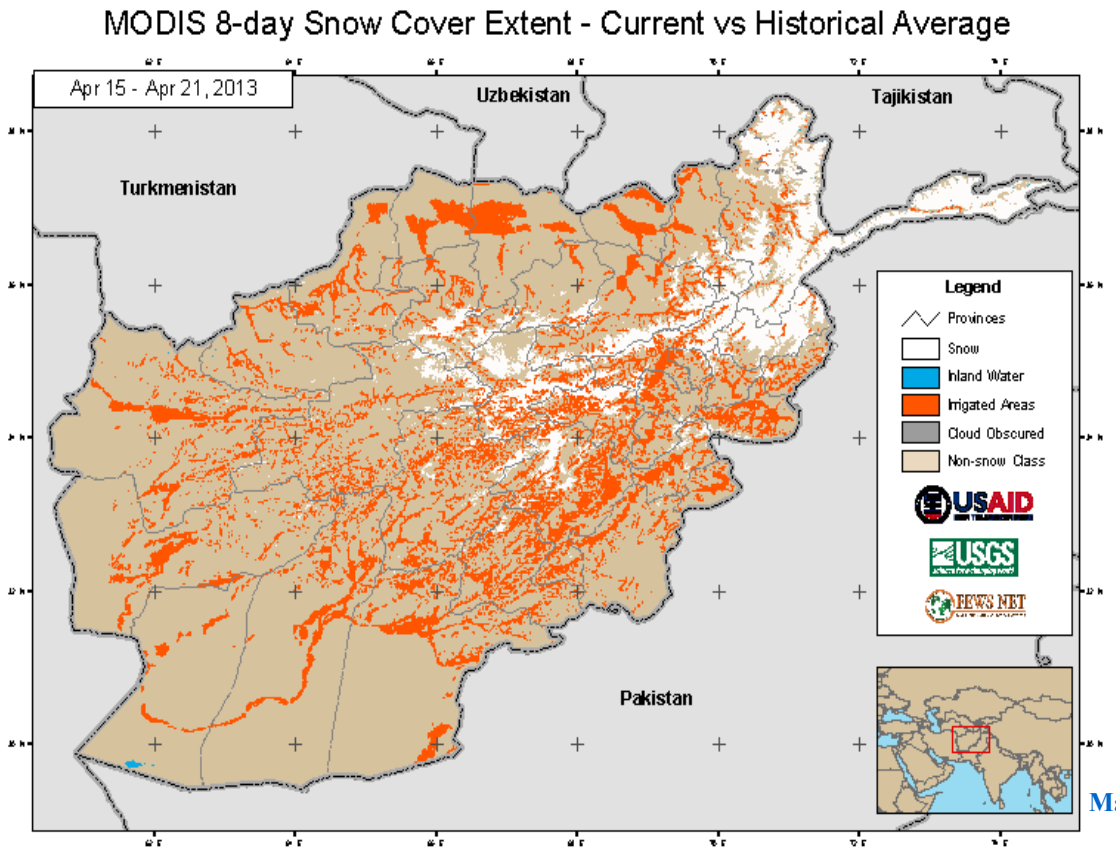
Map 5



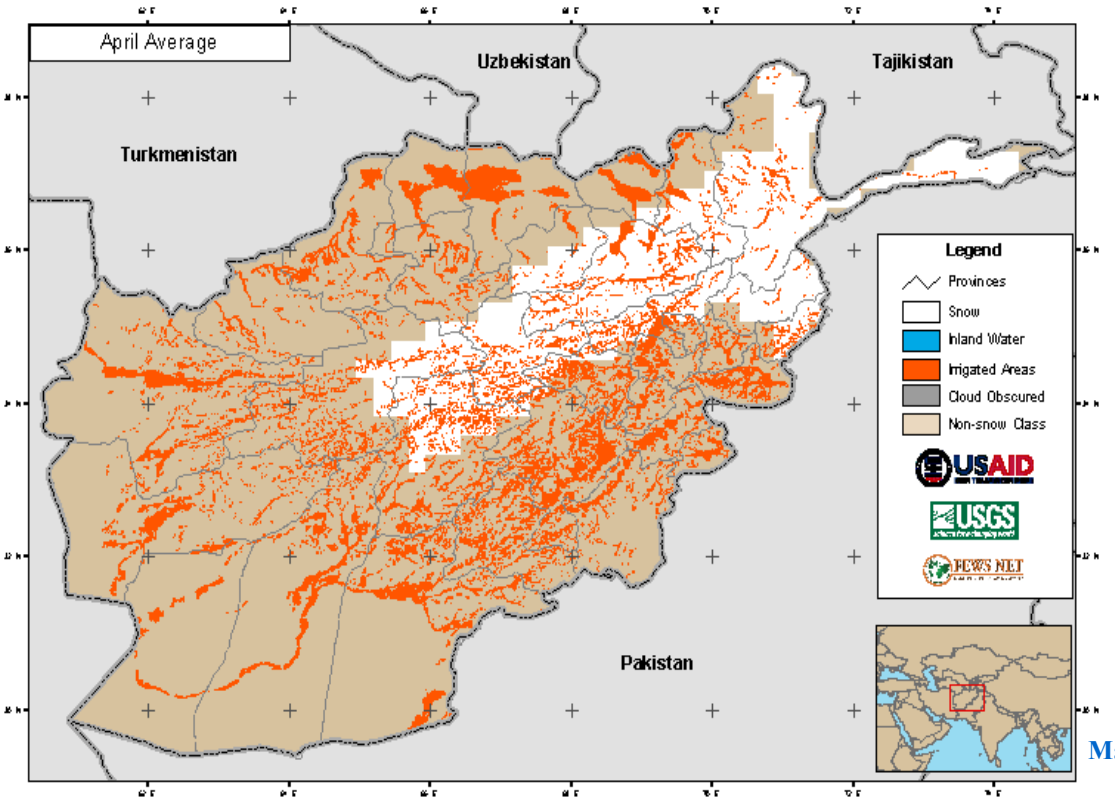
Map 6

During the month of April 2013 the country experienced widespread precipitation which was mostly liquid precipitation, this situation decreased the snow extent and snow depth in snow coverage areas. Comparison of snow extent for the period the period (April 15 – 21) 2013 with the same period in 2012 (Map 5-6) shows that there was no significant change in snow extent during the above mentioned period of time over the same period of time in 2012.

Data Source:USGS



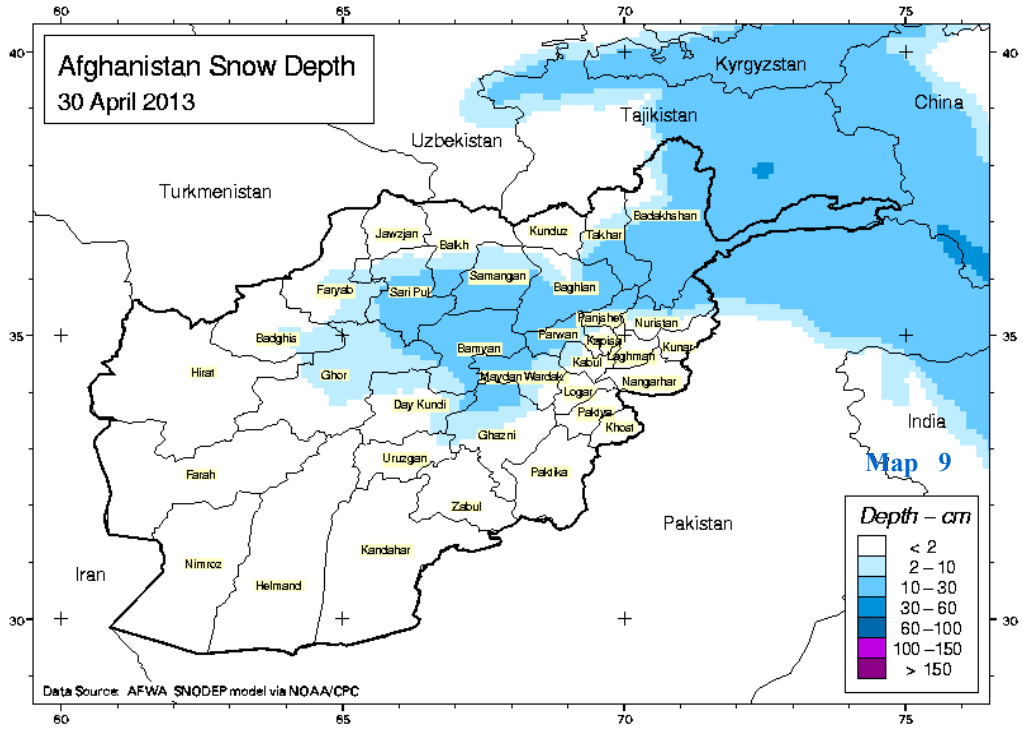
Map 7



Map 8

Comparison of snow extent for the month of April 2013 with the same month of long term average (Map 7 - 8) shows that significant decrease of snow extent during the month of April 2013 over the same month of long term average has occurred in snow coverage areas.

Data Source:USGS



Map 9

Map (9) shows snow depth for the end of April 2013. As map (9) shows the snow depth has been recorded from 10 to 30 cm in the Northeastern and Central Highlands and neighboring areas.

Wheat Crop Condition in Bamyan Province.

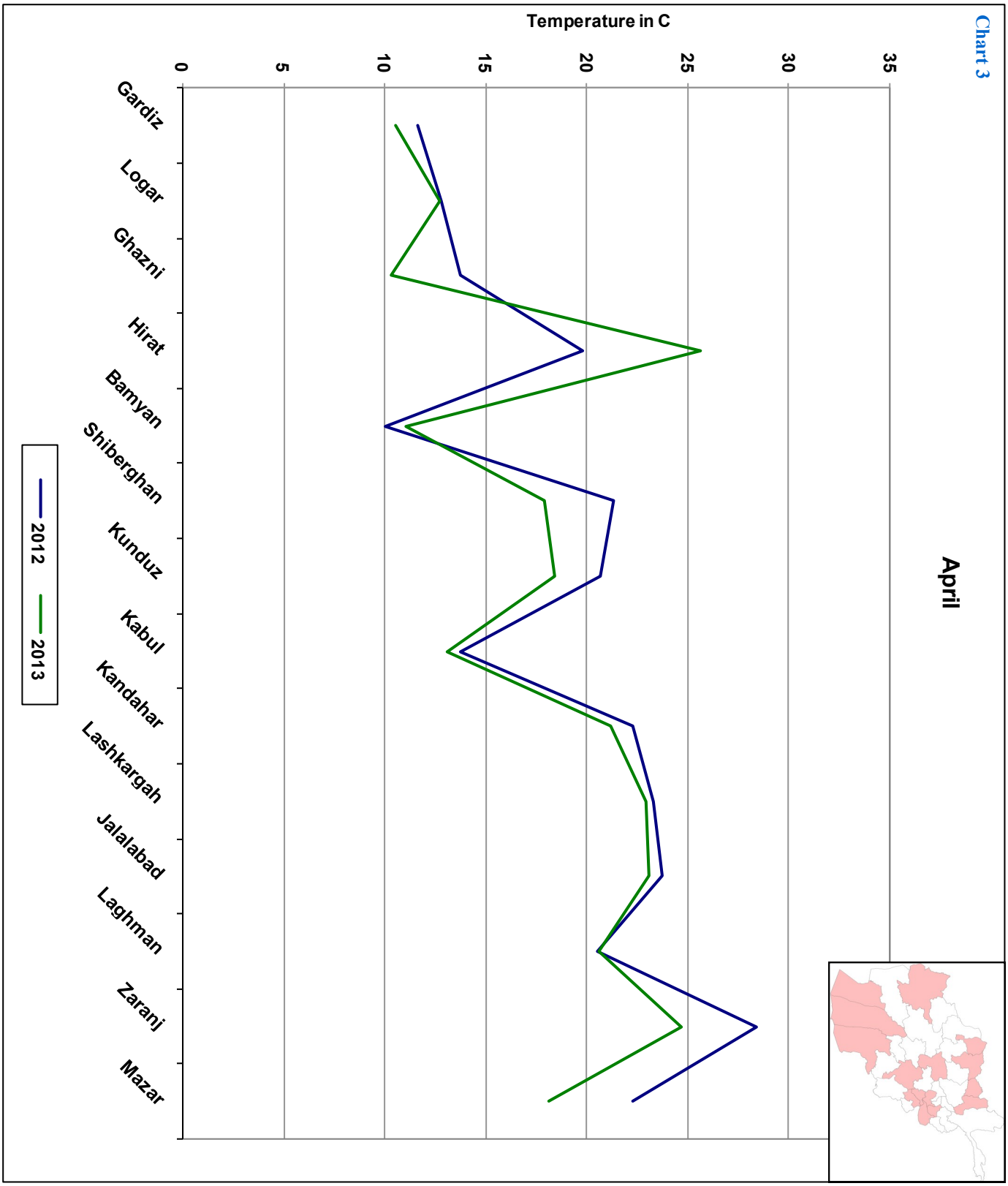
The actual temperature in April 2013 can be analyzed in comparison with the average temperature of April 2012 to determine and predict the short term of weather outlook, in the range of variation of actual temperature, Hirat province got 25.6 degrees of centigrade and it does have a positive deviation with respect to April /2012 with the degrees of (19.8). Also the region of Bamyan with having 11 degrees of centigrade is also lie in the range of positive deviation in view of April/2012, which had the data of 10 degrees of centigrade. it is worth mentioning that average temperature for one year (2012) is not adequate to predict weather condition accurately, so comparison of actual temperature in April 2013 with same month in 2012 average temperature doesn't have an efficient output. So there is no a high variance between 2013 actual temperature and 2012 average temperature. For instance, for Gardiz there is variance of 1.1 and for Logar there is a variance of 0.1, for Ghazni there is a variance of +3.4, for Hirat province there is a variance of -5.8, and for Bamyan there is variance of (-1), for Shiberghan there is variance of +3.4 , for Kunduz there is a variance of +2.3, for Kabul there is a variance of 0.6, for Kandahar there is a variance of + 1.1, for Lashkargah there is variance of +0.4, for Jalalabad there is a variance of +0.6, for Laghman there is variance of -0.1, for Zaranj there is a variance of +3.7, and for Mazar-e-Sharif there is a variance of +4.2, so according to that the regions with positive variance is predicted to be in the range of excessive temperature in the future . The provinces such as Gardiz, Logar, Ghazni, Shiberghan, Kunduz, Kabul, Kandahar, Lashkergah, Jalalabad, Zaranj- and Mazar-e-Sharif are going to be warmer in the next month.

Stations	April 2013								
	Temperature in Celsius Degree								
	Max. 2013	Avg.	Deviation	Min. 2013	Avg.	Deviation	Actual 2013	Avg.	Deviation
Gardiz	20	11.6	-8.4	0.8	11.6	11.2	10.5	11.6	1.1
Logar	25	12.8	-12.2	1	12.8	11.8	12.7	12.8	0.1
Ghazni	18	13.7	-4.3	0.9	13.7	12.8	10.3	13.7	3.4
Kandahar	33	22.3	-10.7	7.5	22.3	14.8	21.2	22.3	1.1
Hirat	30.9	19.8	-11.1	3.4	19.8	16.4	25.6	19.8	5.8
Jalalabad	33	23.7	-9.3	14	23.7	9.7	23.1	23.7	0.6
Laghman	31.4	20.5	-10.9	10	20.5	10.5	20.6	20.5	-0.1
Bamyan	19.6	10	-9.6	-4.6	10	14.6	11	10	-1
Shiberghan	34	21.3	-12.7	4.6	21.3	16.7	17.9	21.3	3.4
Kunduz	33.4	20.7	-12.7	7.4	20.7	13.3	18.4	20.7	2.3
Lashkergha	35.4	23.3	-12.1	6.5	23.3	16.8	22.9	23.3	0.4
Zaranj	38	28.4	-9.6	10	28.4	18.4	24.7	28.4	3.7
Mazar	37.4	22.3	-15.1	4.8	22.3	17.5	18.1	22.3	4.2
Kabul	23.6	13.7	-10.9	2.9	13.7	10.8	13.1	13.7	0.6

Data Source:AMA

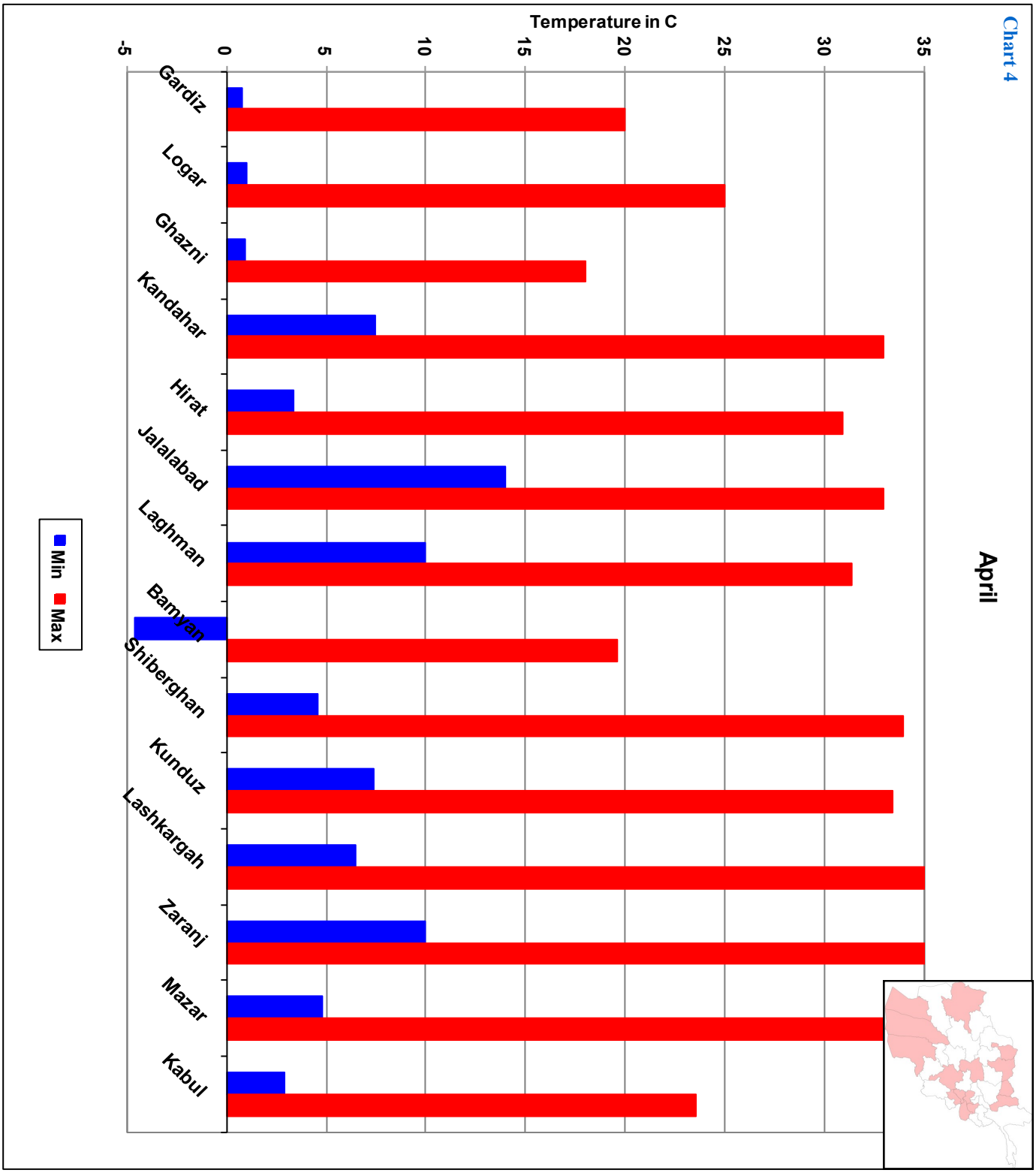
Average Temperature for the Month of April 2013

Chart 3



However temperature gradually rose during the month of April 2013, cooler temperature prevailed during this month and the minimum temperature remained at freezing in the Northeastern and Hindokosh mountains. During the month of April 2013, temperature had mostly negative departure ranging around 1 – 4 C°. Comparison of monthly average of temperature for the month of April 2013 with the same month in 2012 (Chart 3) shows that the temperature had an increase during the month of April 2013 compared to the same month of last year in most parts of the country except in Bamyan and Hirat where temperature was accompanied with positive departure.

Data Source:AMA



Mazar-i-Sharif with 37.4C° was the warmest spot of the country during the month of April 2013

Chart (4) shows maximum and minimum temperature for the month of April. As chart shows Mazar–i–Sharif with 37.4 C° was the warmest spot of the country, and Bamyan with – 4.6 C° experienced lowest temperature.

Data Source:AMA

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