



The fghanistan grometeorological **AAM** Monthly Bulletin

Issue No: 94
December: 2012

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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)

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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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Data Source:

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

Summary

There was an increase of precipitation during the second and third dekad of December 2012, precipitation increased across the country and widespread precipitation helped to partially relieve the early-season dryness in some parts of the country.

Comparison of rainfall data for the month of December 2012 with the same month in 2011 shows, significant increase of rainfall during the month of December 2012 over the same month of last year all over the country.

During the month of December 2012, temperature gradually dropped down in most parts of the country, where minimum temperatures felt down to a range of -30 and -25 Celsius Degrees in the Central Highlands, Capital and the Northeastern high elevations. Comparison of monthly average of temperature for the month of December 2012 with the same month in 2011 shows temperature had an increase during the month of December 2012 compared to the same month of last year in most parts of the country except Bamyan where temperature was accompanied with decrease.

Crop Stage, Crop Condition and Adverse Factor

Zone	Province	District	Station	Wheat		
				Crop Stage	Crop Condition	Adverse Factor
Central	Kabul	Shakardara	Karizmir	Emergence	Normal	Not Exist
		Paghman	Paghman	Dormancy		
		Kabul	Darulaman			
		Surubi	Surubi	Emergence	Normal	Not Exist
	Panjsher	Dara	Dara	Dormancy		
		Dashtak	Dashtak	Emergence	Normal	Not Exist
	Parwan	Syagerd	Gorband	Emergence	Normal	Not Exist
		Charikar	Charikar	Emergence	Normal	Not Exist
	Kapisa	Mahmoodraqi	Mahmoodraqi	Dormancy		
		Kohistan	Kohistan			
	Wardak	Maidan shehr	Maidan shehr	Planting		
	Logar	Pole Alam	Pole Alam			
	Bamyan	Bamyan	Bamyan	Emergence	Normal	Not Exist
		Yakawlang	Yakawlang	Dormancy		
		Panjab	Panjab			
		Shebar	Shebar			
		Kohmard	Kohmard	Emergence	Normal	Not Exist
	Ghazni	Andar	Bande Sardi	Dormancy		
	Dikondy	Nili	Nili			
		Khideer	Khideer			
East	Nangarhar	Agam	Agam	Emergence	Normal	Not Exist
		Batikot	Ghaziabad	Emergence	Normal	Not Exist
		Jalalabad	Farm jaded	Emergence	Normal	Not Exist

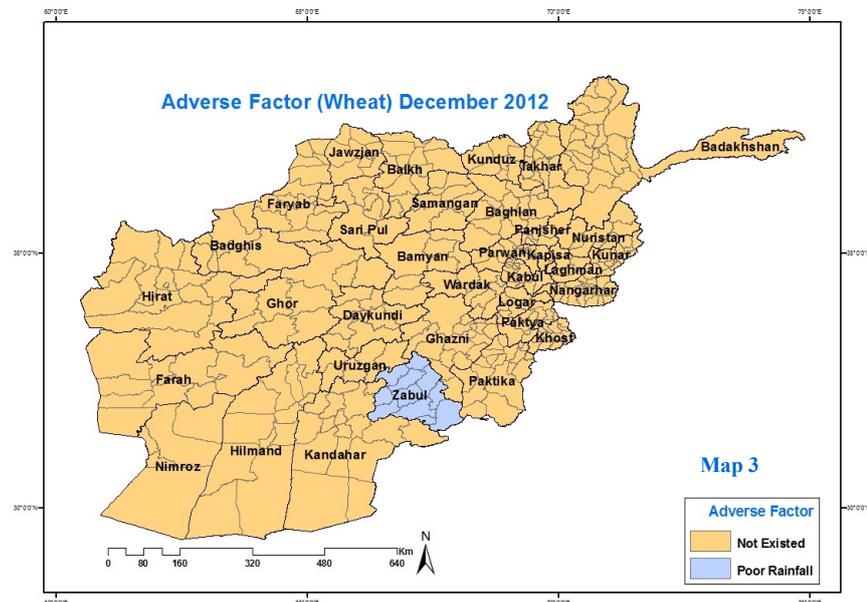
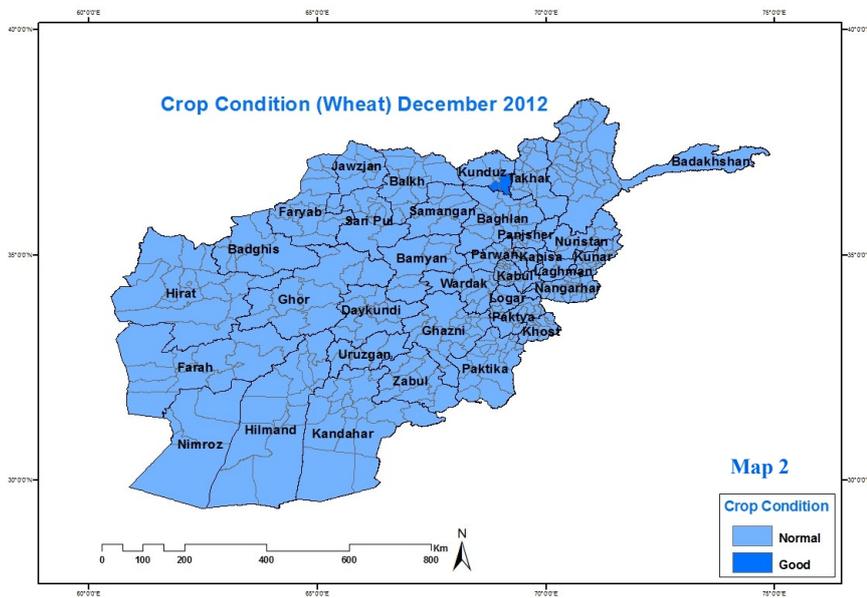
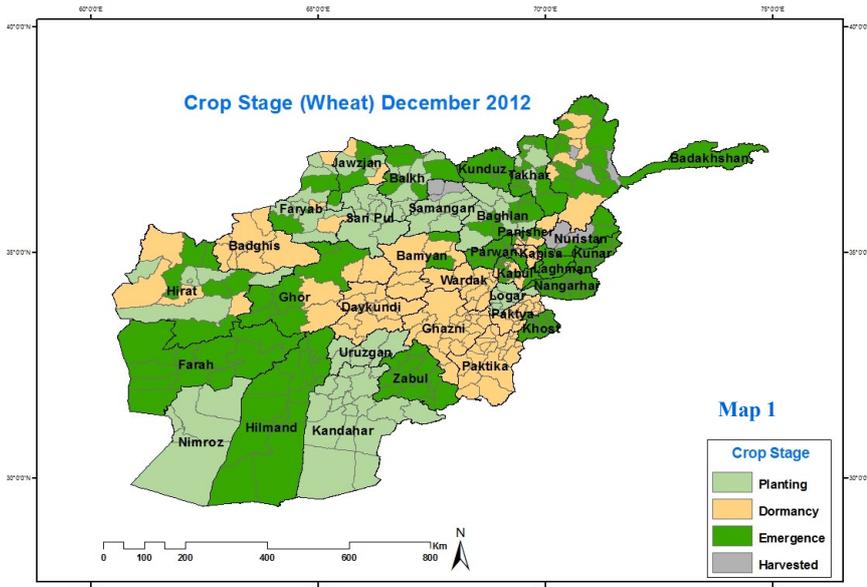
Crop Stage, Crop Condition and Adverse Factor

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

Crop Stage, Crop Condition and Adverse Factor

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

Wheat Crop Stage, Condition and Adverse Factor Maps



Data Source: Agromet Network

Precipitation

Rainfall is the precipitation of liquid water particles either in the form of drops having diameter greater than 0.5mm or in the form of smaller widely scattered drops. When the precipitation process is very active the lower air is moist and the clouds are very deep rainfall is in the form of heavy downpour. On occasions falling raindrops completely evaporate before reaching the ground. Since Afghanistan is located in subtropical hot desert climate of (BWH) on the other hand in *Sahara type climate*. So distribution of hot deserts is closely linked with the general atmospheric circulation and the arrangement of land and water so it can be said that the majority of these deserts lie between 16 degree to 36 degree N as rainfall in the tropical & subtropical hot deserts is irregular and the amount of precipitation received annually in the steppe regions is greater than that in deserts such as the middle latitude steppe regions have an annual average precipitation between 200 to 500 mm. Humid years, however may be followed by several drought years, in addition, years with below-normal rainfall are common namely the amount of rainfall may vary greatly from one year to another, rainfall is common in the tropical climates due to warm temperature it is worth mentioning that rainfall supports the plant growth throughout its life cycle. It is also worth mentioning that the amount and distribution of rainfall decide the final crop output if the other environmental factors are not limiting.

Variability and undependability are the chief characteristics of rainfall in the middle latitude steppe climate such as steppes areas of Kabul province Altimore steppes in Logar province in some parts of Navore steppes in Ghazni province and also Shure-teppah steppes on the coastal areas of Amou River with having from 120 to 230 mm, and also Bakwa steppes under the territory of Helmand province with having from 30 to 55mm and so on. Monthly rainfall due to the influence of both the monsoons viz, southeast monsoon and south monsoon. Show only unimodal monthly rainfall, and also monthly rainfall distribution and the high amount of rainfall are favorable for paddy cultivation in Jalalabad.

If the amount of rainfall become lesser than 85% of the normal value it is the sign of moderate drought, and if the average value of rainfall becoming smaller than 75percent of the normal value indicating the severe drought hereafter we judge the variation rate of dryness on the basis of percentage value of the normal rate capacity, namely either the above normal or below normal.

Factors or synoptic process which identifying the monthly, seasonal or annual precipitation in the

country are the western and northwest cold front which is coming from Europe and Mediterranean sea, and make a high pressure areas in some parts of Afghanistan like Salang both sides and some central parts like Bamyan, and at the skirts of Pamir and Hindukush Mountainous areas.

If rainfall characteristics be taken under the considerations there would be seen some regions with specific regional character, for example. Bamyan had 0.5mm rainfall in the year of 2011, but this region has got 4.9mm in 2012 so there is a deviation of 1.8mm with respect to long average and 4.4mm in comparison with 2011. On the other hand if we look through the regions rainfall specifications, would be seen that the high rainfall events has been occurred in the regions like Hirat (77mm), since it is greater than 75mm so according to the formula of $Pe = 0.8P - 25$, we could find that, effective rainfall in Hirat is 36.6mm, can be interpreted a good moisture for the zone of crops roots.

And also in the region of Qala-e-naw there is 72.5mm, in which effective rainfall in this region becomes 33mm, it is clear that effective rainfall in Hirat is greater than Qala-e-naw. And also if we have a look in the region of Paghman there is 71mm rainfall in this region and effective rainfall for Paghman becomes 31.8mm, for the other regions effective rainfall is not sufficient to keep the crops root in a moist zone. In this way one may said that the least rainfall events occurred in the region of Zaranj, with having (7mm) that is because geographic nature of Zaranj is not along with the regional circulation of the streamlines of Parsian Gulf and Omman sea. In other words recorded rainfall on the ground maps which was taken from SAT indicating that Nimrooz area and the central part of Bamyan and some spot from Jawzjan have gotten little rainfall namely between (1 to 10mm).



Precipitation

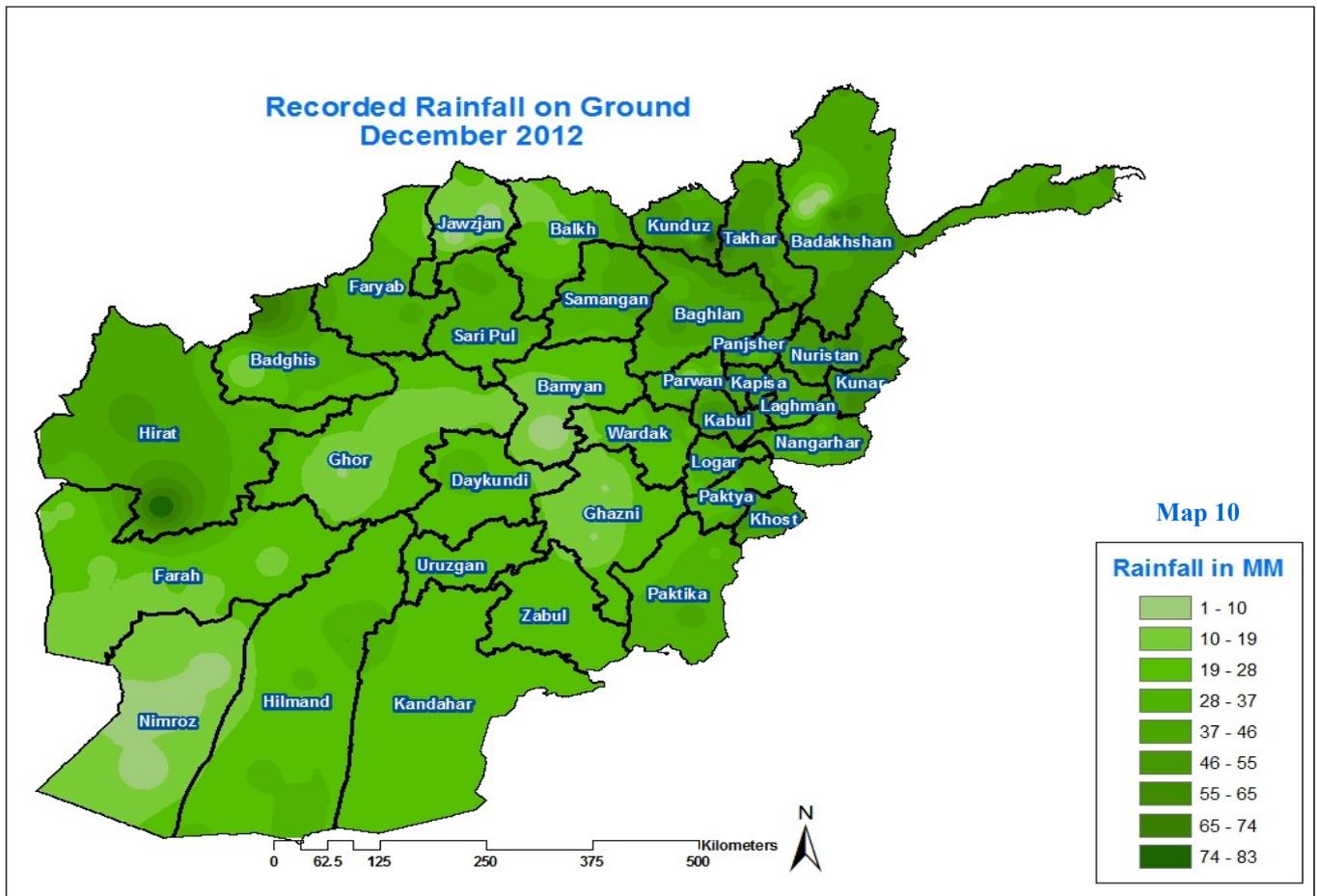
Station Name	December of (2012)			Deviation	Comparison	Table 3 Prediction
	2011	2012	LTA			
Bamyan	0.5	4.9	6.7	1.8	Bellow normal	Predicted dryness
Kabul	0	52.3	47.2	-5.1	Above normal	No dryness
Logar	0	27	16.8	-10.2	Above normal	No dryness
Paghman	0	71	37.1	-33.9	Above normal	No dryness
Sarobi	0	47	19.6	-27.4	Above normal	No dryness.
Rainfall in 2012 increasingly ascended with respect to 2011						
Asmar	0	62	13.1	-48.9	Above normal	No dryness.
Ghazi abad	0	24	4.6	-19.4	Above normal	No dryness.
Jalalabad	0	23	17.3	-5.7	Above normal	No dryness.
Mehterlam	1	44.2	21.5	-22.7	Above normal	No dryness.
Paroon	67	41	44.5	3.5	Bellow normal	Dry
Baghlan	14.8	50	26.5	-23.5	Above normal	No dryness.
Faizabad	28	60	35.5	-24.5	Above normal	No dryness.
75% dryness is seen in comparison with 2011.						
Kunduz	24.7	84	33.8	-50.2	Above normal	No dryness.
Talughan	40	59	39.5	-19.5	Above normal	No dryness.
Aibak	12	40	22.8	-17.2	Above normal	No dryness.
Dara-e-soof	20.5	43.6	23.5	-20.1	Above normal	No dryness.
Jawzjan	13	19.6	29.7	10.1	Bellow normal	Dry
Mazar	16	17.5	23.5	6	Bellow normal	Dry
Saripul	34	41	48.2	7.2	Bellow normal	Dry
Kandahar	0	27	19.2	-7.8	Above normal	No dryness.
Lashkargha	0	26	14.8	-11.2	Above normal	No dryness.
Uruzgan	0	27.5	37.8	10.3	Bellow normal	Dry
Zaranj	0	7	4	-3	Above normal	No dryness.
Gardiz	0	49.7	32.2	-17.5	Above normal	No dryness.
Ghazni	0	31	31.2	0.2	Bellow normal	Almost dry
Khost	0	50.2	21	-29.2	Above normal	No dryness.
Sardi	0	10	24.2	14.2	Bellow normal	Dry
urgun	0	39.5	24.1	-15.4	Above normal	No dryness.
Farah	0	18	10.9	-7.1	Above normal	No dryness.
Hirat	0	77	34.6	-42.4	Above normal	No dryness.
Qalaw-e-naw.	5	72.5	49.7	-22.8	Above normal	No dryness.
shindand	0	42	13.3	-28.7	Above normal	No dryness.

Precipitation

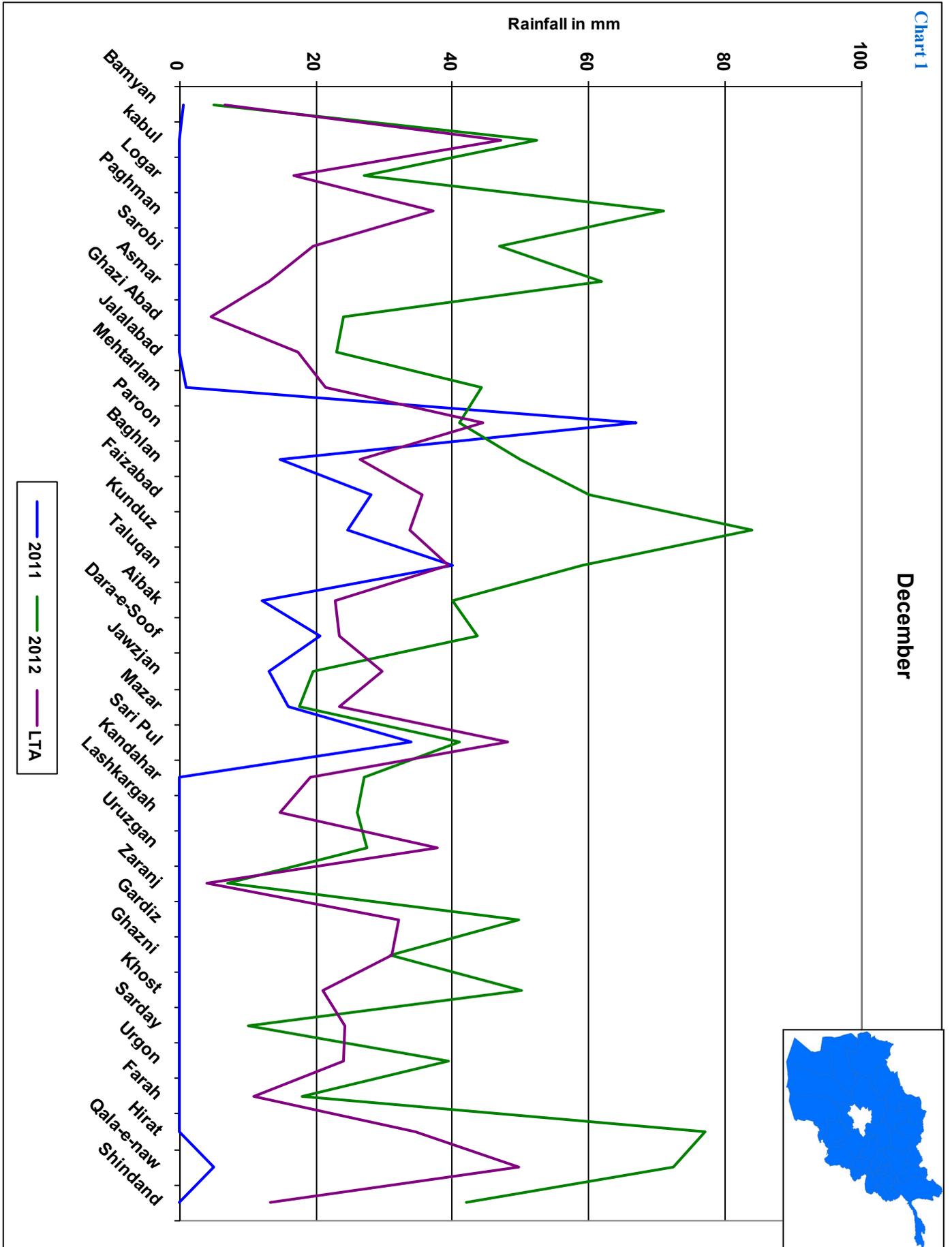
There was an increase of precipitation during the second and third dekad of December 2012, precipitation increased across the country and widespread precipitation helped to partially relieve the early-season dryness in some parts of the country.

Comparison of rainfall data for the month of December 2012 with the same month in 2011 (Chart 1) shows, significant increase of rainfall during the month of December 2012 over the same month of last year all over the country.

Comparison of rainfall data for the month of December 2012 with the same month of long term average (Chart 1) also shows significant increase of rainfall during the month of December 2012 over the same month of long term average. During the month of December 2012 most amount of rainfall has been occurred in the Northeastern, some parts in the Northern, Eastern and some part in the Western regions, while the other limited areas in the Central Highlands, Southeastern, Southern and Southwestern regions received moderate precipitation.



Rainfall Graphs for the Month of December 2012



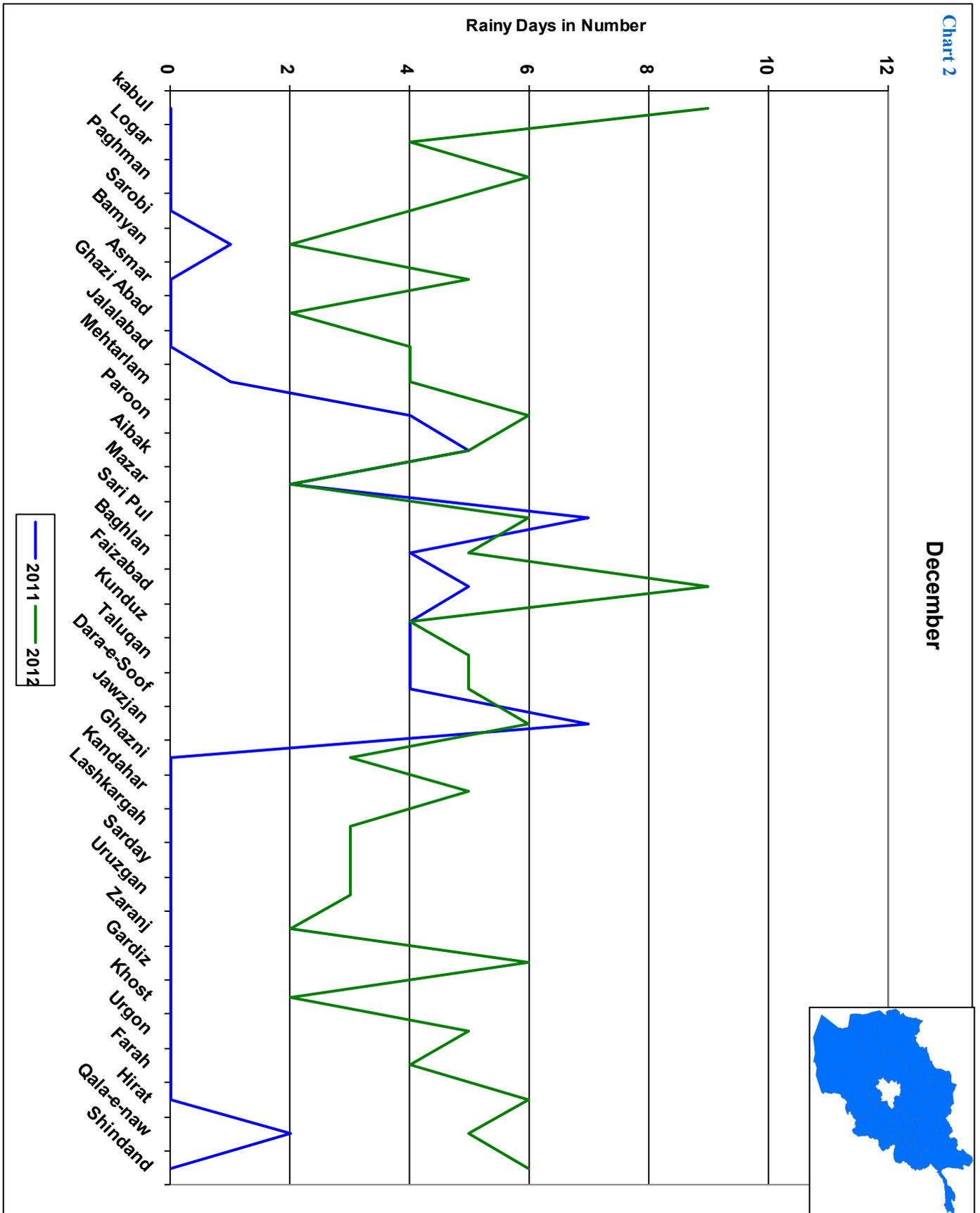
Rainy Days

According to the table of rainy days in both years of 2011 and 2012, it is obviously that rainy days in all zones of the country have been increased in 2012 than that in 2011, for example in capital zone , Kabul had no rainy days in 2011, whereas there is (9) rainy days in Kabul in the year of 2012. It worth mentioning that rainy days is most effective for crops phonological growing process that is because in more number of rainy days crops land can keep its moisture and water requirements, so in this case if we go through our data table, it could be found that, a big variance is seen between the years of 2011 and 2012 in the zones of Capital – South – Southeast and Western.

That is meant that a large number of rainy days in Kabul in central zone and in Faizabad in the zone of North east , in the year of 2012 , but the least number of rainy days in 2012 are in the regions of Khost (2mm), Zaranj (2mm), Mazar (2mm), Ghaziabad(2mm), and Bamyan (2mm), from the view point of general agricultural meteorology the line which connect the same amount of rainfall together called isohyets, so in this case we can say that the regions of Khost , Zaranj , Mazar , Ghaziabad and Bamyan are lie in the same isohyets, although the mentioned regions are in differences regarding their sea mean level altitude. In this regard one may said that, there is no a big change in the zones of North and Northeast regarding their rainy days.

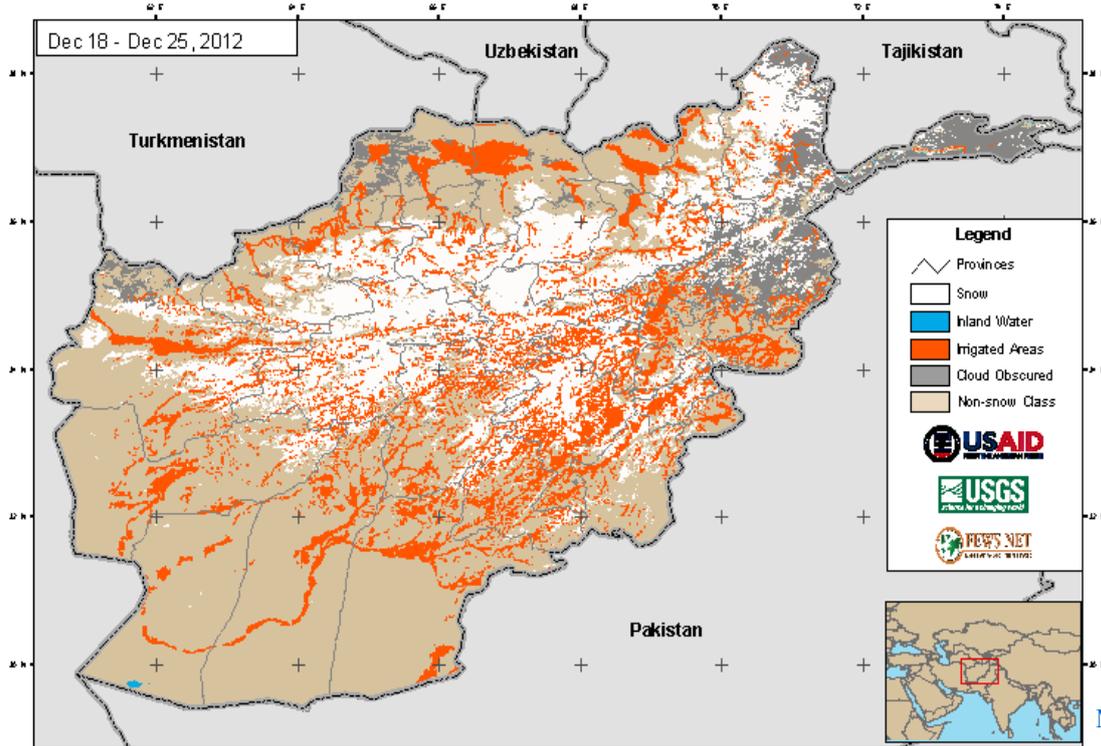
No	Station Name	December of 2012		Table 2 Comparison Prediction
		Rainy Days		
		2011	2012	
2	Kabul	0	9	No dry
3	Logar	0	4	No dry
4	Paghman	0	6	No dry
5	Sarobi	0	4	No dry
6	Bamyan	1	2	No dry
7	Asmar	0	5	No dry
8	Ghaziabad	0	2	No dry
9	Jalalabad	0	4	No dry
10	Mehterlam	1	4	No dry
11	Paroon	4	6	No dry
12	Aibak	5	5	No change
13	Mazar	2	2	No change
14	Saripul	7	6	Dry
15	Baghlan	4	5	No dry
16	Faizabad	5	9	No dry
17	Kunduz	4	4	No change
18	Taluqan	4	5	No dry
19	Dara-e-soof	4	5	No dry
20	Jawzjan	7	6	dry
21	Ghazni	0	3	No dry
22	Kandahar	0	5	No dry
23	Lashkergah	0	3	No dry
24	Sardi	0	3	No dry
25	Uruzgan	0	3	No dry
26	Zaranj	0	2	No dry
27	Gardiz	0	6	No dry
28	Khost	0	2	No dry
29	Urgone	0	5	No dry
30	Farah	0	4	No dry
31	Hirat	0	6	No dry
32	Qala-e-naw	2	5	No dry
33	shindand	0	6	No dry

Rainy Days for the Month of December 2012

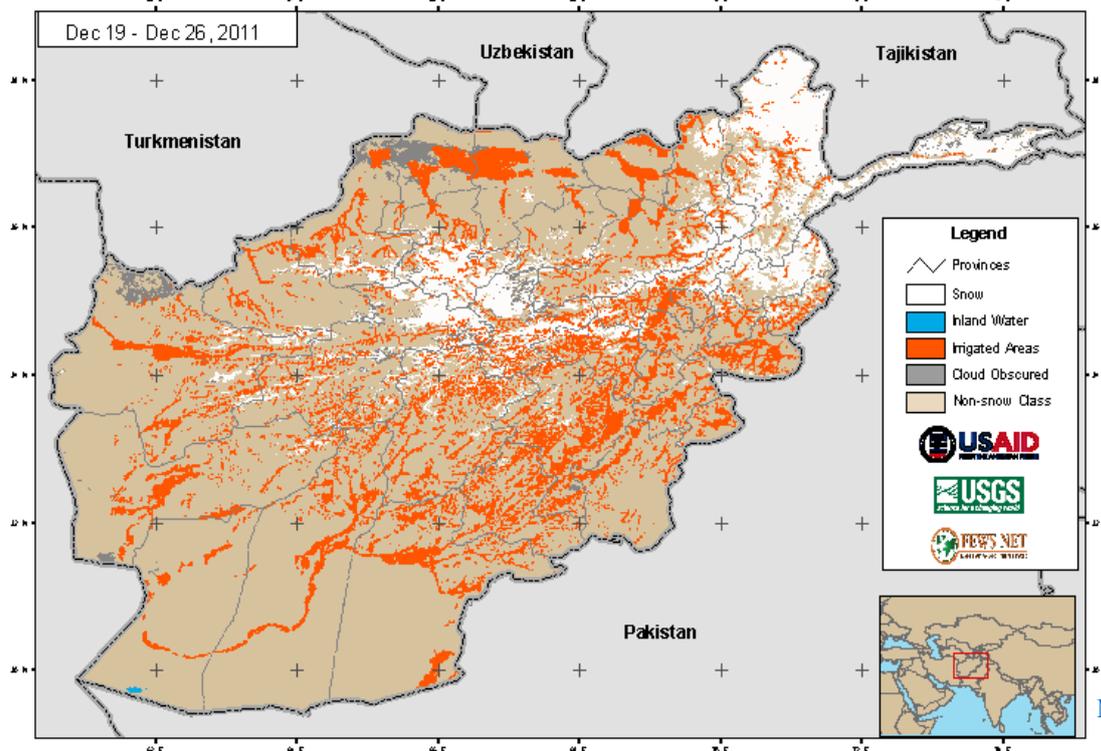


Comparison of rainy days for the month of December 2012 with the same month of last year (Chart 2) shows rainy days had significant increase during the month of December 2012 over the same month of last year.

MODIS 8-day Snow Cover Extent - Current Period 2012 vs 2011



Map 5

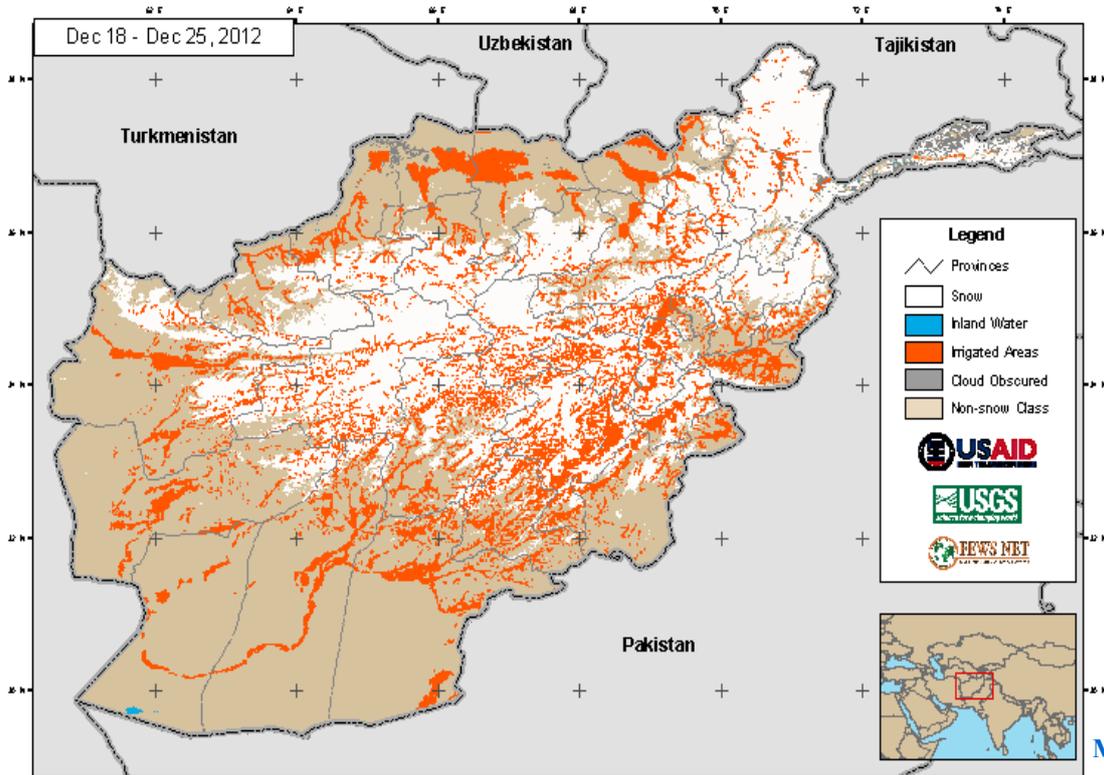


Map 6

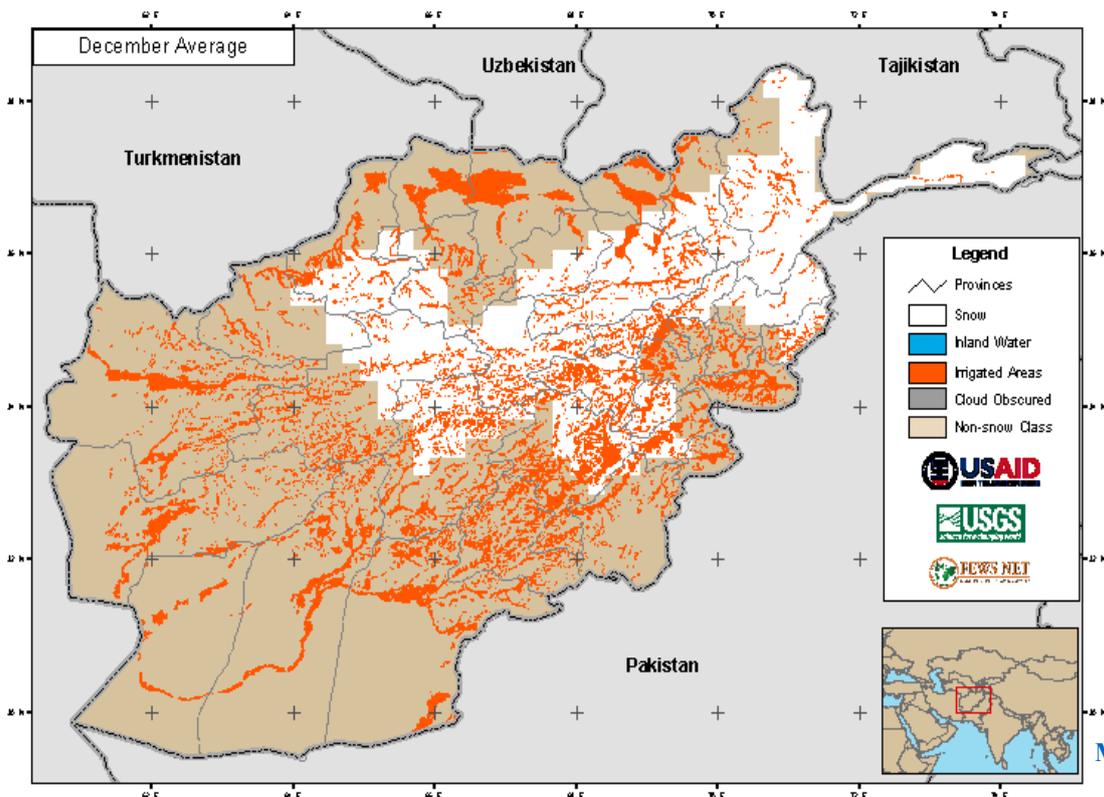
Snow depth and coverage continue their seasonal increase and widespread rain and snow resulted significant change in snow depth and extent in snow coverage areas. Comparison of snow extent for the period of (December 18 – 25) 2012 with the

same period in 2011 (Map 5 - 6) shows significant increase of snow extent during the above mentioned period of time over the same period of time in 2011.

MODIS 8-day Snow Cover Extent - Current vs Historical Average



Map 7

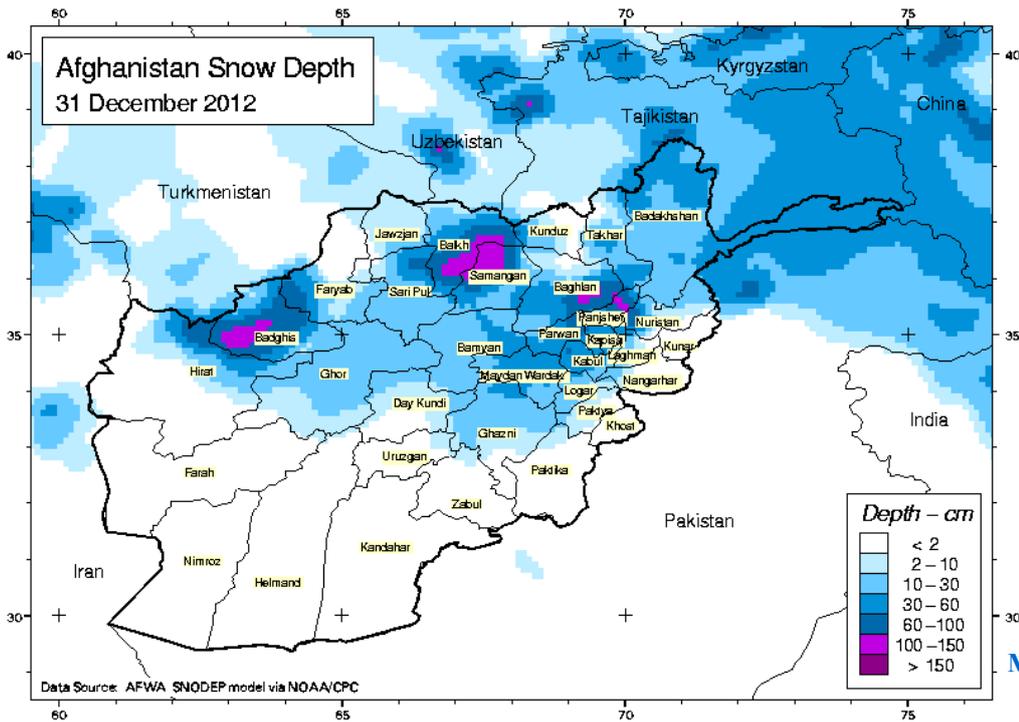


Map 8

Comparison of snow extent for the month of December 2012 with the same month of long term average (Map 7-8) also shows an increase of snow

extent during the month of December 2012 over month of long term average particularly in the Northwestern, Northern and the Central Highlands.

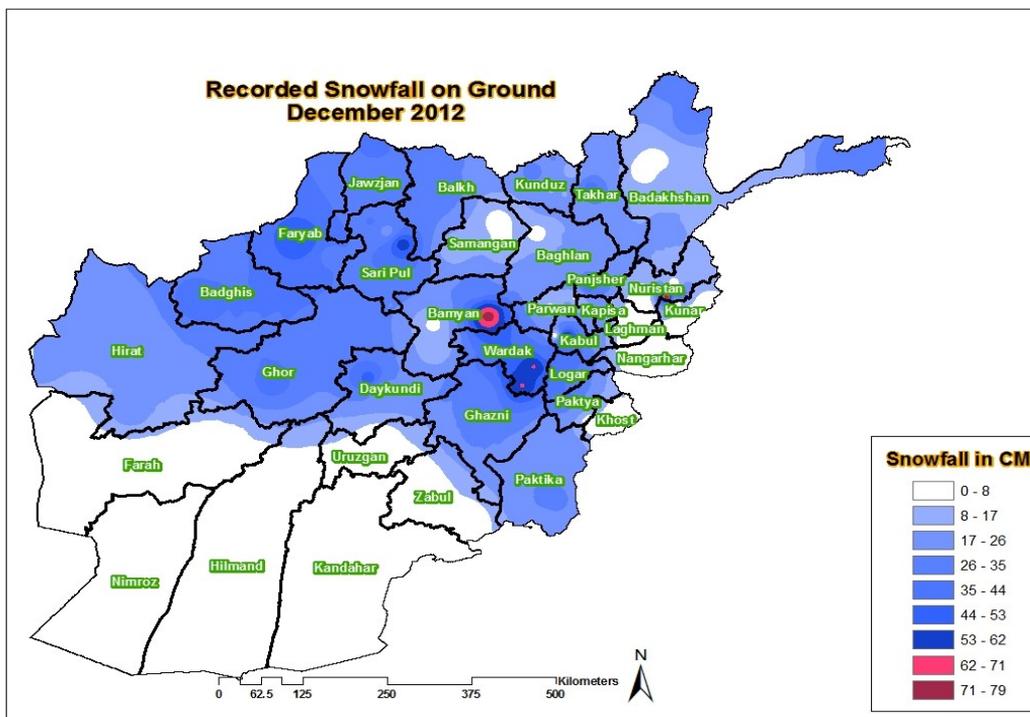
Afghanistan Snow Depth for month of December 2012



Map 9

Map (9) shows snow depth for the end of December 2012. As map (9) shows the snow depth has been recorded from 100 to 150 cm in some part of

the Northern, Northwestern and some parts of Hindokosh mountains, and 30 – 60 cm for the some parts of Central Highlands.



Map 10

In this bulletin we do have two types of information on snow which are the remote sensing and the recorded data on the ground, the ground data is mostly from the lower. During the month of December 2012, the most snow has

been occurred in Nuristan and Bamyan, as it recorded between 71 cm and 79 cm. For more information on the ground recorded data please, see the Map #12.

The surface air temperature is one of the important variables which influences in all stages of the crops during its growth development, and reproductive phase. A short duration crops becomes medium or long duration crop depending upon its environmental temperature under which it is grown. Most of the crops have upper and lower limit of temperature below or above which they may not come up. Also the crop productivity is related to the different points of temperatures, the influence of temperature on the various of crops could be explained better through concepts like cardinal temperature points .

Thermoperiodism and growing degree days which are explained in brief would be very beneficial for the crop growing phases. Every physiological plant process undergo well-defined range of limits of temperatures, there must be at least a minimum essential temperature to the initiation of activity, the activity will proceed at the highest rate when the optimum temperature is reached, eventually activity will come to a close at the maximum temperature point.

These three points are known as the cardinal temperature points and they may vary widely with the age or stage of development of the plant and they vary considerably for different species. It is noticeable that the temperature of plant cover depends on the height of the plant.

In day time the temperature of the plant cover is higher, and lower at night when compared to that of the surrounding environmental ambience.

Winter wheat in its early stages of development exhibits a strong resistance to frost down to 2c for winter and spring wheat minimum daily temperature for measurable growth is about 4c and mean daily temperature for optimum growth and tailoring is between 16 to 26c degrees of centigrade, the base temperature for crops generally considered is 5c degrees of centigrade. crops sensitive to day-length or latitude or very hot days, that is because hot days affect the measurement of progress towards maturity, sunshine, day length and temperature are the elements in which crops response is sensitive , for example the length of the day light period influence plant growth and the initiation and development of the different parts of the plant, many crop plants are sensitive to day length.

The vegetative habit of growth also responds to day length, on the basis of response to day length crops are classified as short day smaller than 10 hours, medium day from 10 to 12 hours and long day greater than 12 hours. With the consideration of what, has been mentioned, we refer to the bellow table and apply them to each region of the country, for example maximum temperature in Kabul province in spite of its aerographic and uneven land, is greater than Gardiz province and also from Logar province in the case that three mentioned regions have the same aerographic peculiarities, even one may said that Gardiz and Logar have the lower latitude than Kabul city, but with lower temperature, the reason is just the aerographic and land situation of itself only, and it does not depend to any other extra boundaries, the main reason is the air pollution in which concentrated in Kabul city, and causes the temperature to be increased. And also, if we compare the Max-temperature of Kabul with Max-temperature of Mazar-e-Sharif, easily could be seen that, in quantitatively there is not so difference between their temperatures, but in qualitatively point of view, namely regarding the altitude of the mean sea level and their aerographic situations, and also Geographic locations, there is much more differences between them.

Consequently, it can be said that , Jalalabad – Zaranj – Farah – Kandahar and Mazar are alike in their agroclimatic zone, that is ofcourse with a little geographic differences. And also Logar – Gardiz and Bamyan indicating not so differences in their quantitative temperature, but according to their geographic dimensions and qualitative peculiarities could be seen much more differences.

In this regard, one may said that, in the big cities Max-temperature is going to be increased in the future, due to localizations affairs like, concentration of population, industrial plants and polluted air.

On the other hand, in view of comparatively, the region with higher Maximum temperature in the Month of December is Shiberghan, and the region with lower Maximum temperature is Bamyan .and also if we go through the minimum temperature, there are some ambiguous in the quantitative parts

Average Temperature for the Month of December 2012

of the temperature, for example, there are not so differences among Gardiz – Shiberghan and Mazar-e - Sharif. Whereas, there is much more difference in their geographic and aerographic peculiarities.

At the end it is worth mentioning that the high minimum temperature is in Jalalabad with (+5) in the Month of December, and the low minimum temperature is in Bamyan with having (-22.5) degrees centigrade.

which is termed the TEMPERATURE EXTREMES in the country in the month of December, as it has been repeated frequently in Agro-met department that, extreme events take place in the occurrence of meteorological calamities and disasters, that is because these pints lie in distant and far from the normal line, so we explore the meteorological extreme events in our studies.

Stations	Max-tem-Celsius degree 2012	Average 2011	Deviation	Min-Tem-Celsius degree. 2012	Average 2011	Deviation	Actual 2012	Average 2011	Deviation
Gardiz	13.2	0.3	12.9	-18.2	0.3	-17.9	0,08	0.3	0.22
Logar	13	1.82	11.18	-15	1.82	-13.18	1.95	1.82	0.13
Ghazni	14.5	-1.4	13.1	-16	-1.4	-17.4	1.1	-1.4	-2.5
Kandahar	22	7.54	14.46	-5.4	7.54	2.14	8.77	7.54	1.23
Hirat	23.5	3.54	19.96	-14.6	3.54	-18.1	5.02	3.54	1.48
Jalalabad	25	11.2	13.8	5	11.2	16.2	13	11.2	1.8
Laghman	22	10.7	11.3	0.8	10.7	11.5	10.8	10.7	0.1
Bamyan	12.2	-1.4	10.8	-22.5	-1.4	21.1	-5.15	-1.4	-3.75
Shiberghan	24.6	2.97	21.63	-18.6	2.97	-21.57	4.85	2.97	1.88
Kunduz	18.4	2.76	15.67	-15.6	2.76	-18.36	5.16	2.76	2.40
Zaranj	23	7.66	15.34	-6.4	7.66	-14.06	8.3	7.66	0.64
Mazar	17	2.13	14.87	-18.8	2.13	-20.93	3.55	2.13	1.42
Kabul	15.2	3.28	11.92	-14.1	3.28	-17.38	2.61	3.28	-0.67

Data Source:AMA

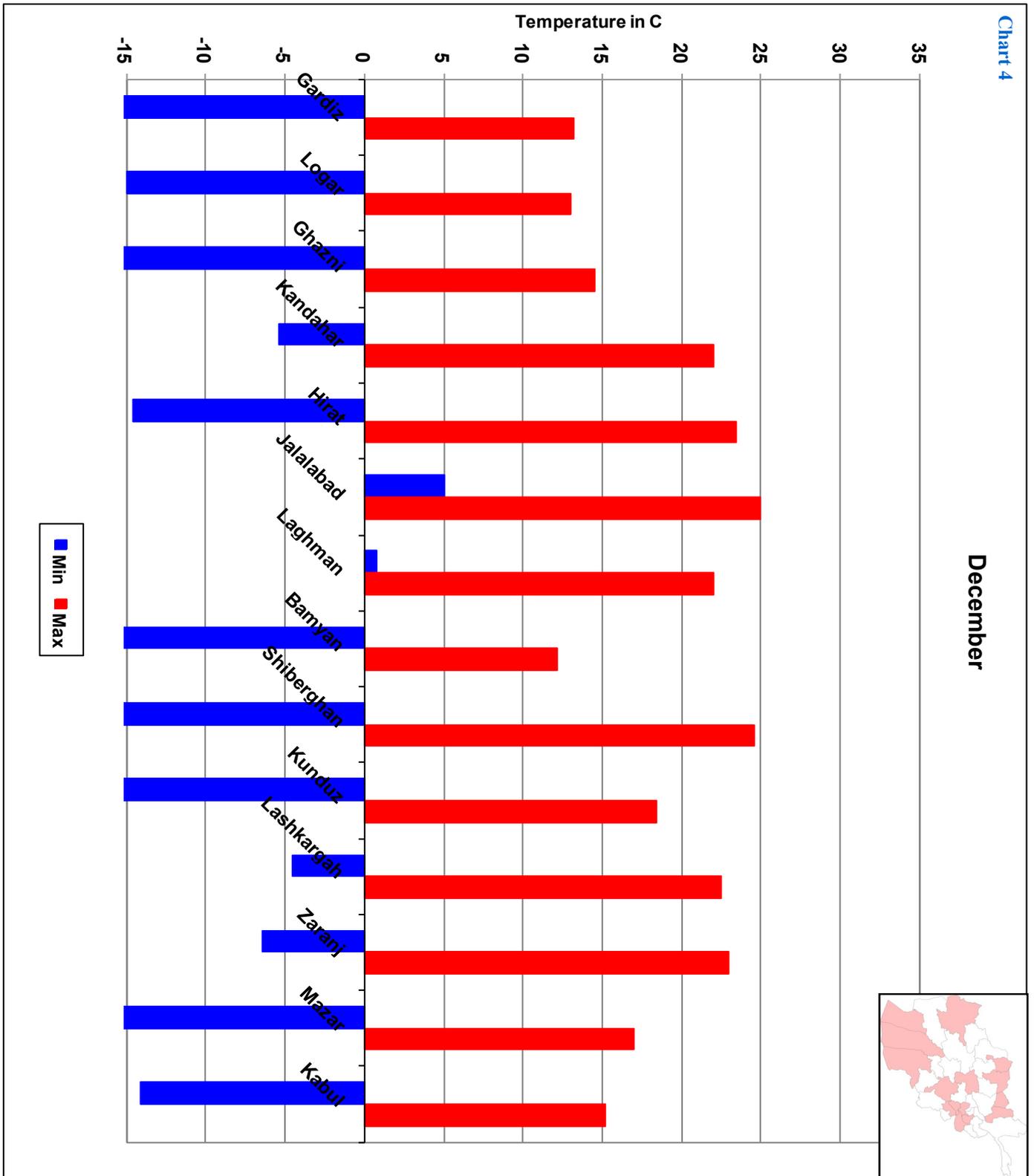
Average Temperature for the Month of December 2012



During the month of December 2012, temperature gradually dropped down in most parts of the country, where minimum temperatures felt down to a range of -30 and -25 Celsius Degrees in the Central Highlands, Capital and the Northeastern high elevations. Comparison of monthly average of temperature for the month of December 2012

with the same month in 2011 (Chart 3) shows temperature had an increase during the month of December 2012 compared to the same month of last year in most parts of the country except Bamyan where temperature was accompanied with decrease.

Temperature for the Month of December 2012



Jalalabad with 26 C° was the warmest spot of the country during the month of December 2012

Chart (4) shows maximum and minimum temperature for the month of December 2012. As chart (4) shows Jalalabad with 26 C° was the warmest spot of the country, and Logar with -25 C° experienced lower temperatures.

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