



Issue No: 60

February: 2010

# The **fghanistan** agrometeorological **AM**onthly Bulletin

Topics Crop Information Precipitation Temperature NDVI

## General Agroclimatic Situation of Afghanistan



Precipitation

12

Crop Stage

2

Crop Condition

2



The Agromet Project of USGS, supported by United State Agency for International Development (USAID), is working together with the Ministry of Agriculture, Irrigation and Livestock (MAIL) and the Afghan Meteorological Authority (AMA) of Ministry of Transport (MoT)

# BULLETIN CONTENTS

Issue No: 60  
February 2010

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

Supported by:

United State Agency  
for International  
Development (USAID)

## Crop Information

Crop Stage, Crop Condition and Adverse Factor.....1-2

Crop Maps.....3

## Rainfall Situation

Rainfall Situation.....4

Rainfall Graphs .....5-6

Rainfall Data.....7

## Temperature

Average Temperature.....8

Maximum and Minimum Temperature.....9

## Normalized Difference Vegetation Index

Comparison of (NDVI).....10

## Other Information

Comparison of Snow Extent .....11-12

Flood Information .....13

Afghanistan Snow Depth - February 2010.....14

### Data Source:

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

## Summary

During December 2009 till mid January 2010 mostly dry weather affected the country, after mid January 2010 and during February 2010 low pressures systems which was accompanied by adequate moisture moved across the country, resulting heavy snow and rain in most parts of the country, and snow pack increased in the Northeastern region, Central Highlands, Northwestern region and Capital region. Rainfall for the month of February 2010 had an increase over the same month of last year and long term average in most parts of the country which would eased short – term dryness of the past period, which reduced precipitation deficit, and will improve the water resources.

Heavy snow during February 2010 caused deadly avalanche in Salang Highway and large number of people died and injured.

Snow extent during February 2010 had no significant change compared to the same month of last year but, had a decrease over the same month of long term average. During the month of February 2010 temperature remained high across the low lands and High elevations, no significant change occurred in other parts of the country.

In most parts of the country winter wheat has been in emergence, vegetative but, in some parts are in dormancy stage during February 2010 in all over the country. In some parts the cultivation of the spring wheat has been but, due to some problems the cultivation of the spring wheat is not yet started. In most parts of the central highland as in Panjab, eastern region as in Nuristan and some parts of the central region is in dormancy stage.

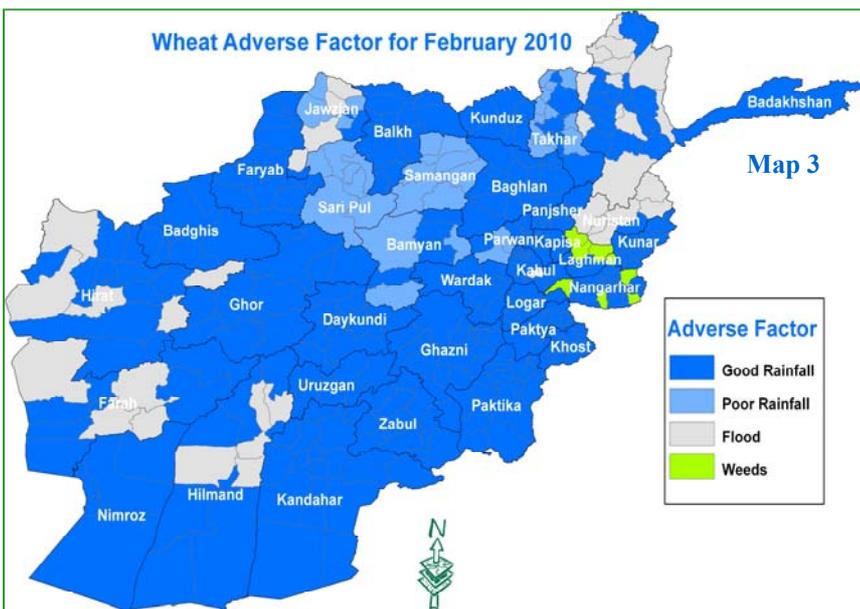
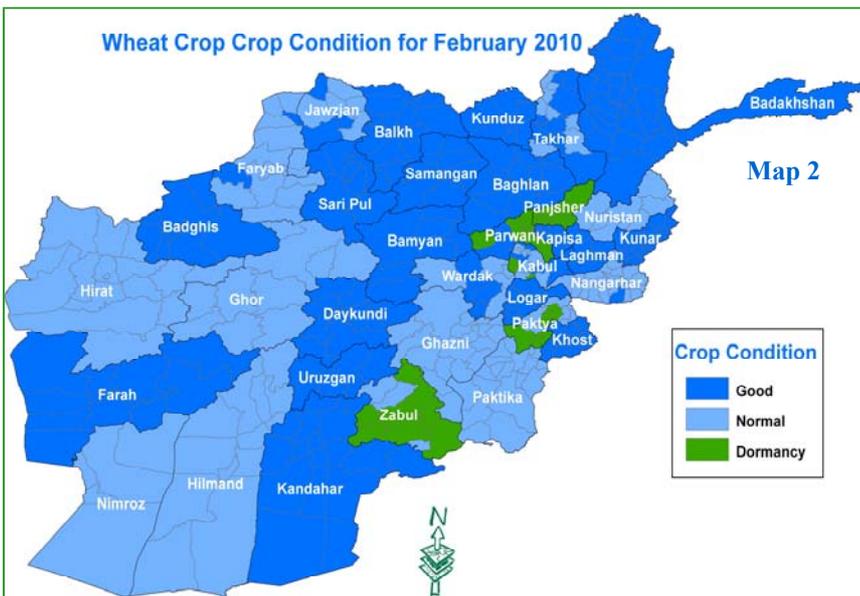
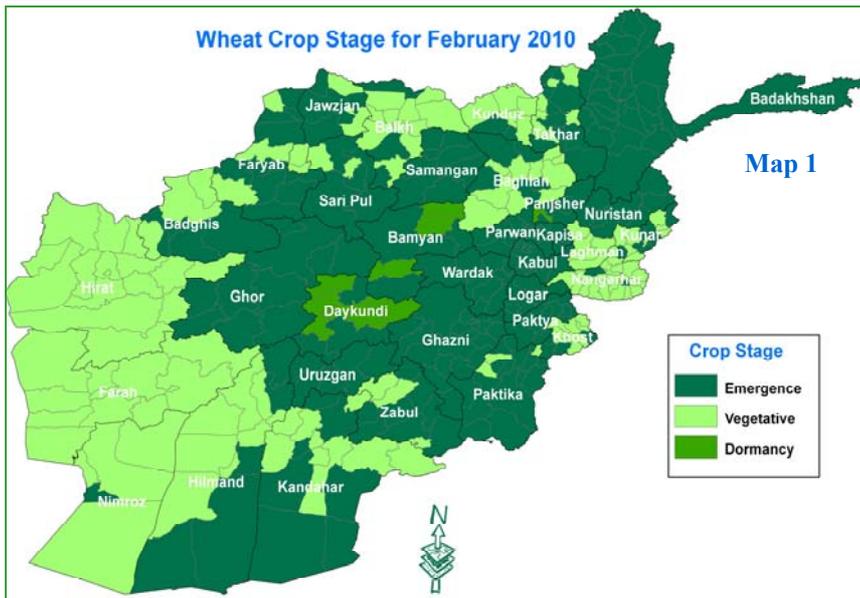
### Wheat Crop Stage, Condition and Adverse Factor

Zone	Province	District	Station	Wheat		
				Stage	Condition	Adverse Factor
Central	Kabul	Shakardara	Karizmir	Emergence	Not visible	Not seen
		Paghman	Paghman	Emergence	Not visible	Not seen
		Kabul	Darulaman	Emergence	Not visible	Not seen
		Surubi	Surubi	Vegetative	Normal	Not exist
	Panjsher	Dara	Dara	Emergence	Not visible	Not seen
		Dashtak	Dashtak	Emergence	Not visible	Not seen
	Parwan	Syagerd	Syagerd	Emergence	Not visible	Not seen
		Charikar	Charikar	Emergence	Not visible	Not seen
	Kapisa	Mahmoodraqi	Mahmoodraqi	Emergence	Not visible	Not seen
		Kohistan	Kohistan	Emergence	Not visible	Not seen
	Wardak	Chak	Chak	Emergence	Not visible	Not seen
		Jaghato	Jaghato	Emergence	Not visible	Not seen
East Central	Bamyan	Bamyan	Bamyan	Emergence	Not visible	Not seen
		Yakawlang	Yakawlang	Emergence	Not visible	Not seen
		Panjab	Panjab	<b>Dormancy</b>		
Noristan	Paroon	Paroon				
Eastern	Nangarhar	Agam	Agam	Vegetative	Normal	Not existed
		Batikot	Ghaziabad	Vegetative	Normal	Not existed
		Jalalabad	Sheshembagh	Vegetative	Normal	Excessive weed and Low Precipitation
		Jalalabad	Farm Jadeed	Vegetative	Normal	Excessive weed and Low Precipitation
	Kunar	Asmar	Asmar	Emergence	Not visible	Not seen
		Asadabad	Asadabad	Vegetative	Normal	Not exist
	Laghman	Mihtarlam	Mihtarlam	Vegetative	Normal	Excessive weed and Low Precipitation

## Wheat Crop Stage, Condition and Adverse Factor

Zone	Province	District	Station	Wheat		
				Stage	Condition	Adverse Factor
Northeastern	Takhar	Bangi	Bangi	Emergence	Not visible	Not existed
		Taluqan	Taluqan	Vegetative	Normal	Not existed
	Kunduz	Imam Sahib	Imam Sahib	Emergence	Not visible	Not existed
		Qaliazal	Aqtipa	Vegetative	Normal	Not existed
		Chardara	Chardara	Vegetative	Normal	Not existed
		Kunduz	Kunduz	Vegetative	Normal	Not existed
	Baghlan	Pulikhomri	Pozaishan	Vegetative	Normal	Not existed
	Badakhshan	Faizabad	Faizabad	Emergence	Not visible	Not seen
Baharak		Baharak	Emergence	Not visible	Not seen	
South Eastern	Khost	Khost	Khost	Vegetative	Normal	Not existed
		Khost	Shimal	Vegetative	Normal	Not existed
		Ali Sher	Ali Sher	Vegetative	Normal	Not existed
	Paktai	Zormat	Rohani Baba	Emergence	Not visible	Not seen
		Gardiz	Tera	Emergence	Not visible	Not seen
	Paktika	Urgon	Urgon	Emergence	Not visible	Not seen
		Sharana	Sharana	Emergence	Not visible	Not seen
		Khairkot	Khairkot	Emergence	Not visible	Not seen
Ghazni	Muqur	Muqur	Emergence	Not visible	Not seen	
	Andar	Bande Sardi	Emergence	Not visible	Not seen	
Southern	Nimroz	Zaranj	Zaranj	Vegetative	Normal	Not existed
	Kandahar	Kandahar	Kandahar	Vegetative	Normal	Not existed
	Zabul	Qalat	Qalat	Emergence	Not visible	Not seen
	Urozgan	Tarinkot	Tarinkot	Emergence	Not visible	Not seen
	Hilmand	Nad Ali	Nad Ali	Emergence	Not visible	Not seen
		Greshk	Greshk	Vegetative	Normal	Not existed
		Nawa	Nawa	Emergence	Not visible	Not seen
Lashkargah		Bolan	Vegetative	Normal	Not existed	
Northern	Balkh	Dihdadi	Dihdadi	Vegetative	Normal	Not existed
		Nahrishahi	Nahrishahi	Vegetative	Normal	Not existed
	Jawzjan	Sheberghan	Sheberghan	Vegetative	Normal	Not existed
		Darzab	Darzab	Emergence	Not visible	Not seen
	Saripul	Saripul	Saripul	Vegetative	Normal	Not existed
		Sozmaqala	Sozmaqala	Emergence	Not visible	Not seen
	Faryab	Maimana	Maimana	Emergence	Not visible	Not seen
Samangan	Aibak	Aibak	Emergence	Not visible	Not seen	
	Dara Souf Bala	Dara Souf Bala	Emergence	Not visible	Not seen	
Western	Badghis	Qalainow	Qalainow	Emergence	Not visible	Not seen
		Muqur	Muqur	Emergence	Not visible	Not seen
	Ghor	Chaghcharan	Chaghcharan	Emergence	Not visible	Not seen
	Hirat	Shindand	Shindand	Vegetative	Normal	Not existed
		Zindajan	Zindajan	Vegetative	Normal	Not existed
		Gwazara	Falahat	Vegetative	Normal	Not existed
		Hirat	Farm Urdokhan	Vegetative	Normal	Not existed
Farah	Farah	Farah	Vegetative	Normal	Not existed	

# Wheat Crop Stage, Condition and Adverse Factor, Maps



## Precipitation

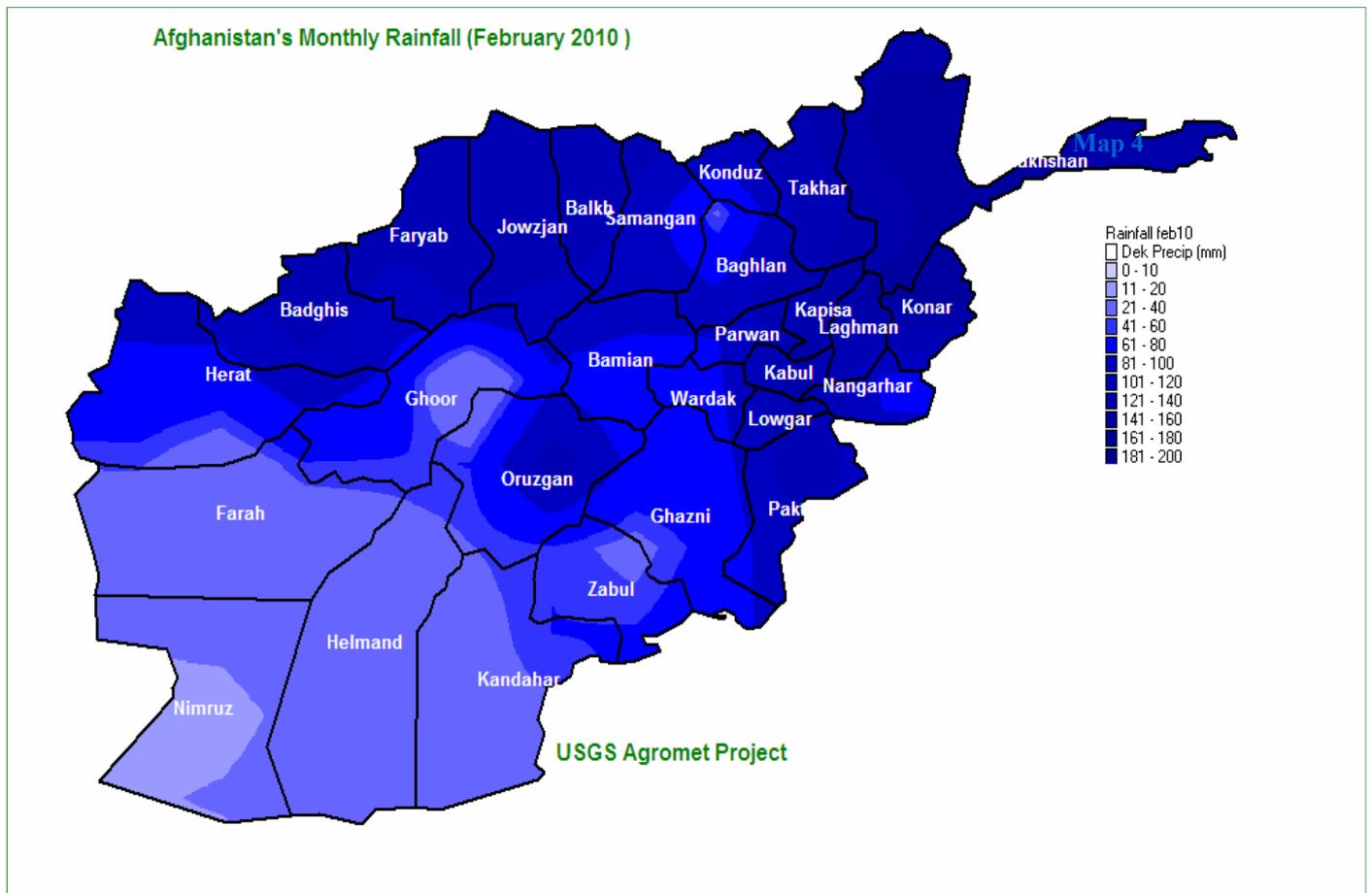
Rainfall had an increase during the month of February 2010 compared to the same month in 2009 all over the country.

During February 2010 low pressure systems with adequate moisture tracked in to the country and brought precipitations in most parts of the country, which resulted heavy snow and rain. Snow pack increased in snow coverage areas particularly in the Northeastern region, Northwestern, Central Highlands and the Capital region, which will ease short – term dryness of the past period, also will reduce precipitation deficit and will improve the water resources.

Comparison of rainfall data for the month of February 2010 with the same month in 2009 (chart 1) shows an increase of rainfall during the month of February 2010 over the same month of last year in most parts of the country, except Darulaman and Dara- e- Soof where rainfall had a decrease during the month of February 2010.

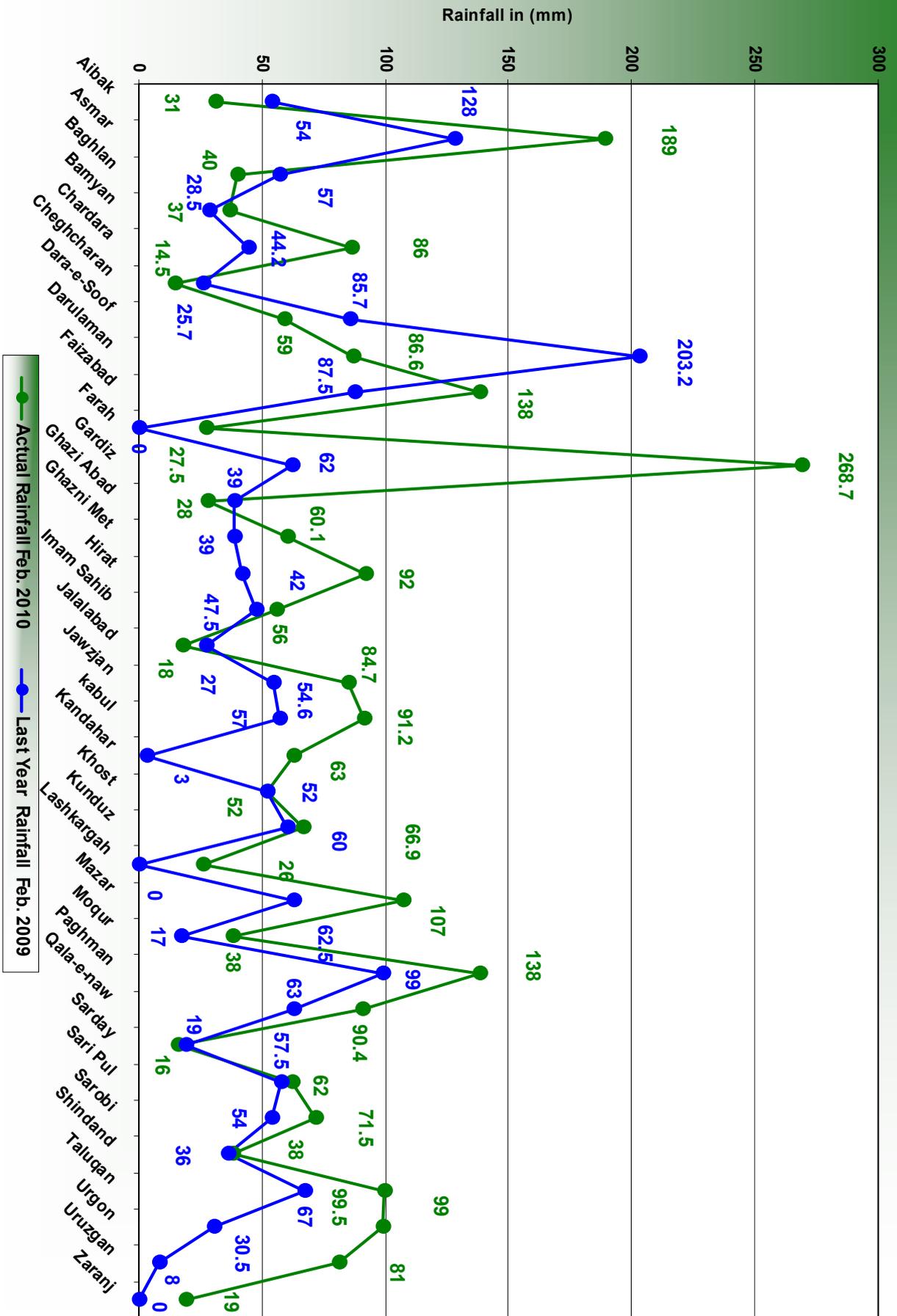
The percentage +/- of rainfall is shown in table (1). Comparison of rainfall data for the month of February 2010 with the same month of long term average (Chart 2) shows an increase of rainfall during the month of February 2010 compared to the same month of long term average in most parts of the country, except Muqor and Sardy where the rainfall had a decrease during February 2010 over the same month of last year. The percentage +/- of rainfall is shown in table (1).

Distribution of rainfall for the month of February 2010 had variable situation all over the country. As map (4) shows, most amount of rainfall occurred in the Northeastern region, Northern, Northwestern, Capital region, Eastern and some parts in the Southeastern and Central Highlands. The Southern region, Southwestern and Western regions received less amount of rainfall during the month of February 2010.



# Rainfall Graphs for the Month of February 2010

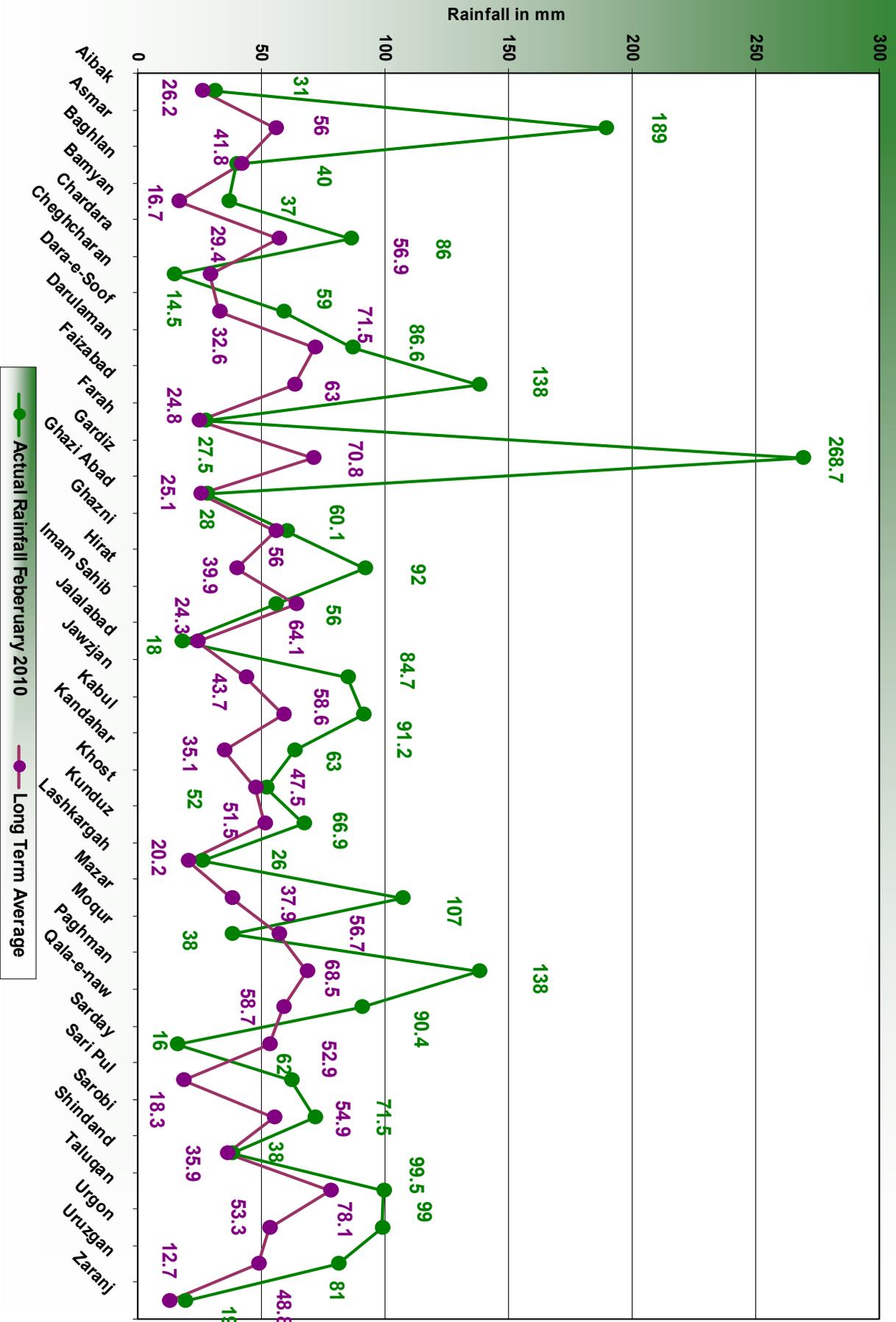
Comparison of Actual Rainfall February 2010 with the Same Month of Last Year



Char 1

# Rainfall Graphs for the Month of February 2010

Comparison of Actual Rainfall February 2010 with the Same Month of Long Term Average



Data Source: Agromet Network

## Rainfall for the Month of February 2010

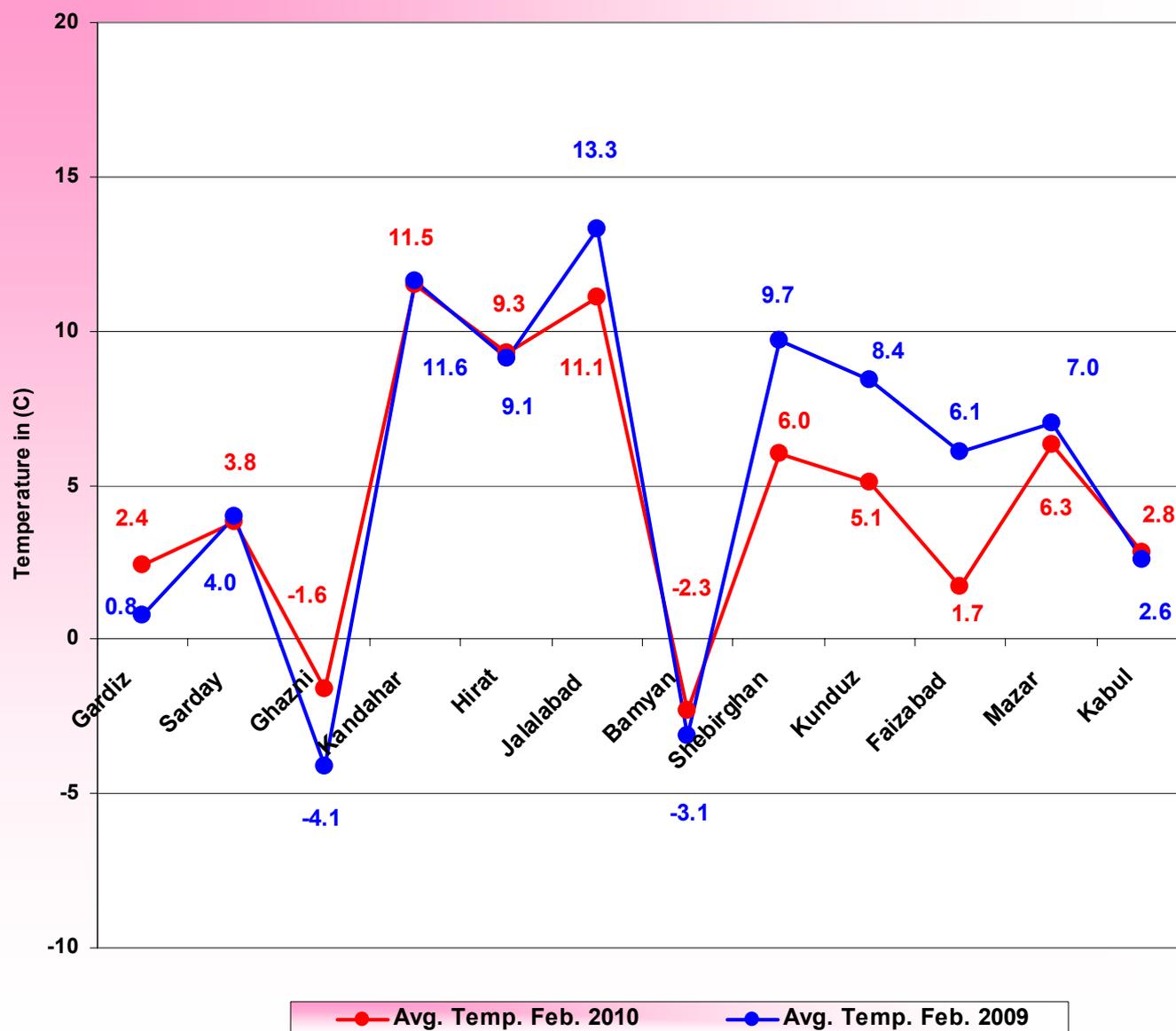
Table 1

Station	Actual Rainfall Feb. 2010	Last Year Rainfall Feb. 2009	Percentage	Long Term Average	Percentage
Faizabad	138	87.5	57.7	63	119.0
Qala-e-naw	90.4	63	43.5	58.7	54.0
Baghlan	40	57	-29.8	41.8	-4.3
Mazar	107	62.5	71.2	37.9	182.3
Bamyan	37	28.5	29.8	16.7	121.6
Farah	27.5	0		24.8	10.9
Ghazni Met	60.1	39	54.1	56	7.3
Moqur	38	17	123.5	56.7	-33.0
Sarday	16	19	-15.8	52.9	-69.8
Cheghcharan	14.5	25.7	-43.6	29.4	-50.7
Lashkargah	26	0		20.2	28.7
Hirat	92	42	119.0	39.9	130.6
Shindand	38	36	5.6	35.9	5.8
Jawzjan	84.7	54.6	55.1	43.7	93.8
Darulaman	86.6	203.2	-57.4	71.5	21.1
kabul	91.2	57	60.0	58.6	55.6
Paghman	138	99	39.4	68.5	101.5
Sarobi	71.5	54	32.4	54.9	30.2
Kandahar	63	3	2000.0	35.1	79.5
Khost	52	52	0.0	47.5	9.5
Asmar	189	128	47.7	56	237.5
Chardara	86	44.2	94.6	56.9	51.1
Imam Sahib	56	47.5	17.9	64.1	-12.6
Kunduz	66.9	60	11.5	51.5	29.9
Ghazi Abad	28	39	-28.2	25.1	11.6
Jalalabad	18	27	-33.3	24.3	-25.9
Zaranj	19	0		12.7	49.6
Urgon	99	30.5	224.6	53.3	85.7
Gardiz	268.7	62	333.4	70.8	279.5
Aibak	31	54	-42.6	26.2	18.3
Dara-e-Soof	59	85.7	-31.2	32.6	81.0
Sari Pul	62	57.5	7.8	18.3	238.8
Taluqan	99.5	67	48.5	78.1	27.4
Uruzgan	81	8	912.5	48.8	66.0

Data Source: Agromet Network

Average Temperature February 2010 Compared to the Same Month of 2009

Char 3

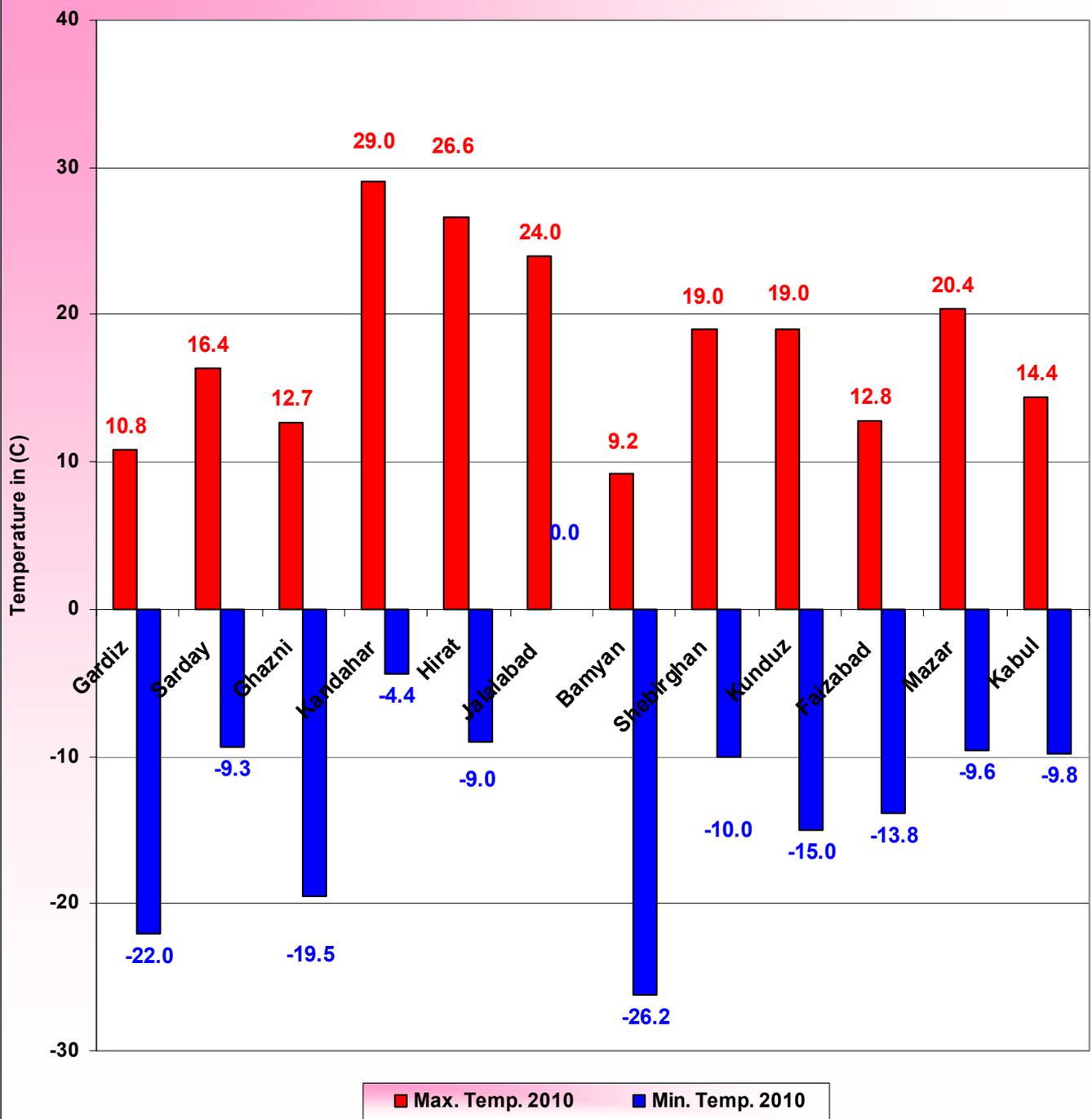


**Temperature has remained high across the low lands but, there is not significant change in High elevation.**

Temperature for the month of February 2010 was variable around the country. Temperature has remained high across the low lands but, there is no significant change occurred in temperature in the high elevations. However temperature was high during January in most parts of the country, but in February, temperature was light stable. Temperature dropped below - 28 C in the Northeastern high elevations while the minimum temperature has been recorded – 26.2 ° C in Central Highlands.

Comparisons of monthly average of temperature for the month of January 2010 with the same month in 2009 (chart 3 ) shows no significant change of temperature during the month of February 2010 compared to the same month of last year. Temperature had a decrease in some parts and had increases in some regions during the February over the same month in 2009.

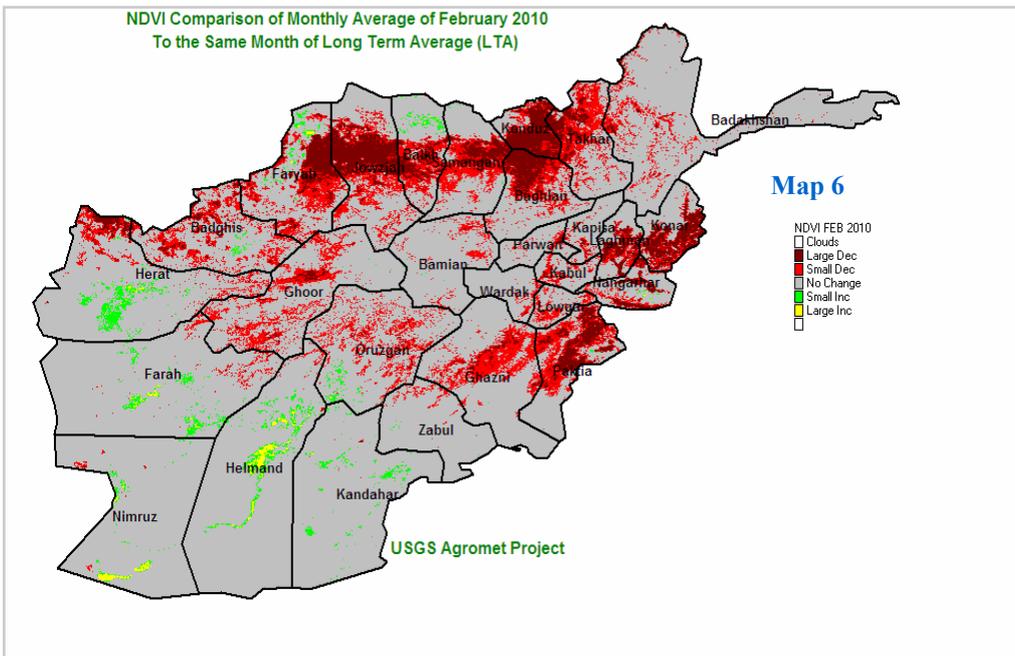
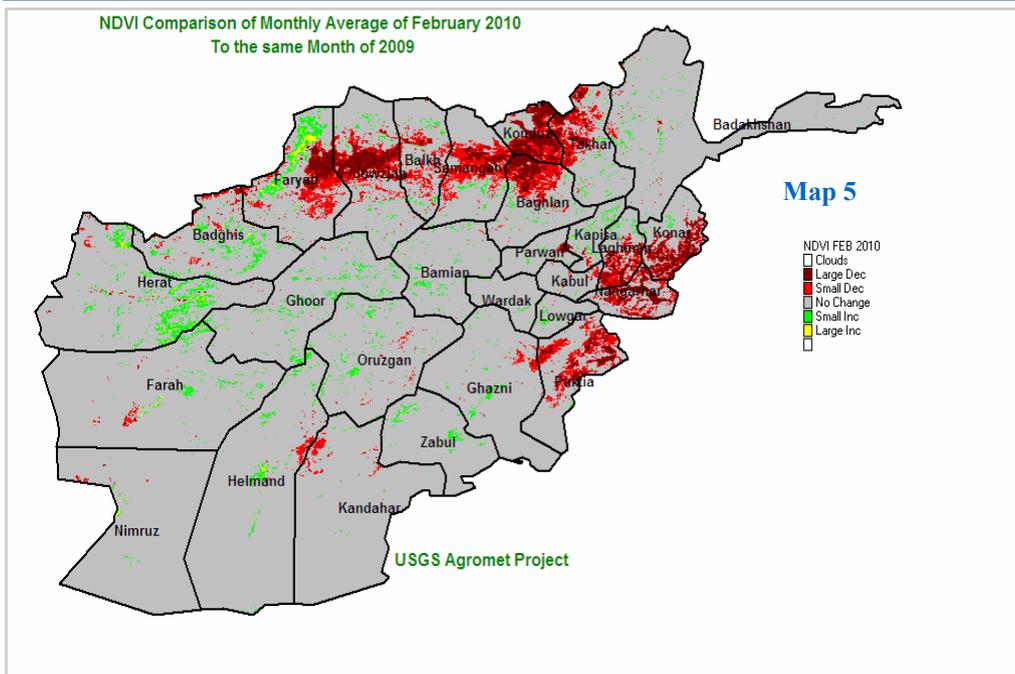
Minimum and Maximum Temperature of February 2010



**Bamyān with  $-26.2^{\circ}\text{C}$  experienced extreme cold weather during the month of February 2010**

Chart ( 4 ) shows maximum and minimum temperatures for the month of February 2010 around the country, which Bamyān with  $-26.2^{\circ}\text{C}$  experienced extreme cold weather during February while Jalalabad with  $29^{\circ}\text{C}$  was the warmest spot of the country.

## Comparison of (NDVI) February 2010



Comparison of monthly average of NDVI for the month of February 2010 with the same month in 2009 (Map 5) shows large increase of NDVI in the Northern flat areas, and some parts of Northeastern and Eastern regions during the month of February 2010 compared to the same month of last year. There is no change in NDVI in the rest of the regions of the country during the month of February 2010 over the same month in 2009.

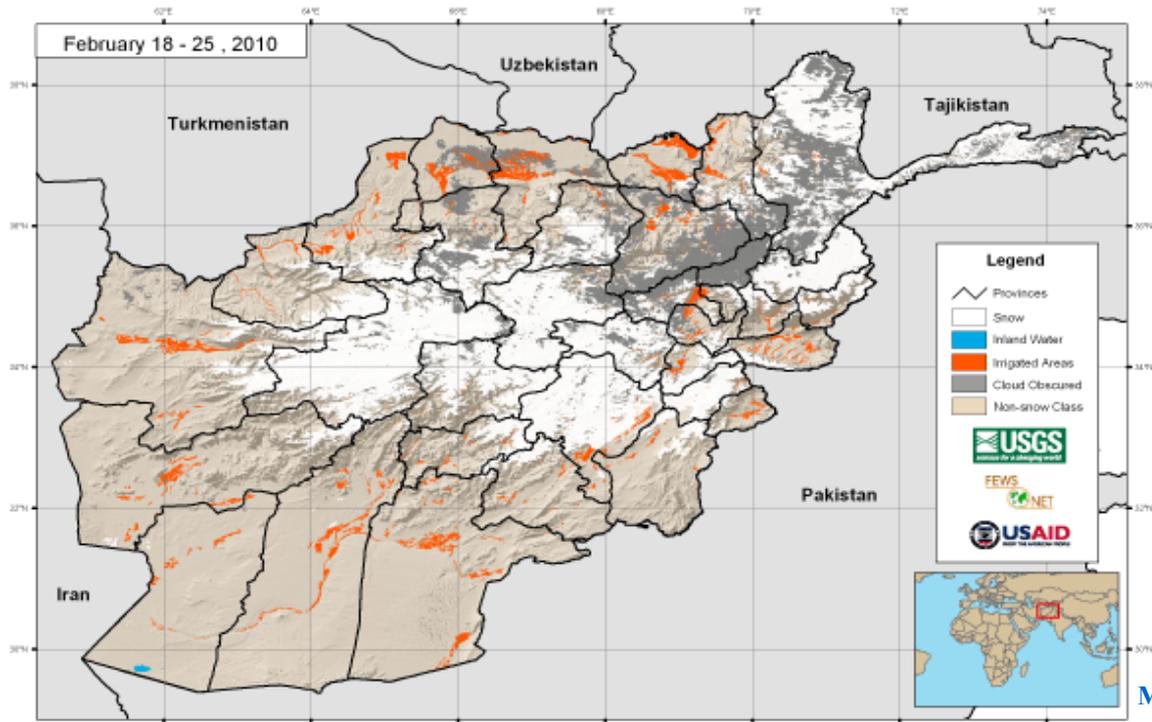
Comparison of monthly average of NDVI for the month of February 2010 with the same month

of long term average (Map 6) shows large increase of NDVI in the Northern flat areas, some parts in Northeastern region, Eastern and some parts in the Southeastern region during the month of February 2010 compared to the same month of long term average, and small decrease occurred in NDVI value as separated in the Northwestern region, Western parts of the Central Highlands too.

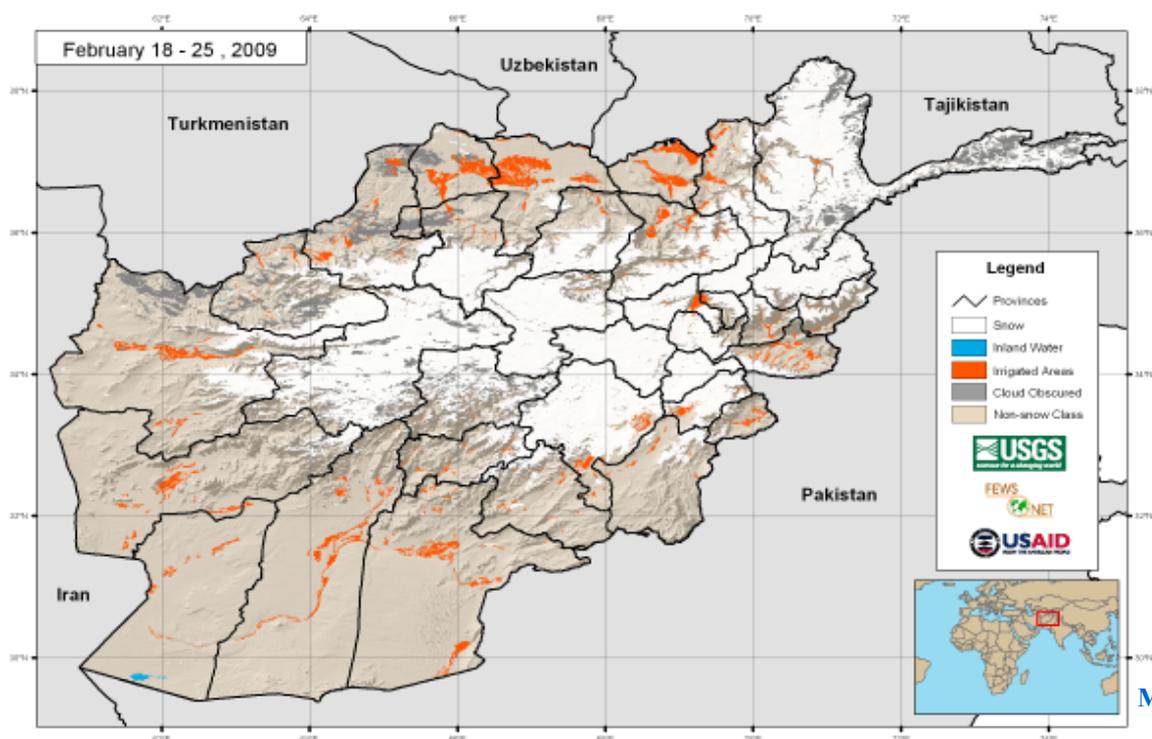
There is no change of NDVI in the remaining parts of the country during the month of February 2010 over the same month of long term average.

## Comparison of Snow Extent

### MODIS 8-day Snow Cover Extent - Current Period 2010 vs 2009



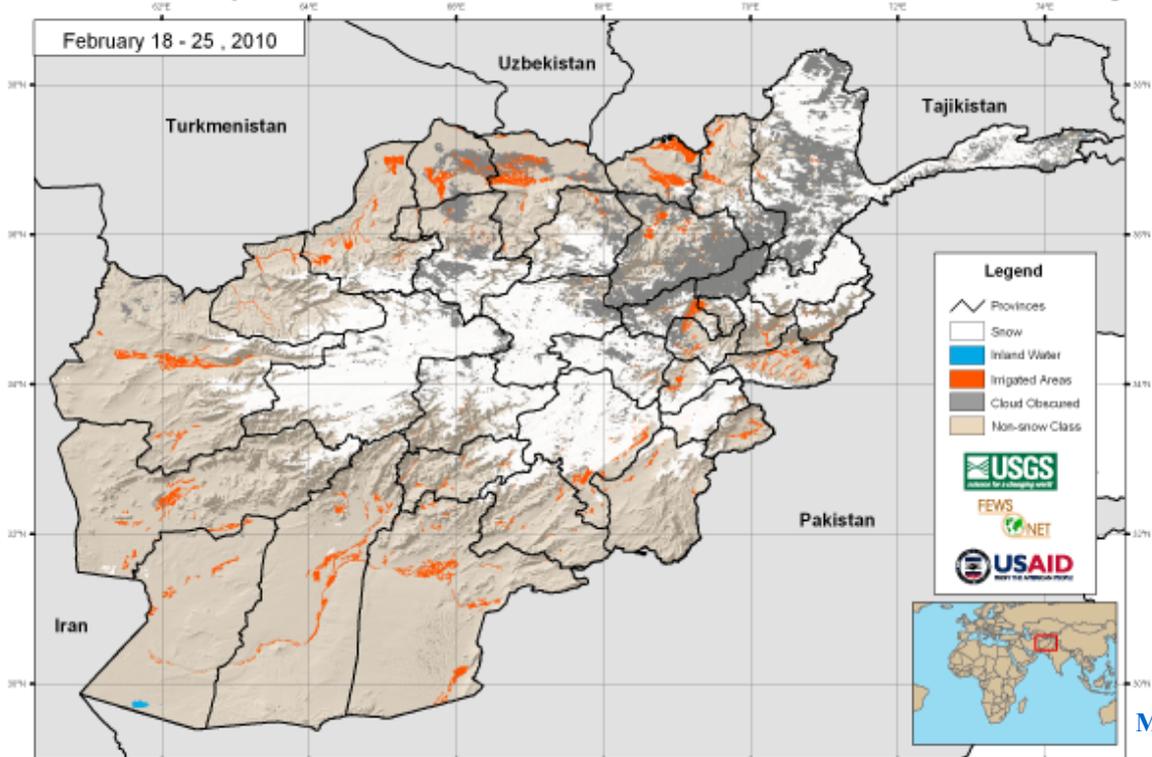
Map 7



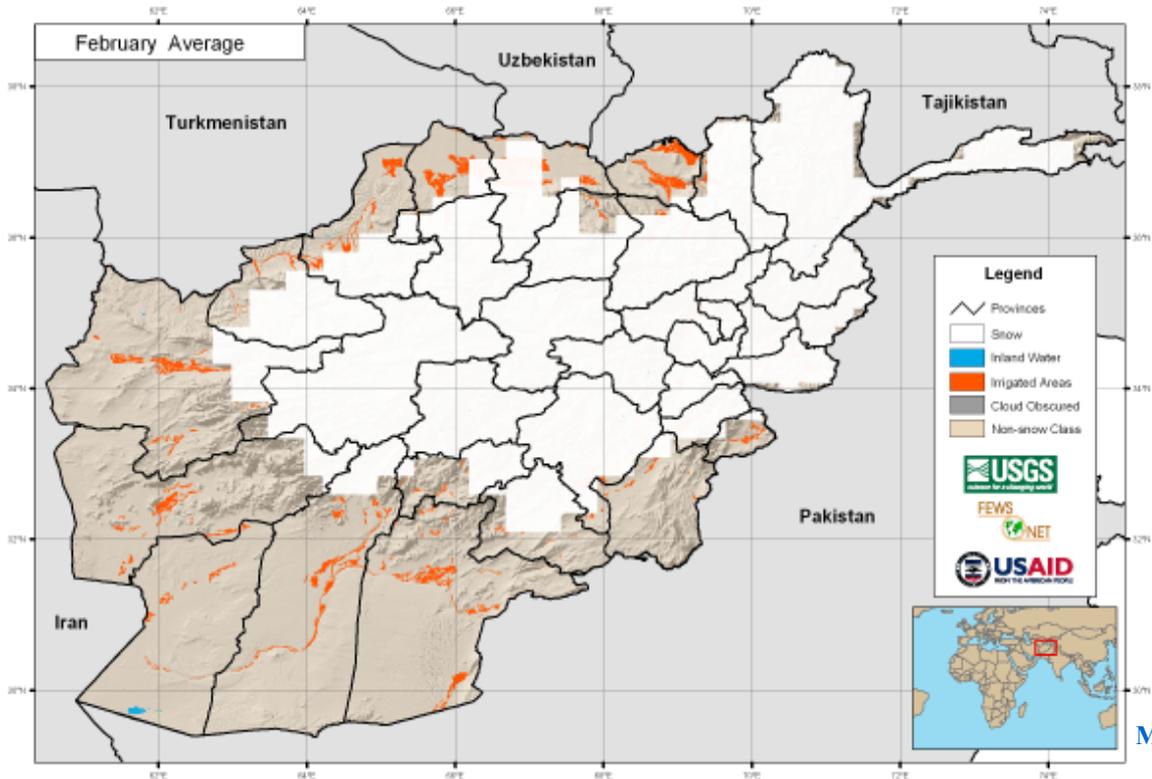
Map 8

During December 2009 till mid January 2010 mostly Heavy snow during February 2010 caused deadly dry weather affected the country, after mid January avalanche in Salang Highway and large number of people died and injured. Comparison of snow extent for the period of February (18 – 25) 2010 with the same period in 2009 (Map7-8) shows no significant change occurred in most parts of the country, and snow pack increased in the Northeastern region, Central Highlands, Northwestern and Capital region.

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



Map 9



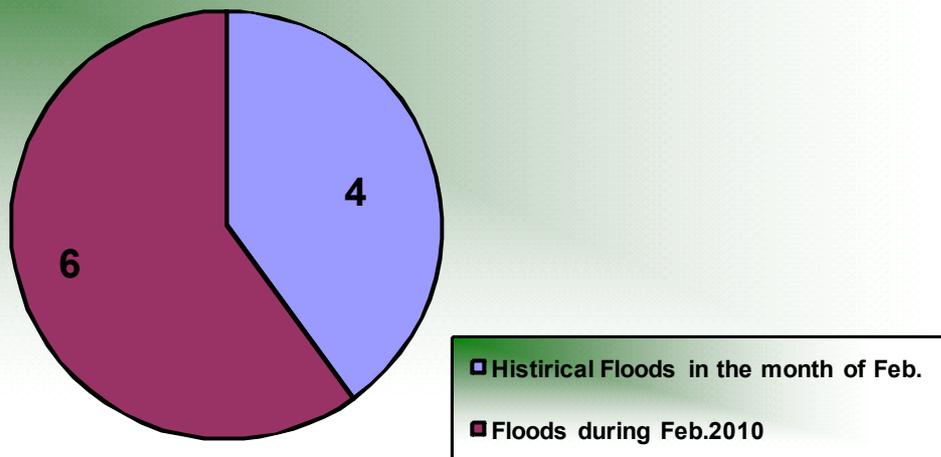
Map 10

Comparison of snow extent for the month of February 2010 with the same month of long term average (Map 9-10) shows significant decrease in snow coverage areas particularly in the Northern Region Northwestern, Central Highlands, Northeastern, some parts in the Southeastern and Capital region during the month of February 2010 compared to the same month of long term average.

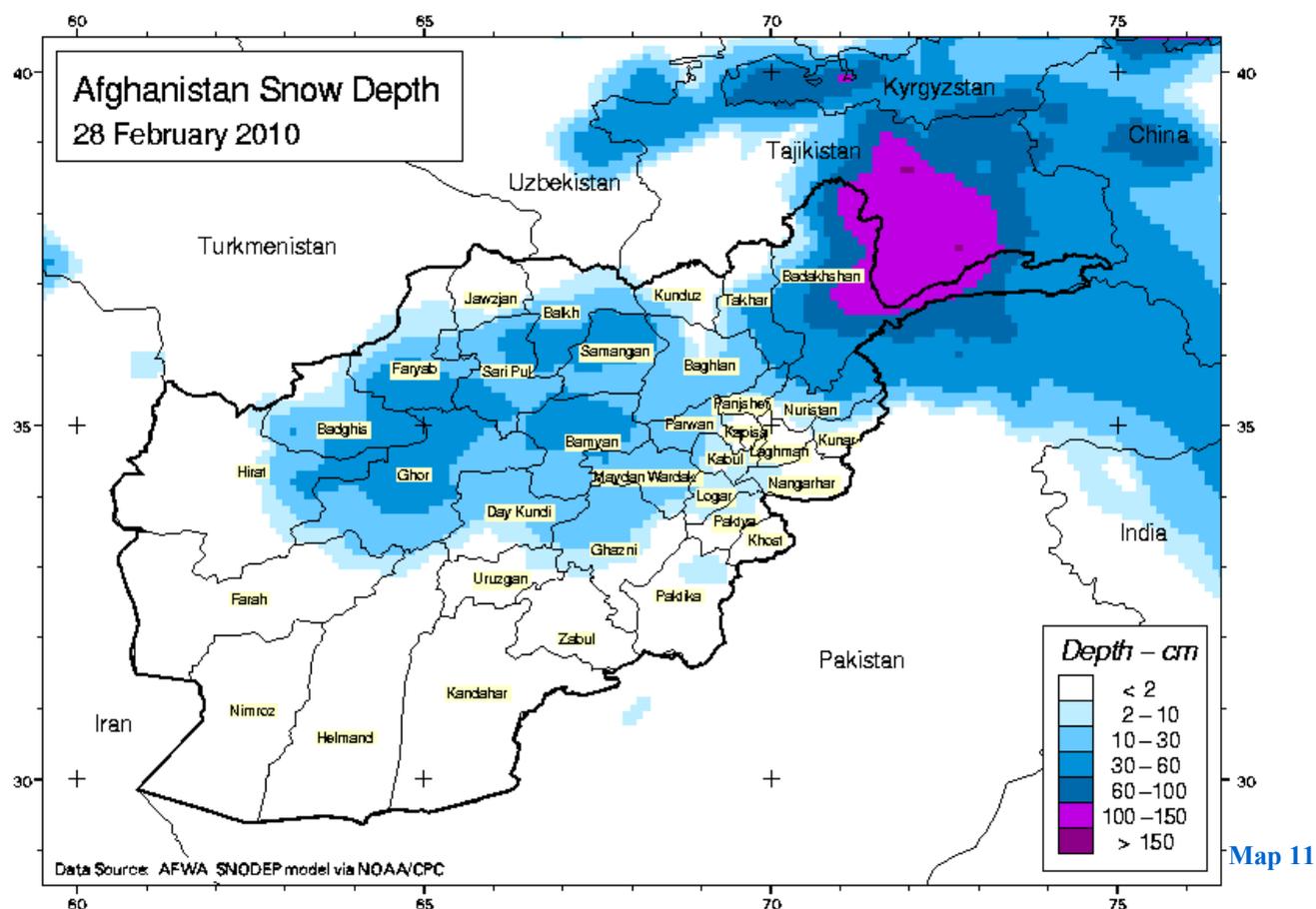
## Flood Information

Flooding Date	Province	Damaged lands	Animal mortality
14/Feb/2010	Jawzjan	2 Hectares wheat lands	0
08/Feb/2010	Hirat	80 Hectares wheat lands	0
07/Feb/2010	Farah	40 Hectares Wheat and Potato lands	2000 Animal
10/Feb/2010	Hilmand	Some of the wheat lands in the area	2000 Animal
Feb/ 2010	Ghor	0	180 Sheep and donkeys
Feb/ 2010	Zabul	14Hectares agricultural lands, 55 Apricot Gardens	0

**Comparison of historical number of Floods in February to the number of reported Floods during February 2010**



## Afghanistan Snow Depth for the of January 2010



Map 11

Map (11) shows snow depth in the end of February 2010 in snow coverage area, which snow depth has been recorded 100 to 150 cm in the Northeastern region and 30 – 60 cm for the Northwestern and Central Highlands.

**For more information please contact:**

Name	Position	Cell	Email Address
Abdul Qadir Qadir	Director of AMA	0799-315843	<a href="mailto:afghanistan_met_authority@hotmail.com">afghanistan_met_authority@hotmail.com</a>
Nasir Ahmad Fayez	Director of Irrigation	0700476311	<a href="mailto:Abc.fna.2008@yahoo.com">Abc.fna.2008@yahoo.com</a>

You can download the Afghanistan’s Agromet Bulletins from this site:

<http://afghanistan.cr.usgs.gov/documents.php?cat=1>  
<http://bit.ly/cXzTo6>  
<http://www.mail.gove.af/m>