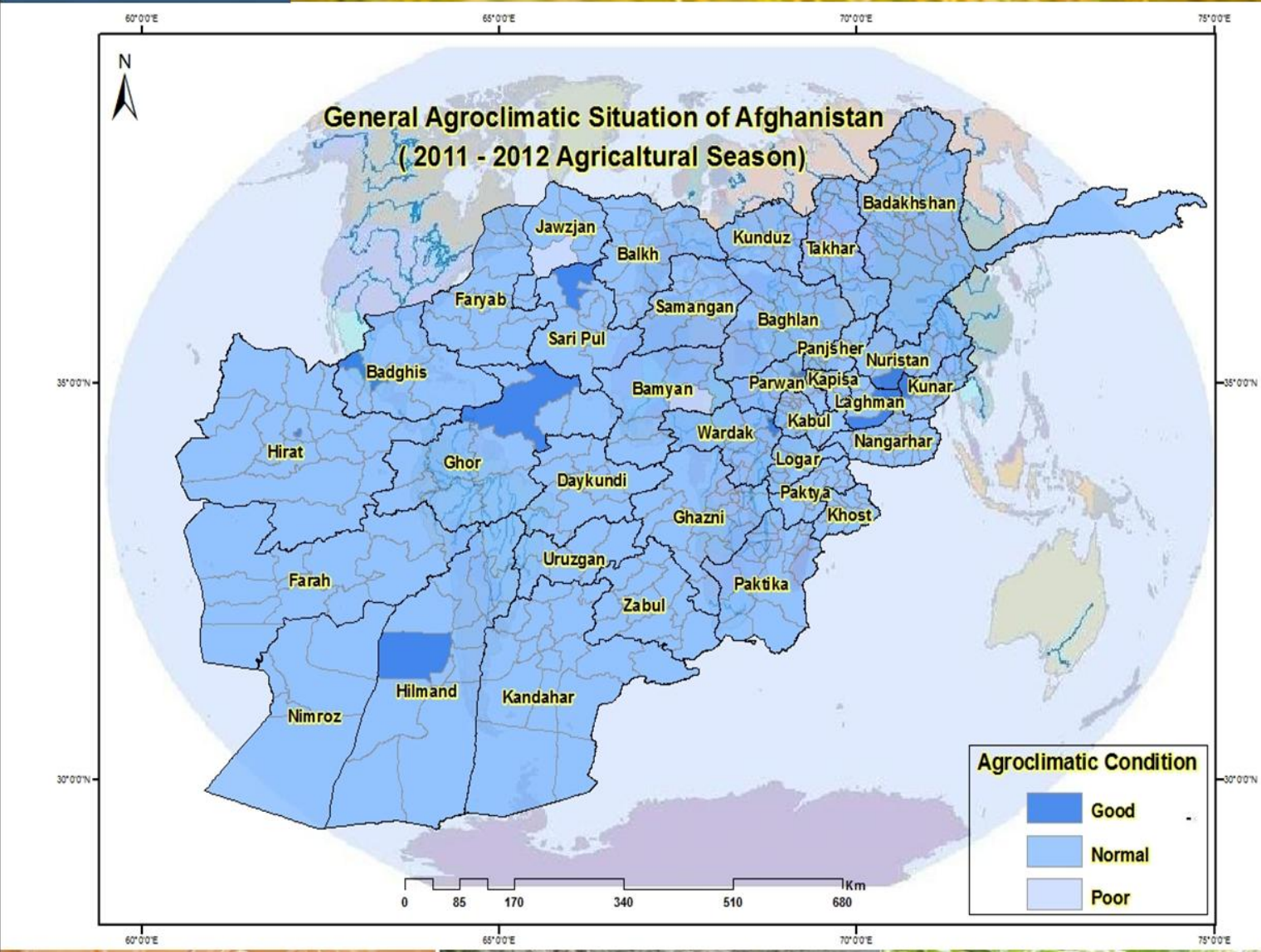
The fghanistan grometerological Seasonal Bulletin

Issue No: 9
2011 - 2012

Topics Crop Information Precipitation Temperature



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)

Table of Contents

Inside This Issue

S/N	Topic	Page
1	Summary of the Seasonal Bulletin (2011-2012)	1
2	Crop Condition (2011 - 2012) Season	2-5
3	Synthesis Situation Map (2011 - 2012) Season	6
4	Rainfall Season (2011 - 2012)	7
5	Length of Rainfall Season by Dekad (2011 - 2012) Season	8-11
6	Recorded Distribution of Rainfall (2011 - 2012) Season	12-13
7	Analysis of Recorded Rainfall by Region for the (2011 - 2012) Season	14 - 19
8	Total Snowy Days (2011 - 2012) Season	20
9	Afghanistan Snow Depth (2011 - 2012) Season	21
10	Snowfall Occurrence (2011 - 2012) Season	22-23
11	Temperature and It's Effect (2011 - 2012) Season	24
12	Recorded Frost Days (2011 - 2012) Season	25
14	Annexes	

Summary

- The rainfall season of (2011 – 2012) started in the 1st dekad of September 2011 in the Central, Eastern and Southeastern regions. This rainfall season ended in the 3rd dekad of August 2012 in the Eastern, Southeastern, and Capital regions.
- Rainfall had significantly increased during the (2011 - 2012) rainfall season compared to the previous rainfall season of (2010 - 2011).
- Based on the recorded rainfall data, there was no dry spill observed during the rainfall season of (2011 – 2012) throughout the country.
- The distribution of rainfall was variable in different regions during the rainfall season of (2011 - 2012). Map 2 shows that the highest amounts of rainfall occurred in some parts in the Eastern, some parts of the Northern, some parts of the Northeastern, and some parts of the Central Highlands regions during the (2011–2012) rainfall season. Significant areas of the above mentioned regions have received moderate rainfall, but less rainfall has been recorded in the Southern, Southeastern, and Western regions with areas in these regions experiencing seasonal dryness.
- Rainy days increased significantly during the (2011 - 2012) rainfall season over the previous season (2010 - 2011).
- The snowfall started in the Central Highlands, Capital, Northeast, Northwest, and West regions in November 2011 and continued up to March 2012 in most parts of above mentioned regions. At the beginning of the rainfall season snow was light, but during January and February 2012 snow increased in most parts of these regions.
- In general, snow depth and extent decreased in most parts of the snow covered areas during the (2011 - 2012) rainfall season compared to the previous season (2010 - 2011).
- Snowy days increased during the (2011 - 2012) rainfall season over the previous season (2010 - 2011) all around the country.

Crop Condition

Zone	Province	District	Station	Wheat	
				Crop Condition	Adverse Factor
Central	Kabul	Shakardara	Karizmir	Normal	Shortage of Inputs
		Paghman	Paghman	Normal	Weeds
		Kabul	Darulaman	Normal	Shortage of Inputs
		Surubi	Surubi	Normal	Weeds
	Panjsher	Dara	Dara	Normal	Too Mach Rainfall, snow
		Dashtak	Dashtak	Normal	Snow
	Parwan	Syagerd	Gorband	Normal	Frost, Shortage of Inputs
		Charikar	Charikar	Good (better than normal)	
	Kapisa	Mahmoodraqi	Mahmoodraqi	Normal	Shortage of Inputs
		Kohistan	Kohistan	Normal	Weeds
	Wardak	Maidan shehr	Maidan shehr	Good (better than normal)	Weeds
	Logar	Pole Alam	Pole Alam	Normal	Not Existed
	Bamyan	Bamyan	Bamyan	Poor Rainfall	Weeds, Poor Rainfall
		Yakawlang	Yakawlang	Normal	Frost, Snow, Too Mach Rainfall
		Panjab	Panjab	Normal	Frost, Snow, Weeds
		Shebar	Shebar	Normal	Frost
		Kohmard	Kohmard	Normal	Too Mach Rainfall
	Ghazni	Muqur	Muqur	Normal	Not Existed
		Andar	Bande Sardi	Normal	Not Existed
	Daykundi	Nili	Nili	Normal	Poor Rainfall, Snow
		Khideer	Khideer	Normal	Poor Rainfall, Frost
East	Nangarhar	Agam	Agam	Normal	Not Existed
		Batikot	Ghaziabad	Normal	Pest & Diseases
		Jalalabad	Farm jaded	Normal	Pest & Diseases
	Kunar	Asmar	Asmar	Good (better than normal)	Too Mach Rainfall
		Asad Abad	Asad Abad	Good (better than normal)	Not Existed
		Chawkay	Chawkay	Normal	Not Existed
	Laghman	Mihtarlam	Mihtarlam	Normal	Shortage of Inputs
		Qarghay	Qarghay	Good (better than normal)	Not Existed
		Alengar	Alengar	Good (better than normal)	Not Existed
	Nuristan	Paroon	Paroon	Normal	Not Existed
		Do Ab	Do Ab	Normal	Poor Rainfall
		Norgaram	Norgaram	Good (better than normal)	Late Planting, Pest & Diseases
		Waigal	Waigal	Normal	Frost
		Wama	Wama	Normal	Poor Rainfall, Snow
North East	Takhar	Taluqan	Taluqan	Normal	Not Existed
		Rostaq	Rostaq	Normal	Not Existed
	Kunduz	Imam Sahib	Imam Sahib	Normal	Storm, Weeds
		Qaliazal	Aqtipa	Normal	Storm
		Khan Abad	Khan Abad	Normal	Not Existed
		Kunduz	Kunduz	Normal	Too Mach Rainfall, Weeds
		Archi	Archi	Normal	Weeds
		Chardara	Chardara	Normal	Storm
		Ali Abad	Ali Abad	Normal	Not Existed
	Baghlan	Pulikhomri	Pozaishan	Normal	Too Mach Rainfall
		Doshy	Doshy	Normal	Not Existed
	Badakhshan	Argo	Argo	Normal	Storm
		Baharak	Baharak	Normal	Not Existed
		Ashkashm	Ashkashm	Normal	Poor Rainfall
		Eaftale Sofla	Eaftale Sofla	Normal	Late Planting, Poor Rainfall
		Khash	Khash	Normal	Weeds
		Faiz Abad	Faiz Abad	Normal	Too Mach Rainfall, Weeds

Crop Condition

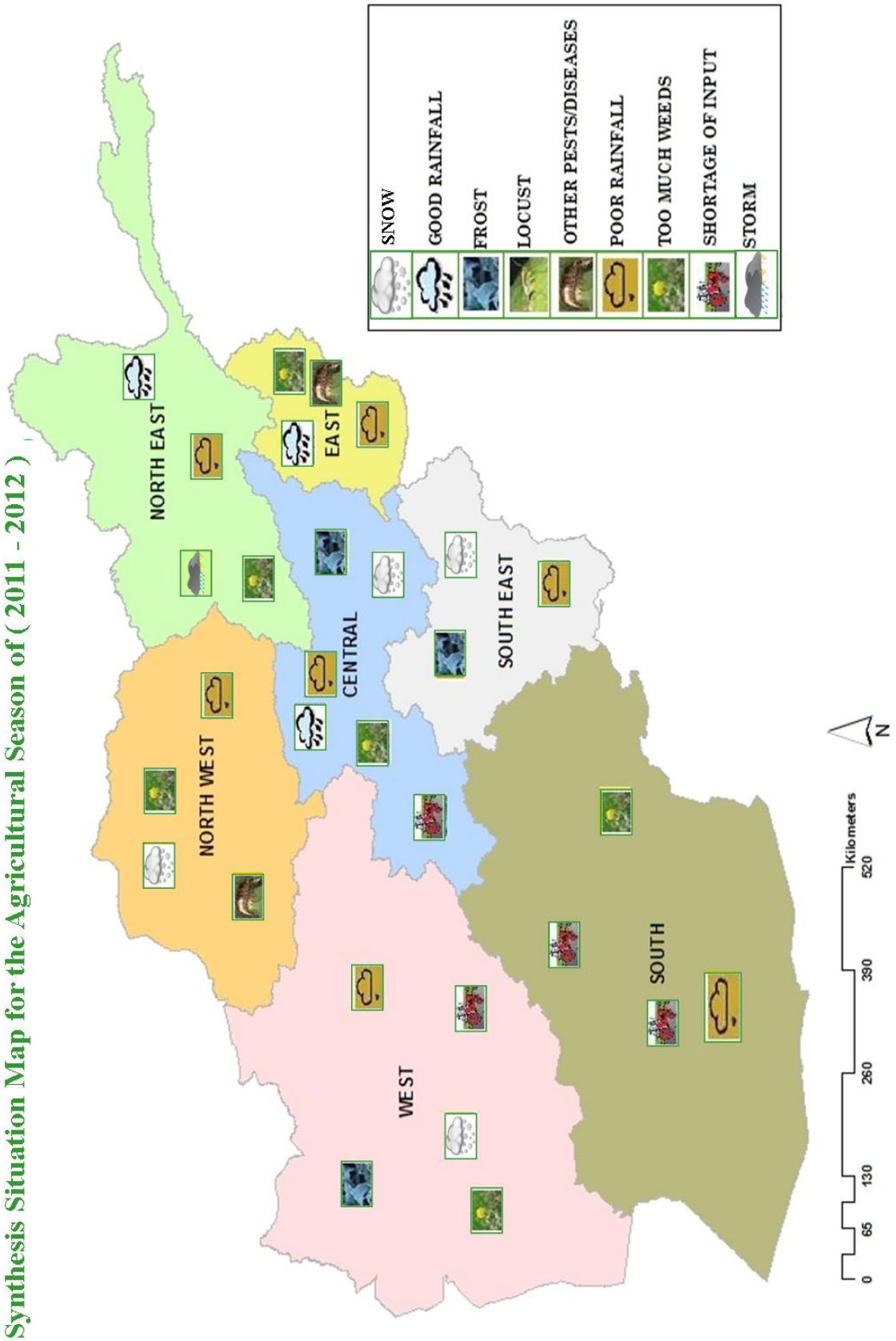
Zone	Province	District	Station	Wheat	
				Crop Condition	Adverse Factor
South East	Khost	Khost	Khost	Normal	Not Existed
		Khost	Shimal	Normal	Not Existed
		Ali Sher	Ali Sher	Normal	Frost, Poor Rainfall
	Paktia	Zormat	Rohani Baba	Normal	Not Existed
		Gardiz	Tera	Normal	Snow
	Paktika	Urgon	Urgon	Normal	Snow
		Sharana	Sharana	Normal	Snow
		Khair kot	Khair Kot	Normal	Snow
South	Nimroz	Zaranj	Zaranj	Normal	Not Existed
	Kandahar	Kandahar	Kandahar	Normal	Not Existed
		Kohkaran	Kohkaran	Good (better than normal)	Not Existed
	Zabul	Qalat	Qalat	Normal	Poor Rainfall, Shortage of Input, Weeds
	Uruzgan	Tirin Kot	Tirin Kot	Good (better than normal)	Not Existed
	Hilmand	Nad Ali	Nad Ali	Good (better than normal)	Not Existed
		Greshk	Greshk	Good (better than normal)	Not Existed
		Nawa	Nawa	Normal	Not Existed
		Lashkargah	Bolan	Normal	Not Existed
North	Balkh	Takhta pol	Dihdadi	Normal	Not Existed
		Mazar shareef	Mazare shareef	Normal	Not Existed
		Nahrishahi	Nahrishahi	Normal	Not Existed
		Dawlat Abad	Dawlat Abad	Normal	Not Existed
	Jawzjan	Sheberghan	Sheberghan	Poor	Storm, Frost
		Darzab	Darzab	Normal	Not Existed
		Aqcha	Aqcha	Normal	Not Existed
	Saripul	Saripul	Saripul	Good (better than normal)	Pest & Diseases
		Sancharak	Sancharak	Normal	Not Existed
		Sozmaqala	Sozmaqala	Normal	Snow
	Faryab	Maimana	Maimana	Normal	Not Existed
		Andkhoy	Andkhoy	Normal	Not Existed
		Garzeewan	Garzeewan	Normal	Not Existed
	Samangan	Aibak	Aibak	Normal	Poor Rainfall
		Dara Souf	Dara Souf	Normal	Late Planting, Weeds
		Sar bagh	Sarbagh	Normal	Snow
North West	Badghis	Maqur	Maqur	Good (better than normal)	Not Existed
		Qalainow	Qalainow	Normal	Shortage of Inputs
	Ghor	Chaghcharan	Chaghcharan	Good (better than normal)	Snow, Weeds
		Dawlat yar	Dawlat yar	Normal	Poor Rainfall, Storm
	Hirat	Shindand	Shindand	Normal	Poor Rainfall
		Hirat	Hirat	Normal	Not Existed
		Zindajan	Zindajan	Normal	Frost
		Gwazara	Falahat	Normal	Poor Rainfall
		Hirat	Farm Urdokhan	Good (better than normal)	Frost
	Farah	Farah	Farah	Normal	Frost, Poor Rainfall

Crop Condition

Zone	Province	District	Station	Maize	
				Crop Condition	Adverse Factor
Central	Kabul	Surubi	Surubi	Normal	Weeds
	Panjsher	Dashtak	Dashtak	Normal	Not Existed
	Parwan	Syagerd	Gorband	Normal	Not Existed
		Charikar	Charikar	Normal	Not Existed
	Kapisa	Mahmoodraqi	Mahmoodraqi	Normal	Not Existed
		Kohistan	Kohistan	Normal	Not Existed
	Logar	Pole Alam	Pole Alam	Normal	Not Existed
	Bamyan	Kohmard	Kohmard	Normal	Not Existed
	Ghazni	Muqur	Muqur	Normal	Not Existed
	Daykundi	Khideer	Khideer	Normal	Not Existed
East	Nangarhar	Agam	Agam	Normal	Not Existed
		Batikot	Ghaziabad	Normal	Not Existed
		Jalalabad	Farm jaded	Normal	Not Existed
	Kunar	Asmar	Asmar	Normal	Not Existed
		Asad Abad	Asad Abad	Normal	Not Existed
		Chawkay	Chawkay	Good (better than normal)	Not Existed
	Laghman	Qarghay	Qarghay	Normal	Not Existed
		Alengar	Alengar	Normal	Not Existed
	Nuristan	Paroon	Paroon	Normal	Not Existed
		Do Ab	Do Ab	Normal	Poor Rainfall
		Norgaram	Norgaram	Normal	Poor Rainfall
		Waigal	Waigal	Normal	Not Existed
North East	Kunduz	Kunduz	Kunduz	Normal	Not Existed
		Archi	Archi	Normal	Not Existed
		Ali Abad	Ali Abad	Normal	Not Existed
	Baghlan	Pulikhomri	Pozaishan	Normal	Not Existed
South East	Khost	Khost	Shimal	Normal	Not Existed
		Ali Sher	Ali Sher	Normal	Not Existed
	Paktia	Zormat	Rohani Baba	Good (better than normal)	Not Existed
		Gardiz	Tera	Very Good	Not Existed
	Paktika	Urgon	Urgon	Normal	Not Existed
South	Kandahar	Kohkaran	Kohkaran	Normal	Not Existed
	Uruzgan	Tirin Kot	Tirin Kot	Normal	Not Existed
	Hilmand	Nad Ali	Nad Ali	Normal	Not Existed
		Greshk	Greshk	Normal	Not Existed
		Nawa	Nawa	Normal	Not Existed
		Lashkargah	Bolan	Normal	Not Existed
North	Balkh	Takhta pol	Dihdadi	Normal	Not Existed
		Mazar shareef	Mazare shareef	Normal	Not Existed
		Nahrishahi	Nahrishahi	Normal	Not Existed
	Saripul	Saripul	Saripul	Normal	Not Existed
	Faryab	Maimana	Maimana	Normal	Not Existed
	Samangan	Dara Souf	Dara Souf	Normal	Not Existed
North West	Hirat	Shindand	Shindand	Normal	Not Existed
		Hirat	Hirat	Normal	Not Existed
	Farah	Farah	Farah	Good (better than normal)	Not Existed

Crop Condition

Zone	Province	District	Station	Rice	
				Crop Condition	Adverse Factor
Central	Kabul	Surubi	Surubi	Normal	Weeds
East	Nangarhar	Agam	Agam	Normal	Not Existed
		Batikot	Ghaziabad	Normal	Not Existed
		Jalalabad	Farm jaded	Normal	Not Existed
		Behsood	Behsood	Normal	Not Existed
	Kunar	Asmar	Asmar	Normal	Not Existed
		Asad Abad	Asad Abad	Normal	Poor Rainfall
	Laghman	Mihtarlam	Mihtarlam	Normal	Poor Rainfall
		Qarghay	Qarghay	Normal	Not Existed
North East	Takhar	Taluqan	Taluqan	Normal	Not Existed
	Kunduz	Imam Sahib	Imam Sahib	Normal	Not Existed
		Qaliazal	Aqtipa	Normal	Not Existed
		Khan Abad	Khan Abad	Normal	Not Existed
		Kunduz	Kunduz	Normal	Not Existed
		Archi	Archi	Good (better than normal)	Not Existed
		Ali Abad	Ali Abad	Normal	Not Existed
	Baghlan	Pulikhomri	Pozaishan	Normal	Not Existed
		Doshy	Doshy	Good (better than normal)	Not Existed
South East	Khost	Khost	Khost	Normal	Not Existed
		Khost	Shimal	Normal	Not Existed
		Ali Sher	Ali Sher	Normal	Not Existed
	Paktia	Zormat	Rohani Baba	Good (better than normal)	Not Existed
South	Uruzgan	Tirin Kot	Tirin Kot	Normal	Not Existed


Synthesis Situation Map for the Agricultural Season of (2011 - 2012)
SNOW
GOOD RAINFALL
FROST
LOCUST
OTHER PESTS/DISEASES
POOR RAINFALL
TOO MUCH WEEDS
SHORTAGE OF INPUT
STORM
NORTH EAST
EAST
CENTRAL
SOUTH EAST
NORTH WEST
WEST
SOUTH
N
0
65
130
260
390
520
Kilometers

Rainfall Season (2011 – 2012)

Afghanistan is an arid to semi – arid country receiving very erratic rainfall over the year. Rainfall varied from 90 mm in Farah (West region) to 1024 mm in South Salang (Central region), where it occurs mostly in the winter months (December 2011 to the end of February 2012) as well as in April 2012 (during the tilling and flowering of winter wheat).

In higher elevations precipitation falls in the form of snow which is critical for river flow and irrigation during the Spring and the Summer. Usually, March and April are the rainy months for Western, Northern, Central Highlands, and Southern regions. Monsoon rains that originate in the Indian Ocean usually bring rain to the Eastern and some parts of Northeastern and Capital regions during the months of June, July and August. Normally, in Afghanistan the rainfall season starts in September and continues up to August. For the MAIL / USGS Agromet project, the start of the rainfall season is based on a 10 mm threshold. This means that 10 mm or more of precipitation indicates the start of the rainfall season.

The (2011 – 2012) rainfall season started, as it normally does, during the 1st dekad of September 2011 in the Central, Eastern and Southeastern regions. Rainfall ended in the Eastern, Southeastern, and Capital regions in the 3rd dekad of August 2012.

Rainfall Patren

Comparison of rainfall data for the (2011 – 2012) rainfall season from September 2011 through August 2012 with the last season (2010 - 2011) shows significant increase in rainfall during the (2011 - 2012) rainfall season over the last season (2010 - 2011) across the country (Chart 1).

Distribution of rainfall was variable in different regions during the (2011-2012) rainfall season. As map 2 shows, highest amounts of rainfall occurred in some parts of the Eastern region, some parts of the Northern region, some parts of the Northeastern region and the Central Highlands region during the (2011 – 2012) rainfall season. Major areas in the above mentioned regions received moderate rainfall. Low amounts of rainfall were recorded in the Southern , Southeastern and Western regions and most of the above mentioned regions experienced seasonal dryness.

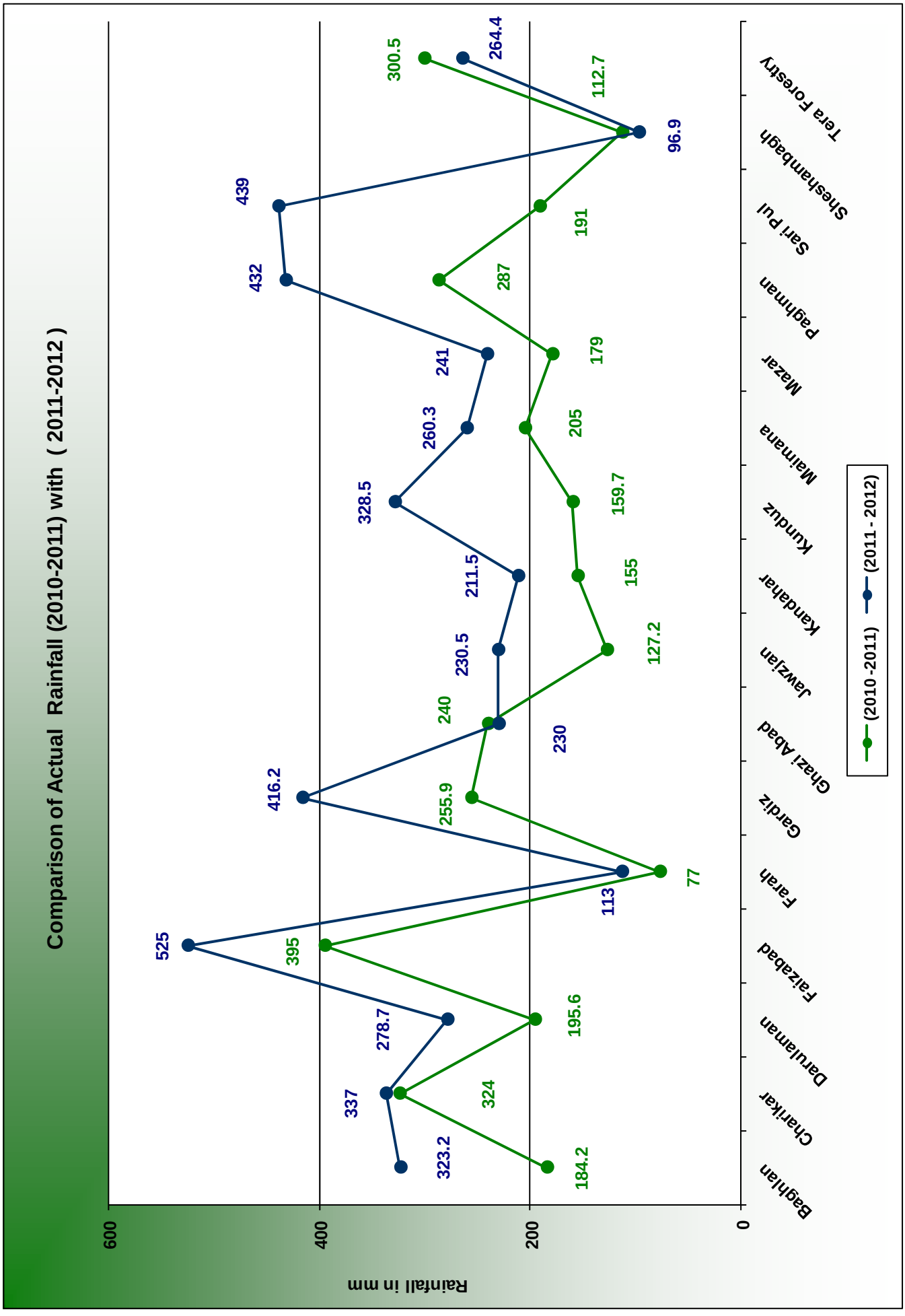
Dry spell

Normally, atmospheric pressure systems are changing in September as is typical this time of the year. As a result, precipitation was moderate during September, but in October and November rainfall had a significant increase over the same month of last year and over the long-term average.

The country experienced light rainfall during December and rainfall had a small decrease compared to the same month of the last season (2010 – 2011) and rainfall had a decrease over long-term average. During January and February 2012, low pressure systems with adequate moisture tracked into the country and brought precipitation in most parts of Afghanistan.

This resulted in heavy snow and rain, and the snow pack increased in snow covered areas particularly in the Northeastern, Northwestern, Central Highlands and Capital regions. The rainfall had significant increase during January and February 2012 over the same month of last year (2011) and long-term average.

Typically during the month of April and May, low pressure systems track into Afghanistan and bring good amounts of precipitation. As a result, most parts of the country received moderate rainfall during the (2011 – 2012) rainfall season. The Indian Ocean monsoon was not very active during this rainfall season and rainfall had a significant decrease during June, July and August 2012 compared to the same months of last year and the long-term average.


Comparison of Actual Rainfall (2010-2011) with (2011-2012)
Rainfall in mm
600
400
200
0
(2010 -2011)
(2011 - 2012)
Baghlan
Charikar
Darulaman
Faizabad
Farah
Gardiz
Ghazi Abad
Jawzjan
Kandahar
Kunduz
Maimana
Mazar
Paghman
Sari Pul
Sheshambagh
Tera Forestry
525
416.2
439
432
328.5
260.3
241
211.5
230.5
240
230
113
77
127.2
155
159.7
205
179
287
191
96.9
112.7
264.4
300.5
255.9
395
195.6
278.7
337
324
323.2
184.2

Rainfall Pattern

The start and ending of rainfall season in different regions is as follows:

In the Capital region, rainfall started in the 1st dekad of September 2011 and ended in the 3rd dekad of August 2012. In the Central Highlands, rainfall started in the 2nd dekad of October 2011 and ended in the 3rd dekad of June 2012. In the Eastern region, rainfall started in the 1st dekad of September 2011 and ended in the 1st dekad of August 2012. For the Northeastern region, rainfall started in the 2nd dekad of October 2011 and ended in the 3rd dekad of May 2012. For the Northern region, rainfall started in the 1st dekad of November 2011 and ended in the 3rd dekad of May 2012. In the Southern region, rainfall started in the 1st dekad of Sep 2011 and ended in the 1st dekad of Aug 2012.

In the Southeastern region, rainfall started in the 1st dekad of September 2011 ended in 1st dekad of August 2012. And finally, for the Western region, rainfall started in the 2nd dekad of October 2011 and ended by the 3rd dekad of May 2012.

Length of Rainfall Season by dekad

The length of rainfall season in different parts of the country is as follows: 24 dekads for the Capital region, 19 dekads for Central Highlands region, 24 dekads for the Eastern region, 23 dekads for the Northeastern region,20 dekads for the Northern regions,8 dekads for the Southern region, 17 dekads for the Southeastern region, and 15 dekads for the Western region.

Afghanistan season (2011 - 2012)

No	Name of Station	Starting Dekad	Ending Dekad	Rainfall season Length in (dekad)
Central				
1	Badam bagh	1 st dekad of Sep	3rd dekad of Aug	**24**
2	Charikar	1st dekad of Oct	1st dekad of May	**20**
3	Darulaman	1st dekad of Sep	3rd dekad of May	**19**
4	Panjshir	1st dekad of Sep	2nd dekad of Jun	**20**
5	Gul Khana	1st dekad of Sep	3rd dekad of Aug	**22**
6	Jaghatoo	1st dekad of Sep	1st dekad of April	**16**
7	kabul	1st dekad of Sep	3rd dekad of Aug	**24**
8	Kapisa Agri	2nd dekad of Oct	3rd dekad of May	**19**
9	Paghman	1st dekad of Sep	3rd dekad of May	**22**
10	Qargha	1st dekad of Sep	3rd dekad of Aug	**23**
11	Sarobi	1st dekad of Sep	3rd dekad of July	**19**
12	Seya Gerd	3rd dekad of Oct	3rd dekad of May	**18**

Length of Rainfall Season by dekad

Afghanistan season (2011 - 2012)

No	Name of Station	Starting Dekad	Ending Dekad	Rainfall season Length in dekad
		Central		
13	Bamyan ARD	2nd dekad of Oct	3rd dekad of May	**16**
14	Panjab	3rd dekad of Oct	1st dekad of May	**18**
15	Yakawlang	2nd dekad of Oct	3rd dekad of June	**19**
		East		
16	Agam	1st dekad of Sep	3rd dekad of April	**16**
17	Asmar	1st dekad of Sep	1st dekad of Aug	**24**
18	Farm Jadeed	1st dekad of Sep	3rd dekad of April	**9**
19	Ghazi Abad	1st dekad of Sep	3rd dekad of May	**14**
20	Jalalabad	1st dekad of Sep	3rd dekad of April	**13**
21	Laghman	1st dekad of Sep	1st dekad of July	**16**
22	Mehtarlam	1st dekad of Sep	1st dekad of July	**16**
23	Sheshambagh	1st dekad of Sep	3rd dekad of April	**10**
		North East		
24	Chardara	1st dekad of Nov	3rd dekad of Jun	**21**
25	Aqtepa	1st dekad of Nov	3rd dekad of May	**21**
26	Baghlan	3rd dekad of Oct	3rd dekad of May	**19**
27	Baharak	3rd dekad of Oct	2nd dekad of Jun	**17**
28	Faizabad	2nd dekad of Oct	2nd dekad of Jun	**23**
29	Imam Sahib	3rd dekad of Oct	3rd dekad of Jun	**22**
30	Kunduz ARD	3rd dekad of Oct	3rd dekad of Jun	**22**
31	Taluqan	3rd dekad of Oct	2nd dekad of Jun	**21**
32	Aibak	3rd dekad of Oct	3rd dekad of May	**17**

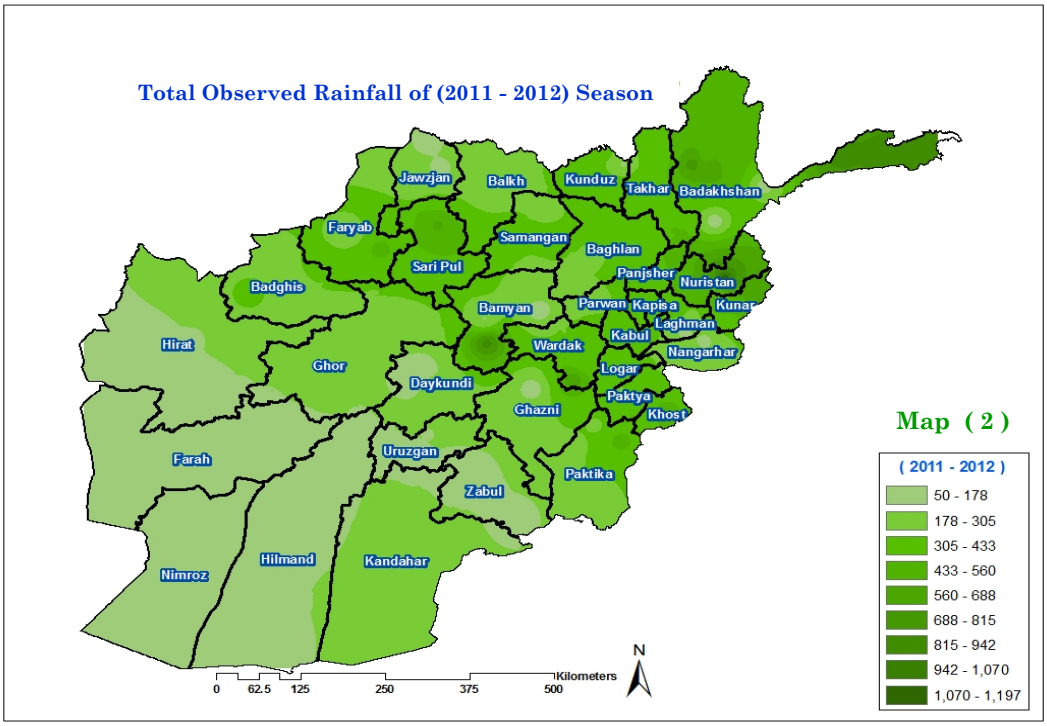
Length of Rainfall Season by dekad

Afghanistan season (2011 - 2012)

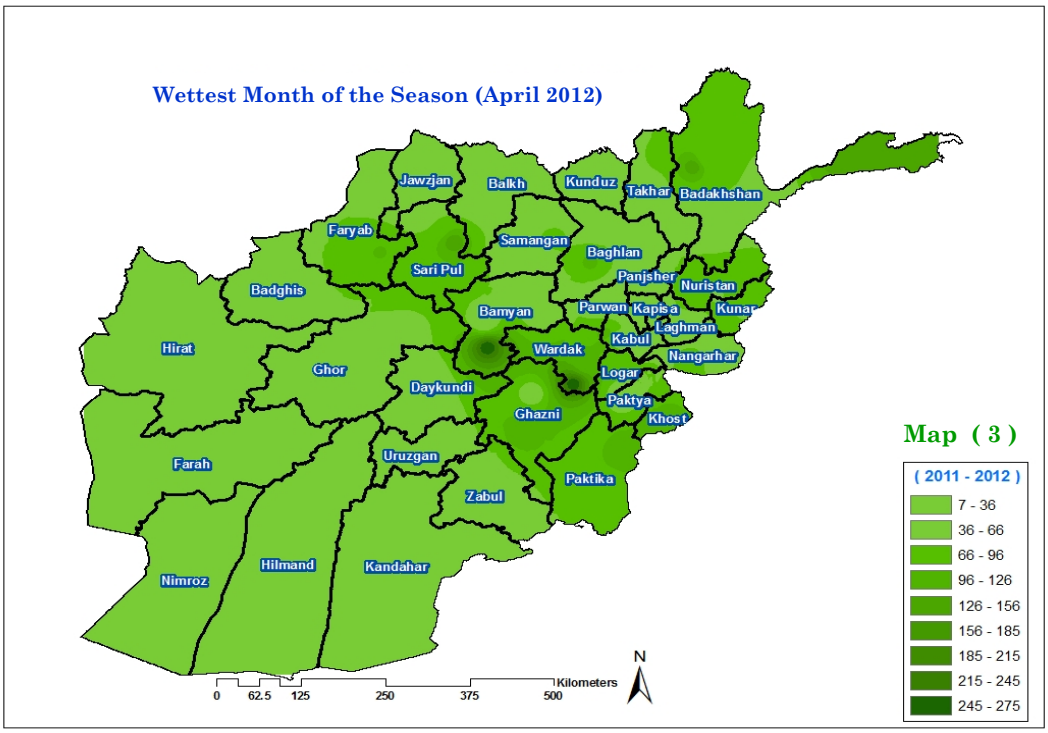
No	Name of Station	Starting Dekad	Ending Dekad	Rainfall season Length in dekad
		North West		
33	Darzab	1st dekad of Nov	3rd dekad of May	**20**
34	Jawzjan ARD	1st dekad of Nov	3rd dekad of May	**20**
35	Maimana	1st dekad of Nov	2nd dekad of May	**14**
36	Mazar ARD	1st dekad of Nov	3rd dekad of April	**14**
37	Sarbagh	1st dekad of Nov	3rd dekad of June	**18**
38	Sari Pul	1st dekad of Nov	3rd dekad of May	**18**
30	Takhta Pul	1st dekad of Nov	2nd dekad of May	**17**
		South		
40	Greshk	1st dekad of Oct	2nd dekad of April	**6**
41	Kandahar	1st dekad of Nov	3rd dekad of April	**8**
42	Lashkargah	1st dekad of Oct	2nd dekad of April	**6**
43	Nad Ali	1st dekad of Oct	2nd dekad of April	**5**
44	Nawa Gorgin	1st dekad of Oct	3rd dekad of April	**5**
45	Uruzgan ARD	2nd dekad of Nov	3rd dekad of April	**8**
46	Zabul	2nd dekad of Oct	2nd dekad of April	**6**
47	Zaranj	2nd dekad of Nov	2nd dekad of April	**4**
48	Gardiz	1st dekad of Sep	2nd dekad of Jun	**18**
49	Ghazni Met	2nd dekad of Jan	3rd dekad of April	**10**
50	Sarday	3rd dekad of Jan	3rd dekad of May	**8**
		South Eas		
51	Khost	1st dekad of Sep	3rd dekad of Aug	**20**
52	Moqur	2nd dekad of Oct	3rd dekad of April	**10**
53	Rohani Baba	1st dekad of Sep	1st dekad of Aug	**10**
54	Sharana	1st dekad of Sep	1st dekad of May	**13**
55	Tera Forestry	1st dekad of Sep	1st dekad of Aug	**18**
		West		
56	Cheghcharan	1st dekad of Feb	3rd dekad of May	**10**
57	Farah	2nd dekad of Jan	2nd dekad of April	**7**
58	Hirat	1st dekad of Nov	2nd dekad of April	**10**
59	Moqur Badghis	1st dekad of Nov	3rd dekad of April	**13**
60	Qala-e-naw	1st dekad of Nov	3rd dekad of May	**15**
61	Shindand	2nd dekad of Oct	3rd dekad of April	**11**
62	Zenda jan	1st dekad of Nov	3rd dekad of April	**9**

Recorded Distribution of Rainfall (2011 – 2012)

Distribution of rainfall was variable in different regions during the 2011 - 2012 rainfall season. Map 2 shows that the highest amounts of rainfall occurred in some parts of the Eastern region, some parts of the Northern region, some parts of the Northeastern region and the Central Highlands region during the (2011 - 2012) rainfall season. Major parts of the above mentioned regions received moderate rainfall. Low amounts of rainfall have been recorded in the Southern , Southeastern and Western regions and most of the above mentioned regions experienced seasonal dryness.



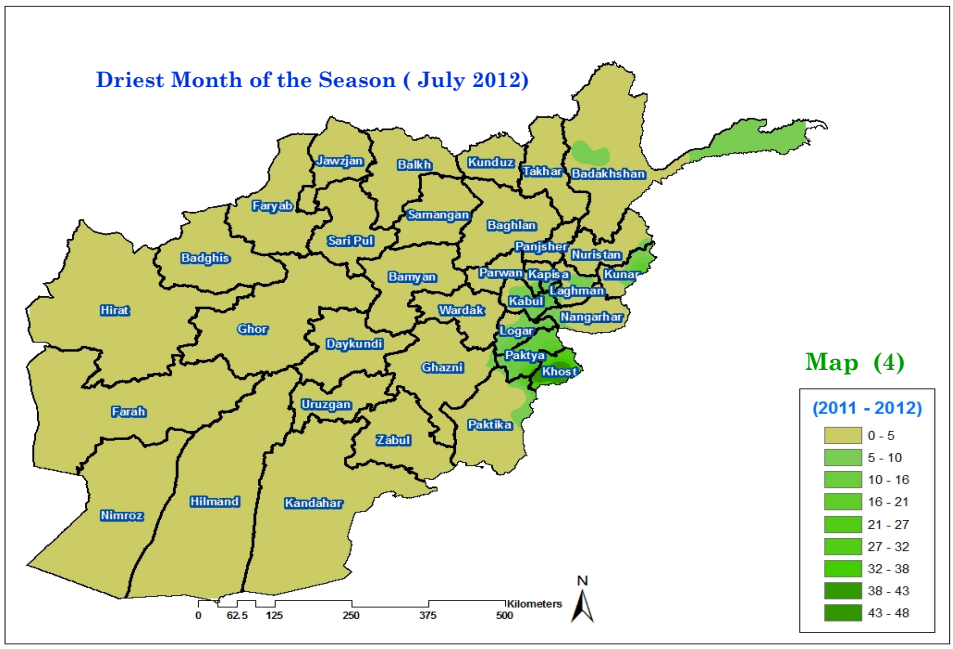
Base of recorded rainfall data, the country received much rainfall during the month of April 2012 and the month of April was the wettest month during (2011 - 2012) rainfall season. Map 3 shows that the highest amount of rainfall have been recorded in some parts of the Eastern, Southeastern, Northern, and Northeastern regions.



Data Source: Agromet Network

Recorded Distribution of Rainfall (2011 – 2012)

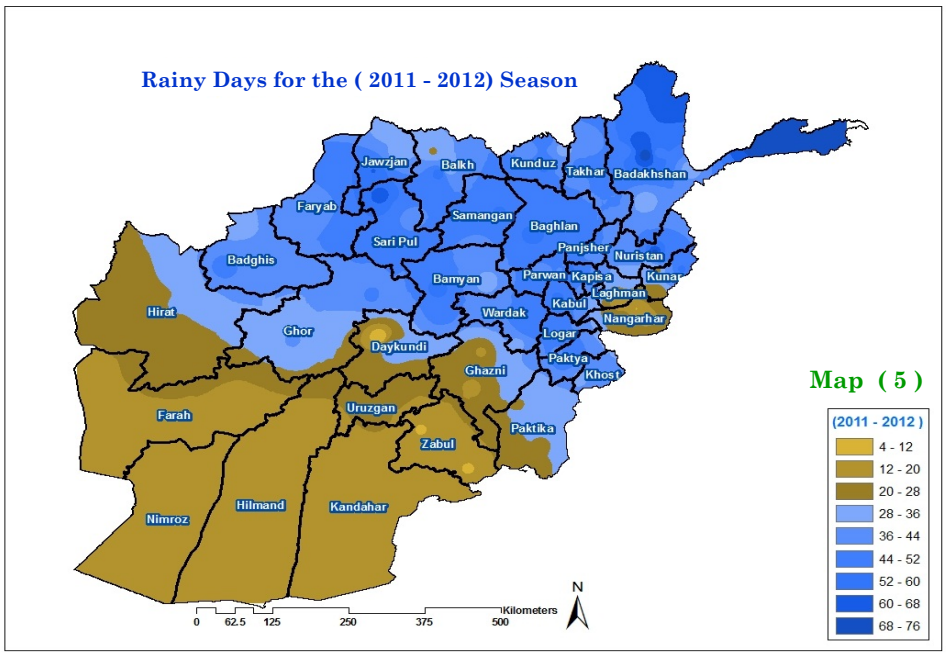
Based on the recorded rainfall data, the month of July 2012 was the driest month of the (2011 – 2012) rainfall season. However, some parts of the country received light rainfall during July, but in most parts of the country the seasonal dryness continued. Map 4 shows distribution of rainfall during the month of July 2012.



Rainy Days (2011 – 2012)

Comparison of rainy days for the (2011-2012)rainfall season with the rainfall season of(2010 - 2011) shows significant increase of rainy days during the (2011 - 2012) rainfall season over the last season (2010 - 2011). The maximum number of 77 rainy days has been recorded in Badakhshan during the 2011- 2012 rainfall season. Four rainy days was the lowest number of rainy days recorded and occurred in Daykundi Province (Central Highlands).

Figure 5 shows the yearly number of rainy days for the (2011 - 2012) rainfall season around the country (Map 5). Some parts in the Northeastern, Eastern, Southeastern, Capital, North , Northwestern and Central Highlands regions experienced many rainy days during the 2011-2012 rainfall season. The lowest number of rainy days were recorded in the Southern and Southwestern regions.



Central Region: BadamBagh, Chack, Charikar, Darulaman, Panjshir, GulKhana, Jabulsaraj, Jaghatoo, Kabul, Kapisa, Kariz Mir, Logar, Paghman, Qargha and Sarobi stations are located in this region. During the (2011 – 2012) rainfall season, average rainfall for this region was **371.3** mm. Moderate rainfall occurred in this region during the rainfall season. October, November, January, February, March, and April were the wettest months in this region. The maximum recorded (more than 15 mm) of rainfall by dekad in mm is as follows:

Stations	2011				2012							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Badambagh		15.3 mm 2nd dekad	19 mm 1st dekad		17 mm 2nd dekad	36 mm 1st dekad	36 mm 1st dekad	25 mm 3rd dekad				
Chrikar		27 mm 1st dekad	42 mm 1st dekad		30 mm 1st dekad	18 mm 1st dekad	25 mm 1st dekad	37 mm 1st dekad				
Darulaman		16 mm 2nd dekad			23 mm 2nd dekad	24.6 mm 1st dekad	27.2 mm 2nd dekad	21 mm 3rd dekad				
Panjshir	39 mm 1st dekad	26 mm 1st dekad					38.5 mm 2nd dekad	23 mm 1st dekad	22.5 mm 3rd dekad			
Gul Khana		15.6 mm 2nd dekad	19 mm 1st dekad		18 mm 2nd dekad	28 mm 1st dekad	21 mm 2nd dekad	28 mm 3rd dekad				
Jaghatoo	56 mm 1st dekad	69 mm 2nd dekad	55 mm 1st dekad		22 mm 3rd dekad	21 mm 1st dekad	35 mm 2nd dekad	27 mm 1st dekad				
Kabul		20.2 mm 2nd dekad	66.4 mm 3rd dekad		18.9 mm 2nd dekad	38.6 mm 2nd dekad	21.4 mm 3rd dekad	27.6 mm 2nd dekad	15.1 mm 3rd dekad			
Kapisa		39 mm 1st dekad	21 mm 1st dekad		37 mm 1st dekad	34 mm 1st dekad	42 mm 1st dekad	40 mm 3rd dekad	17 mm 3rd dekad			
Paghman		25 mm 3rd dekad	28 mm 1st dekad		18 mm 1st dekad	49 mm 1st dekad	32 mm 2nd dekad	69 mm 3rd dekad	22 mm 3rd dekad			
Qargha		16.2 mm 2nd dekad	19 mm 1st dekad		17.5 mm 1st dekad	26 mm 1st dekad	30 mm 2nd dekad	15 mm 3rd dekad				
Sarobi		33.5 mm 1st dekad				35.5 mm 2nd dekad	23 mm 3rd dekad	35 mm 3rd dekad	19 mm 3rd dekad		17 mm 2nd dekad	

Central : Bamyan, Bamyan ARD, Panjab and Yakawlang stations are located in this region. During the (2011 – 2012) rainfall season, average rainfall for this region was: **238.4** mm. The Central Highlands region experienced moderate rainfall during the rainfall season. The maximum rainfall amount recorded by the dekad in mm was as follows:

Stations	2011				2012							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Bamyan ARD		17.5 mm 2nd dekad	20.5 mm 3rd dekad					35 mm 3rd dekad				
Panjab			55 mm 3rd dekad		40 mm 1st dekad	39 mm 1st dekad	21.5 mm 2nd dekad	88 mm 1st dekad	17 mm 1st dekad			
Yakawlang			22 mm 2nd dekad									

East Region: Agam, Asmar, Farm Jadeed, Ghazi Abad, Jalalabad, Laghman and Mehtarlam stations are located in this region During the rainfall season, average rainfall for this region was : **396.3** mm. This region experienced significant rainfall during the rainfall season and the rainfall continued up to August 2012. The maximum rainfall which has been recorded by dekad in mm is as follow:

Stations	2011				2012							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Agam	42 mm 2nd dekad	2522 mm 3rd dekad				20 mm 1st dekad	15 mm 3rd dekad	77 mm 3rd dekad				
FormJaded								46.1 mm 3rd dekad				
Ghazi Abad	28 mm 1st dekad	17 mm 3rd dekad			26 mm 1st dekad	20 mm 2nd dekad	17 mm 3rd dekad	36 mm 3rd dekad				
Jalabad	20 mm 2nd dekad							23 mm 2nd dekad				
Laghman	22.4 mm 2nd dekad	31 mm 3rd dekad			26 mm 3rd dekad	16.6 mm 2nd dekad	41 mm 12nd dekad				42.6 mm 1st dekad	
Mehtarlam		16 mm 3rd dekad				22 mm 1st dekad					43 mm 1st dekad	
Asmar	39 mm 2nd dekad	36 mm 1st dekad	27mm 1st dekad		43 mm 1st dekad	56 mm 1st dekad	43 mm 1st dekad	31 mm 2nd dekad	48.4 mm 2nd dekad	17 mm 3rd dekad	15 mm 2nd dekad	38mm 1st dekad

North East Region: Chardara, Aqtepa, Baghlan, Baharak, Faizabad, Imam Sahib, Kunduz ARF, Taluqan and Aibak stations are located in this region. During the (2011 – 2012) rainfall season, average rainfall for this region was : **405.7** mm. Rainfall had significant increase in the Northeastern region during the (2011 - 2012) rainfall season over the last season (2010 - 2011). In this region rainfall started in October 2011 and continued up to May 2012. The maximum rainfall recorded in mm in different stations by dekad is listed below:

Stations	2011				2012							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Chardara			16 mm 1st dekad	15 mm 3rd dekad	32.3 mm 2nd dekad	28 mm 1st dekad	44 mm 2nd dekad	18 mm 2nd dekad	31 mm 2nd dekad			
Aqtepa			16 mm 1st dekad	23.1 mm 3rd dekad	16 mm 2nd dekad	33 mm 1st dekad	63 mm 2nd dekad	19 mm 3rd dekad	18 mm 3rd dekad			
Baghlan		17.2 mm 3rd dekad			29 mm 2nd dekad	41.4 mm 2nd dekad	33.8 mm 1st dekad	48.4 mm 3rd dekad				
Baharak		32 mm 3rd dekad	53 mm 2nd dekad		16 mm 1st dekad	52 mm 3rd dekad	45 mm 2nd dekad	32 mm 1st dekad	36.1 mm 2nd dekad	20 mm 2nd dekad		
Faizabad		56 mm 3rd dekad	44 mm 2nd dekad		29 mm 2nd dekad	26 mm 2nd dekad	36 mm 2nd dekad	53 mm 3rd dekad	46.4 mm 3rd dekad	28 mm 2nd dekad		
Imamsahib			24.4 mm 3rd dekad	16.5 mm 3rd dekad		26.5 mm 1st dekad	26 mm 2nd dekad	44.9 mm 3rd dekad	17.5 mm 2nd dekad			
Kunduz			18 mm 1st dekad		23.6 mm 2nd delad	29.5 mm 3rd dekad	55 mm 2nd dekad		22 mm 2nd dekad			
Taluqan		16 mm 3rd dekad	17 mm 1st dekad	18 mm 3rd dekad	36 mm 2nd dekad	33.5 mm 3rd dekad		22mm 3rd dekad	32mm 2nd dekad	25 mm 2nd dekad		
Aibak					16 mm 1st dekad	27 mm 1st dekad		30 mm 3rd dekad	27 mm 2nd dekad			

North West Region Darzab, Jawzjan, Kolor or khuram, Maimana, Mazar, Mazarisharif, Sarbagh, Sari Pul, Sheberghan and Takhta Pul stations are located in this region. During the (2011 – 2012) rainfall season, average rainfall of this region was **336.9** mm. In this region rainfall increased during this rainfall season over the previous season (2010 - 2011). The maximum rainfall has been recorded in mm and is shown below:

Stations	2011				2012							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Jawzjan ARD			38.2 mm 3rd dekad			20.8 mm 2nd dekad	27.9 mm 2nd dekad	28 mm 3rd dekad				
Maimana			36.5 mm 1st dekad		28 mm 2nd dekad	16 mm 2nd dekad	20.5 mm 2nd dekad	49 mm 3rd dekad	25 mm 3rd dekad			
Mazar ARD			25 mm 3rd dekad	16 mm 1st dekad	37 mm 2nd dekad	28.5 mm 1st dekad	25 mm 2nd dekad					
Sarbagh			26 mm 2nd dekad			32 mm 1st dekad	22 mm 2nd dekad	55 mm 3rd dekad	58 mm 1st dekad	22 mm 3rddekad		
Sari Pul			54.5 mm 3rd dekad	20 mm 1st dekad	18 mm 2nd dekad	35 mm 1st dekad	34 mm 2nd dekad	37 mm 3rd dekad	50.5 mm 2nd dekad			
Takhtapul			26.4 mm 3rd dekad			26 mm 3rd dekad	28 mm 2nd dekad	21 mm 3rd dekad	16 mm 1st dekad			

South Region: Kandahar, Lashkargah, Nad Ali. Nawa Gorgin, Uruzgan, Zabul, Zaranj, Gardiz, Ghazni Met and Sarday stations are located in this region. During the (2011 – 2012) rainfall season, the average rainfall for this region was **162.5** mm. The rainfall had a decrease in this region during this rainfall season (2011 - 2012) compared to the last season (2010 - 2011). The maximum value of rainfall in mm by dekad in the region is as follow:

Stations	2011				2012							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Kandahar					27.5 mm 3rd dekad	25 mm 2nd dekad						
Lashkargah		17 mm 1st dekad			22 mm 2nd dekad	35.5 mm 2nd dekad						
Nad Ali		25 mm 1st dekad			49.4 mm 3rd dekad	40.5 mm 2nd dekad						
Nawa Gorgin		19 mm 1st dekad			52.5 mm 3rd dekad	46.3 mm 2nd dekad						
Urazgan ARD						18 mm 1st dekad		19 mm 3rd dekad				
Zabul					22 mm 2nd dekad	27 mm 2nd dekad	22 mm 2nd dekad	15 mm 2nd dekad				
Zaranj						33.5 mm 1st dekad		24 mm 2nd dekad				
Gardiz	16.8 mm 1st dekad	22.2 mm 3rd dekad	37.2 mm 1st dekad		30.5 mm 2nd dekad	38.5 mm 2nd dekad	26.1 mm 2nd dekad	33 mm 3rd dekad		29.5 mm 2nd dekad		
Ghazni	15 mm 1st dekad					18.5 mm 1st dekad		37.5 mm 2nd dekad				
Sardy		15 mm 3rd dekad		15 mm 3rd dekad		25 mm 1st dekad	56 mm 3rd dekad		15 mm 1st dekad			

South East Region: Khost, Moqur, Rohani Baba, Tera Forestry and Sharana stations are located in this region, The average rainfall of this region was **303.8** mm. In the Southeastern region rainfall had an increase during the (2011 - 2012) rainfall season over the last season (2010 - 2011). The maximum rainfall recorded in this region in mm by dekad is as follow:

Stations	2011				2012							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Khost		44 mm 1st dekad					16 mm 1st dekad	25 mm 3rd dekad			41 mm 2nd dekad	40.6 mm 1st dekad
Muqur						22 mm 2nd dekad		29 mm 2nd dekad				
Rohani Baba		16 mm 3rd dekad				21 mm 1st dekad	15 mm 2nd dekad					
Sharana	25 mm 1st dekad	16 mm 3rd dekad	24 mm 1st dekad		21 mm 3rd dekad	34 mm 1st dekad		46 mm 2nd dekad	25.5 mm 1st dekad			
Tera Forestry			24 mm 1st dekad			29 mm 1st dekad		16 mm 3rd dekad			21 mm 2nd dekad	17.5 mm 2nd dekad

West Region: Cheghcharan, Farah, Hirat, Moqur Badghis, Qala-e-naw, Shindand and Zenda jan stations are located in this region. The yearly rainfall for this region was **197.2** mm. Ranifall had significantly decreased in this region during the (2011 - 2012) rainfall season over the previous season .The maximum rainfall recorded in this region in mm by dekad is as follow:

Stations	2011				2012							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Cheghcheran			21 mm 1st dekad			29.1 mm 1st dekad	19 mm 2nd dekad	27 mm 3rd dekad				
Farah		18 mm 2nd dekad			16 mm 3rd dekad	25 mm 2nd dekad		16 mm 2nd dekad				
Muqur Badghis			32 mm 1st dekad		15 mm 2nd dekad	25 mm 3rd dekad	30 mm 3rd dekad		26 mm 2nd dekad			
Qala – e – Naw			30 mm 3rd dekad		33 mm 2nd dekad	41 mm 2nd dekad	33.5 mm 2nd dekad	24 mm 2nd dekad				
Shindand			15 mm 1st dekad			29 mm 2nd 1st dekad		20 mm 2nd 1st dekad				

Total Snow Days (2011 – 2012)

Snow days had a significant increase during the (2011-2012) rainfall season compared to the last rainfall season (2010-2011) throughout the country. As a result, snow depth increased and significant snow packs developed in snow covered areas. The number of snowy days recorded at Sheber was 45 snowy days, in Panjab 28, and in Dashtak 19 days. The lowest number of snow days occurred in Zabul, and Dara – e– Soof where 3 snow days were recorded during the (2011 - 2012) rainfall season.

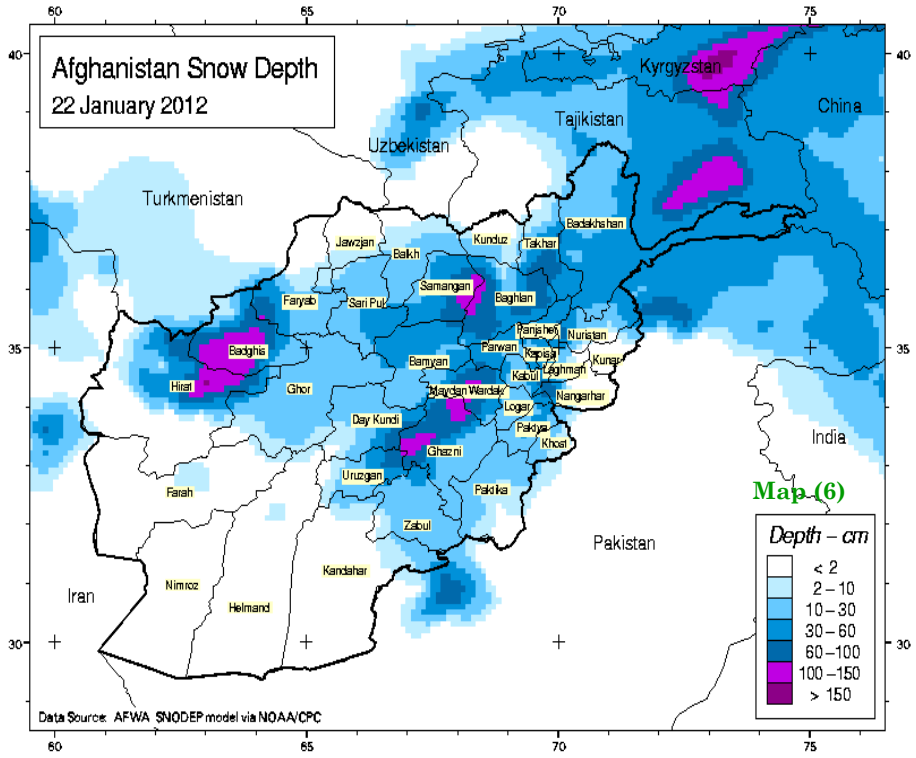
Snow Days of the Season (2011- 2012) Table (2)

Name	Region	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total Snowy Days
Badam bagh	Central	0	0	0	0	6	9	2	0	0	0	0	0	**17**
Charikar		0	0	0	0	4	5	0	0	0	0	0	0	**9**
Dara Panjsheer		0	0	1	0	7	6	3	0	0	0	0	0	**17**
Darulaman		0	0	0	0	6	8	1	0	0	0	0	0	**15**
Dashtak		0	0	0	0	8	9	2	0	0	0	0	0	**19**
Gul Khana		0	0	0	0	6	7	1	0	0	0	0	0	**14**
Jaghatoo		0	0	0	0	4	6	2	0	0	0	0	0	**12**
Kapisa Agri		0	0	0	0	5	10	1	0	0	0	0	0	**16**
Paghman		0	0	0	0	7	9	3	0	0	0	0	0	**19**
Qargha		0	0	0	0	5	9	2	0	0	0	0	0	**16**
Bamyan		0	0	2	0	1	4	3	3	0	0	0	0	**13**
Panjab		0	0	3	1	8	8	8	0	0	0	0	0	**28**
Shebar		0	0	9	2	9	14	11	0	0	0	0	0	**45**
Yakawlang		0	0	0	0	5	7	5	0	0	0	0	0	**17**
Chardara	North East	0	0	2	1	3	4	3	0	0	0	0	0	**13**
Aaqtepa		0	0	3	1	3	6	2	0	0	0	0	0	**15**
Baharak		0	0	0	0	4	2	1	0	0	0	0	0	**7**
Faizabad		0	0	0	2	7	5	1	0	0	0	0	0	**15**
Kunduz		0	0	3	1	3	4	3	0	0	0	0	0	**14**
Urgo		0	0	0	0	2	3	3	1	0	0	0	0	**9**
Aibak	North West	0	0	2	0	3	4	2	0	0	0	0	0	**11**
Dara-e-Soof		0	0	1	1	0	1	0	0	0	0	0	0	**3**
Darzab		0	0	4	2	5	3	4	0	0	0	0	0	**18**
Jawzjan		0	0	4	0	2	3	1	0	0	0	0	0	**10**
Maimana		0	0	3	0	4	2	1	0	0	0	0	0	**10**
Sari Pul		0	0	4	1	3	5	3	0	0	0	0	0	**16**
Takhta Pul		0	0	4	0	3	3	1	0	0	0	0	0	**11**
Zabul	South	0	0	0	0	0	3	0	0	0	0	0	0	**3**
Moqur	South East	0	0	0	0	3	8	1	0	0	0	0	0	**12**
Rohani Baba		0	0	0	0	3	3	1	0	0	0	0	0	**7**
Sharana		0	0	0	0	4	5	0	0	0	0	0	0	**9**
Tera Forestry		0	0	0	1	5	8	2	0	0	0	0	0	**15**
Cheghcharan	West	0	0	0	1	7	7	2	0	0	0	0	0	**17**
Muqur Badghis		0	0	3	0	3	3	1	0	0	0	0	0	**10**
Qala-e-naw		0	0	2	0	5	3	2	0	0	0	0	0	**12**

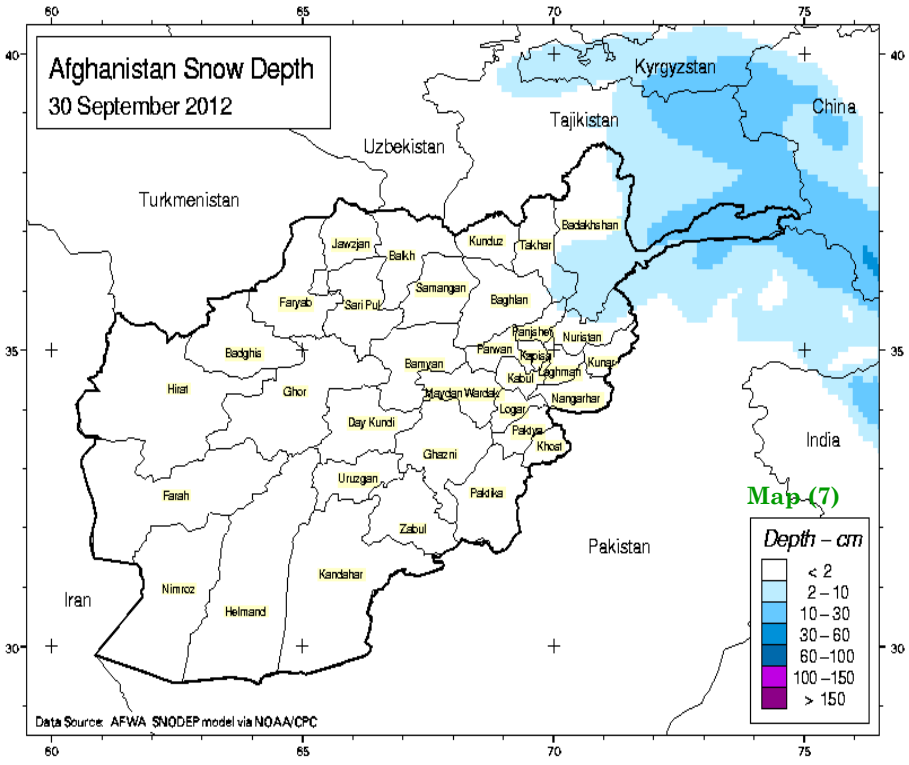
The snowfall started in the Central Highlands, Capital, Northeast, Northwest, and West regions in November 2011 and continued up to March 2012 in most parts of above mentioned regions. At the beginning of the rainfall season snow was light, but during January and February 2012 snow increased in the most regions. Snow extent and depth had also increased in most parts of the snow covered areas during the (2011 - 2012) rainfall season compared to previous season (2011 - 2012).

In early January 2012, the snow pack built up and increased the snow extent and depth particularly in the mountains in the Central Highlands and Northeastern regions (Map 6).

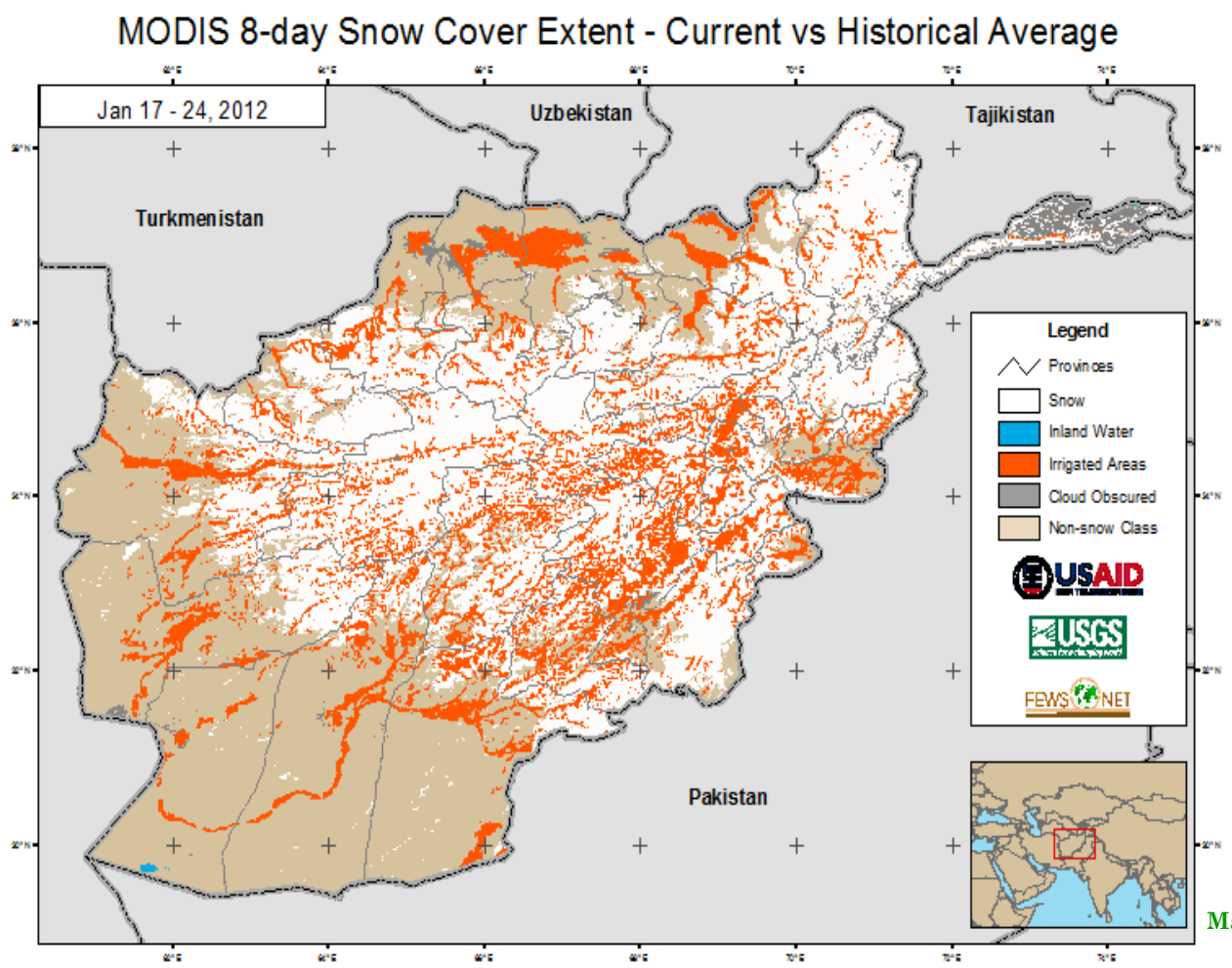
Map 7 shows that the snow pack is now confined to the higher elevations of the Northeast, as is typical for this time of the year. Map 7 shows the snow depth is 10 to 30 cm in the extreme portion of the Northeastern region in the end of September 2012.



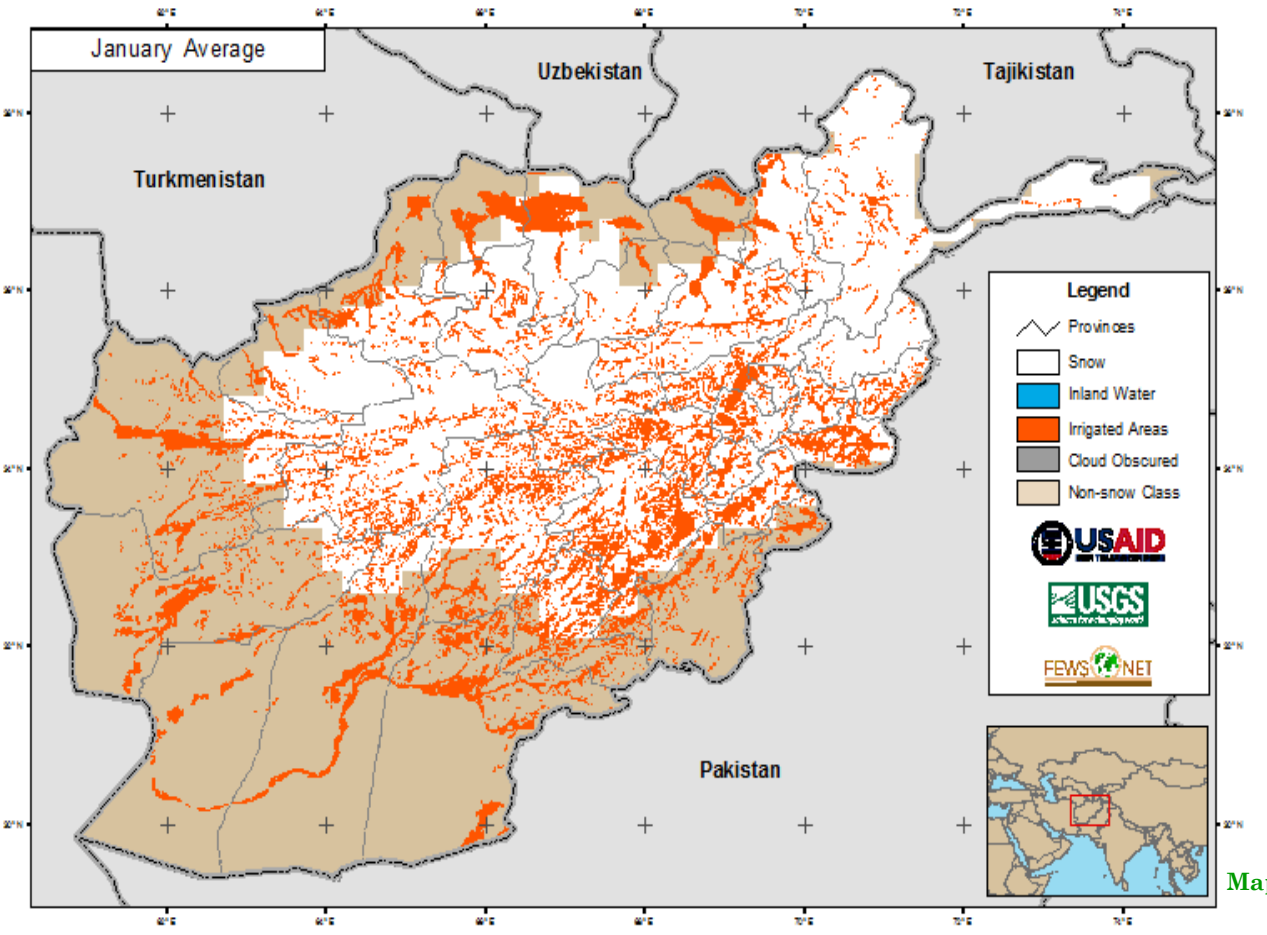
Map (6)



Map (7)



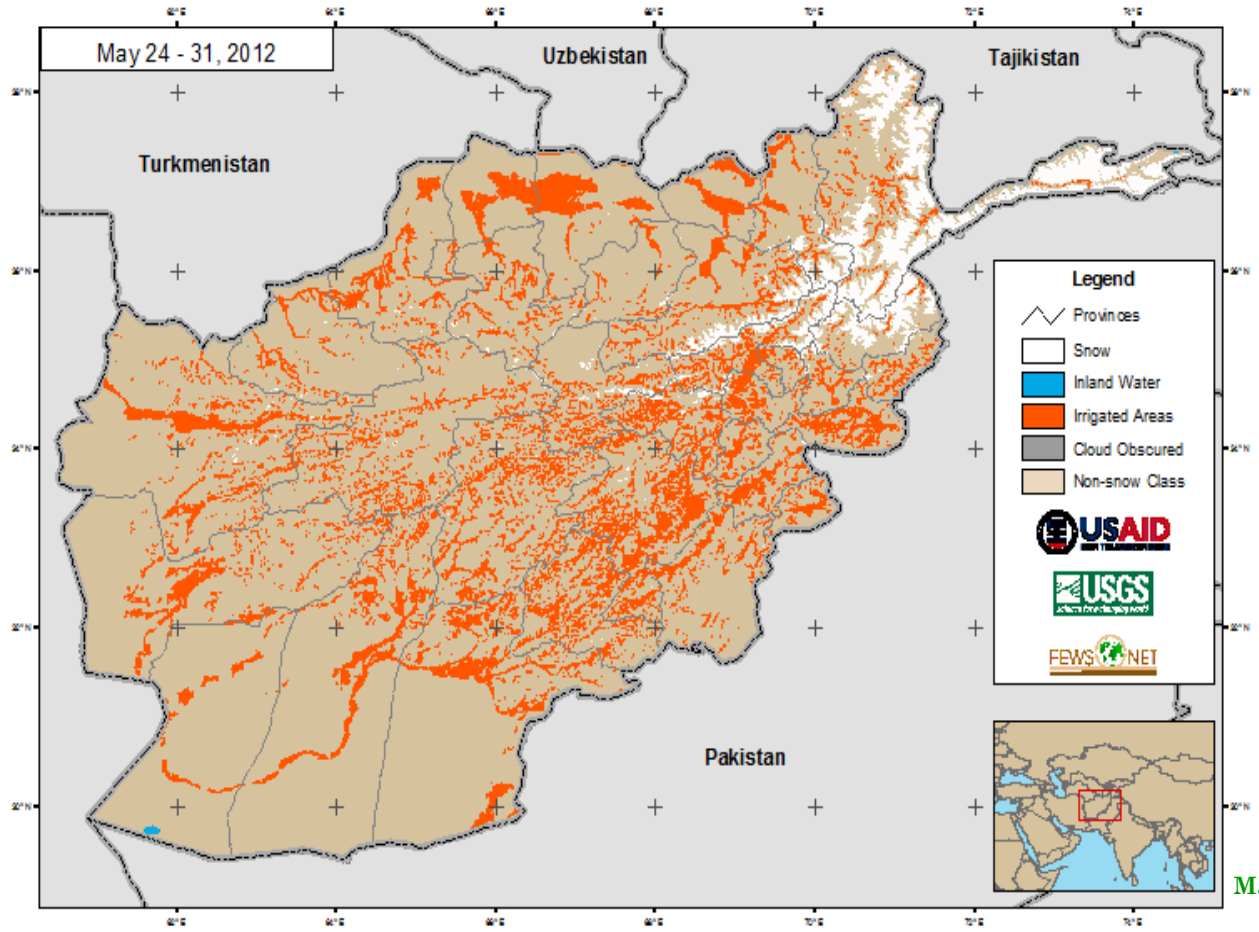
Map (8)



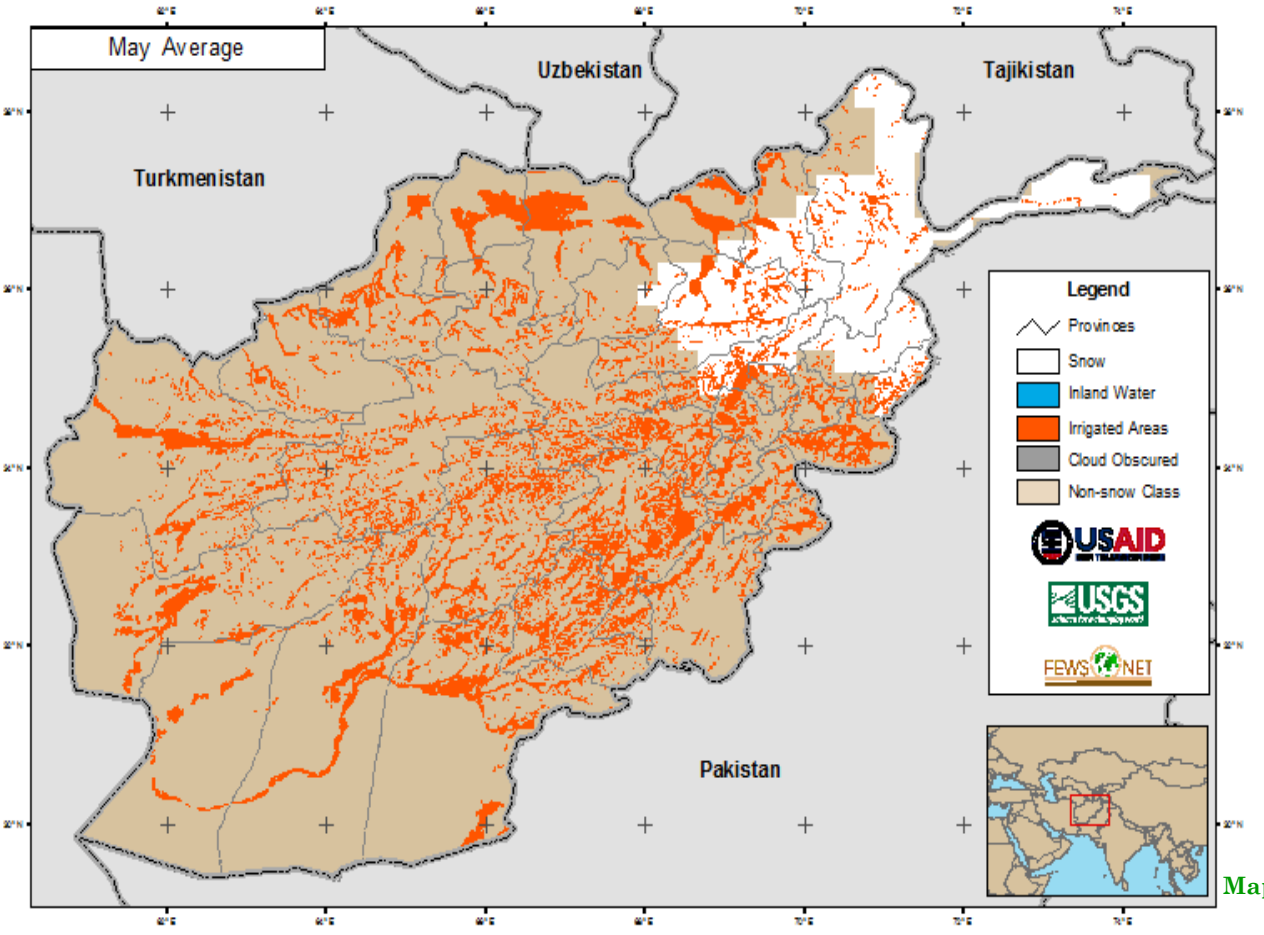
Map (9)

Data Source: Agromet Network

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



Map (10)

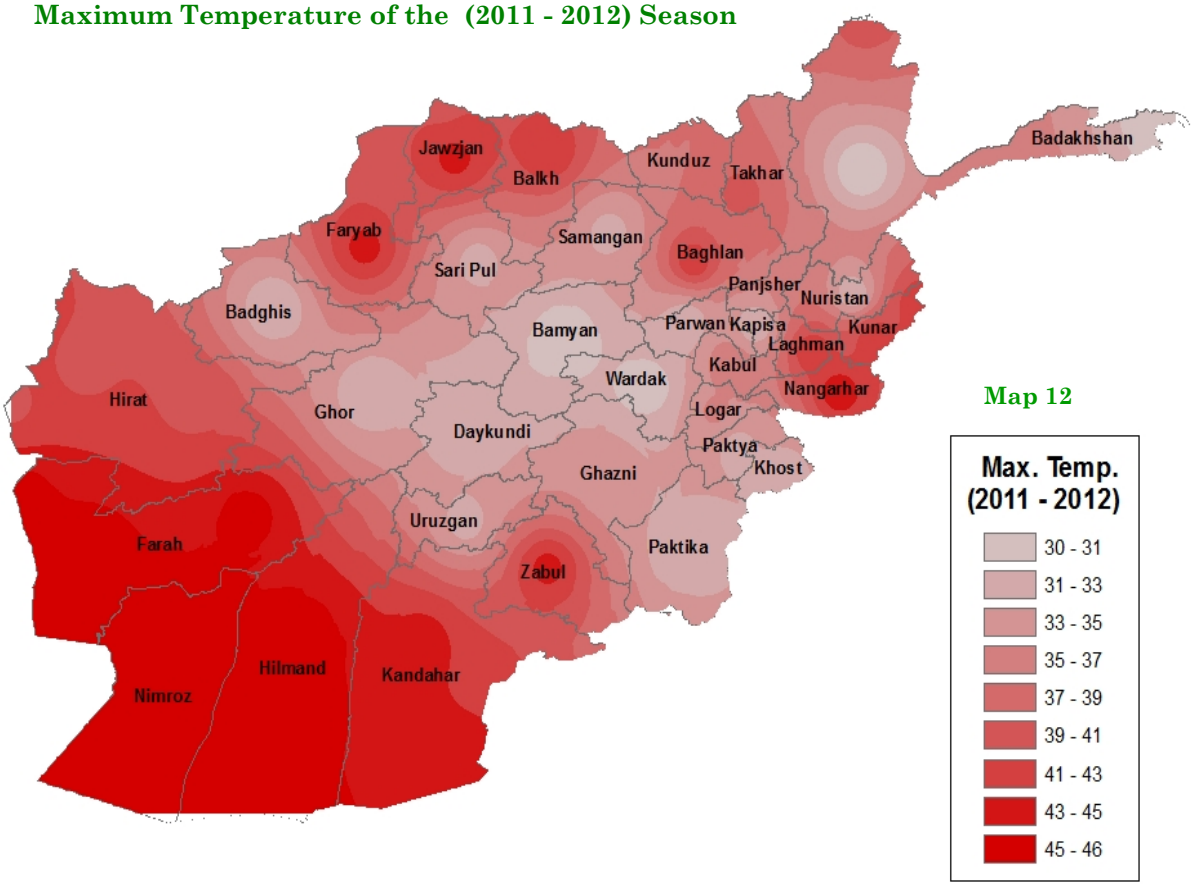


Map (11)

The temperature for the growing season of (2011 - 2012) had a significant decrease over the last season (2010 - 2011) across the country. Particularly during November, January, February and March the country experienced unusual extreme cold weather and the people suffered particularly during the winter months.

As Map 11 shows, the Southwestern, the Southern, some part of the Southeastern and some parts in the Eastern regions experienced hot weather during the (2011 - 2012) growing season. The maximum temperate recorded was 47 C° in Zaranj Province (Southwest region) in July 2012, during the (2011 -2012) growing season.

Maximum Temperature of the (2011 - 2012) Season



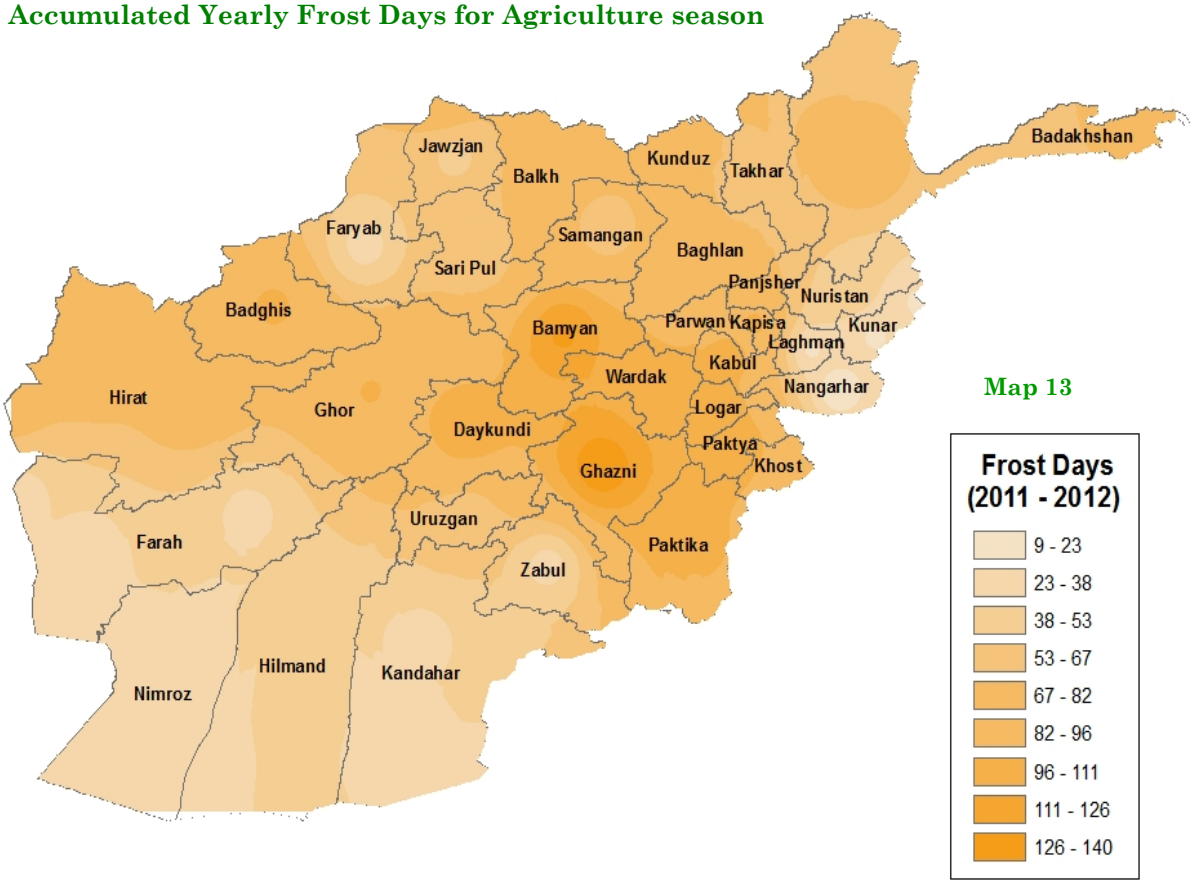
Map 12

Frost Days Recorded

Based on the temperature record data, frosty days had an increase during the Agricultural season of 2011 - 2012 compared to last season (2010 - 2011) around the country. Temperature dropped to a freezing point in October 2011 in the Central Highlands and Southeastern regions and continued to freeze up to March 2012 in the Northeastern, Northern, Central Highlands Southeastern and Capital regions. As Map 12 shows, the Central Highlands and neighboring areas, some parts of the Capital region, and Northeastern region experienced more frost days during the (2011–2012) Agricultural Season. The Southern, Southwestern, and Western regions recorded the lowest number of frosty days.

The maximum number of frost days was 141 recorded in Gazni (Southeastern region). Other regions that had a high number of frost days include 129 frost days in Bamyan (Central Highlands region), 104 in Kabul (Central) and 111 frosty days in Logar Province (Central). The minimum number of frosty days was 9 frost days in Jalalabad (Eastern region).

Accumulated Yearly Frost Days for Agriculture season



Map 13