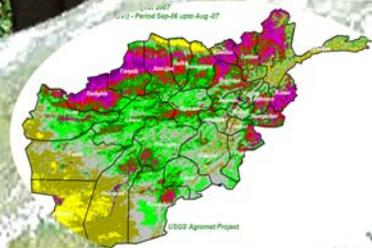


The Afghanistan Agrometeorological Seasonal Bulletin



Issue No. 4

S. Bulletin 2006 - 2007



Agromet Network



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General Agricultural Information

Introduction:

Agriculture is the back bone for Afghnaistan where most of its population depends on agriculture and has great role in its scio-economic growth and development.

The agriculture sector contributes about 53% to Afghan GDP(Gross domestic product) and provides employment to 67% of the afghan labor force . About 80% of the Afghan population lives in rural areas, which also harbor the highest incidence of poverty. Therefore, agriculture performance is pivotal for overall economic growth and poverty reduction where it offers the only significant prospect for raising farmers' income, contributing to food security, providing rural employment and reducing poverty.

Thus, agriculture plays a central pillar for economic growth and poverty reduction.

General Overview:

The weather condition this year was generally very favorable for the winter and spring growing crops. The accumulated rainfall in October to March 2007 was well above normal in all parts of the country.

Qualitative reports from the fields suggest that weather condition in April and part of May has also been generally favorable to the staple crops.

Current livestock situation in Afghanistan

Afghanistan is an agricultural country and livestock Production is a major source of afghan farmers and their families. Such as (Kuchi) nomads, animals are the only source of income. The Kuchi nomads and other semi-nomadic pastoralists in the provinces of Ghazni, Zabul, Kabul and Kandahar have been particularly hit hard by the drought. About 60 percent of the Kuchi households have completely lost their livestock. The majority of households have yet to recover.

This year several diseases noted in livestock like entrotoxaemia and anthrax, sheep pox, foot and mouth disease(FMD) and Avian influenza. A late winter outbreak of PPR (livestock diseases) was observed in Badakhshan, Takhar, Kunduz, Baghlan and some other parts of the country. Mortality and abortion of the hosts (sheep and goats) were the main results. Some of the diseases could not be treated due to the high costs like FMD and most of the other diseases.



Crop Condition

Wheat, Maize and Rice

Central Region:

This Region has different crop condition. The major parts of the central region have reported normal crop condition but some areas have better than normal crop condition. Poor crop condition was reported from Jaghatu District of Wardak Province.

East Central Region:

Crop condition was normal for most parts of this region and better than normal in some others. Poor crop condition reported from Panjab District of Bamyan Province.

Southren Region:

Several reports showed that majority of the region experienced normal crop condition, while poor crop condition is reported in smaller areas around the region.

North Eastern Region:

Normal crop condition was reported for the major parts of the region, some areas reported better than normal. However, poor crop condition was reported in Bangi District, Takhar Province.

Eastern Region:

Crop condition during the season was stated normal while in Agam District of Nangarhar Province poor crop condition was reported.

Western Region:

The region experienced normal to poor crop condition through the growing season. Shindand District and central Hirat Province, and Ghor Province reported normal crop condition, while poor crop condition was reported in Muqur District and Qala-i- Naw central of Badghis Province.

Northern Region:

Most parts of the Northern region reported normal and above normal crop condition as in Takhtapul District and central Balkh Province and Samangan Province. In some areas of Jawzjan Province reports showed poor crop condition during the season.

South Eastern Region:

Gardez District and Central Paktya Province experienced normal crop condition. Khost Province showed better than normal and Sardey District of Ghazni Province reported poor crop condition.



Adverse Factors

Central Region:

During the months of January, February and March 2007, Central region experienced hard frost, heavy snow and rain, shortage of inputs, which resulted in weeds, pests and diseases manifestation that impacted negatively crop condition. Difficiency of micronutrients in central region as in Jaghatu and Chak Districts of Wardak Province, specially in fruit orchards such as Apricot, Apple, Grapes and Almond had lowered the production. Livestock had severely suffered from foot and mouth diseases (F.M.D) in Chaharikar District of Central Parwan Province, Kohistan District and Central Kapisa Province. Central Kabul, Parwan, Logar, Panjsher and Wardak Provinces were devastated by heavy flood, which severely damaged many of the fruit and non fruit trees.

East Central Region:

In Panjab and Yakawlang Districts and Central Bamyan Province snow sliding and lack of agricultural inputs reported during the season and had a negative impact on yield. Some areas such as Central Bamyan, Kohmard and Saighan Districts of Bamyan Province had suffered from excessive weeds and heavy flooding which had destroyed vast agricultural fields.

Southren Region:

During the Month of July 2007, Nimroz and Kandahar Provinces; Greshk, Nawa-i-Barakzayi, Nad Ali Districts and Central Hilmand Province; and Qalat central Zabul Province experienced excessive weeds, sun pests, diseases, lack of rainfall and dry spell prevailed.

North Eastern Region:

Manifestation of Beetles, cutworms on irrigated and rainfed wheat, desert mice, fly melon and excessive weeds existed in agricultural fields of Baghlan Province, Takhar Province, Chahardara and Qala-i-Zal Districts of Kunduz Province, and Urgo District and Central Badakhshan Province. Baghlan Province, Ishkashim, Urgu, Baharak, Shohada and Tagub Kishim Districts of Badakhshan Province, Khan Abad District of Kunduz Province and Rustaq District of Takhar Province were inundated by heavy flood, which damaged significant number of fruit and non fruit trees as well as crop fields.

Eastern Region:

During the agricultural season of the year in some of the areas as in Mihtarlam central Laghman Province, Agam District and Sheshambagh farm of Nangahar Province and Kunar Province reported excessive weeds and shortage of inputs such as tractors, seed cleaner machines, cultivators, chemical sprays, and machinery. Anthrox disease was reported in livestock. Most of the areas in Eastern Region such as Behsod District of Nangarhar Province, Alingar and Qarghayi Districts and Central Laghman Province, Watapur Village, Damkalay and Roshakhel Village and Shegal District of Kunar Province had impacted by heavy flood.

Western Region:

Chaghcharan center of Ghor Province, Hirat and Farah Provinces and Qala-i-naw central Badghis Province reported incidents of pests and diseases, excessive weeds, and severe wind storms. Low rainfall persisted throughout the growing season, which in most cases did not meet the seasonal crop water requirements. On the other hand, heavy flood has devastated more agricultural lands in Bala Murghab and Ghormach Districts of Badghis Province, Ghor Province, Karukh, Injil and Zindajan Districts of Hirat Province.

Northern Region:

Locust manifestation was reported in Central Saripul Province; Dihdadi and Marmul Districts of Balk Province; Qush Tapa Village of Jawzjan Province; and Takhta Pul District of Balkh Province. In addition, agricultural fields experienced excessive weeds and low rainfall, which impacted yield. Significant number of sheeps tested positive Anthracnose and Pestholes diseases. At the meantime flood has destroyed about thousand agricultural fields in Faryab Province, central Sari Pul Province, and Khuram Wa Sarbagh District of Samangan Province.

South Eastern Region:

In the South Eastern Region as in Zurmat District of Paktya Province; Sarday District of Ghazni Province; Khairkot, Urgun and Sharana Districts of Paktika Province; and Khost Province reported excessive weeds and heavy rain, which has destroyed high percentage of maize crop.

Synthesis Situation Map for the Agricultural Season of (2006/2007)

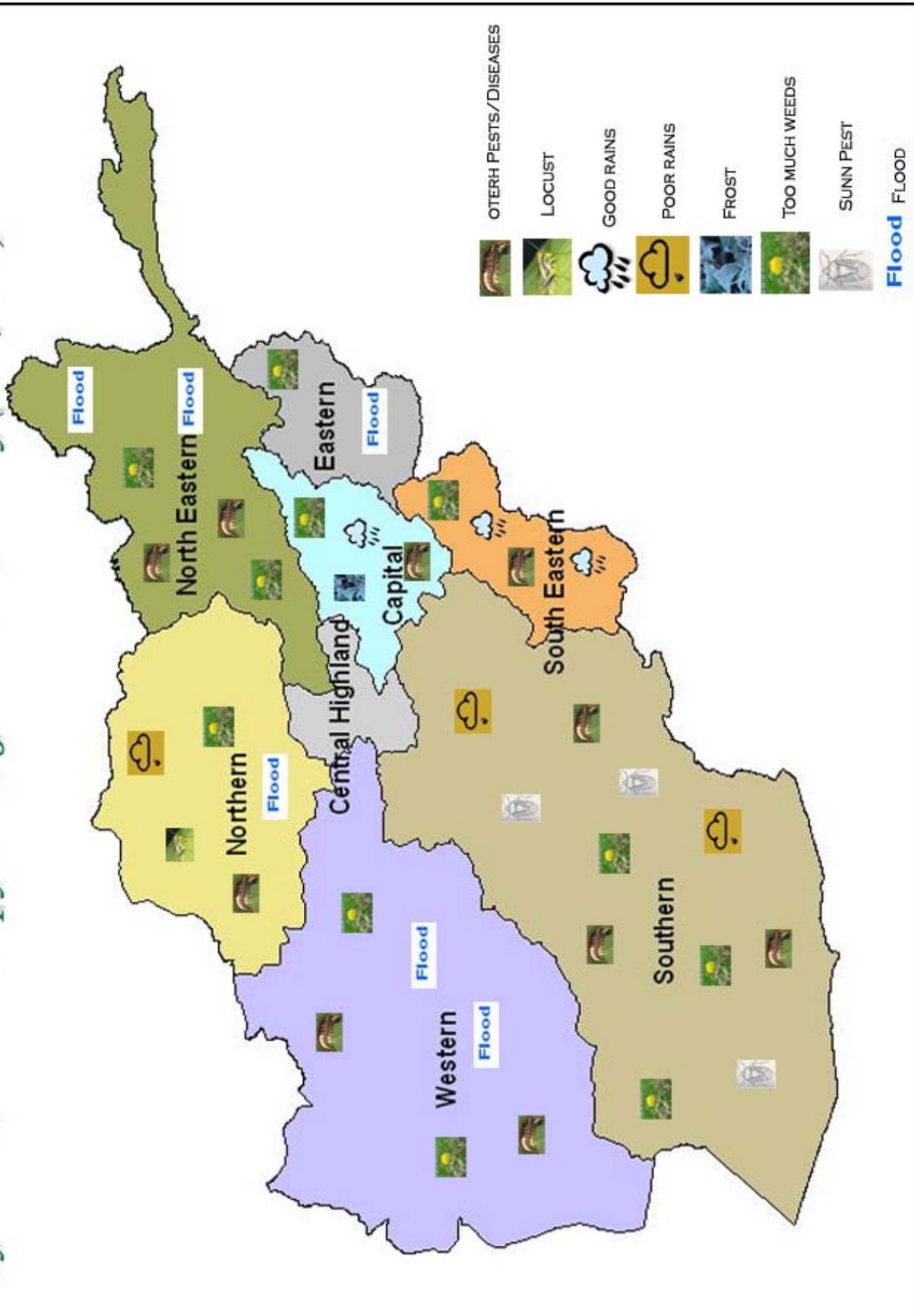


Figure (1)

Introduction

Agrometeorological risk and uncertainty permeate agricultural marketing system of every country. Important socioeconomic benefits can be achieved by designing business strategies to minimize the impact of these risks. In order to optimize business decisions relative to agrometeorological risk and uncertainty, accurate, timely, consistent, and widely available information is essential.

It is the recognition of the need for timely, accurate and widely available information which lead to the creation of Afghanistan agricultural situation. By combining sophisticated technology and scientific understanding of crop phenology, agromet is able to provide early warning of emerging weather problems and potential crop shortfalls.

Afghanistan agricultural weather assessments tools and analysis.

The impact of weather on crop progress, condition and ultimately production and price, is well documented.

For example, timely rainfall and seasonable temperatures can significantly enhance crop production.

In contrast ultimately precipitation and temperature extremes can significantly reduce crop production. Given the influences of weather on crop progress and conditions, agrometeorologists monitor weather condition to help economists and decision makers to better forecast changes in agricultural commodities in the timeliest manner.

If the combination of heat and dryness occurred during the highly weather-sensitive period, it would significantly reduce the yield prospects.

A simple yet effective technique for analyzing agricultural and meteorological data involves comparing past years for similar growing seasons or time periods. Such comparisons are typically achieved by graphing data from different years over the same time period or growing season.

Rainfall season (2006 – 2007)

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

In higher elevations precipitation falls in the form of snow which is critical for river flow and irrigation during Spring and summer. Usually, March and April are the rainy months for western regions, Northern, Central Highlands, and Southern region. Indian monsoon usually brings rain to the Eastern region, Southeastern, and some parts of Northeastern and Capital regions during the months of June, July and August.

Normally, in Afghanistan the rainfall season starts from September and continue up to August. For the MAA/ USGS Agromet project, the starting rainfall season is based on a 10 mm threshold. This means a 10 mm or more of precipitation is considered a start of the rainfall season.

Based on this approach rainfall started in the Capital region, Eastern and Southeastern regions in the 1st dekad of September 2006 and rainfall ended in the Capital and Eastern regions on the 3rd dekad of August 2007.

Rainfall season (2006 – 2007)

Comparison of rainfall data for the season (2006 – 2007) from September 2006 up to August 2007 (chart 1) shows, generally, the rainfall was higher compared to last season (2005 – 2006) except Gardiz , Kunduz and Mazar –i – Sharif where the rainfall was lower during the rainfall season (2006 – 2007) compared to last season (2005 -2006).

Rainfall distribution was variable in different regions of the country as map (1) shows most amount of rainfall occurred in the Southeastern region particularly in Zabul province, although some parts of the Northern and some parts of the Eastern regions experienced good rainfall during the rainfall season (2006 – 2007), the Western region, Southern, Central Highlands, Capital, Northeastern regions and some parts of the Northern region experienced lower amount of rainfall compared to other regions during the rainfall season (2006 – 2007).

No Dry Spell During the Rainfall Season (2006-2007):

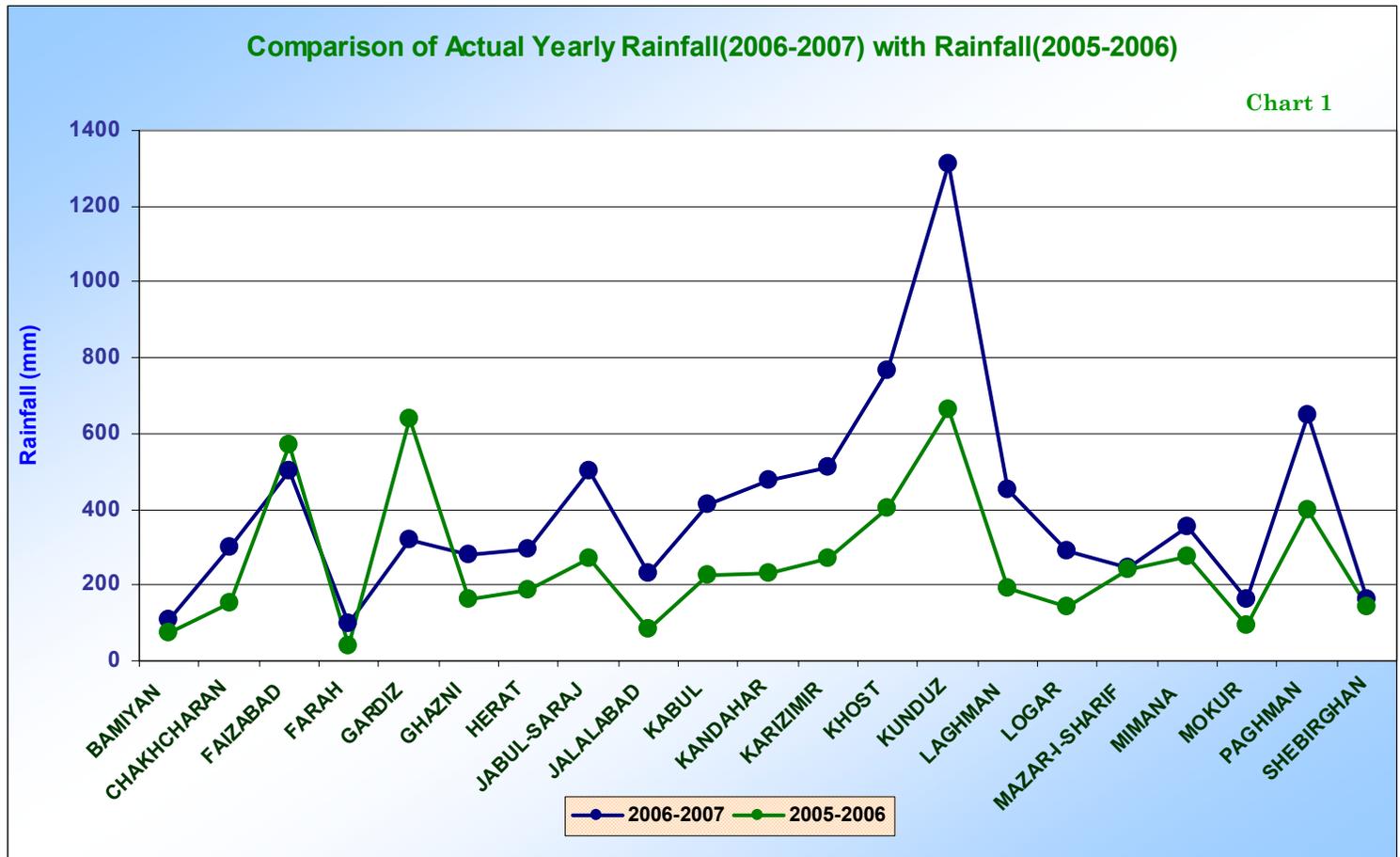
The rainfall started normally early in 1st dekad of September 2006 in the Capital.

Eastern region and Southeastern region and rainfall continued up to 3rd dekad of August in the Eastern region and Capital

Most parts of the country experienced significant rainfall with range from normal to near normal and some region experienced above normal precipitation during the 2006 –2007

Due to occurrence of adequate rainfall in different regions fortunately the country did not experienced dry spell during the rainfall season (2006 – 2007). However the rainfall seasonal total was higher for the rainfall season (2006 – 2007) compared to last season (2005 – 2006) but adverse effects of previous sever drought still continue and needed sufficient and adequate rainfall to cover lake of ground water resources and surface water availability.

The observed data showed, in general, no dry spell during the 2006-2007 season, however, dry spell from previous season contributed to the moisture deficit in the current season (2006-2007).



Rainfall pattern

The rainfall season (2006 – 2007) started in the Capital, Eastern region and Southeastern region in the 1st dekad of September 2006 and rainfall ended in the Eastern region and Capital region in 3rd dekad of August 2007.

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

In the Capital region rainfall started at 1st dekad of September 2006 and rainfall ended at 3rd dekad of August 2007; in the Central Highlands rainfall started in the 1st dekad of November 2006 and ended at the 3rd dekad of June 2007,

in the Eastern region, rainfall started at the 1st dekad of September 2006 and ended at the 3rd dekad of August 2007; in the Northeastern region rainfall started at the 3rd dekad of October 2006 and ended at the 3rd dekad of June 2007; in the Northern region, rainfall started at the 2nd dekad of December 2006 and ended at the 1st dekad of June 2007; in Southern region, rainfall started at the 1st dekad of December 2006 and ended at the 1st dekad of July 2007; in Southeastern region rainfall started at the 1st dekad of December 2006 and ended at the 1st dekad of August 2007; and in the Western region rainfall started in the 2nd dekad of November 2006 and ended at the 1st dekad of May 2007.

Length of Rainfall season by dekad (2006-2007)

The length of rainfall season in different parts of the country is as follows: 25 dekads for the Capital and Northeastern region; 28 dekads for Central Highlands;

27 dekads for the Eastern region; 20 dekads for the Northern region; 16 dekads for Southern region; 24 dekads for the Southeastern region; and 14 dekads for the Western region.

Afghanistan season 2006 - 2007				
No	Name of Station	Starting Dekad	Ending Dekad	Rainfall season Length/ dekad
Capital Region				
1	Badam bagh	1st dekad of Sep	3rd dekad of June	24
2	Chack	2nd dekad of Nov	3rd dekad of March	14
3	Charikar	2nd dekad of Nov	3rd dekad of June	14
4	Darulaman	2nd dekad of Nov		18
5	Panjshir	1st dekad of Nov	3rd dekad of Aug	23
6	Gul Khana	1st dekad of Nov	3rd dekad of June	25
7	Jabulsaraj	2nd dekad of Nov	3rd dekad of March	14
8	Jaghatoo	2nd dekad of Nov	3rd dekad of June	19
9	kabul	2nd dekad of Nov	3rd dekad of March	20
10	Kapisa Agri	2nd dekad of Nov	3rd dekad of June	19
11	Kariz Mir	2nd dekad of Nov	3rd dekad of June	22
12	Logar	2nd dekad of Nov	1st dekad of April	14
13	Paghman	2nd dekad of Nov	3rd dekad of June	16
14	Qargha	1st dekad of Noe	3rd dekad of June	20
15	Sarobi	2nd dekad of Nov	3rd dekad of June	17
16	Seya Gerd	3rd dekad of Dec	2nd dekad of April	18

Length of Rainfall season by dekad (2006-2007)

Afghanistan season 2006 - 2007

No	Name of Station	Starting Dekad	Ending Dekad	Rainfall season Length/ dekad
Central Highlands				
Bamyán	2nd dekad of Nov	3rd dekad of March		17
Bamyán ARD	1st dekad of Nov	No End		17
Panjab	2nd dekad of Nov	3rd dekad of June		20
Yakawlang	1st dekad of Nov	1st dekad of June		22
East				
Agam	1st dekad of Nov	1st dekad of Aug		27
Asmar		3rd dekad of Aug		18
Farm Jadeed	1st dekad of Nov	3rd dekad of June		15
Ghazi Abad	1st dekad of Nov	3rd dekad of June		12
Jalalabad	1st dekad of Nov	1st dekad of April		12
Laghman	2nd dekad of Nov	1st dekad of April		17
Mehtarlam	2nd dekad of Nov	1st dekad of April		20
Sheshambagh	1st dekad of Nov	3rd dekad of June		12
Northeast				
Chardara	1st dekad of Nov	2nd dekad of May		18
Aqtepa	1st dekad of Nov	2nd dekad of June		20
Baghlan	1st dekad of Nov	1st dekad of April		17
Baharak		3rd dekad of June		17
Faizabad	3rd dekad of Oct	2nd dekad of May		25
Imam Sahib	1st dekad of Nov	2nd dekad of May		19
Kunduz ARF	1st dekad of Nov	2nd dekad of May		13
Taluqan	1st dekad of Nov	2nd dekad of May		19
Aibak	1st dekad of Nov	3rd dekad of June		16



Recorded Distribution of Rainfall (2006-2007)

Figure (2) shows the rainfall was distributed irregularly across the country and distribution of rainfall was variable in deferent regions. As figure (3) shows most amount of rainfall occurred in the Southeastern region particularly in Zabol Province. Some parts of the Eastern and Northern regions experienced good rainfall compared to other regions during the rainfall season (2006 – 2007). The remaining regions of the country experienced less amount of rainfall during the rainfall season (2006 – 2007).

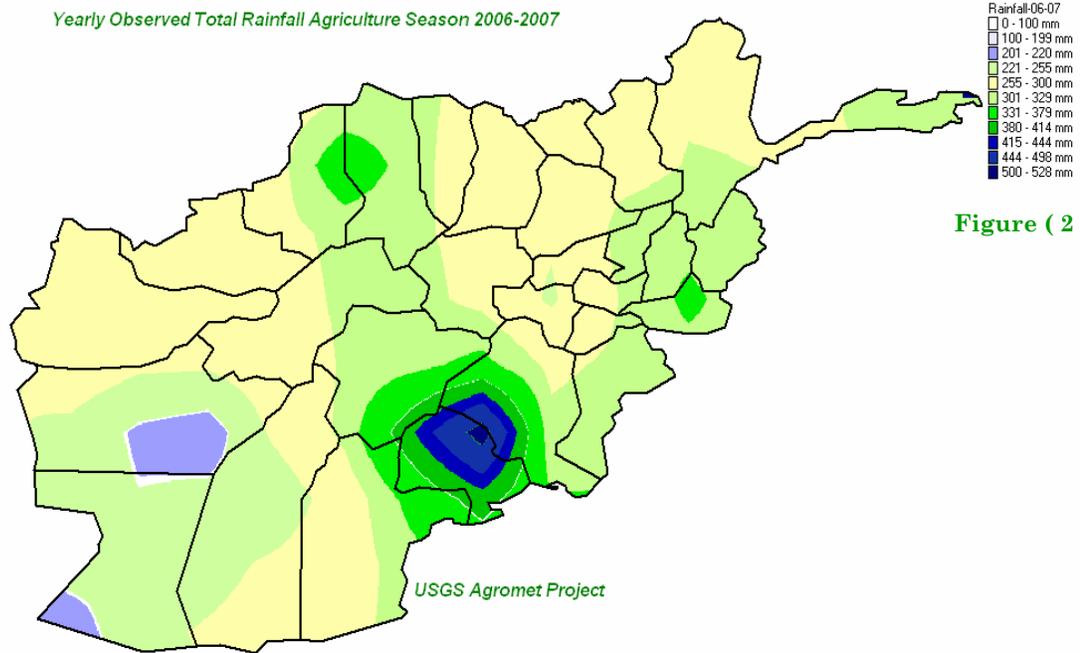
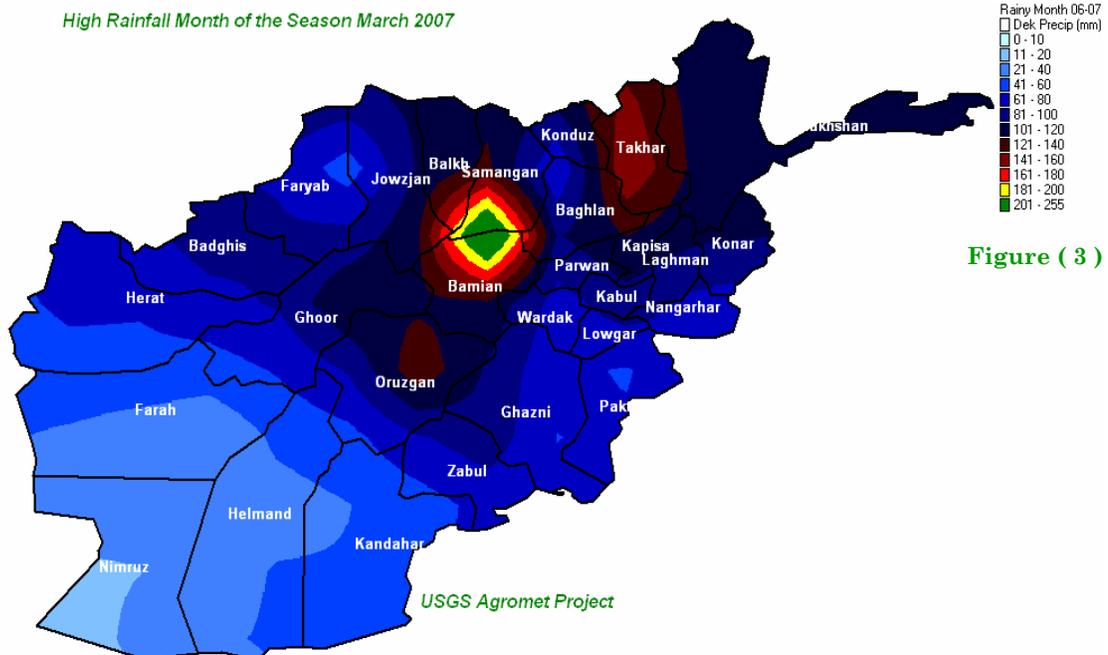


Figure (3) shows the Maximum rainfall during the rainfall season (2006 – 2007) where the month of March observed the highest amount of rainfall where the Northern region, particularly, in Samangan province received the most rainfall. March was the wettest month for 2006-2007 season.



Recorded Distribution of Rainfall (2006-2007)

Distribution of rainfall for the month of September 2006 shown in figure (4), the month of September 2006 was very dry month during the rainfall season (2006 –2007) except some parts of Eastern region, which experienced good rainfall.

The remaining regions of the country experienced less amount of rainfall or was dry during the month of September 2006, however the month of September 2006 was the driest month during the rainfall season (2006 – 2007).

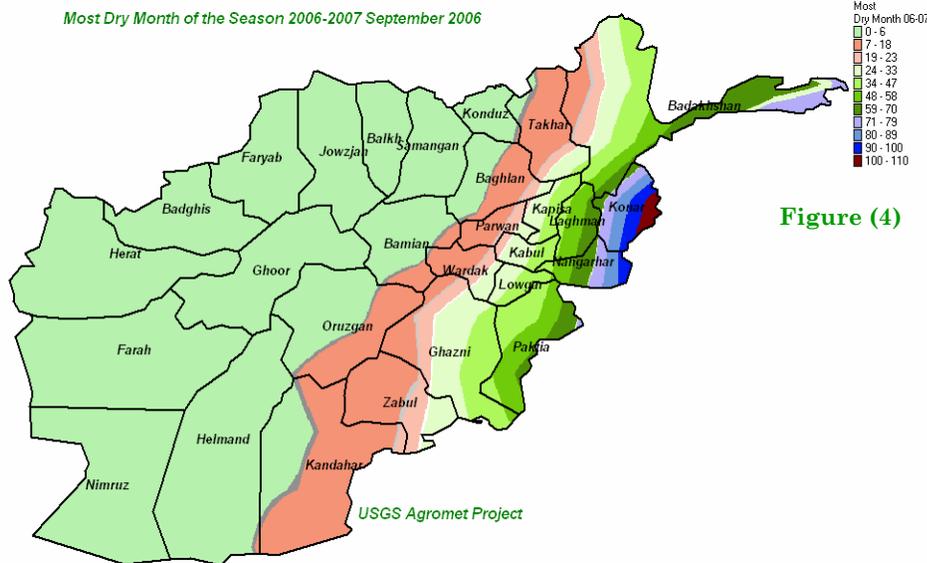


Figure (4)

Yearly Rainy Days

During the rainfall season (2006 – 2007) the yearly rainy days was higher compared to last season (2005 – 2006) and long term average in most parts of the country. The country experienced above long term average rainy days during the rainfall season 2006 – 2007 which the highest value of rainy days has been recorded 61 rainy days in Panjab district (Central Highlands) and the lowest rainy days recorded in Farah 15 rainy days (Western regions).

Figure (5) shows yearly rainy days for the season 2006 – 2007 across the country. As figure shows the Central Highlands and Capital region experienced more rainy days during the rainfall season 2006 – 2007 and the Western and Southern regions experienced lowest rainy days compared to other regions.

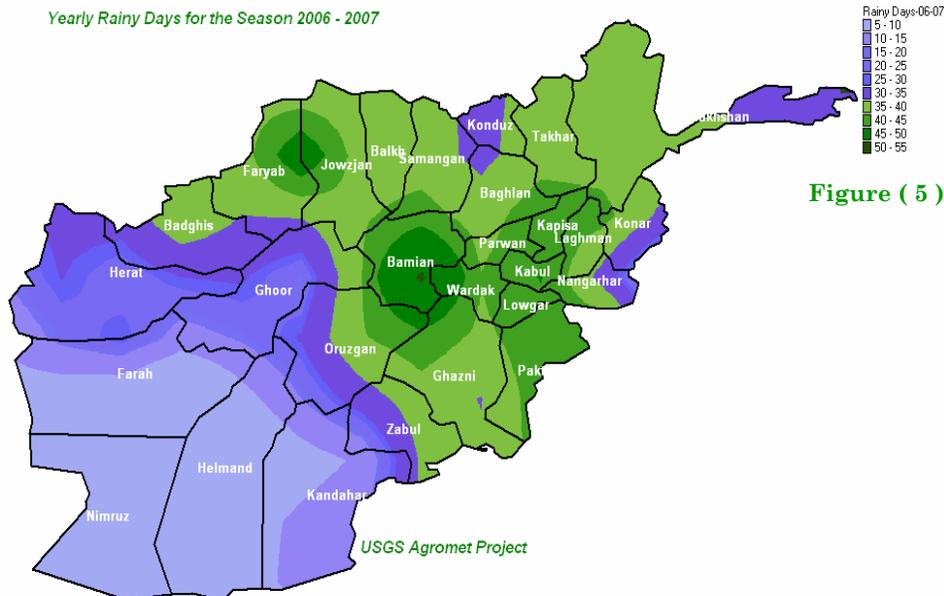


Figure (5)

Analysis of Recorded Rainfall by Region for the rainfall season 2006-07

Capital Region: Badam Bagh, Chack, Charikar, Darulaman, Panjshir, Gul Khana, Jabulsaraj, Jaghatoo, Kabul, Kapisa, Kariz Mir, Logar, Paghman, Qargha and Sarobi stations are located in this region. During the 2006 – 2007 season the average rainfall of this region is 502 mm. This region experienced significant rainfall during the rainfall season (2006– 2007) where most amount of rainfall occurred in the month of November, December, February and March. In this region the Maximum value (more than 15 mm) of rainfall by dekad in mm is as follow:

Stations	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Badambagh			44 mm 1st dekad	55 mm 1st dekad		38.5 mm 3rd dekad	44.5 mm 2nd dekad		43 mm 2nd dekad	25 mm 3rd dekad		55mm 3rd dekad
Chack			28.8 mm 2nd dekad	15 mm 1st dekad	18 mm 2nd dekad							
Chrikar			79 mm 2nd dekad	90 mm 1st dekad	18 mm 2nd dekad	41 mm 2nd dekad	38 mm 2nd dekad					
Darulaman			46.5 mm 2nd dekad	43 mm 1st dekad		25.6 mm 2nd dekad	49 mm 2nd dekad					
Panjshir			20 mm 1st dekad	46 mm 1st dekad		28 mm 1st dekad	42 mm 2nd dekad	60 mm 1st dekad	16 mm 1st dekad	55 mm 3rd dekad		55 mm 3rd dekad
Gul Khana			43.4 mm 2nd dekad	48.4 mm 3rd dekad		42 mm 2nd dekad	48.5 mm 2nd dekad	15 mm 1st dekad	34.4 mm 3rd dekad			
Jabulsaraj			51 mm 2nd dekad	96 mm 1st dekad		59.3 mm 1st dekad	103 mm 2nd dekad					
Jaghatoo			165 mm 2nd dekad	69 mm 1st dekad		162 mm 1st dekad	170 mm 2nd dekad	38 mm 3rd dekad	235 mm 3rd dekad			
Kabul			33.5 mm 2nd dekad	67.9 mm 1st dekad		35.1 mm 2nd dekad	45.2 mm 2nd dekad					
Kapisa			65 mm 2nd dekad	68 mm 1st dekad		75 mm 2nd dekad	104 mm 2nd dekad	20 mm 1st dekad				
Kariz Mir			50 mm 2nd dekad	71 mm 3rd dekad		54 mm 3rd dekad	60 mm 2nd dekad			42mm 3rd dekad		
Logar			24.1 mm 2nd dekad	86 mm 3rd dekad		35.3 mm 2nd dekad	27.1 mm 2nd dekad					
Paghman			104 mm 2nd dekad	85 mm 1st dekad		23 mm 2nd dekad	26 mm 2nd dekad			31 mm 3rd dekad		
Qargha			48 mm 2nd dekad	50 mm 3rd dekad		25 mm 1st dekad	50 mm 2nd dekad			27 mm 3rd dekad		
Sarobi			25.6 mm 2nd dekad	38 mm 2nd dekad		73 mm 3rd dekad	60 mm 2nd dekad					

Analysis of Recorded Rainfall by Region for the rainfall season 2006-2007

Central Highlands: Bamyán, Bamyán ARD, Panhab and Yakawlang stations are located in this region . During the 2006 – 2007 season the average rainfall of this region is : 227.8 mm The Central Highlands region experienced less rainfall in the rainfall season (2006 – 2007), with the maximum rainfall recorded by dekad in mm is as follows:(again is not clear, also as follow:

Stations	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Bamyán			37 mm 2nd dekad			17 mm 2nd dekad	32.5 mm 2nd dekad					
Bamyán ARD				15.1 mm 2nd dekad								
Panjab				34 mm 3rd dekad	17 mm 2nd dekad	21 mm 2nd dekad	85 mm 3rd dekad			16 mm 3rd dekad		
Yakawlang			28 mm 2nd dekad				50 mm 3rd dekad			15 mm 1st dekad		

East Region: Agam, Asmar, Farm Jadeed, Ghazi Abad, Jalalabad, Laghman and Mehtarlam stations are located in this region During the 2006– 2007 season the average rainfall of this region is : 401.4 mm This region experienced significant rainfall during the rainfall season (2006 – 2007) most amount of rainfall occurred during the months of November and December 06 and continued up to August 2007, the maximum rainfall which has been recorded by dekad in mm is as follow:

Stations	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Agam				45 mm 1st dekad		50 mm 2nd dekad	70 mm 2nd dekad			34 mm 1st		
FormJaded			15 mm 1st dekad	39 mm 1st dekad	26.5 mm 2nd dekad	157 mm 2nd dekad	39 mm 3rd dekad	17 mm 1st dekad		15.5 mm 3rd dekad		
Ghazi Abad				34 mm 1st dekad		161 mm 2nd dekad	33 mm 2nd dekad	20 mm 1st dekad				
Jalabad				25 mm 1st dekad		27 mm 2nd dekad	33 mm 2nd dekad					
Laghman			34.6 mm 2nd dekad	44 mm 1st dekad		59.9 mm 2nd dekad	35.3 mm 3rd dekad	32.2 mm 1st dekad				
Mehtarlam			31 mm 2nd dekad	41 mm 1st dekad		80 mm 2nd dekad	37 mm 2nd dekad	40 mm 1st dekad			42 mm 2nd dekad	43 mm 2nd dekad
Asmar	29 mm 2nd dekad		81 mm 3rd dekad	65 mm 3rd dekad		58 mm 1st dekad	133 mm 2nd dekad	65 mm 1st dekad	51 mm 3rd dekad	37 mm 1st dekad	42 mm 2nd dekad	43 mm 2nd dekad

Analysis of Recorded Rainfall by Region for the rainfall season 2006-07

Northeast Region: Chardara, Aqtepa, Baghlan, Baharak, Faizabad, Imam Sahib, Kunduz ARF, Taluqan and Aibak stations are located in this region. During the 2006 – 2007 season the average rainfall of this region is : 695 mm. The Northeastern region experienced significant rainfall during the rainfall season (2005 – 2006) across the country and the most rainfall occurring in this region during the rainfall season (06 – 07). In this region, rainfall started November 2006 and continued up to June 2007. The maximum value of rainfall recorded in mm in different stations by dekad is listed below:

Stations	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Chardara			80 mm 3rd dekad	102 mm 1st dekad	59 mm 2nd dekad	96 mm 1st dekad	213 mm 3rd dekad	98 mm 1st dekad	27 mm 2nd dekad			
Aqtepa			133 mm 2nd dekad	208 mm 1st dekad	211 mm 2nd dekad	157 mm 2nd dekad	207 mm 3rd dekad	124 mm 1st dekad	25 mm 1st dekad	25 mm 1st dekad		
Baghlan						15.4 mm 1st dekad	33.5 mm 3rd dekad					
Baharak			13 mm 1st dekad				27 mm 3rd dekad	17 mm 1st dekad	23 mm 1st dekad			
Faizabad			26.4 mm 2nd dekad		18 mm 2nd dekad	25 mm 2nd dekad	40 mm 3rd dekad	315 mm 1st dekad	48 mm 1st dekad			
Imamsahib			75 mm 3rd dekad	74 mm 3rd dekad	105 mm 2nd dekad	91 mm 1st dekad	228 mm 3rd dekad	118 mm 1st dekad	22 mm 2nd dekad			
Kunduz			85 mm 3rd dekad	66 mm 1st dekad	129 mm 2nd dekad	197 mm 2nd dekad	80 mm 1st dekad	32 mm 2nd dekad				
Taluqan			16 mm 1st dekad	16 mm 1st dekad	27 mm 2nd dekad	20 mm 3rd dekad	34 mm 1st dekad	86 mm 1st dekad				
Aibak			19 mm 1st dekad				21 mm 1st dekad	34 mm 1st dekad		19 mm 1st dekad		

Analysis of Recorded Rainfall by Region for the rainfall season 2006-07

North Region Darzab, Jawzjan, Kolor or khoram, Maimana, Mazar, Mazarisharif, Sarbagh, Sari Pul, Sheberghan and Takhta Pul stations are located in this region During the 2006 – 2007 season the average rainfall of this region is 363.5 mm. In this region significant rainfall occurred in the months of November, December 2006 and January, February, March and April during the rainfall season (2006 – 2007). The maximum rainfall has been recorded in mm and is shown below:

Stations	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Darwaz												
Jawzjan ARD			22.9 mm 2nd dekad	15.6 mm 3rd dekad	35 mm 2nd dekad		41 mm 3rd dekad					
Koloror Khoram		22 mm 3rd dekad	117 mm 1st dekad	108 mm 1st dekad	68 mm 2nd dekad	82 mm 1st dekad	208 mm 2nd dekad	127 mm 1st dekad	131 mm 1st dekad			
Maimana			18.9 mm 2nd dekad	31 mm 3rd dekad	30 mm 2nd dekad	42.7 mm 2nd dekad	37.5 mm 2nd dekad	28 mm 1st dekad	28 mm 1st dekad			
Mazar ARD			18.1 mm 2nd dekad	33 mm 2nd dekad								
Mazar –e – Sharif				26.8 mm 1st dekad	33.2 mm 2nd dekad	30.9 mm 1st dekad	28 mm 3rd dekad					
Sarbagh			18 mm 2nd dekad			13 mm 2nd dekad	56 mm 2nd dekad	28 mm 1st dekad				
Sari Pul			18 mm 2nd dekad	15.3 mm 1st dekad	26.3 mm 2nd dekad	32.2 mm 3rd dekad	41 mm 3rd dekad	16.7 mm 1st dekad				
Sheberghan				26 mm 3rd dekad		57 mm 2nd dekad	35 mm 3rd dekad		21 mm 3rd dekad			
Takhtapul					20 mm 2nd dekad	20 mm 2nd dekad	30 mm 3rd dekad					

Analysis of Recorded Rainfall by Region for the rainfall season 2006-07

South region: Greshk, Kandahar, Lashkargah, Nad Ali, Nawa Gorgin, Uruzgan, Zabul, Zaranj, Gardiz, Ghazni Met and Sarday stations are located in this region. During the 2006 – 2007 season the average rainfall of this region is 405 mm. This region experienced good rainfall during the rainfall season (2006 – 2007), most amount of rainfall recorded in November and December 2006 and February, March, April and June 2007. The maximum value of rainfall in mm by dekad in the region is as follow:

Stations	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Greshk			57 mm 2nd dekad			32 mm 1st dekad	39 mm 3rd dekad			38 mm 3rd dekad		
Kandahar			127 mm 2nd dekad	84 mm 2nd dekad	25 mm 3rd dekad	26.7 mm 1st dekad	23.5 mm 3rd dekad			25.5 mm 3rd dekad		
Lashkargah						25 mm 2nd dekad	31 mm 3rd dekad			25.5 mm 3rd dekad		
Nad Ali			49.5 mm 2nd dekad			34 mm 1st dekad	35 mm 3rd dekad			53 mm 3rd dekad		
Nawa Gorgin			51.2 mm 2nd dekad			28 mm 1st dekad	37 mm 3rd dekad			47 mm 3rd dekad		
Uruzgan ARD			55 mm 2nd dekad	22.4 mm 3rd dekad		117 mm 3rd dekad		141 mm 2nd dekad				
Zabul			256 mm 2nd dekad	47 mm 1st dekad	72 mm 3rd dekad	274 mm 1st dekad	119 mm 2nd dekad					
Zaranj						27 mm 2nd dekad	38 mm 2nd dekad	29 mm 2nd dekad			23 mm 1st dekad	
Gardiz			55.3 mm 2nd dekad			29 mm 2nd dekad	38 mm 2nd dekad	29 mm 2nd dekad			23 mm 1st dekad	
Ghazni			36 mm 2nd dekad	37.1 mm 1st dekad		32.1 mm 1st dekad	45.8 mm 2nd dekad					
Sarday			19.1 mm 2nd dekad	47 mm 3rd dekad		28 mm 1st dekad	42 mm 2nd dekad					

Analysis of Recorded Rainfall by Region for the rainfall season 2006-07

Southeast region: Khost, Moqur, Rohani Baba, Tera Forestry and Sharana stations are located in this region During the 2006 – 2007 season the average rainfall of this region is 419 mm. The Southeastern region experienced significant rainfall during the rainfall season (2006 – 2007) especially during the monsoon season. Parts of this region experienced heavy floods.. In this region, rainfall started November 2006 and continued up to August 2007. The maximum rainfall recorded in this region in mm by dekad is as follow:

Stations	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Khost			19 mm 1st dekad	40 mm 1st dekad		88.5 mm 1st dekad	63 mm 2nd dekad		19 mm 3rd dekad	19 mm 1st dekad	25 mm 2nd dekad	50 mm 1st dekad
Muqur				46 mm 3rd		23 mm 1st dekad	22 mm 2nd dekad					
Rohani Baba						23 mm 3rd dekad	26 mm 2nd dekad			31 mm 3rd dekad	28 mm 1st dekad	
Sharana			39 mm 2nd dekad	46 mm 3rd dekad		37 mm 1st dekad	36 mm 2nd dekad	19 mm 1st dekad		24 mm 1st dekad	44 mm 1st dekad	
Tera Forestry			40 mm 2nd dekad	36 mm 3rd dekad		36 mm 1st dekad	53 mm 2nd dekad	31 mm 1st dekad		24 mm 3rd dekad	23 mm 1st dekad	

Western Region: Cheghcharan, Farah, Hirat, Moqur Badghis, Qala-e-naw, Shindand and Zenda jan stations are located in this region During the . 2006 – 2007 season the avearge rainfall of this region is 268 mm. In this region less rainfall was recorded during the rainfall season (2006– 2007). However this region did not experaince dry spell during the rainfall season 2006 – 2007 and the rainfall situation was better than the last season (2005 – 2006). The maximum rainfall recorded in this region in mm by dekad is as follow:

Stations	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Cheghcheran			46 mm 2nd dekad		29 mm 2nd dekad	15.5 mm 1st dekad	127 mm 2nd dekad					
Farah			36 mm 2nd dekad			33 mm 1st dekad						
Herat			71 mm 2nd	19.1 mm 2nd dekad	24 mm 2nd	28.3 mm 3rd dekad	47.3 mm 2nd dekad					
Muqur Badghis			20.8 mm 2nd dekad	27 mm 3rd dekad	27 mm 2nd dekad	51 mm 2nd dekad	39 mm 1st dekad					
Qala – e – Naw			30.5 mm 2nd	35 mm 1st dekad								
Shindand			56 mm 3rd dekad			27 mm 3rd dekad	35 mm 2nd dekad	17 mm 1st dekad				

Total Snow Days 2006-2007:

The snow days were near normal during the growing season 06-07 across the country. Afghanistan experienced near normal snow days where snowfall started in November 2006 and continued up to March 2007. The snowfall recorded data table (2)

shows an increase of snow days during the season 06-07 compared to last season (2005 – 2006). Higher snow days have been recorded in Central High Lands particularly in Panjab district where 44 snow days recorded and is as follows:

Snow Days of the Season 2006 - 2007														Table (2)	
Name	Region	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total Snow Days	
Badam bagh	Capital	0	0	0	7	4	4	2	0	0	0	0	0	17	
Chack		0	0	0	4	0	0	0	0	0	0	0	0	0	4
Charikar		0	0	0	5	1	3	1	0	0	0	0	0	0	10
Dara Panjsheer		0	0	2	13	4	4	2	0	0	0	0	0	0	25
Darulaman		0	0	0	0	4	4	4	0	0	0	0	0	0	12
Dashtak		0	0	2	7	3	4	1	0	0	0	0	0	0	17
Gul Khana		0	0	1	6	2	3	1	0	0	0	0	0	0	13
Jaghatoos		0	0	0	8	3	7	4	0	0	0	0	0	0	22
Kapisa Agri		0	0	1	4	3	2	0	0	0	0	0	0	0	8
Kariz Mir		0	0	0	2	2	3	5	0	0	0	0	0	0	12
Paghman		0	0	0	8	3	6	6	0	0	0	0	0	0	23
Qargha		0	0	0	1	4	5	1	0	0	0	0	0	0	11
Bamyan ARD	Central Highlands	0	0	1	3	2	4	4	0	0	0	0	0	13	
Panjab		0	0	8	12	6	9	9	0	0	0	0	0	44	
Shebar		0	0	1	5	3	11	8	0	0	0	0	0	28	
Yakawlang		0	0	0	7	3	6	4	0	0	0	0	0	20	
Chardara	Norht east	0	0	0	2	0	1	0	0	0	0	0	0	3	
Aaqtepa		0	0	0	3	0	1	0	0	0	0	0	0	4	
Baharak		0	0	0	3	4	1	5	0	0	0	0	0	13	
Faizabad		0	0	5	0	6	1	1	0	0	0	0	0	12	
Kunduz ARD		0	0	0	2	0	1	0	0	0	0	0	0	3	
Urgo		0	0	1	3	5	3	0	0	0	0	0	0	11	
Aibak	North west	0	0	0	2	2	2	0	0	0	0	0	0	2	
Dara-e-Soof		0	0	1	4	3	1	0	0	0	0	0	0	8	
Darzab		0	0	2	4	2	0	3	0	0	0	0	0	11	
Jawzjan ARD		0	0	0	5	0	2	0	0	0	0	0	0	7	
Maimana		0	0	1	5	1	0	0	0	0	0	0	0	6	
Sari Pul		0	0	0	4	0	2	0	0	0	0	0	0	6	
Takhta Pul		0	0	0	3	0	1	0	0	0	0	0	0	4	
Zabul	South	0	0	0	0	2	0	0	0	0	0	0	0	2	
Moqur	South east	0	0	0	5	1	1	0	0	0	0	0	0	7	
Rohani Baba		0	0	0	0	3	2	1	0	0	0	0	0	5	
Sharana		0	0	0	3	2	2	0	0	0	0	0	0	7	
Tera Forestry		0	0	0	5	2	7	2	0	0	0	0	0	14	
Cheghcharan	West	0	0	0	4	4	0	3	0	0	0	0	0	11	
Murghab		0	0	0	3	1	2	0	0	0	0	0	0	3	
Qala-e-naw		0	0	0	7		2	3	0	0	0	0	0	12	

Snowfall occurrence 2006-2007:

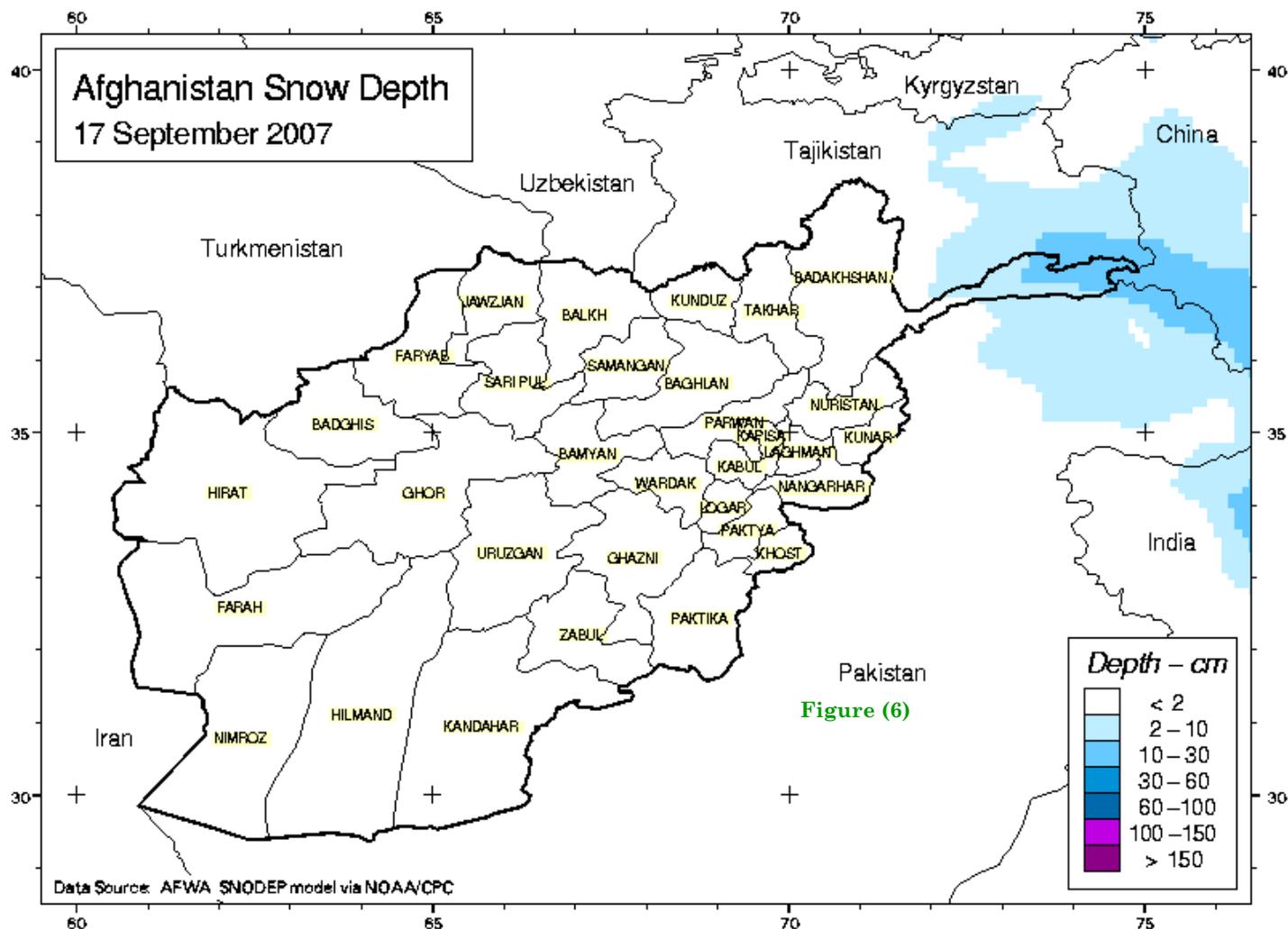
The snowfall started in the Central Highlands and the North Western region on 10 November 2006 and continued up to 30 of March 2007.

In the months of December 2006, January and February 2007, significant snowfall was recorded and is showing that the snow extent and depth was near normal in most parts of the snow coverage areas. Due to near normal temperature during the rainfall season 2006 – 2007, the snow did not melt rapidly.

Snow melt is the major source of water resources in the country.

In the Capital region the maximum snow depth recorded 42 cm in Jaghatoo on 4 December 2006; in the Central Highlands 30 cm in Sheber on 18 January 2007; in the Northeastern region 18 cm in Baharak on 16 January 2007; in the Northern region 30 cm in Nahri Shahi on 30 December 2006; and in the Southeastern region 49 cm in Khairkot on 25 December 2006.

Figure 6 shows that snow observed as late as September 2007 in the Northeastern region of the country.



Snowfall occurrence 2006-2007:

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

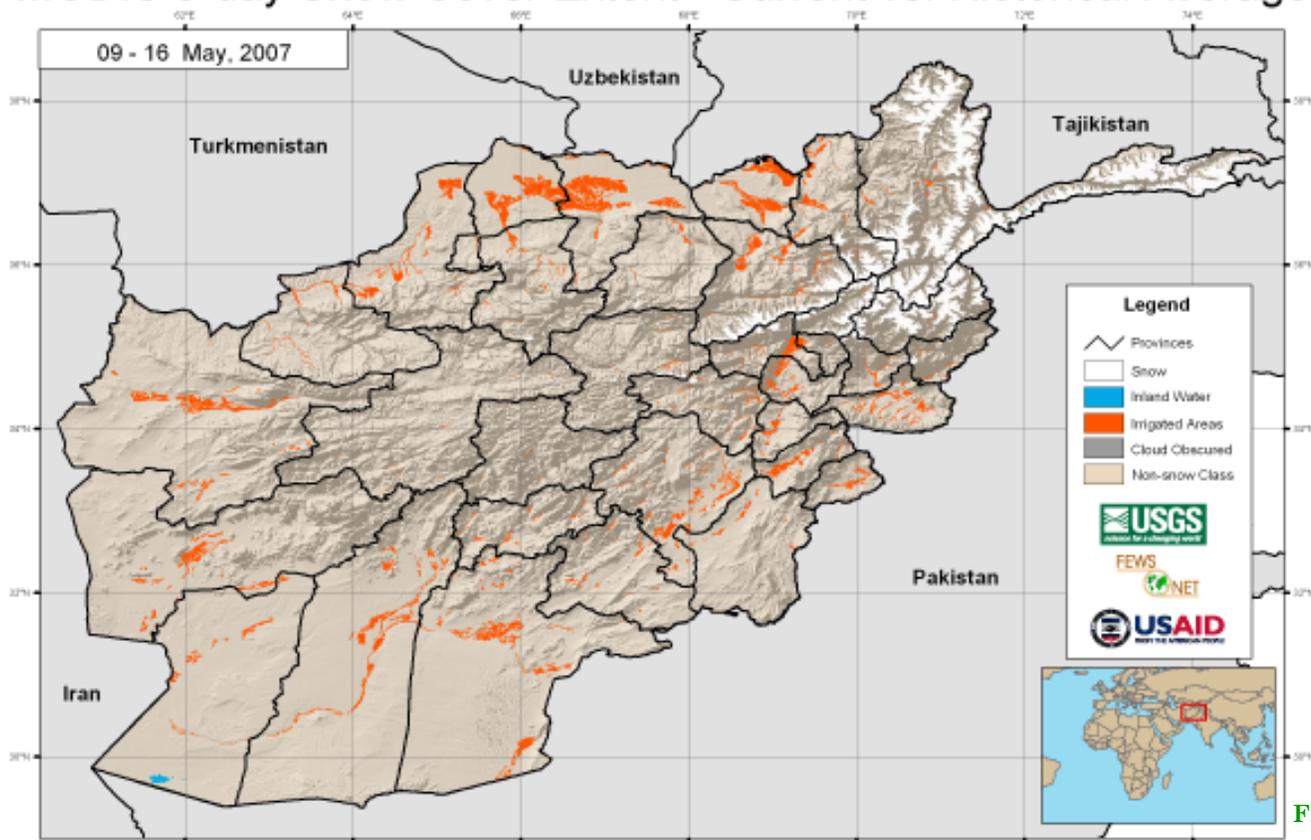


Figure (7)

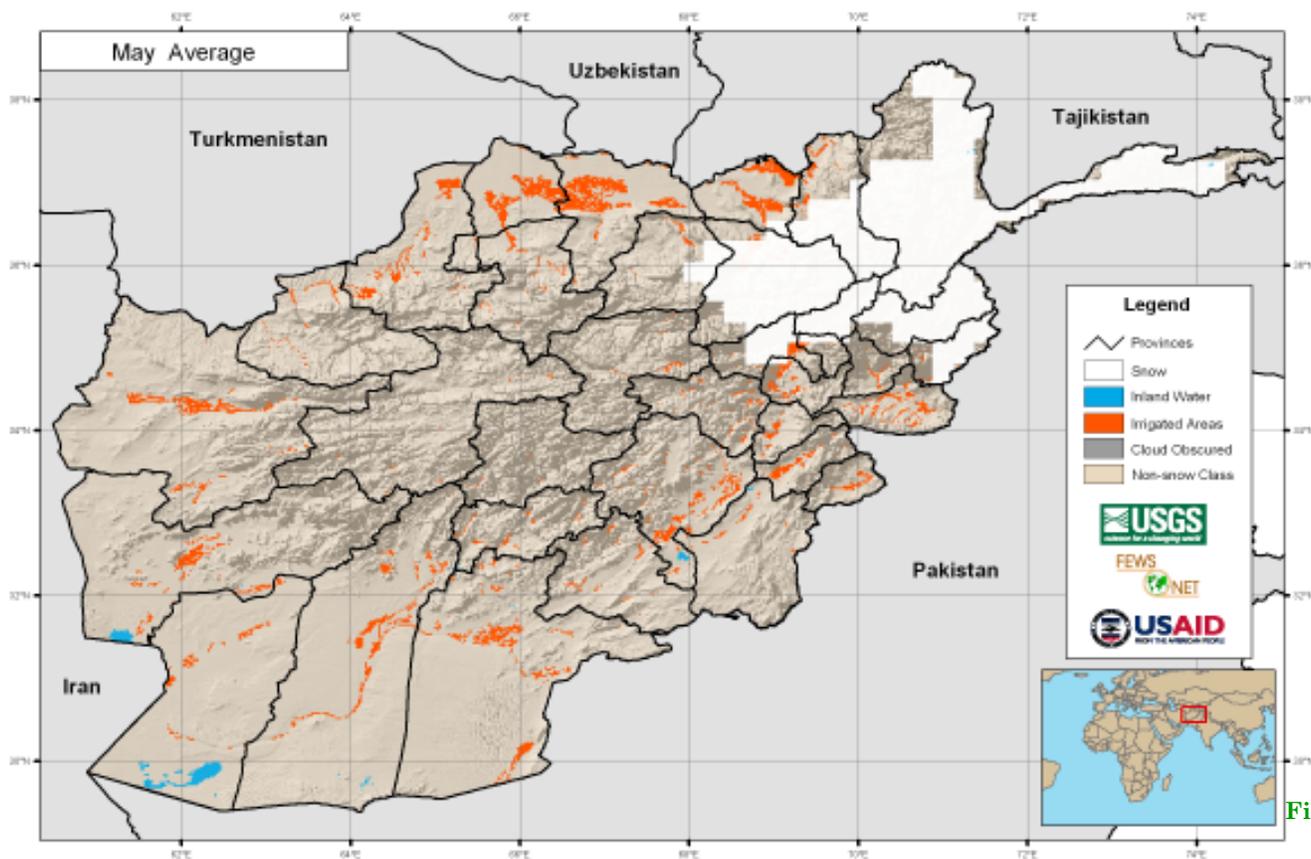


Figure (8)

Temperature and its effect

In generally temperature for the season (2006 – 2007) was lower compared to last growing season 2005 – 2006 and long term average across the country(see Annex). Below normal temperature during the growing season 2006 – 2007 cased delaying of growing date than expected time and the other side lower temperature prevented rapid snow melt than expected time too. Below normal temperature during the rainfall season 2006 – 2007 cased which the country experienced considerable and sufficient rainfall.

Figure (9) shows the distribution of maximum temperature for the season (2006 – 2007) across the country, as figure shows the distribution of temperature is variable in deferent regions. High elevation such as Northern region, Hindokosh mountainous areas and Central Highlands experienced lower temperature and the Southern, Eastern, Southeastern, Western regions and The Northern flat areas experienced higher temperature during the growing season (2006 – 2007).

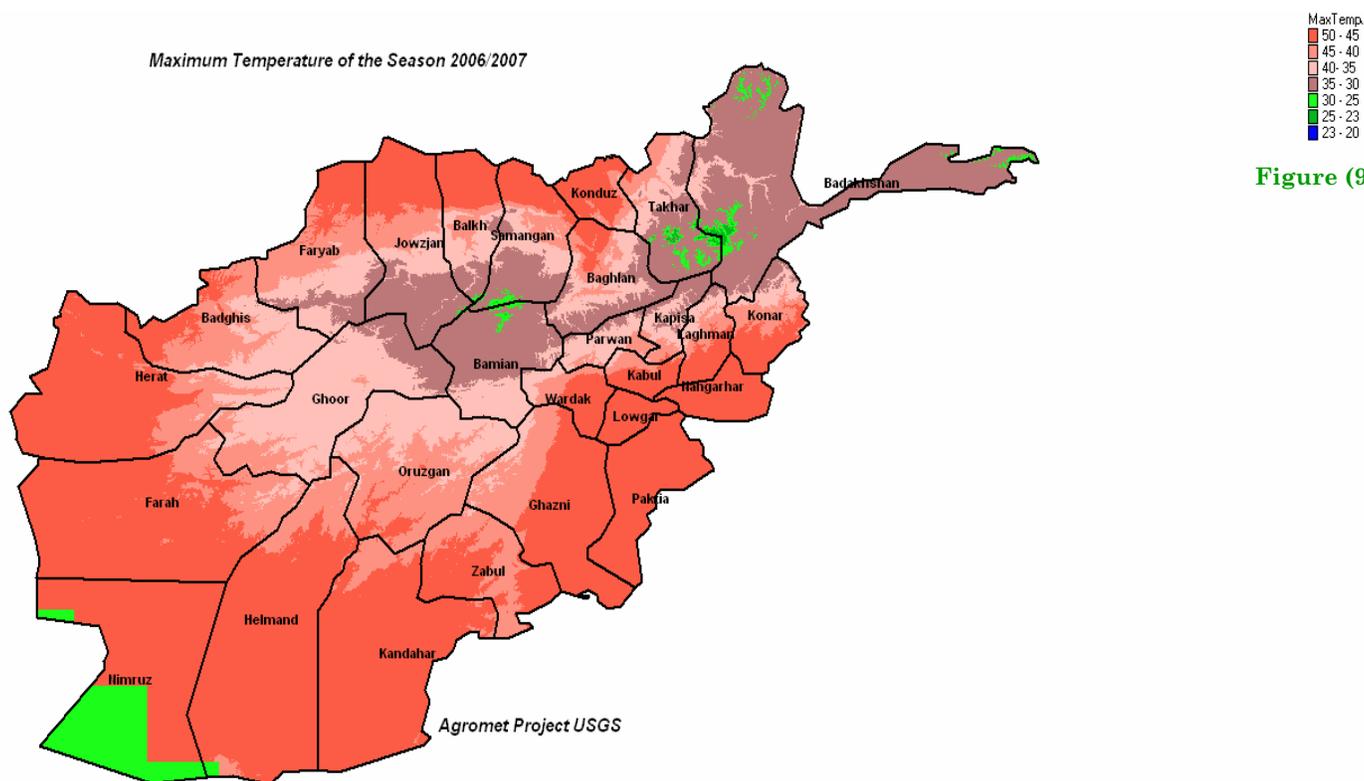


Figure (9)

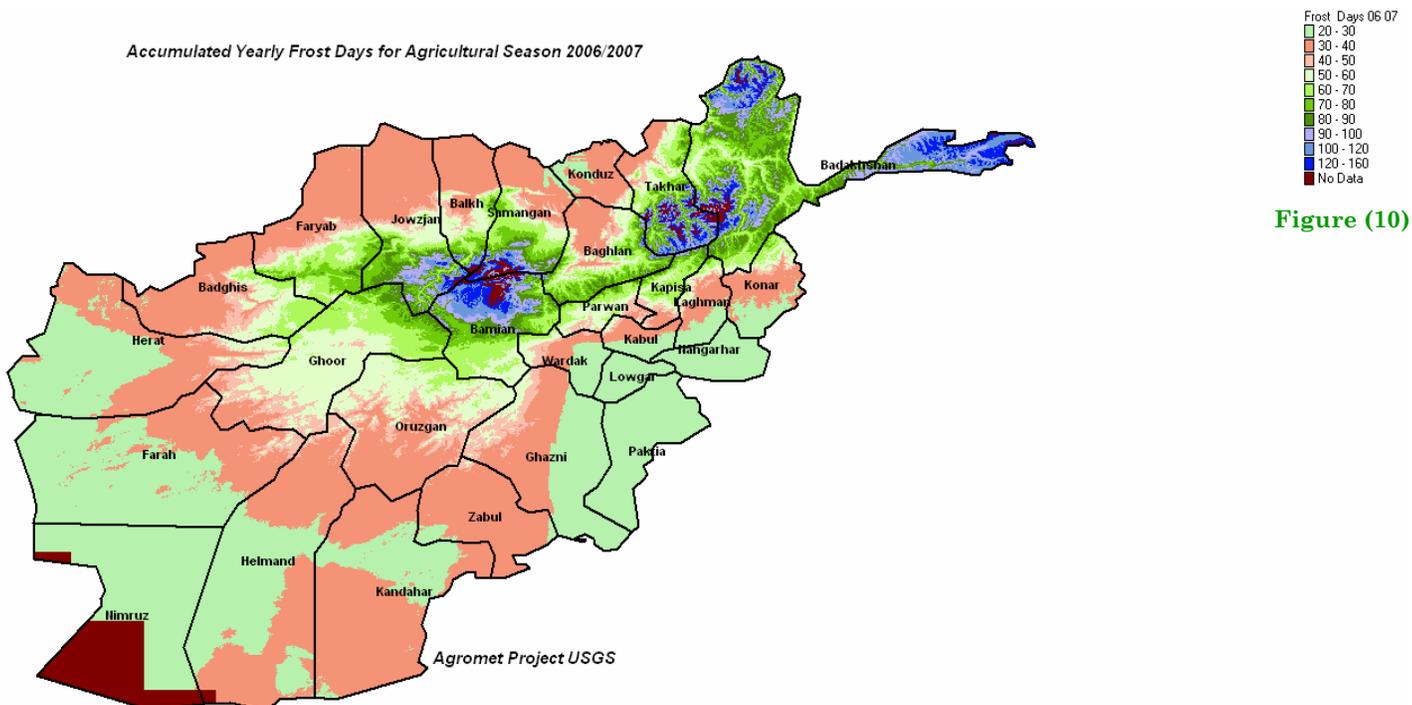
Frost Days recorded

During the 2006 - 2007 growing season generally frost occurred in November 2006 in most parts of the country and continued up to April 2007 in some parts like Gazni and Bamayn.

Comparison of temperature value for the growing season 2006 – 2007 (see annex) shows decrease of frost days during the season 2006 – 2007 compared to the last season across the country.

The maximum frost days has been recorded in Sardy (Southeastern) 119 days and the minimum frost days recorded in Kandahar (Southern region) 2 days, the Eastern region was free from frost during the growing season 2006 – 2007.

Figure (10) shows the Northeastern region, Hindo Kush mountainous areas, Central High lands and some parts of the Capital region experienced the most frost days. Some parts of the Southeastern, Some parts of the Eastern and Southwestern regions experienced less frost days.



Greenery of the year (2006-2007)

Maximum greenness comparison of the season (2006 – 2007) with the maximum greenness of the season (2005 – 2006) figure (11) shows large increase of NDVI in the Southern region, some parts if the Southeastern, some parts of the Western and Northwestern regions and some parts in the Eastern region during the season (2006 – 2007).

Small increase of NDVI has been occurred in most parts of the country during the season (2006 – 2007) compared to the last season (2005 – 2006). Small decrease in NDVI value occurred in limited areas in the Northeastern and some parts of the Northern region. There is no change in NDVI (Normalized Difference Vegetation Index) value in the Southwestern region during the growing season (2006 – 2007) over the last season (2005 – 2006).

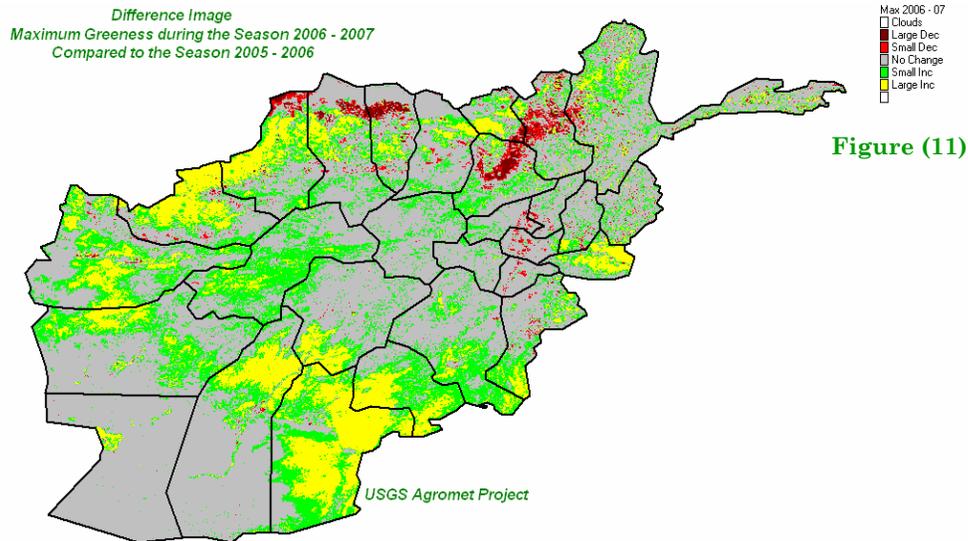


Figure (11)

Figure (12) shows comparison of maximum greenness value (NDVI) for the season (2006 – 2007) with the long term average. It shows large increase in NDVI value occurred in most parts of the Southern regions, some parts of the Southeastern, Eastern, some parts of the Western, and Northern regions during the growing season (2006 – 2007)

compared to last season (2005 – 2006). In general, small increase of NDVI occurred in most parts of the country during the season (2006 – 2007). Small decrease in NDVI value occurred in some limited area in the Northern region but it is not significant. There is no change in NDVI value for the Southwestern region during the season (2006 – 2007) over the last season (2005 – 2007).

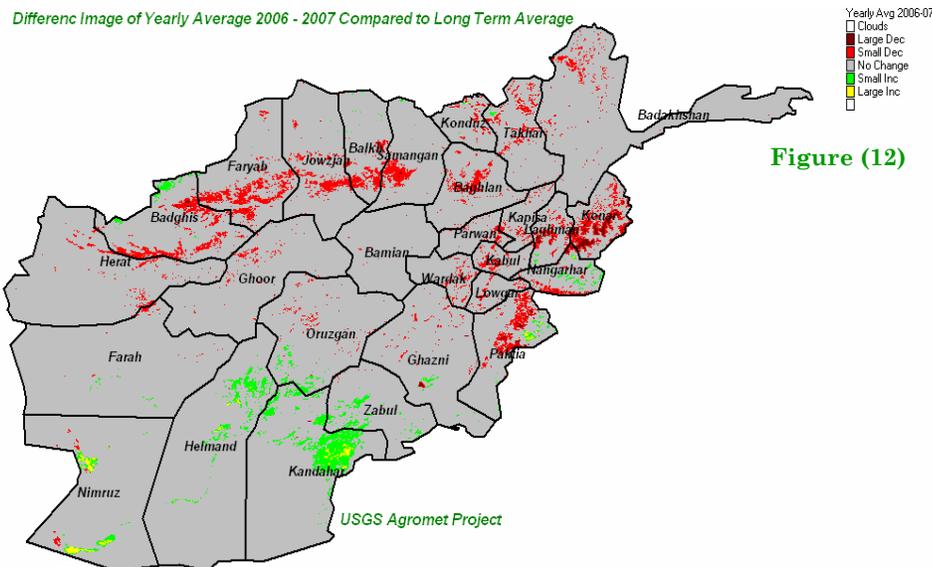


Figure (12)

Flood and its impact

Severe flash floods occurred during 06-07 season in different regions in the country, which had damaged properties, agricultural lands, orchards, infrastructure (roads, dams, shops, bridges) and caused casualties and loses of livestock. The peak of flash flood recorded in the months of March, May and June 2007. The damages and casualties caused by flood between March and June 2007 in the various parts of the country are as follows:

No	Province	Type of Disaster	Casualties			Affected Families	Affected Houses		Fruit Trees	live-stock	Affected Areas	
			killed	Injured	missed		Destroyed	Damaged			Agr. Lands in Jirebs	Other
1	Uruzgan	Flood	3				700	155		2080	20500	
2	Nemroz	Flood	5								2000	
3	Faryab	Flood	2							221	300	
4	Badghis	Flood	5					805	1020	1000	150	
6	Sari Pul	Flood						212	1000	30	630	
7	Ghor	Snow Sliding	12	13					900	33	60	
8	Bamyan	Flood					2		650			
		Snow sliding	10				53				539	
9	Herat	Flood									450	
10	Panjsher	Snow Sliding	1								40	
		Flood	30	50					1330		1152	
11	Parwan	Flood		1		539			65000 0	5	2080	
12	Maidan wardak	Flood									2596	
13	Laghman	Flood					150				5000	
14	Logar	Flood				1831			1900	4	8608	
15	Badakhshan	Flood	41			156	1069	110	55767	3792	11799	
16	Takhar	Flood	15		3	913			7230	1350	24901	
17	Kunduz	Flood		1			153				1536	
18	Samangan	Flood	7	4		1527	527	28	440	1167	12359	
19	Baghlan	Flood	1	15		79	136	81		1507	5695	
20	Mazar	Flood	2	4		715					16	
21	Gazni	Flood	1	3			2			40	5900	
22	Kunar	Flood	4	4	9		271		100	86	1729	
23	Helmand	Flood	6							495	27720	
24	Kabul	Flood	5	20			10				20	
Total			150	115	12	5060	3073	1391	72033	11810	135780	