

Agrometeorological



Monthly

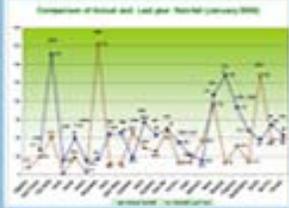


Bulletin



April - 2006

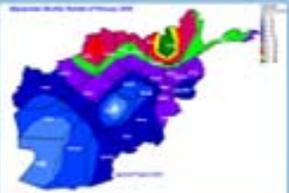
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Comparison of Rainfall



Crop Information



Rainfall Situation



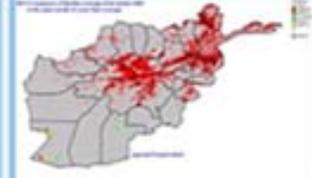
Snow Depth



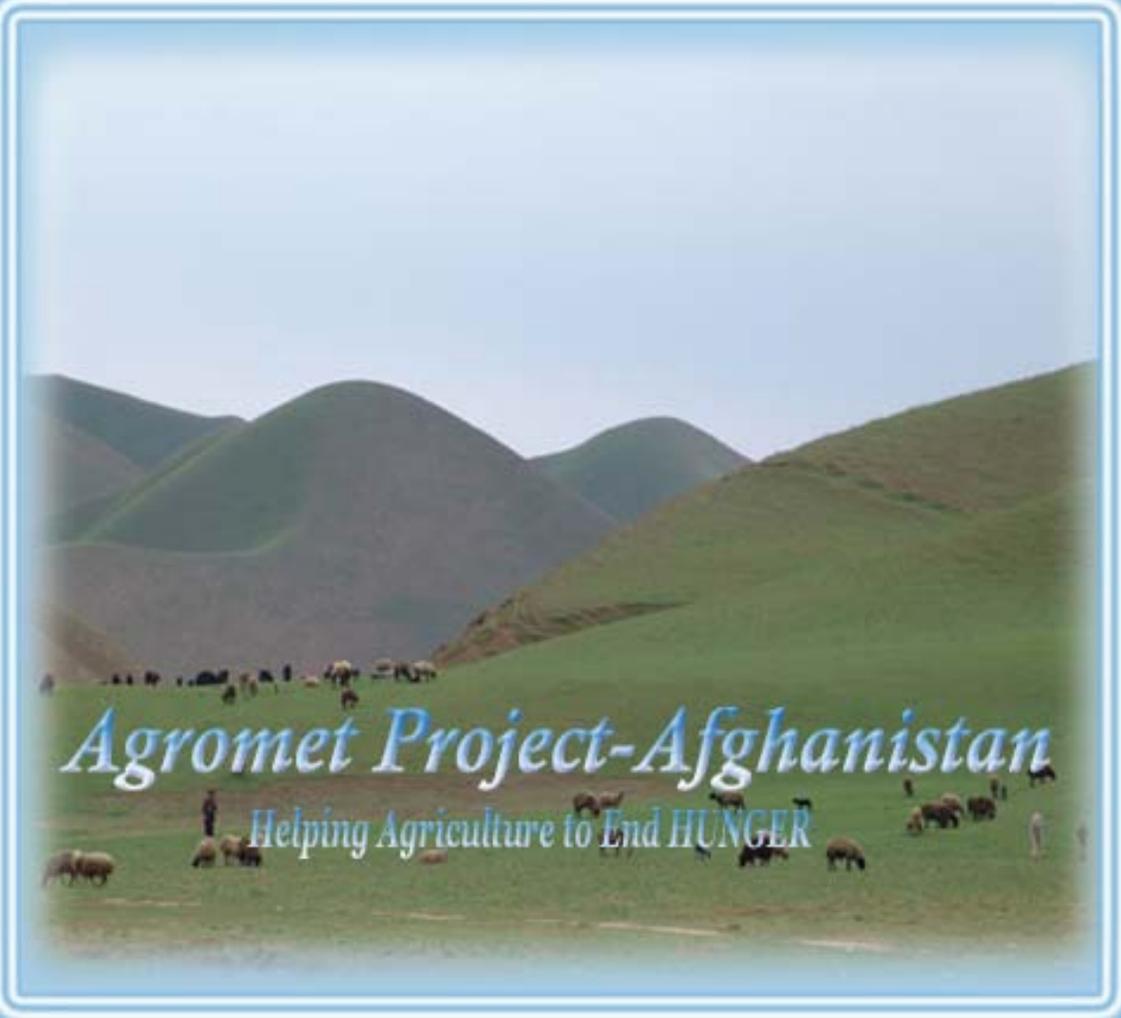
Rainfall vs NDVI



NDVI



Comparison of NDVI



Agromet Project-Afghanistan

Helping Agriculture to End HUNGER

The Agromet Project of USGS, supported by the US Agency for International Development (USAID), is working together with the Ministry of Agriculture and Food (MAF) and the Afghan Meteorological Authority (AMA) Ministry of Transport (MoT)



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Summary

In the Western region, crops are in flowering as in Chagh-charan center of the Ghor Province, Qalai-Naw center and Maqur District of Badghis province, and in Herat Province, but in some parts of these areas crops are in vegetative stage (Plants are more than 10cm/4”).

In Southern region, crop condition is better than normal in Khost Province and Tera of Paktia Province, but poor crop condition is reported in Sharana Center of Paktika Province and Maqur District of Ghazni Province.

Minimum and maximum temperature figures for the month of April 2006 show that Lashkarga (what province?) with 38.8 ° C was the warmest and Bamyian with – 12 ° C was a record low during the month of April 2006

In some parts of the Southern basin, the water supply met the demand for the Winter wheat and in other parts of western and southern regions water supply is less than water demand for Winter wheat.

Comparison of snow maps shows decrease of snow extent during the month of April 2006 compare to the same month in 2005 .

Crop Phenological Stages

In the East Central Region :

Winter wheat (depending on the respective planting dates) is at the emerging stage (crop has germinated and seedling have emerged but average height does not exceed 10cm/4”) and in the some places crop stage is in the vegetative stage (Plants are more than 10cm/4”) as in the surrounding Bamyian areas.

In the Eastern Region:

In this region crops (is it just winter wheat or more crops, and if more than just the winter wheat then we need to list them) are in various growth stages. In Ghaziabad Winter wheat is in the harvesting stage. In the most parts of Agam areas of Nangarhar province, Asadabad center of Konar Province and in the Laghman Province Winter wheat is in flowering stage, whereas in some other areas of Asadabad center and Asmar District of Konar Province, and Laghman Province crops are in grain filling stages.

For the North Eastern Region:

Most of the Winter wheat fields in Badakhshan, Baghlan and Takhar Provinces are in the vegetative stages (Plants are more than 10cm/4”) in the, but in some other areas of Kunduz, Baghlan and Takhar Provinces as in Imam Sahib, Chardara, Akhtifa and Qalai Zal Districts of Kunduz province crops are at the flowering stages.

In the North Region

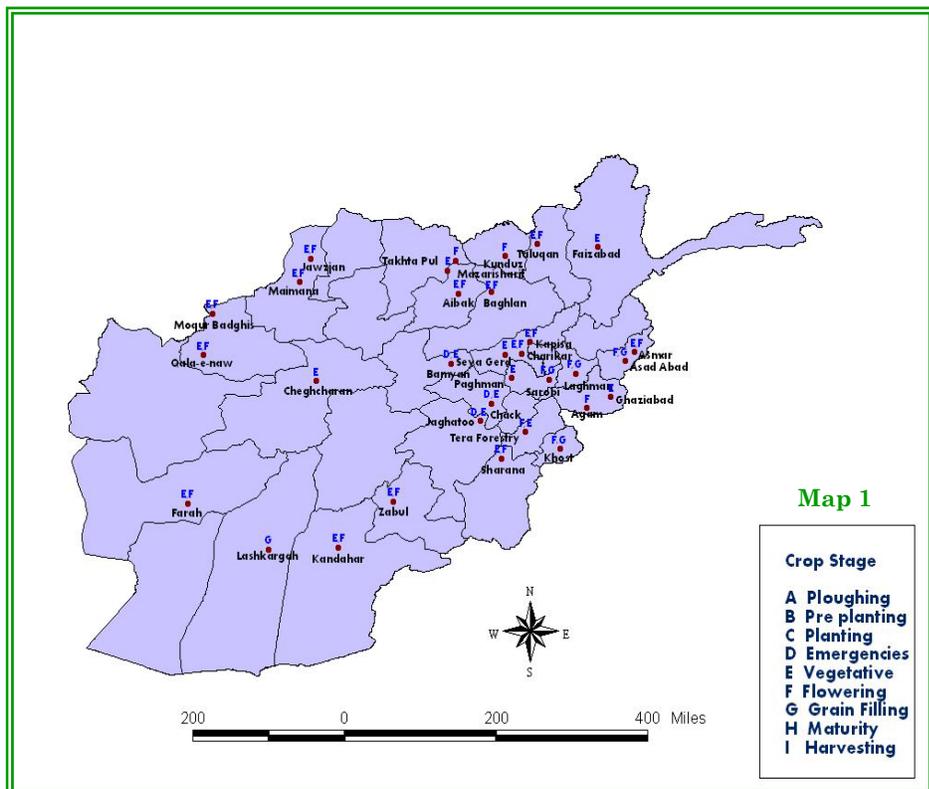
In some parts of this region Winter wheat is reaching vegetative stage (Plants are more than 10cm/4”) as in Jawzjan Province, Aibak center of Samangan Province, Maimana center of Faryab Province and in the Sar-i-pul Province, but mostly wheat fields are in flowering stage. In Takhtapul areas and surrounding Mazar-i- Shrif center of Balkh Province crop is flowering and in some areas crop is at the grain filling stage.

In the Western Region:

In this region most Winter wheat fields are in flowering as in Chaghcharan center of the Ghor Province, Qalai-Naw center of Badghis province, Maqur District of Badghis Province and in Herat Province, but in some parts of these areas crops are in vegetative stage (Plants are more than 10cm/4”).

In the Central Region:

In this region Winter wheat is at different growth stages. In Chak and the Jaghatoo Districts of Wardak Province, some areas of Paghman District of Kabul Province and Syagerd District of Parwan Province the crop is in vegetative stage (Plants are more than 10cm/4”), but in the Mahmoodraquee Center of the Kapisa Province and Charyakar of Parwan Province the crop stage is at flowering to grain filling stages.



Crop Phenological Stage

For the South Western Region:

In this region most Winter wheat fields are in the flowering stage as in Qalat Center of the Zabul Province, Kandahar and Farah Provinces, but in other parts crops are in flowering to Grain filling stages as in the Greshk, Nawa, Nadali Districts and in the Lashkargah Center of Hilmand Province.

For the South Region:

The Winter wheat at different growth stages. I in most parts wheat is in flowering stage as in Sharana Center of Paktika Province, Tera of Paktia Province and Maqur District of Ghazni Province, but in Khost Province the crop is at flowering to Grain filling stage.

Crop Condition

For the east Central Region :

In this region the crops condition is normal as in surrounding Bamyan province.

For the Eastern Region:

Winter wheat fields recorded better to normal condition as in Laghman Province, Asadabad Center and Asmar of Konar Province. Winter wheat crop in Agam and Ghaziabad areas of Nangarhar Province is either failing or poor condition.

For the northeastern region:

In this region crops have normal condition as in Center of Kunduz Province, Chardara, Imamsahib Akhtipa and Qalaisal Districts of Kunduz Province, Taluqan center of Takhar Province, Badakhshan and Baghlan provinces.

For the North Region:

Crops have normal condition as in, Mazare shreef Center of Balkh and Takhtapul District of Balkh Province, Aibak center of Samangan, Jawzjan ,Sar-i-pul and Faryab provinces.

In the Western Region:

Winter wheat is showing normal conditions as in Chaghcharan Center of Ghor Province, Maqur District of Badghis Province, Qalia-i-new Center of Badghis Province and Herat Province.

For the South Western Region:

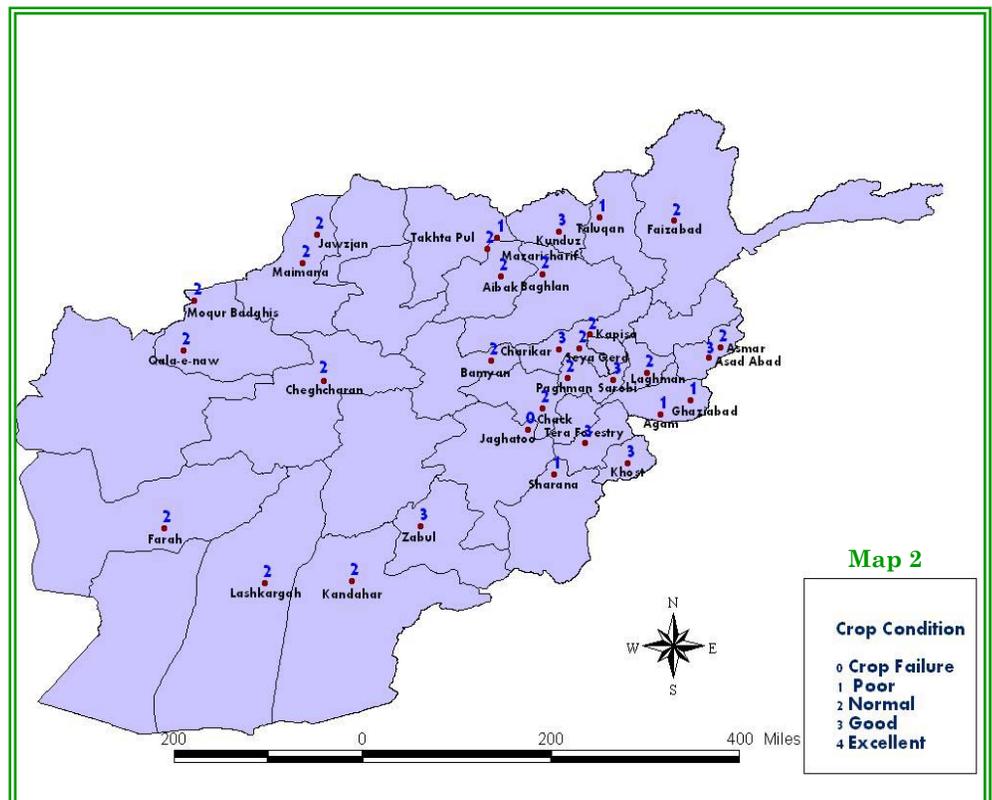
In this region crops shown better than normal as observed in Zabul Province and normal for the Greshk, Nawa, Nad Ali , Lashkargah Districts of Hilmand Province, Farah and Kandahar Provinces.

For the Central Region

Winter wheat fields experienced better than normal condition as for the Sarobi District of Kabul Province and Syagerd District of Parwan Province and crop condition is normal for Chak District of Wardak Province, Charyakar Center of Parwan Province, Kapisa Province and Paghman District of Kabul Province. Failure crop condition is reported from Jaghatoo District of Wardak province.

For the South Region

Crop condition is better than normal as in Khost Province and Tera of Paktia Province, but poor crop condition is reported from Sharana Center of Paktika Province and Maqur District of Ghazni Province.



Adverse Factors

In the Western Region:

Adverse factors include Poor rain and Shortage of inputs, such as tractors, chemical sprayers, improved seeds and fertilizer as in the Maqur District of Qalainow, Center of Badghis Province. In some parts of Heart Province poor rain has affected 50% of wheat fields. In Chaghcharan Center of Ghor Province the main adverse factors are late planting and frost.

In the South Western Region:

The Adverse factors are lack of rain or less rain which is observed in the whole South Western region.

In Lashkargah, Greshk, Nawa, Nad Ali Districts of Hilmand Province less rain is observed during the month of April 2006, also Sunnpest is a problem in some parts of these areas. Shortage of inputs such as tractors, chemical sprayers and improved seeds and fertilizers are the other problems in this region. Reported information from Farah, Zabul and Kandahar Provinces saying that weeds problem is affecting the Winter wheat fields.

In the South Region:

In this region lack of rain or less rain is observed across the region. Frost damaged almost all Winter wheat fields in the Sharana Center of Paktika Province. Weeds problem observed in Khost province and shortage of inputs in Ghazni Province. No observed adverse factors observed in Tera, Gardiz Center of Paktia Province.

In the Eastern Region:

This region experienced hail and high winds as in Agam areas of Nangarhar Province, which badly affected all fruit trees and vegetables (about 70% of the fields sustained heavy damage). In the Khoogyano District of Nangarhar Province locusts observed in most winter wheat and other agricultural fields. In Asad Abad Center of the Konar Province less rain was observed. The Shortage of inputs and weeds problems in the Laghman province and in Ghazi Abad areas of the Nangarhar Province was observed. A favorable growing condition was observed in Asmar District of Konar Province.

In the North east Region

In this region weeds are affecting the Winter wheat and other agricultural fields in Faizabad center of Badakhshan Province, Baghlan province and in the Imam Sahib, Chardara, Akhtifa and Qalai Zal Districts of Konduz Province. A favorable growing condition was observed in Takhar Province.

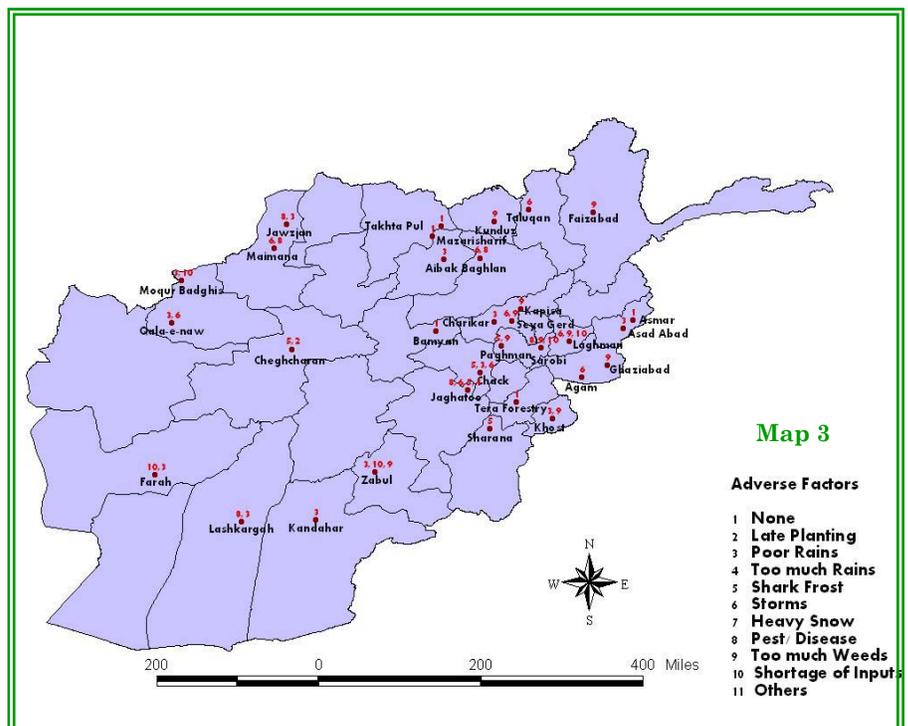
Reports from Baghlan province indicated borer and cut worms damage observed in irrigated and rain fed Winter wheat fields. Flood damage to crops is observed in the Dooshe District of the Baghlan Province.

In the Northern Region:

Adverse factors are mainly less rain as in Aibak Center of the Samangan Province and Jawzgan Province, Borer worms of irrigated and rain fed wheat and sun pest is in the Darzab district of Jawzjan Province and in the Center of Jawzgan and Sar-i-pul and Frayab Provinces. Floods had damaged some agricultural lands in the Gorziwan District of Faryab Province.

In the Central Region:

In this region adverse factors are frosts, high winds and less rain as in the Chak and Jaghatoo Districts of Wardak Province, a big number of fruit trees especially Apricots and Apples are damaged due to these problems. In Jaghatoo District of the Wardak Province Mices are a big problem for the Farmers. On April 20 and 22, 2006 Charyakar Center of Parwan Province, Ghorband and other Districts of Parwan experienced frosts, hail and high winds, which damaged nearly 20% of fruit trees and 50% of vegetable crops. In Mahmood Raqee Center of Kapisa Province and in Paghman District of Kabul Province some crops are damaged due to the Frosts, heavy winds and less rain. In the Sarobe District of Kabul Province, wheat rust, Weeds, and shortage of inputs are the adverse factors. On 13 April 2006, frosts, Hails and high winds had damaged 20% to 50% of the serial crops and 30% of the Vegetables in Mahmood Raqee Center of Kapisa Province. Jabalseraj areas of Parwan province reported weeds problem and shortage of inputs such as tractors, chemical sprayers, improved seeds and fertilizer.

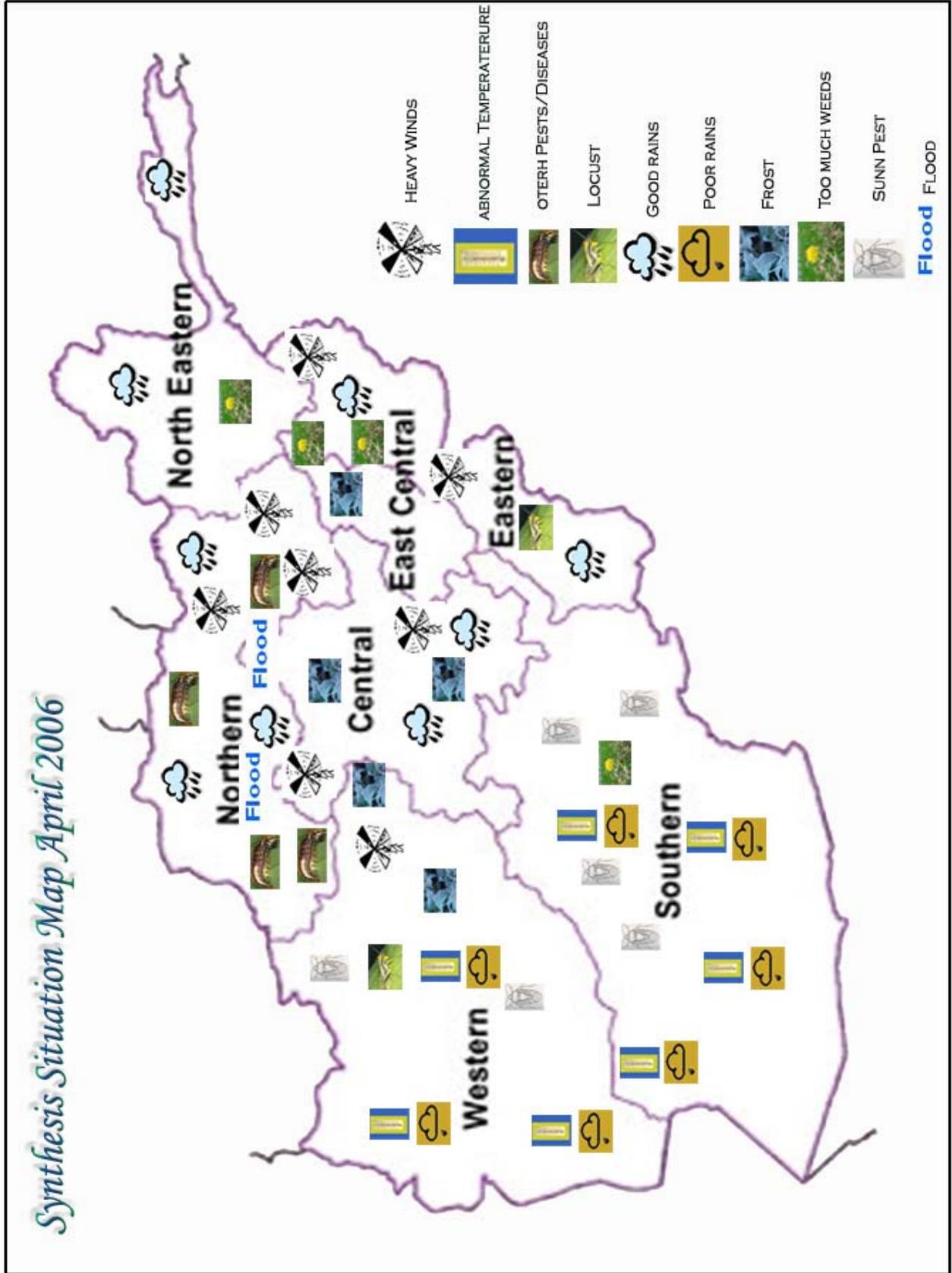


Map 3

Adverse Factors

- 1 None
- 2 Late Planting
- 3 Poor Rains
- 4 Too much Rains
- 5 Shark Frost
- 6 Storms
- 7 Heavy Snow
- 8 Pest Disease
- 9 Too much Weeds
- 10 Shortage of Input
- 11 Others

Synthesis Situation Map April 2006



Rainfall Satiation

Rainfall for the month of April 2006 was higher than that of April 2005. Chart (1) shows 2005 – 2006 rainfall comparison.

Higher rainfall during the month of April 2006 recorded in the Northern and Northeastern and some parts of the Southern regions.

The Northeastern and Northern regions experienced more rainfall than other parts of the country in the month of April 2006 compared to the same period in 2005. The percent +/- in rainfall during the month of April 2006 compared to the same period of 2006 is as follow:

In Gardiz + 433 %, Jabul Seraj + 107 %, Kandahar + 362 %, Kariz Mir + 150 %, Kunduz + 474 %, Maimana + 260 %, Mazar + 233 %, Sheberghan + 78 %, Sari Pul + 200 %.

The remaining stations recorded less rainfall in April 2006 than that of 2005.

For the month of April 2006, the rainfall was less than the long term average in most parts of the country except in Gardiz, Kandahar, Kunduz and Sari Pul where the rainfall showed an increase over the same month than the long term average.

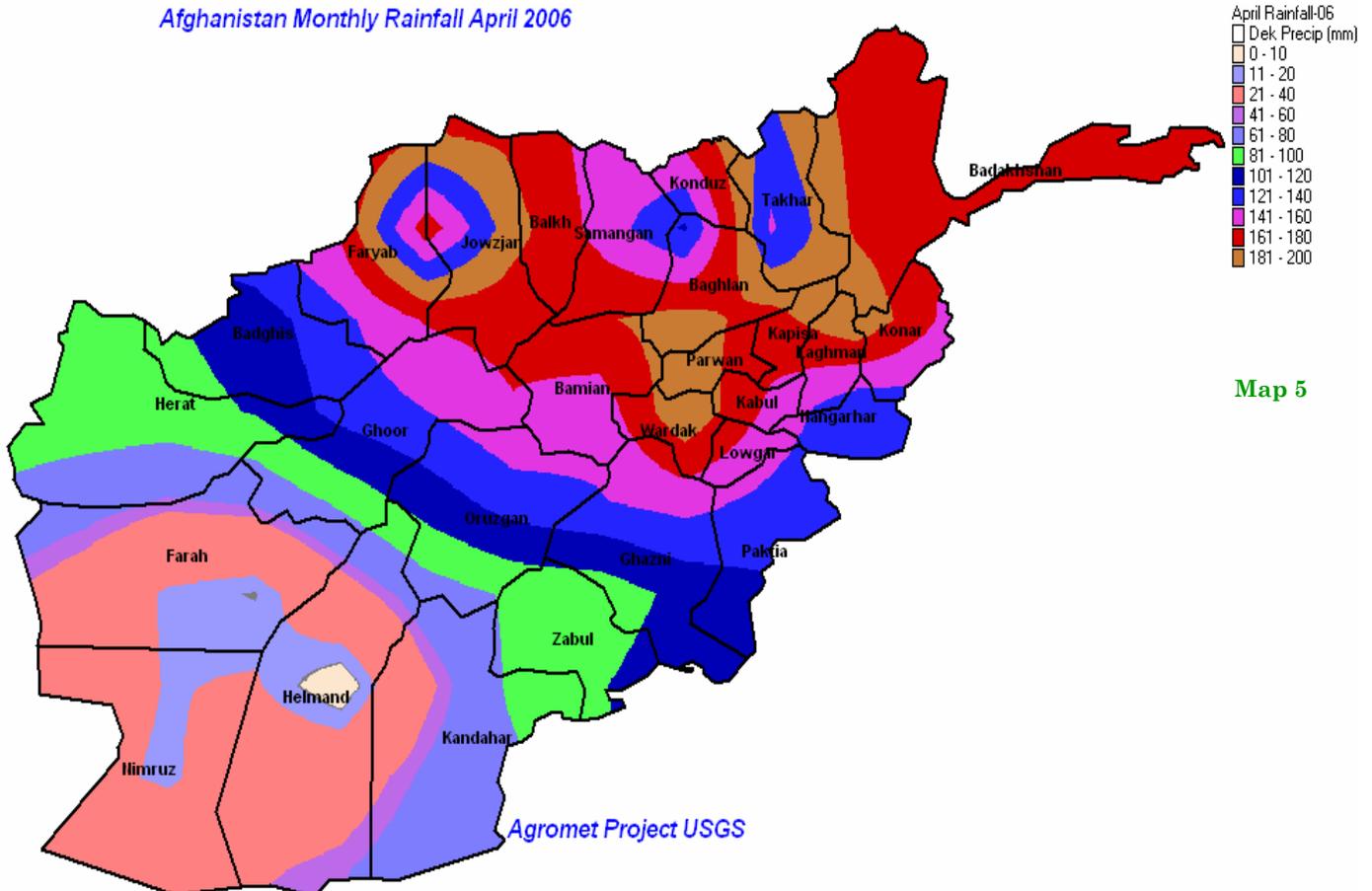
Chart (2) compares recorded rainfall for April 2006 with long term average. The percentage +/- is as follow:

In Gardiz + 104 %, Kandahar + 88 %, Kunduz + 97 %, Sari Pul + 884 %, Mazar + 15 %.

The stations where the recorded rainfall showed a decrease during the month of April 2006 than that of the same month of long term average is as follow:

In Baghlan – 69 %, Darulaman – 68 %, Faizabad – 63 %, Farah – 100 %, Ghazni – 83 %, Ghaziabad – 82 %, Jalalabad – 70 %, Kabul – 62 %, Kariz Mir – 69 %, Logar – 54 %, Maimana -28 %, Paghman – 48 %, Sheberghan – 48 %, Sarobi – 73 %, Taluqan – 69 %.

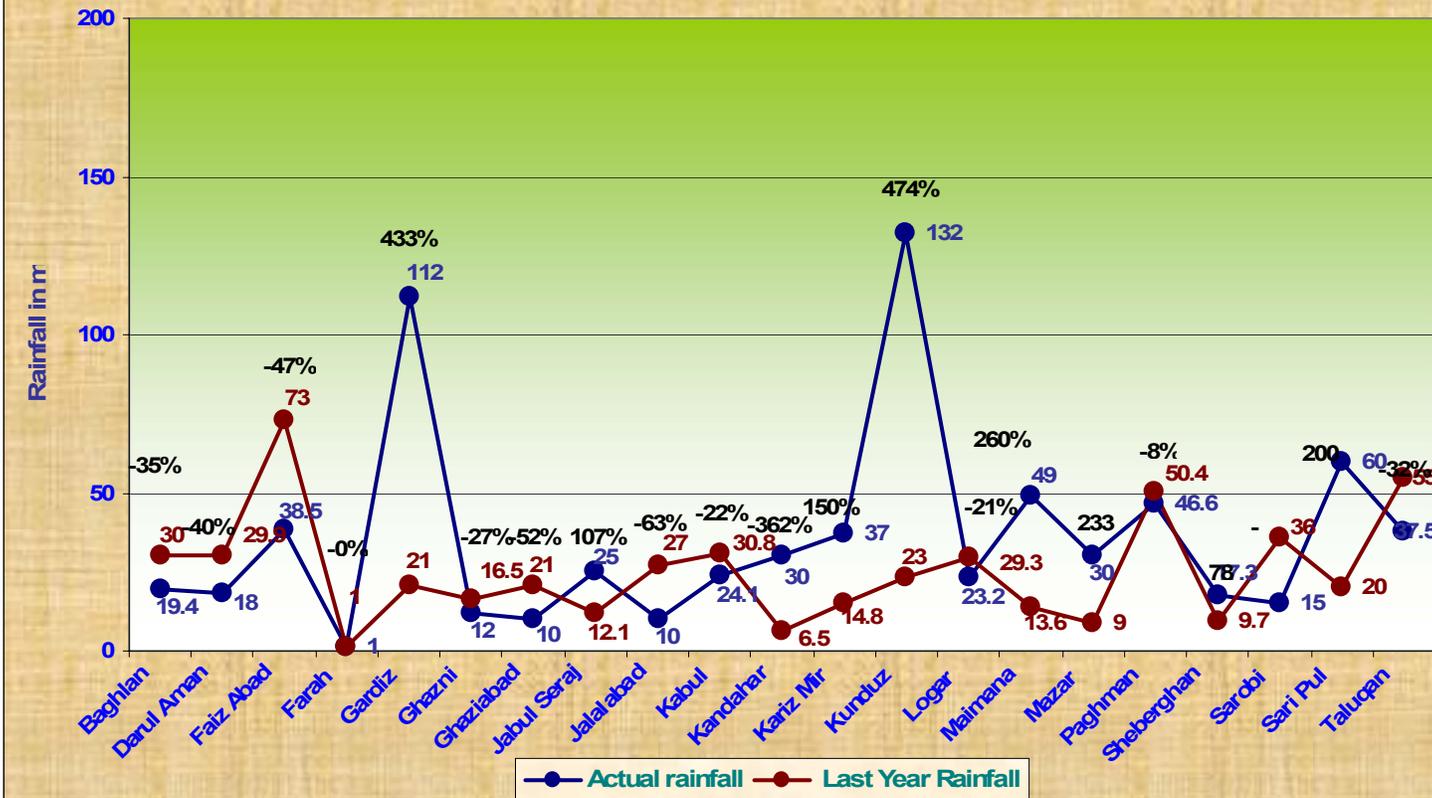
Afghanistan Monthly Rainfall April 2006



Rainfall Graphs for the month of April 2006

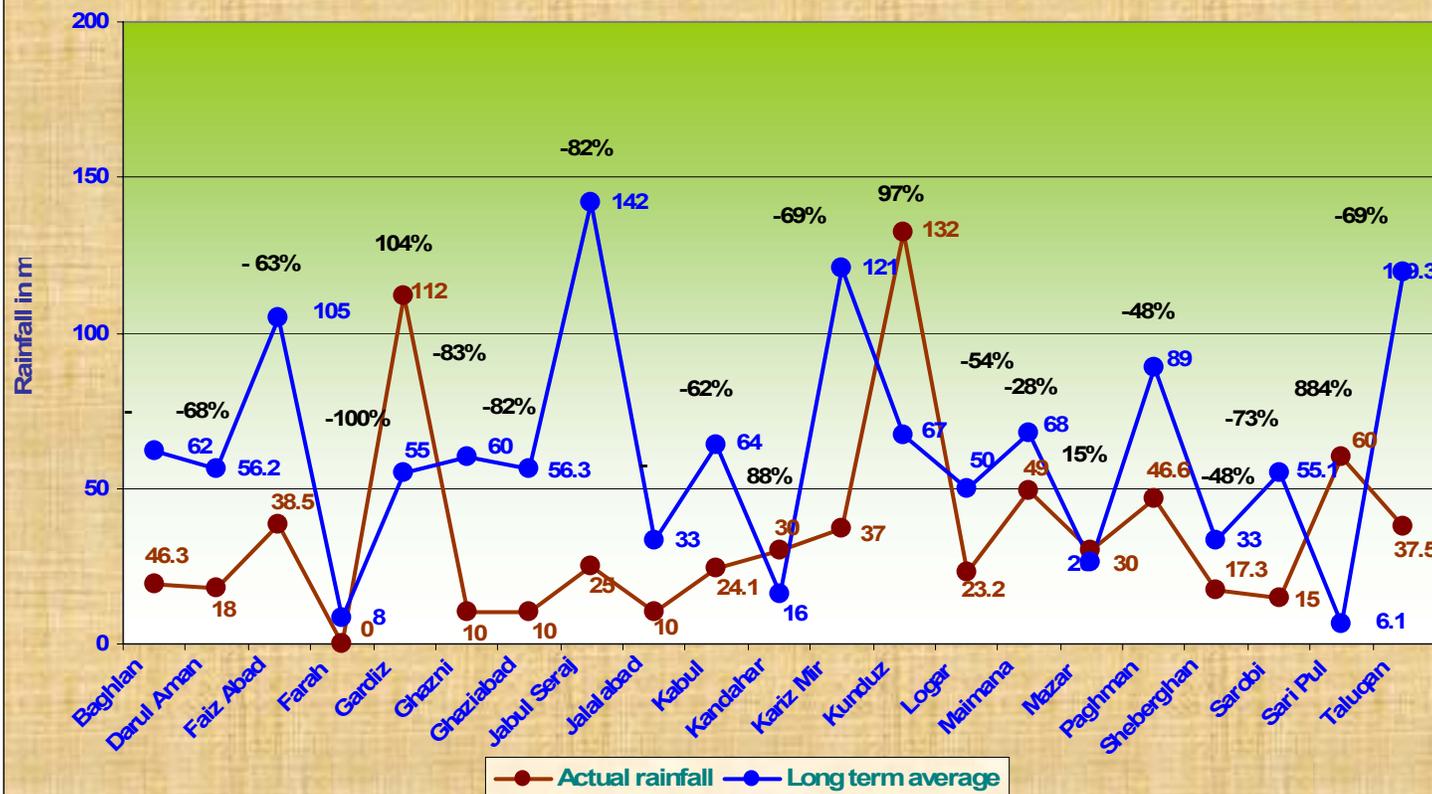
Comparison of Actual and last year Monthly Rainfall (April 2006)

Chart 1



Comparison of Actual and Long Term Average Accumulated Aainfall (April 2006)

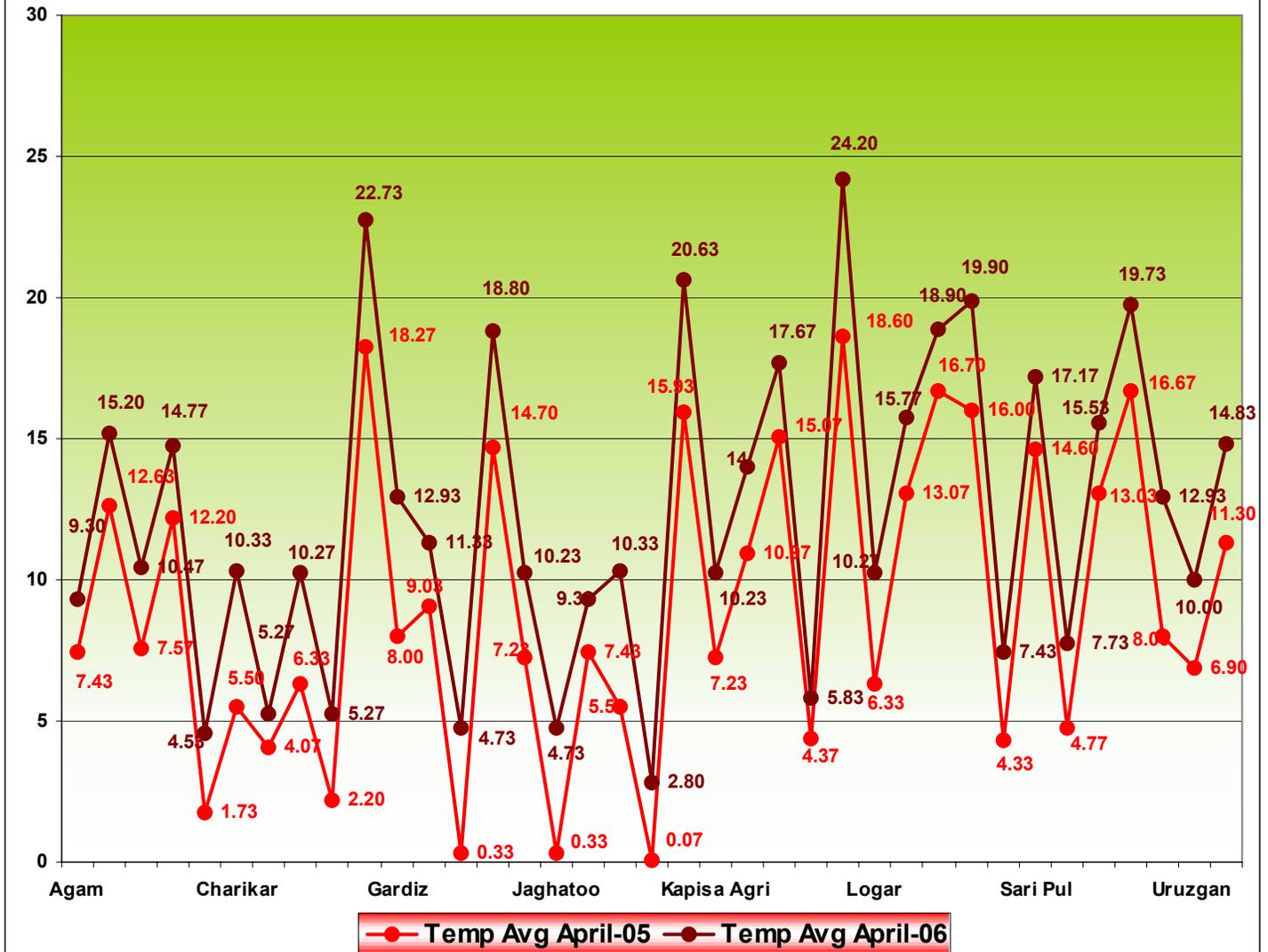
Chart 2



Average Temperature for the Month of April 2006

Comparison of Monthly Average Temperature of April 2006 to Same Month of 2005

Chart 3



Due to arrival of warm air mass which covered the whole country during the month of April, the monthly temperature average the month of April 2006 is higher than that the monthly temperature average of April 2005.

Due to arrival of warm air mass which covered the whole country during the month of April, the monthly average temperature for the month of April 2006 is higher than the monthly temperature average of April 2005.

The temperature value in chart (3) shows higher temperature during the month of April 2006 compared to the same month in 2005 at all stations across the country. The differences of monthly temperature average for the month of April 2006 to the same month in 2005 is between 2 ° C and 4° C.

Afghanistan Monthly Minimum & Maximum Temperature (April 2006)

Chart 4

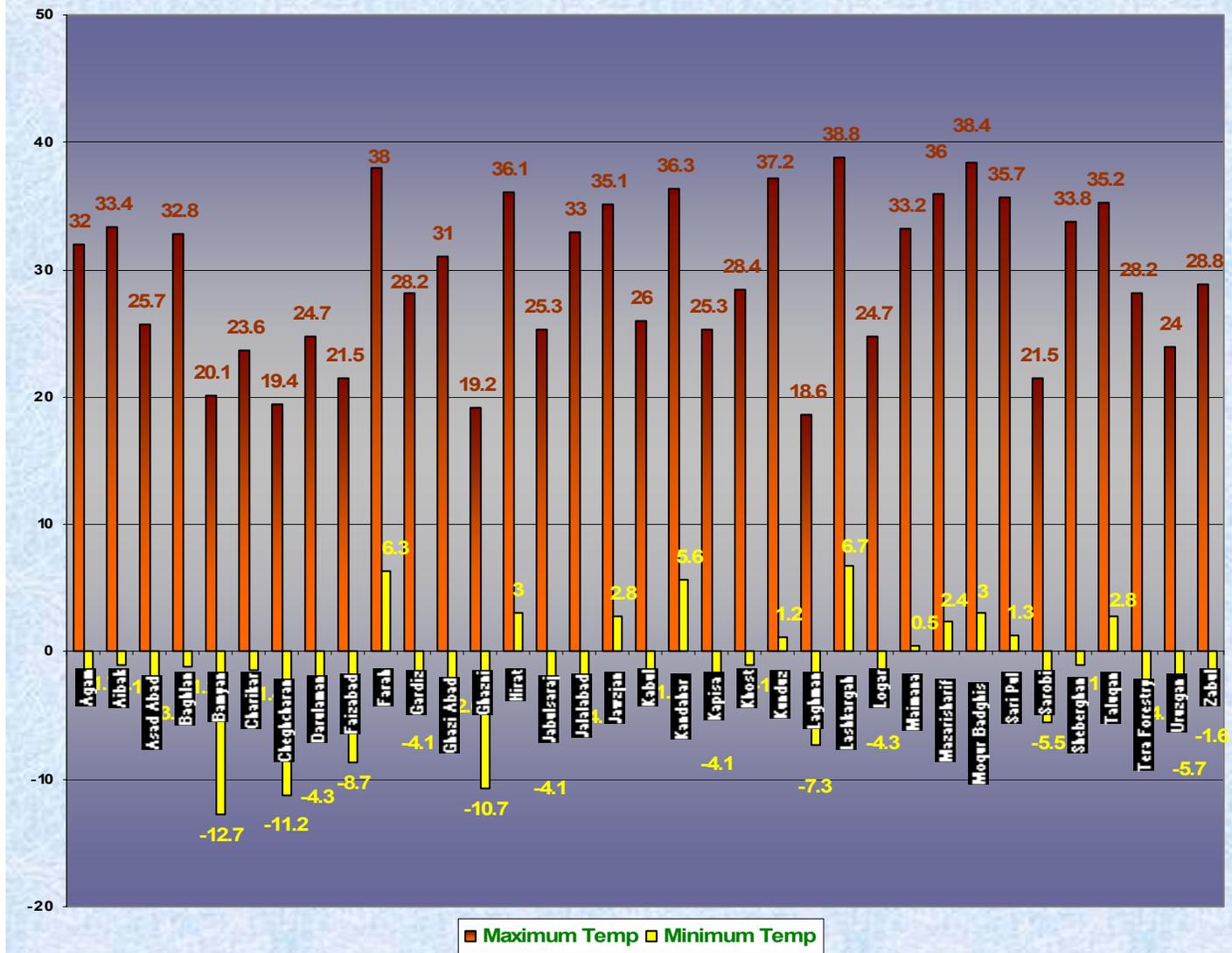


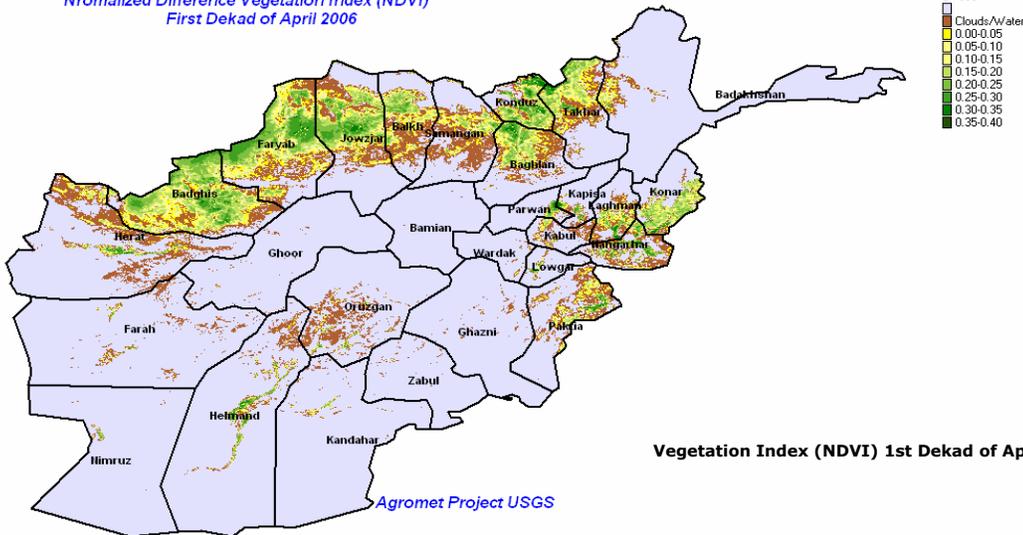
Chart (4) shows minimum and maximum temperature figures for the month of April 2006.

Chart (4) shows minimum and maximum temperature value for the month of April 2006. Lashkarga with 38.8 ° C experienced the warmest temperature and Bamyan with - 12 ° C was the coldest point during the month of April 2006. Minimum temperature was below zero in most stations during the month of April 2006.

Below zero night temperatures caused frost damage to Winter wheat crop during its sensitive phenological stage in Band Chak, Jaghatu, Gazni, Parwan, Kapisa, Ghorband, Pktika, Agam, Ghaziababd, Jabul Seraj, Charikar, Paghman and some other areas.

Normalized Difference Vegetation Index (NDVI) April 2006

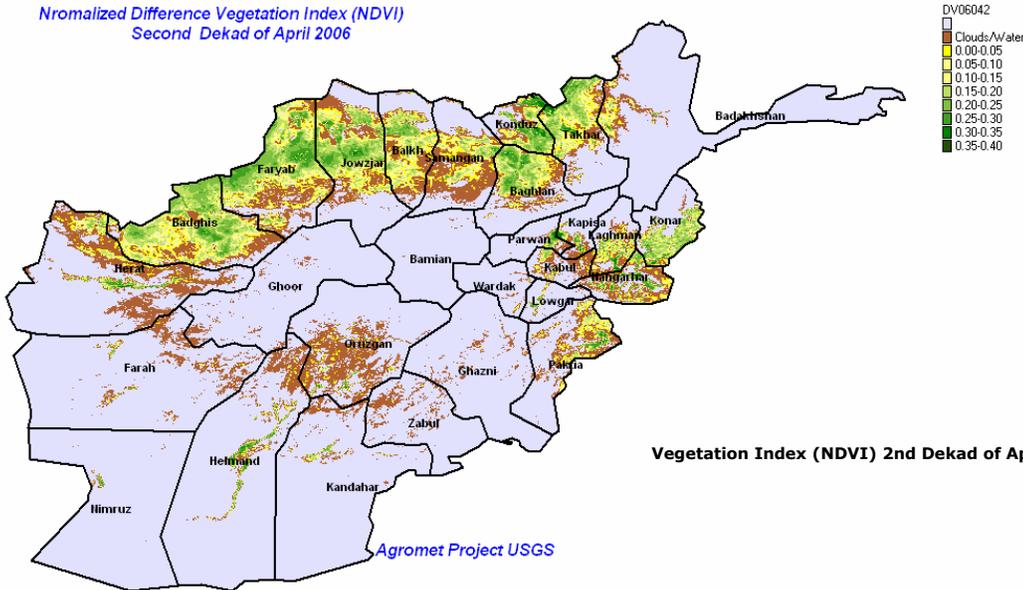
*Normalized Difference Vegetation Index (NDVI)
First Dekad of April 2006*



Map 6

Vegetation Index (NDVI) 1st Dekad of April 2006—Afghanistan

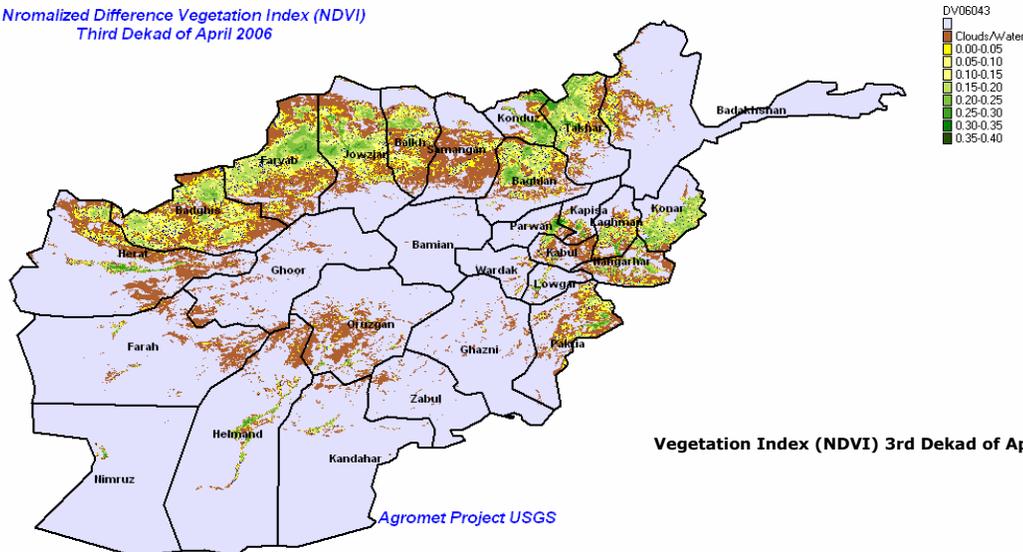
*Normalized Difference Vegetation Index (NDVI)
Second Dekad of April 2006*



Map 7

Vegetation Index (NDVI) 2nd Dekad of April 2006—Afghanistan

*Normalized Difference Vegetation Index (NDVI)
Third Dekad of April 2006*

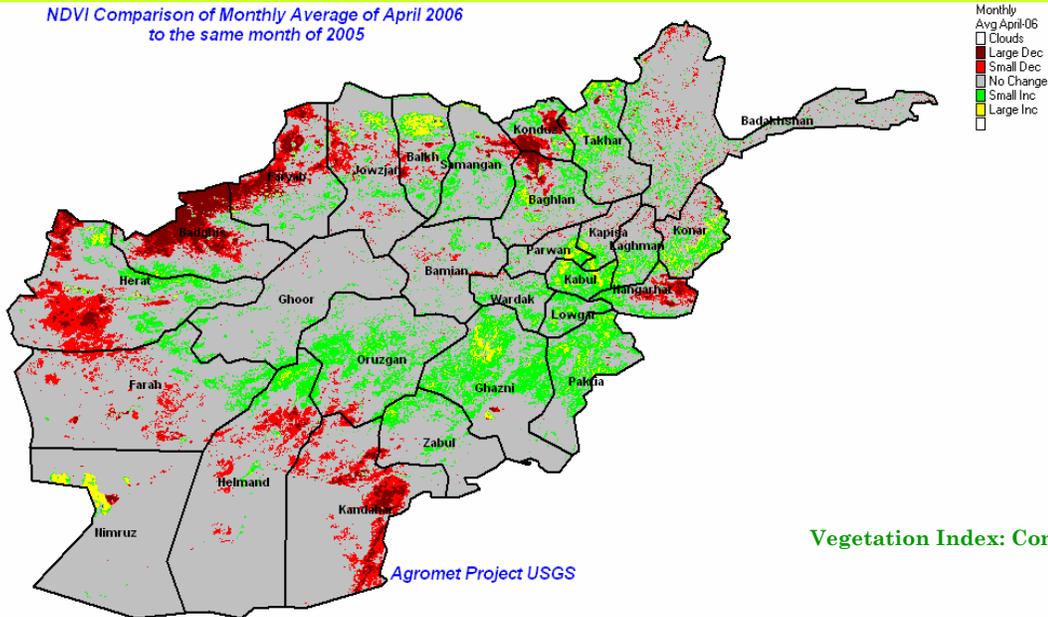


Map 8

Vegetation Index (NDVI) 3rd Dekad of April 2006—Afghanistan

Comparison of NDVI April 2006

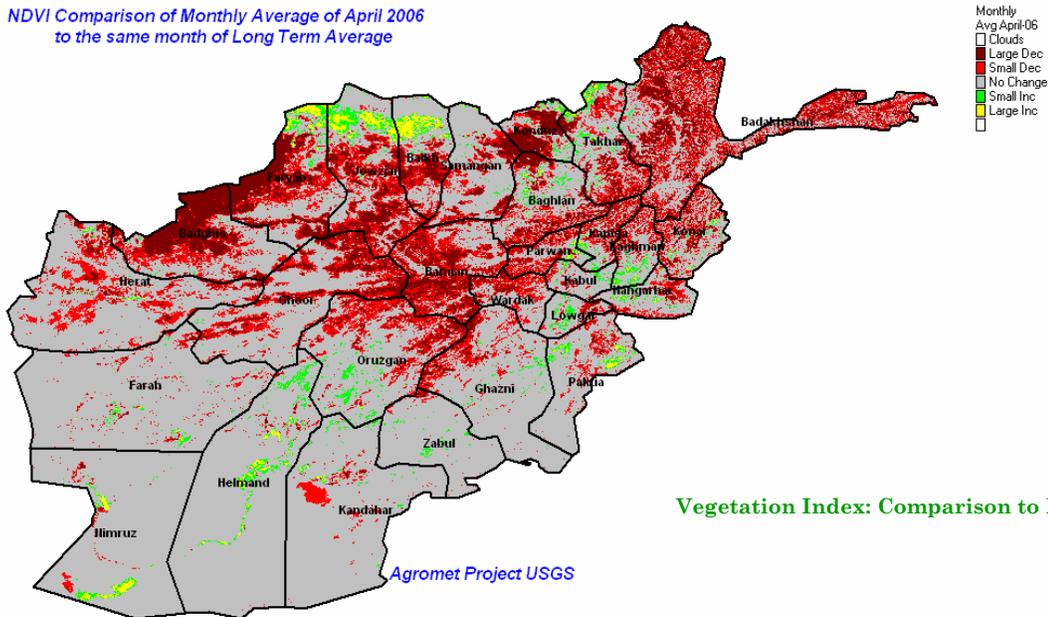
NDVI Comparison of Monthly Average of April 2006 to the same month of 2005



Map 9

Vegetation Index: Comparison to Last Year

NDVI Comparison of Monthly Average of April 2006 to the same month of Long Term Average



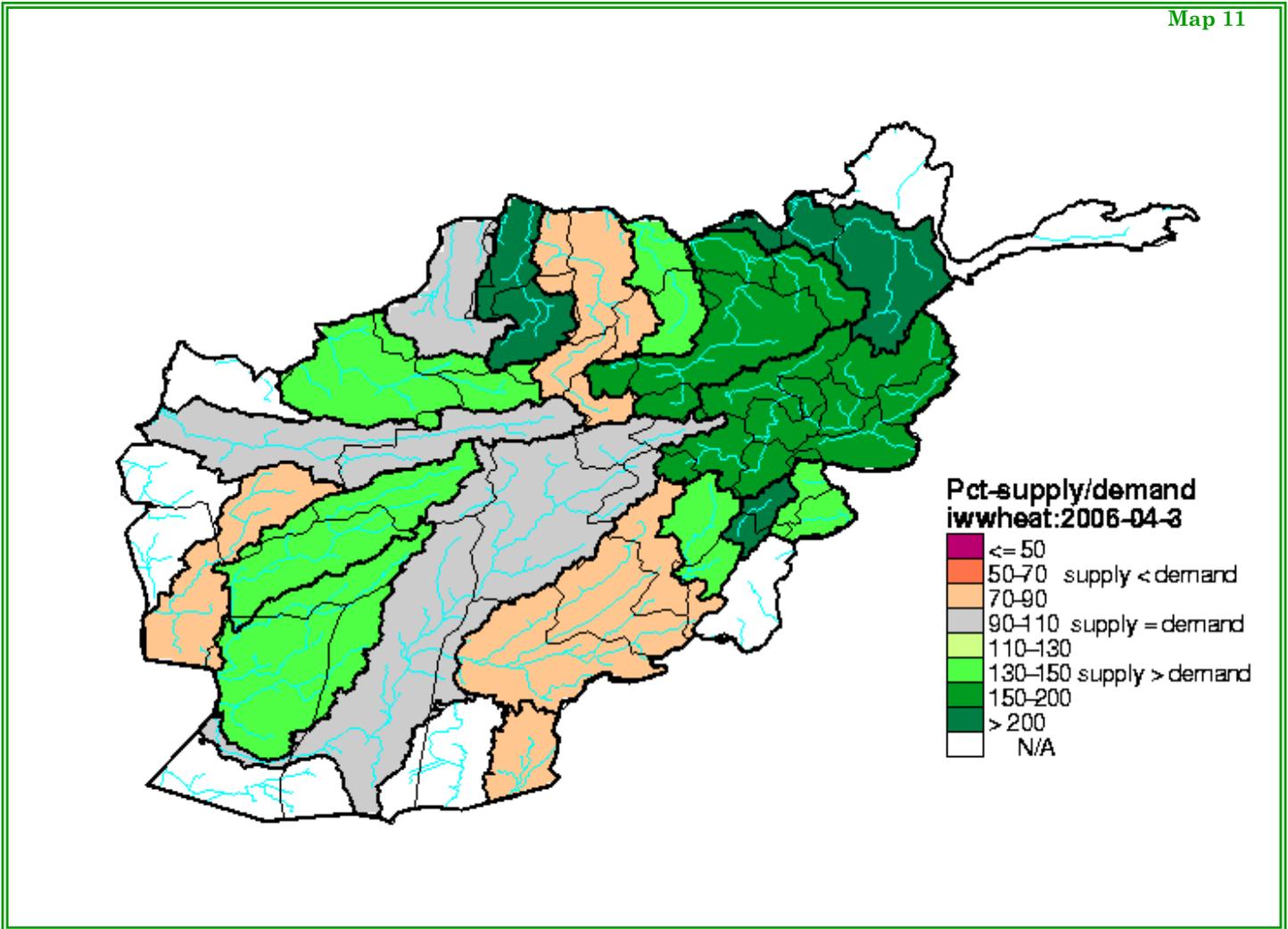
Map 10

Vegetation Index: Comparison to Long Term Average

NDVI: April 2006

The NDVI comparison of the month of April 2006 to the same month of 2005 (map 9) shows small increase of NDVI in most parts of the Eastern regions, East center, Southeastern, some parts of Central highlands, some parts of western mountainous regions, some parts of the North and Northeastern regions. Comparison also shows large decrease of NDVI in the Northwest, West, some parts of the South and limited areas in the Northeastern and Eastern regions. There is no change of NDVI value in the remaining regions.

Comparison of NDVI value for the month of April 2005 to the same month of long term average is shown in map 10 . There is a large decrease of NDVI occurred in the Northwestern regions and also small decrease of NDVI values occurred in the Northeastern, Hindokosh areas, Central highlands, some parts of the Northern regions and some parts of the Eastern regions. Small increase of NDVI occurred in some limited areas in the Northern regions. There is no change of NDVI in the remaining regions of the country.



Generally, in the Northeastern region, Southeastern, and the Northern provinces such as in Badghis and Jawzjan and some parts of the Southwestern basin water supply is more than water demand for the Winter wheat.

In some parts of the Southern basin, the water supply is equal to water demand for the Winter wheat, moreover in some parts of Western and Southern regions water supply is less than water demand for Winter wheat (map 11).

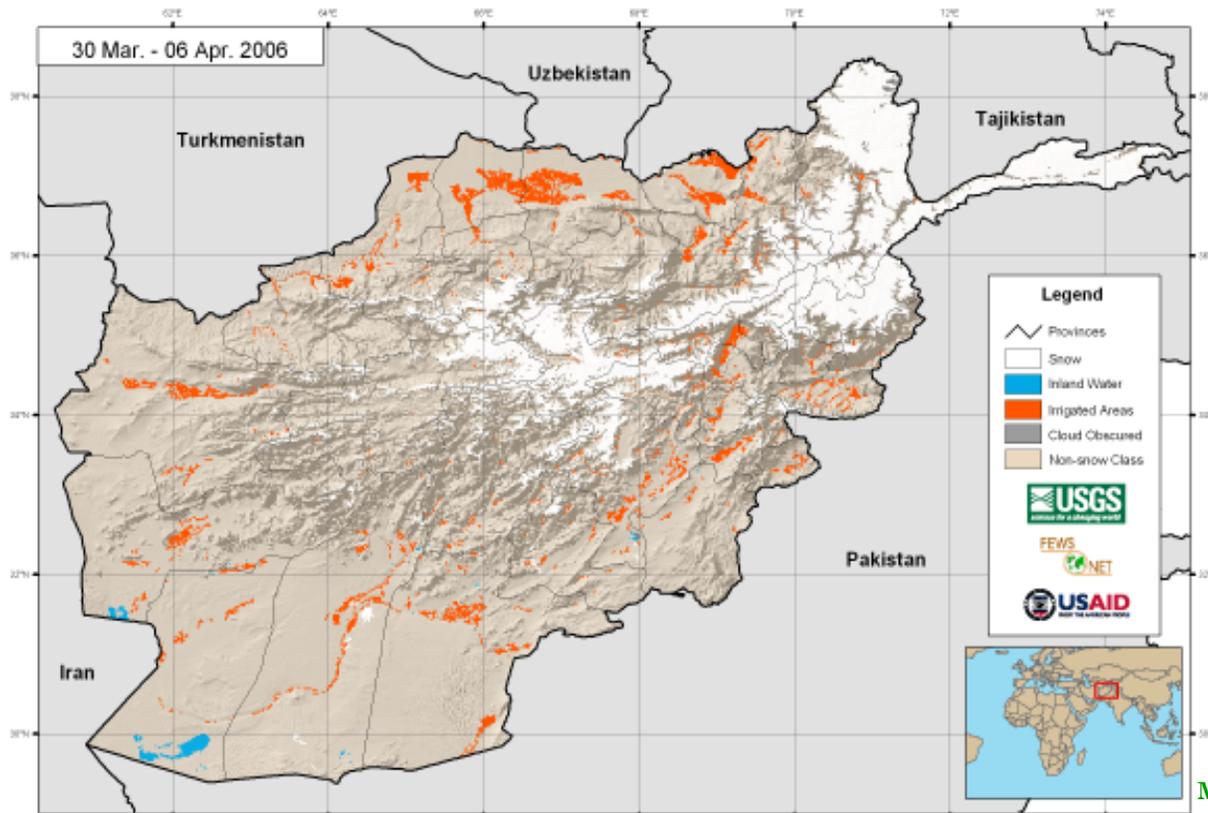
Flood

Residences in Faryab and Baghlan provinces have been damaged by floods and number of people lost their lives.

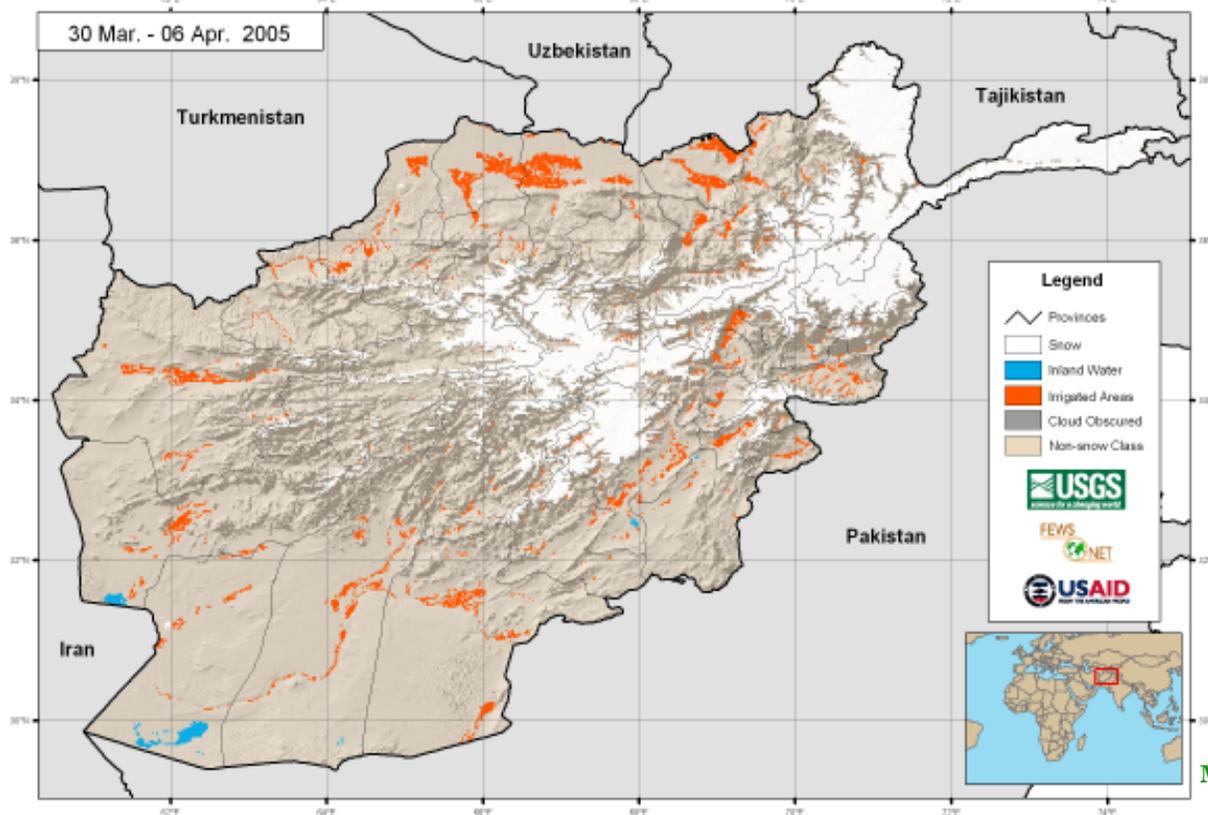
Based on reports from Agro meteorological Network observers and UNAMA office in Faryab saying that in Gurziwan District (Ghal Namak, Dara Jawz, Deh Meran, Ghouldian, Qala Tozi, Takhara, Qala Khowja, Pakhal Soz, Dara zang and Doaba villages) the casualties are: 7 people killed, 25 people injured, 187 houses destroyed, 135 houses damaged, 1749 families sustained damage to their fields, 3086 livestock killed, 6 mosques damaged, 6 schools destroyed, 71 small dams destroyed, 2 powered mills destroyed, 21 water mills destroyed, and 2 vehicles destroyed. Also 45 houses have been damaged in Baghlan province by flood and also thousands Jereb of agricultural lands destroyed.

Comparison of Snow extend and Depth

MODIS 8-day Snow Cover Extent - Current Period 2006 vs 2005



Map 12

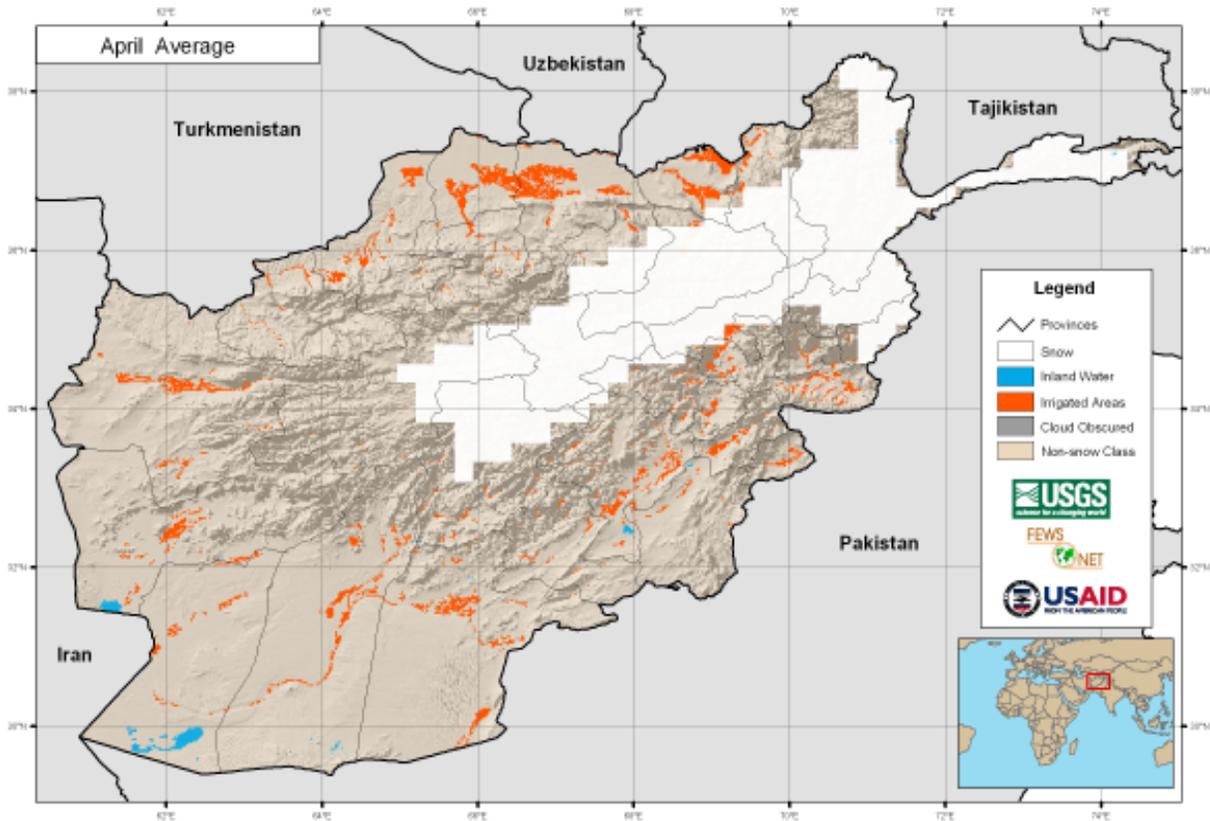
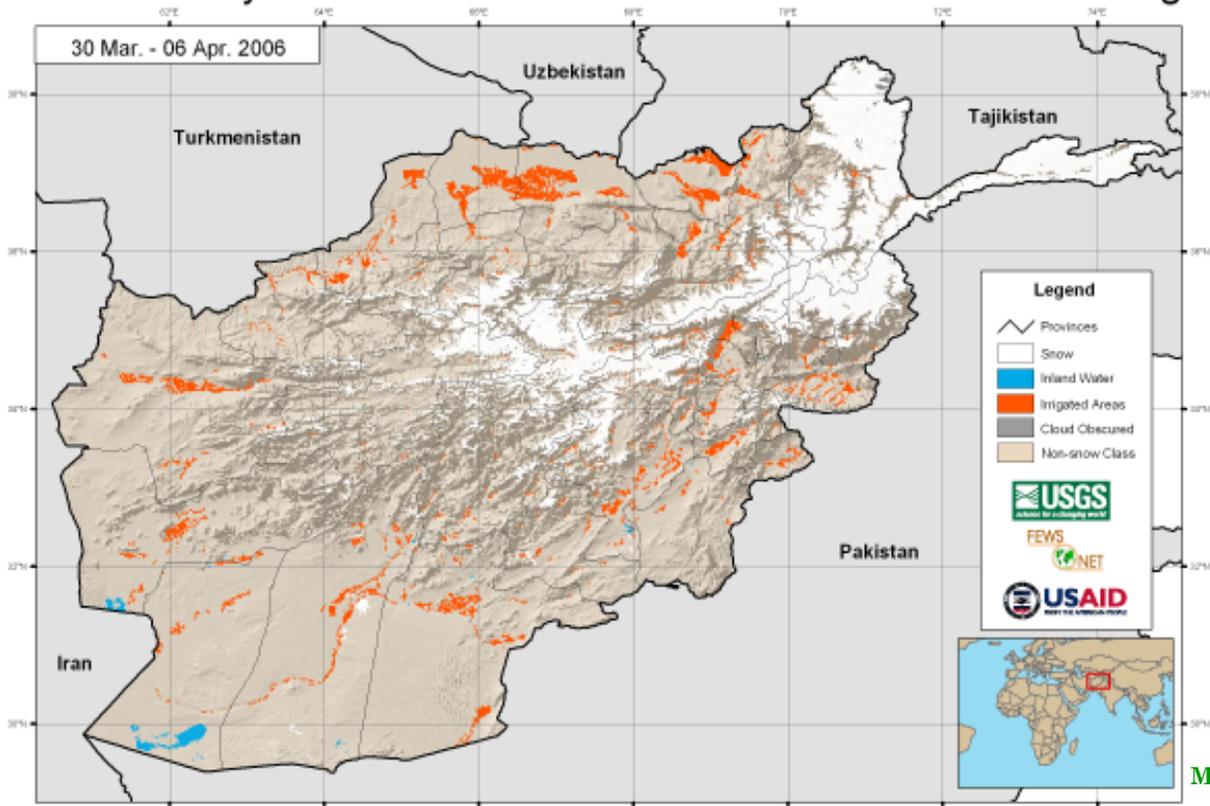


Map 13

Comparison of snow maps (12 and 13) shows less snow extent during the month of April 2006 compare to the same month in 2005 in the snow covered areas.

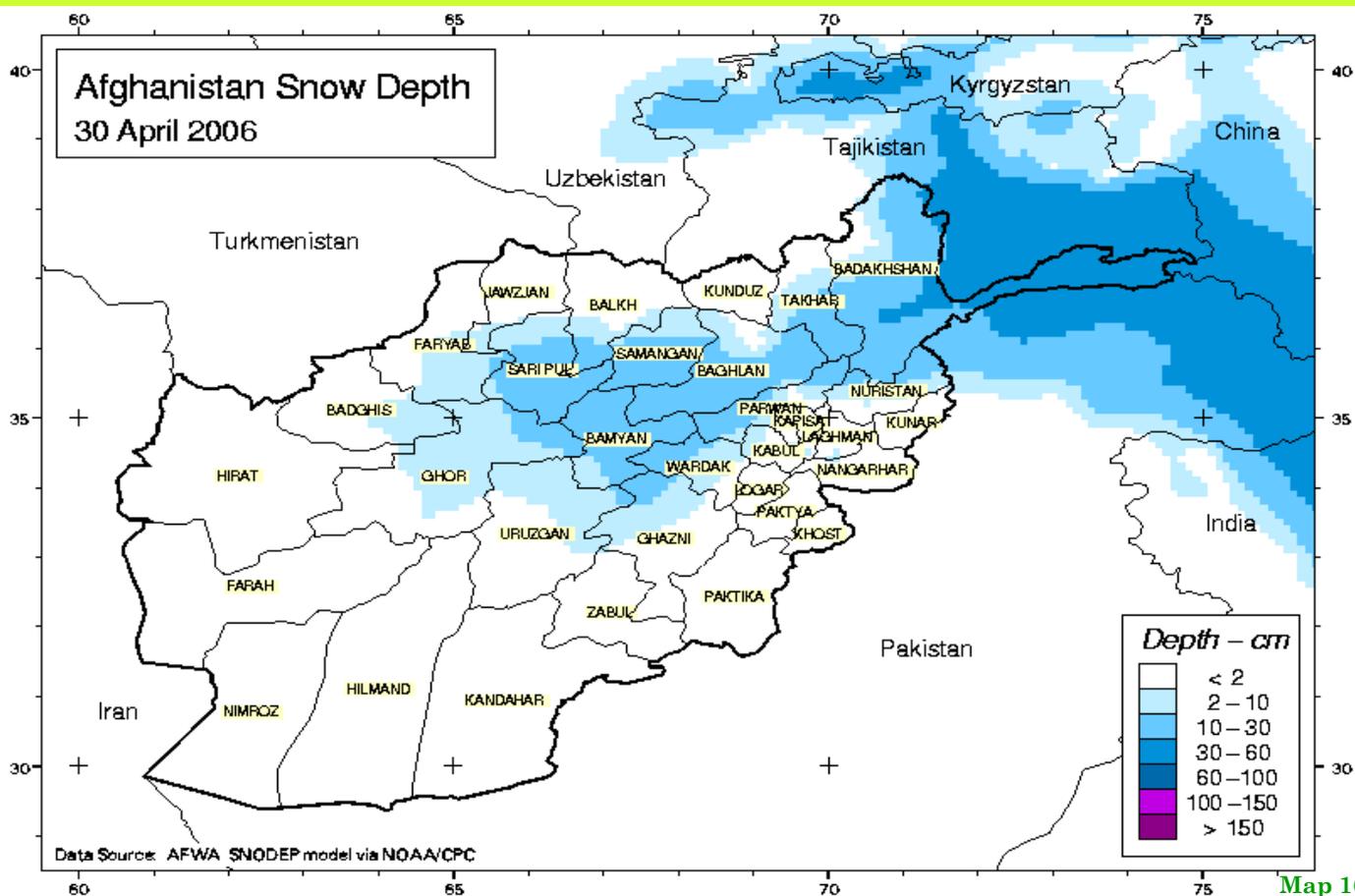
Comparison of Snow extend and Depth

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



Comparison of snow extent for the month of April 2006 to the same month of long term average (maps 14 & 15) also shows a decrease of snow extent during the month of April 2006 over the same month of long term average.

Afghanistan Snow Depth April 2006



Map 16

The snow depth in various regions is shown in map (16), the snow depth in Northeast range from 60cm to 100 cm and around 30 cm in the Central highlands.



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Pastures in Faryab Province