



Agrometeorological

Monthly

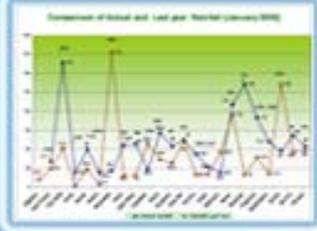


Bulletin



February - 2006

Inside this Issue:



Comparison of Rainfall



Crop Information



Rainfall Situation



Snow Depth



Agromet Project-Afghanistan

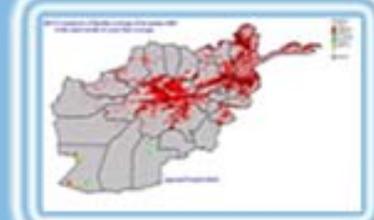
Helping Agriculture to End HUNGER



Rainfall vs NDVI



NDVI



Comparison of NDVI

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



Summary

Most of the winter wheat fields in Asmar, Asadabad, Agam and Laghman are in vegetative stage (Seedlings are more than 10 cm/4" long).

Crop condition for the southern region is better than normal as in Khost Province. Gardiz center of Paktya Province has excellent crop condition

The Northern Region is experiencing adverse factors such as sunn pest and wheat bore for the irrigated wheat especially in Jawzgan and Sair Pul Provinces.

Overall, the cumulative amount of rain recorded in most of the stations fro the month of February 2006 is lower than that of the same month last year.

The NDVI comparison fro the month of February 2006 to the same month of 2005 shows a large increase of NDVI value during February 2006 in the Eastern Region , the Southeast, the eastern Center, some parts of the North, West and some parts of the Central region.

Crop Phenological Stages

In the East Central region:

The crop stage range (depending on the respective planting dates) is at the emerging stage (crop has germinated and seedlings have emerged but average height dose not exceed 10cm/4') such as in the Yakawlang District and surrounding Bamyán for the winter wheat.

In the Eastern region:

In this region most of the winter wheat fields are in the vegetative stage (Plants are more than 10cm/4 ") such as in Asmar, Asadabad, Agam and Laghman Province.

In the North Eastern region:

In this region most of the fields are in the emerging stage (crop has germinated and the seedlings average height does not exceed 10cm/4') including Taluqan the center of Takhar Province, the Baharak District of Badakhshan Province, Kunduz Province and Baghlan Province. However, in some areas of Baghlan Province the crop is in in vegetative stage (Plants are more than 10cm/4). In Takhar Province wheat planting is in progress.

In the Takhtapul area and surrounding Mazar-i-Shrif the center of Balkh Province, the crop stage is in vegetative stage (Plants height are more than 10cm/4"). In Jawzgan Province planting is in progress.

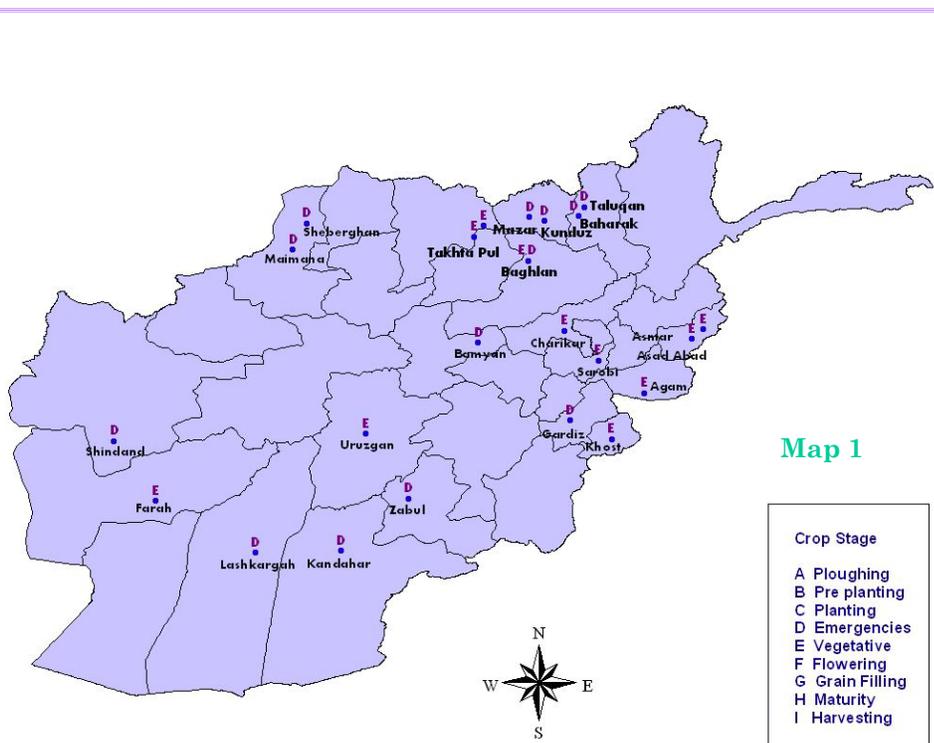
In the Western region

In this region most of the winter wheat fields are in emerging stage (crop has germinated and the seedlings average height dose not exceed 10cm/4') as for Qalai-new center of Badghis Province, Ghor and Shindand District of Hirat Province.

In Shindand and surrounding areas, the crop is in the vegetative stage (Plants are more than 10cm/4) and surrounding for the wheat agricultural areas.

In the North region:

In this region the crop is in emerging stage (crop has germinated and the seedlings average height does not exceed 10cm/4") as in Jawzjan , Maimana the center of Faryab Province , Saripul Province and Aibak center of Samangan Province.



Map 1

Crop Phenological Stage

In the Central region:

In the Sarobi and Charyakar areas the crop is in the vegetative stage (Plants are more than 10cm/4"). In Chak District of Wardak Province the wheat fields are in the emerging stage (crop has germinated and the seedlings average height dose not exceed 10cm/4').

For the South western region:

In this region including Greshk, Nawa, Nadali districts and the Lashkargah center of Hilmand Province, Kandahar and Zabul Provinces, most of the wheat fields are in the emerging stage

(crop has germinated and the seedlings average height dose not exceed 10cm/4").

For Farah and Urozgan Provinces Plants have reached more than 10cm/4").

For the South region:

In this region most of the winter wheat fields are in the emerging stage (crop has germinated and the seedlings average height does not exceed 10cm/4") as in the Gardiz Center of Paktya Province.

In Khost Province average plant heights are more than 10cm/4".

Crop Condition

South western region:

Normal crop condition observed in Farah , Hilmand , Zabul ,Urozgan and Kandahar Provinces.

Western region:

Normal crop condition observed in Chaghcharan Center of Ghor Province and Qalai new Center of Badghis Province and Shindand areas of Hirat Province.

Central region:

Crop condition is normal as observed in Sarobi District of Kabul Province and the Chak District of Wardak Province.

East Central region:

Crop condition is normal as observed in Bamyan Province.

Eastern region:

Crop condition is normal as observed in Asmar, Asadabad and Agam with excellent crop condition observed in Laghman Province.

Northeastern region:

In this region the crop condition is normal as observed in Char Dara , Imam Sahib and Qalaizal

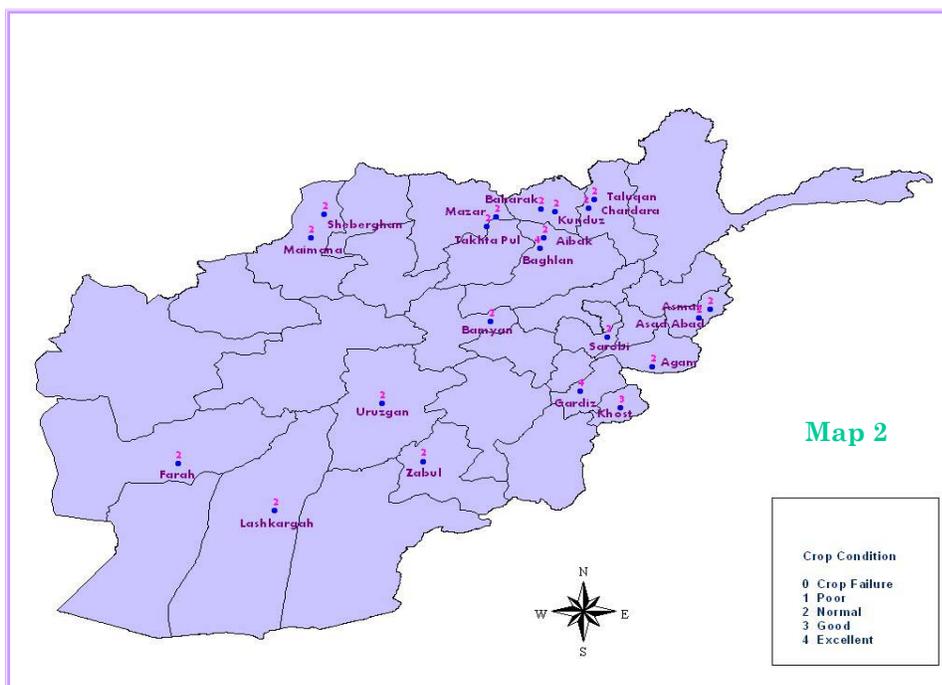
Districts of Kunduz Province and the center of Kunduz Province. Baghlan Province has excellent crop condition.

Northern region:

Normal crop condition is observed Baharak District of Takhar Province, Faryab, Balkh and Jawzjan Provinces as well as in Aibak center of Samangan and Sarepul provinces.

Southern region:

Crop condition for the south region is better than normal to excellent as observed in Khost and Gardiz Center of Paktya Province.



Adverse Factors

Since the weather is getting warmer each day and the crops are entering into the next stages, the adverse factors are measurable in some areas as follow:

In the east central region:

Weather is still cold in most parts of this region so there is no observed adverse factors yet.

In the Western region:

In this region adverse factor is lack of rain or less rain than the same period last year is recorded in the Qalino Center of Badghis Province. Adverse factors in the Shindand District of Hirat Province include late planting and sunn pest.

In the south Western region:

In this region the adverse factor is lack of rain or less rain than the same period last year is recorded in Farah Province which resulted in late planting as the case in Kandahar Province. Sunn pest was observed in Lashkargah Center of Hilmand.

In the south region:

In this region the adverse factor is weed problem as observed in Khost Province.

In the eastern region:

Adverse factor is mainly lack of rain or less rain than previous year in observed in the Asmar District of Kuar Province and in Agam areas of Nangarhar Province. Weeds problem observed in Laghman Province.

In the north east region:

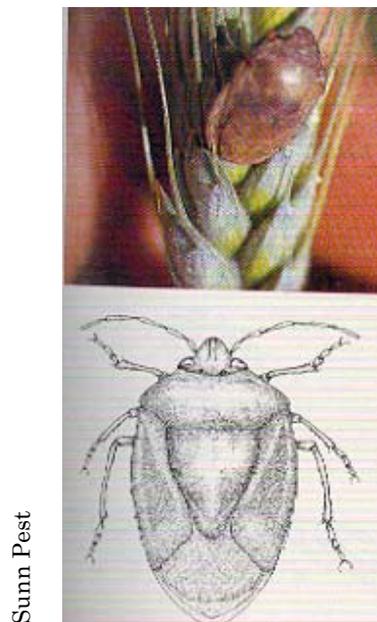
No adverse factors and/or problems observed in Kunduz, Takhar and Baghlan provinces at the time.

In the northern region:

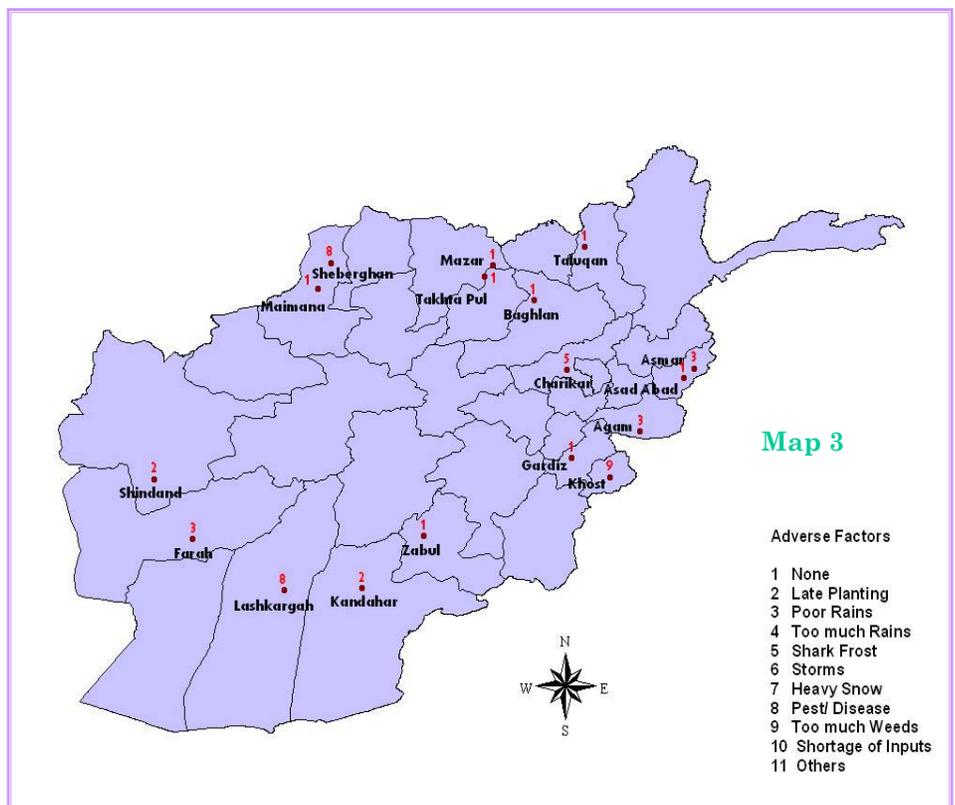
In this region adverse factors are sunn pest and wheat bore of irrigated wheat observed in Jawzgan and Sair Pul Provinces.

In the central region:

In this region forest is the major adverse factor observed in Chariakar Center of Parwan Province .



Sunn Pest



Rainfall Satiation

Rainfall from the month of February 2006 was less than that in February 2005 chart (1) shows 2005-2006 rainfall data comparison. The had decreased during the month of February 2006 than the same month of 2005 except in Kunduz, Taluqan, Maimana, Saripul and Ghazni where the rainfall has increased during the month of February 2006 compared to 2005. The percent +/- in rainfall during the month of February 2005-2006 is as follow:

In Kabul – 41 %, Kariz Mir – 70 %, Paghman – 37 %, Sarobi – 65 %, Jabul Seraj – 42 %, Ghaziabad – 69 %, Jalalabad – 19 %, Logar – 59 %, Gardiz – 58 %, Kandahar – 82 %, Farah – 100 %, Herat – 68 %, Faizabad – 3 %, Mazar – 6 %, Sheberghan – 25 %, Murghab – 46 %.

The rainfall had increased in some stations during the month of February 2006 over the same month in 2005 as follows:

In Kunduz + 1440 %, Maimana + 50 %, Sari Pul + 26 %, Taluqan + 34 % and Ghazni + 15.3 %.

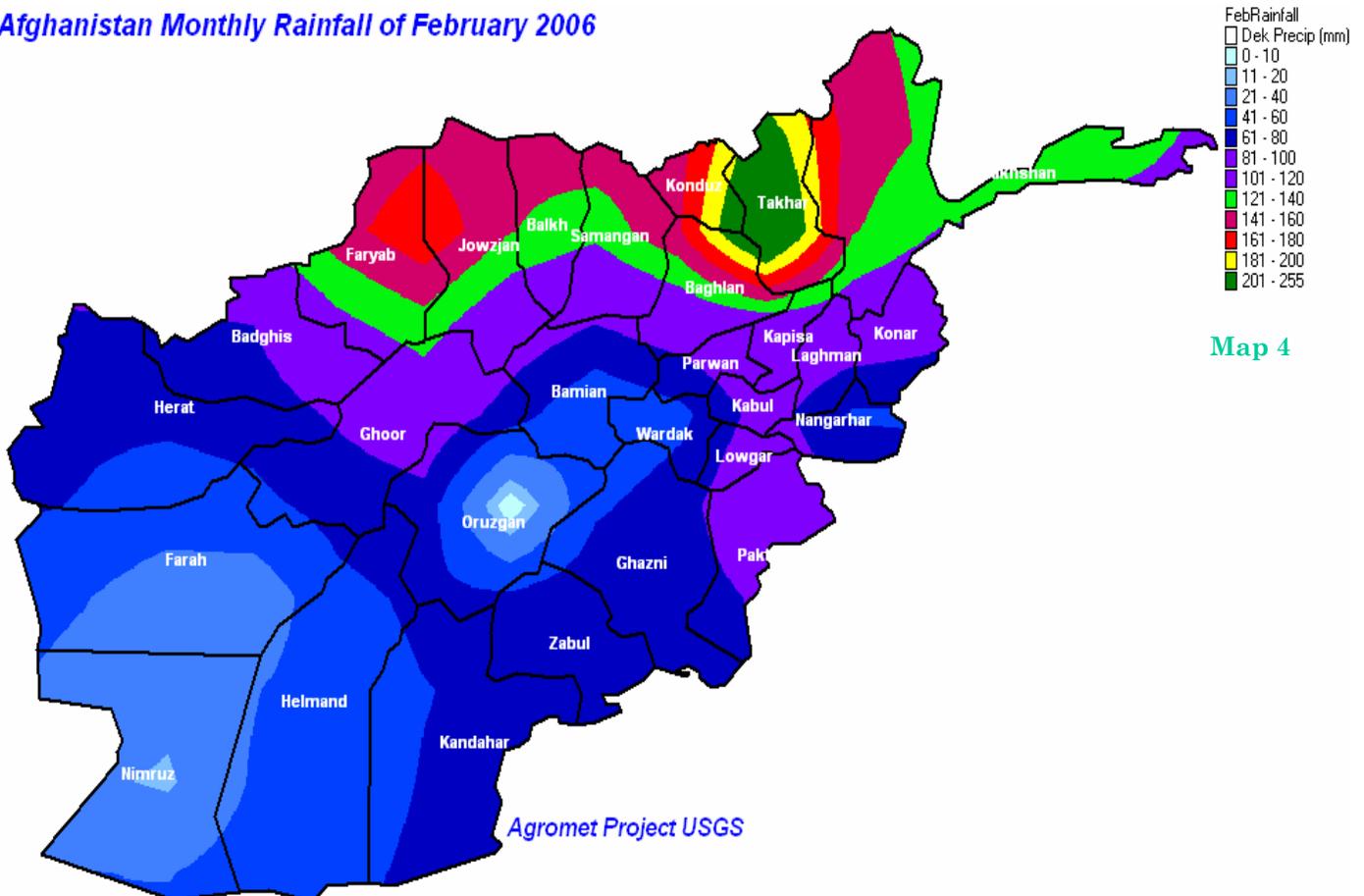
In the month of February 2006 the amount of rainfall was below the long term average in most parts of the country except in Kunduz, Maimana and Sari Pul where the rainfall showed an increase over that of the long term average. Chart (2) clearly shows decrease of rainfall during February 2006 than the same month of long term average, the decrease of rainfall in percentage as follow:

In Kabul the rainfall has– 54 % decrease in the month of February 2006 than long term average, in Paghman – 12 %, Kariz Mir – 69 %, Sarobi – 38 %, Jabul Seraj – 55 %, Gardiz – 77 %, Ghazni -73 %, Kandahar – 57 %, Farah – 100 %, Herat – 67 %, Faizabad – 13% , Taluqan -56 %, Baghlan – 50 %, Mazar – 13 %, Sheberghan – 43 %.

The stations where the recorded rainfall showed increase during the month of February 2006 than that of the same month of long term average as follow:

In Kunduz + 34 %, Maimana + 64 %, Sari Pul + 213 %, Jalalabad +34 %.

Afghanistan Monthly Rainfall of February 2006

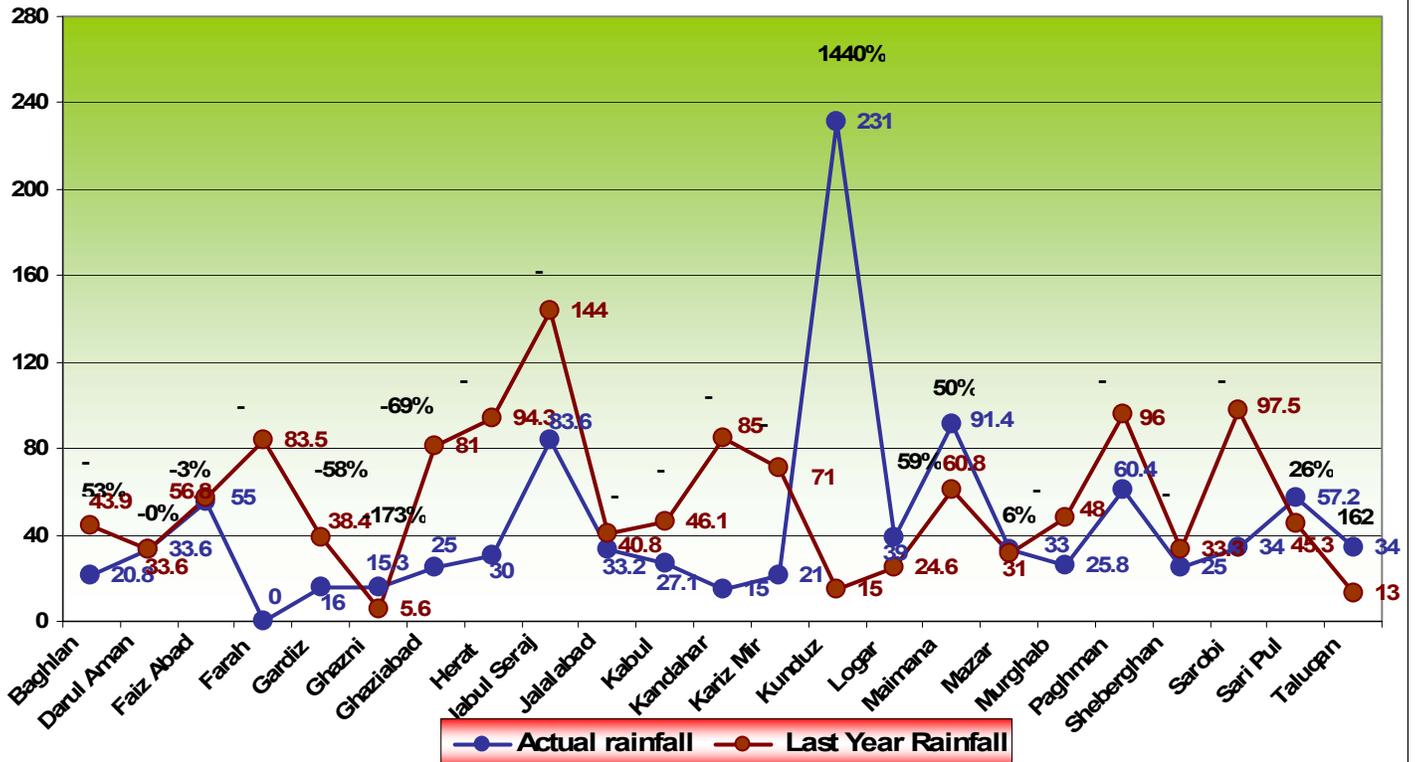


Map 4

Rainfall Graphs for the month of February 2006

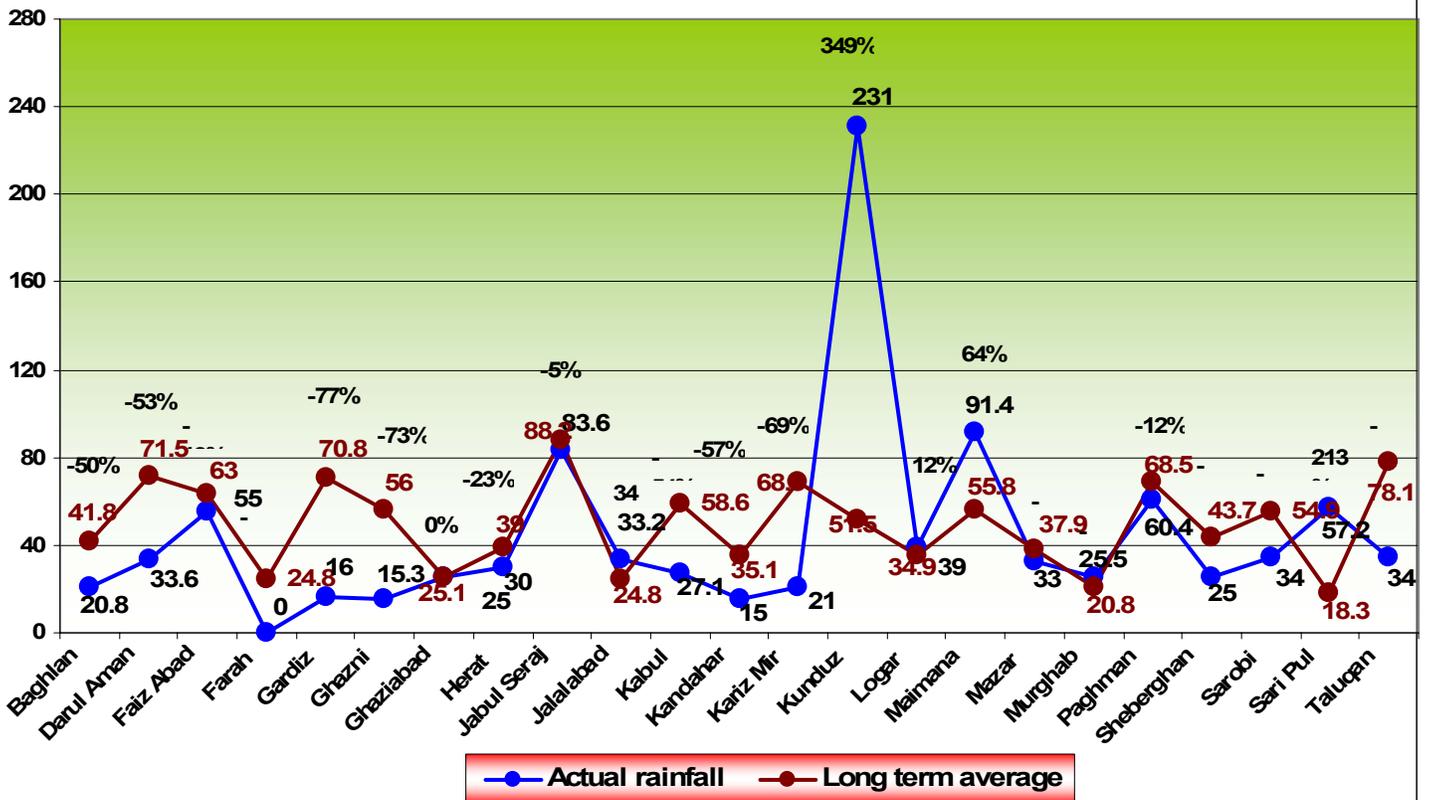
Comparison of Actual and Last Year Rainfall (February 2006)

Chart 1



Comparison of Actual Rainfall with Long Term Average of February 2006

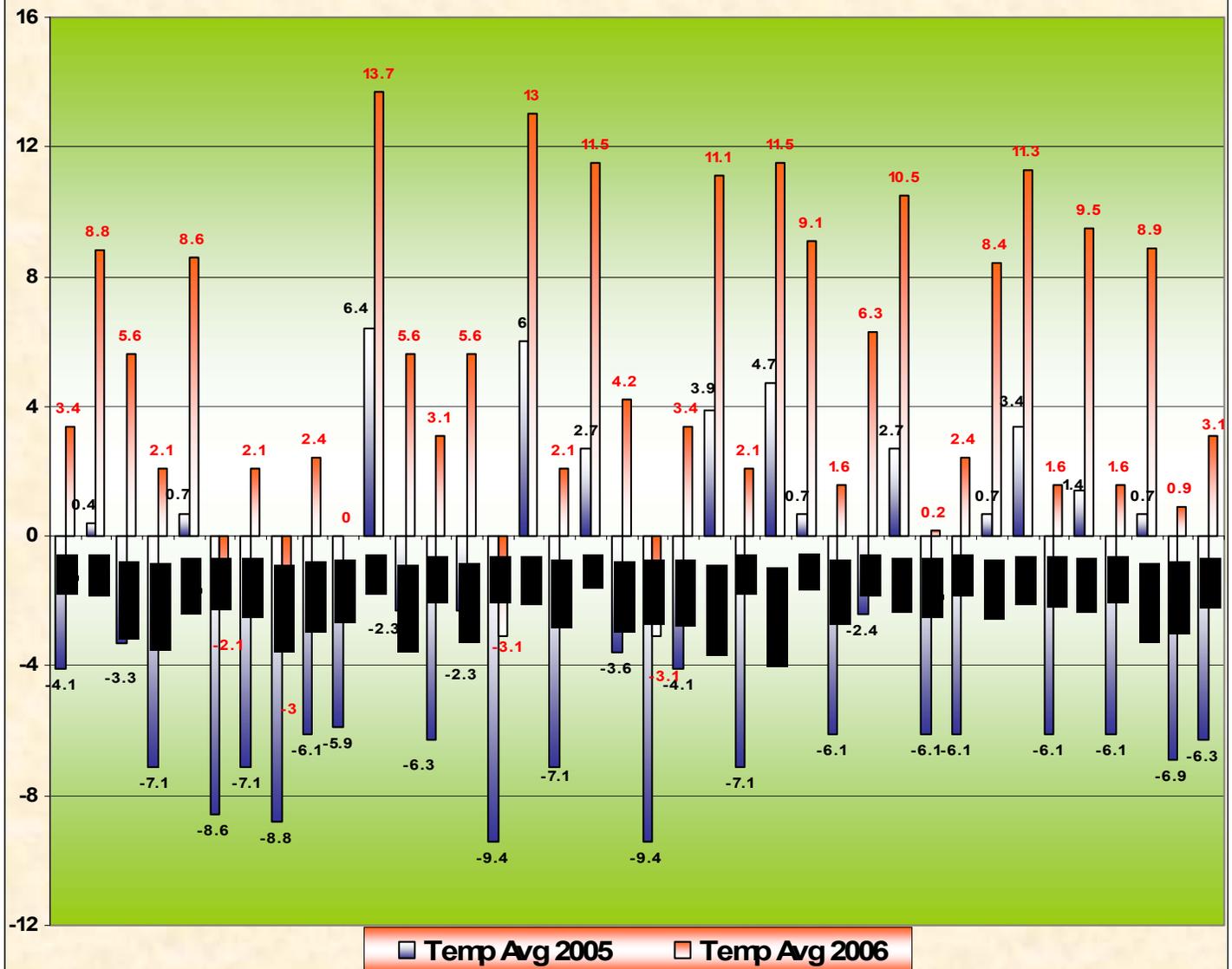
Chart 2



Temperature for the month of February 2006

Chart 3

Comparison of Monthly Average Temperature of February 2006 to the Same Month of 2005

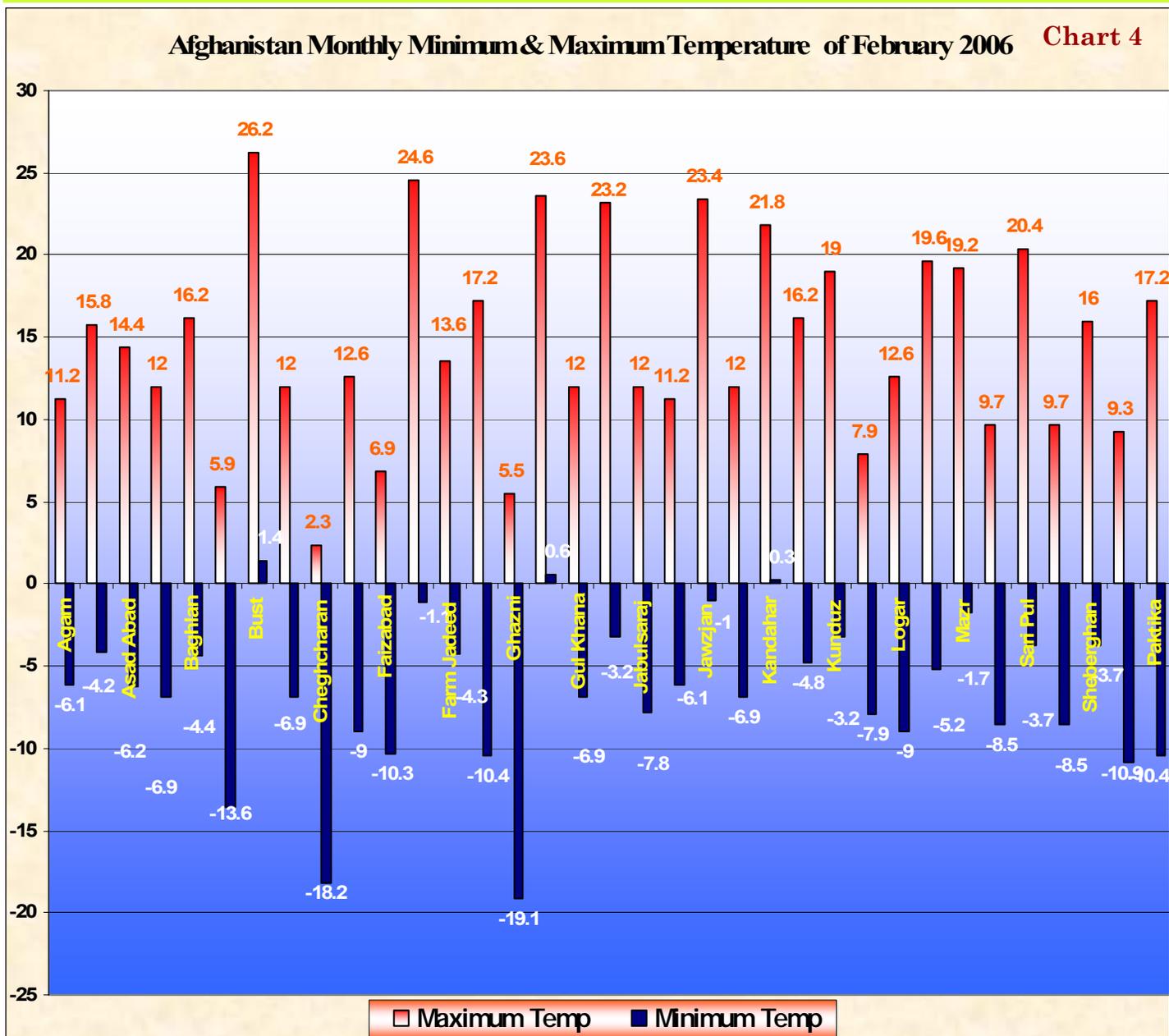


The monthly average temperature of February 2006 has significant increase than the monthly average temperature of February 2005 across the country

The monthly average temperature of February 2006 is significantly higher than that of the monthly average temperature of February 2005 across the country. The temperature value in chart (3) clearly shows higher temperature during the month of February 2006 compared to the same month of 2005.

Specifically the South and the Southwest Regions experienced warmer weather than the other regions. Warmer temperature might be the cause for decreased rain in these regions.

Temperature for the month of February 2006



The Maximum and Minimum temperature values in the month of February 2006.

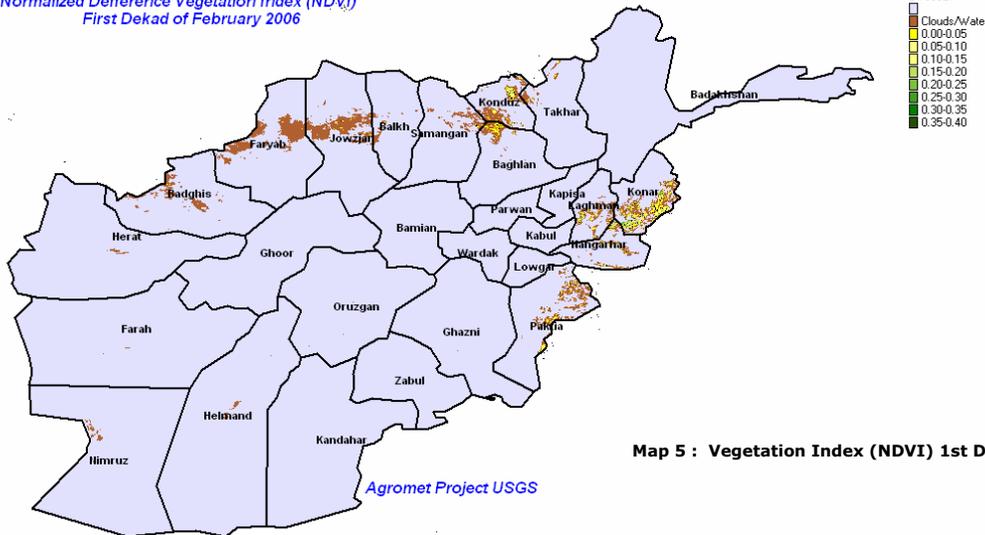
Chart 4 shows the maximum and minimum temperature values for the month of February 2006 . Bust experienced the warmest temperature of 26.2 ° C during the day. Minimum temperature was below zero in most parts of the country except

Bust, Greshk and Kandahar showed minimum temperature above zero during the night.

Ghazni and Cheghcheran with – 19.1 ° C and – 18.2 ° C were the coldest areas during the month of February 2006.

Normalized Difference Vegetation Index (NDVI)/February 2006

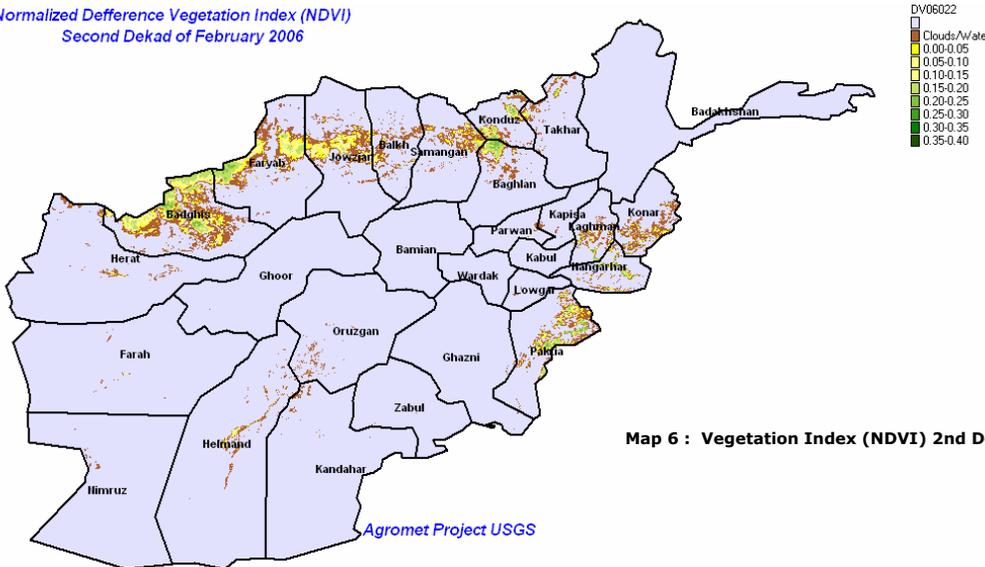
Normalized Difference Vegetation Index (NDVI)
First Dekad of February 2006



Map 5 : Vegetation Index (NDVI) 1st Dekad of February 2006—Afghanistan

Agromet Project USGS

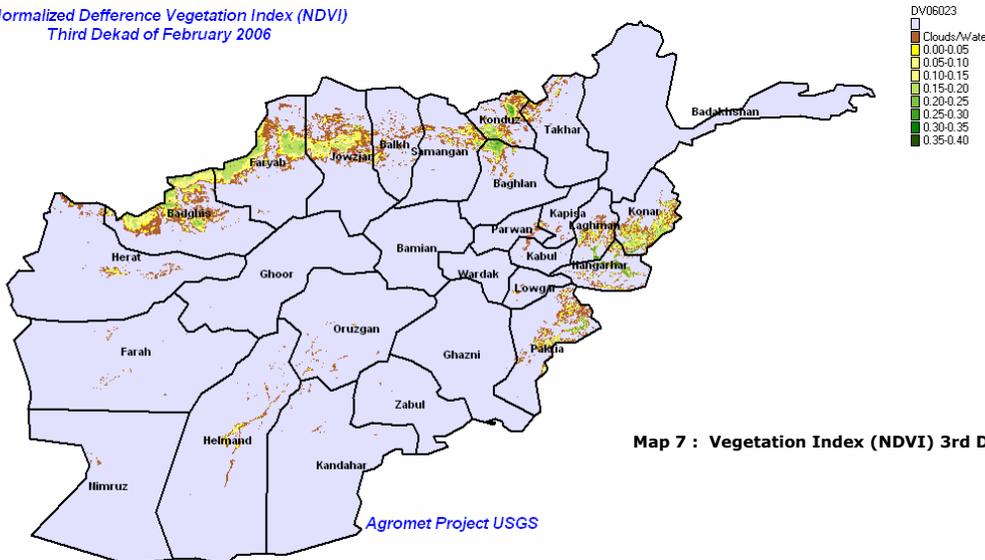
Normalized Difference Vegetation Index (NDVI)
Second Dekad of February 2006



Map 6 : Vegetation Index (NDVI) 2nd Dekad of February 2006—Afghanistan

Agromet Project USGS

Normalized Difference Vegetation Index (NDVI)
Third Dekad of February 2006

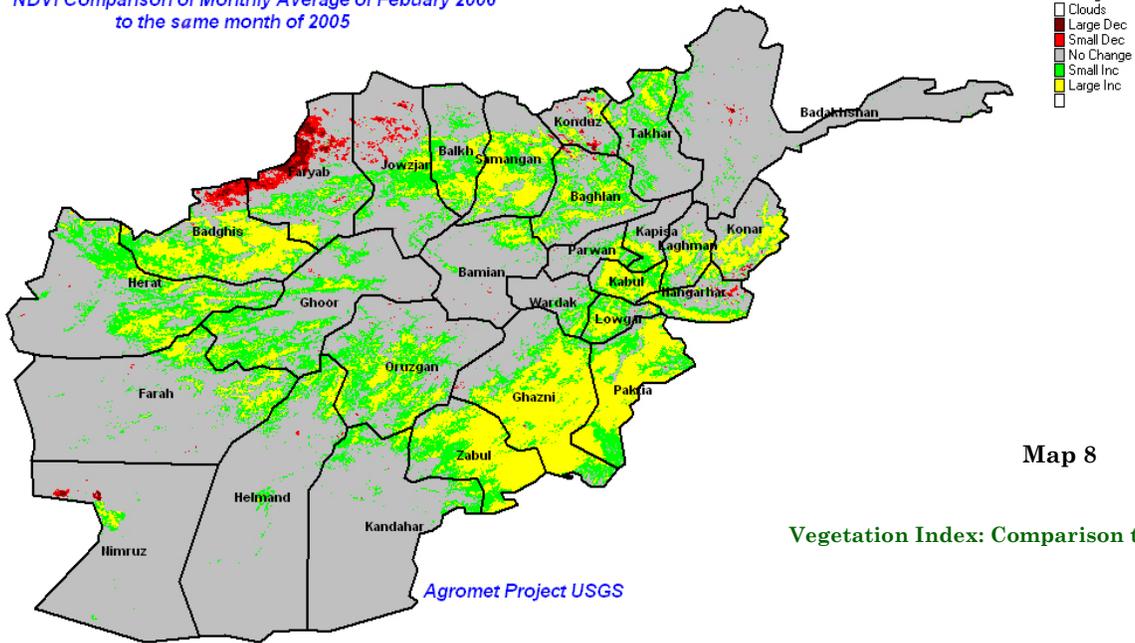


Map 7 : Vegetation Index (NDVI) 3rd Dekad of February 2006—Afghanistan

Agromet Project USGS

Comparison of NDVI February 2006

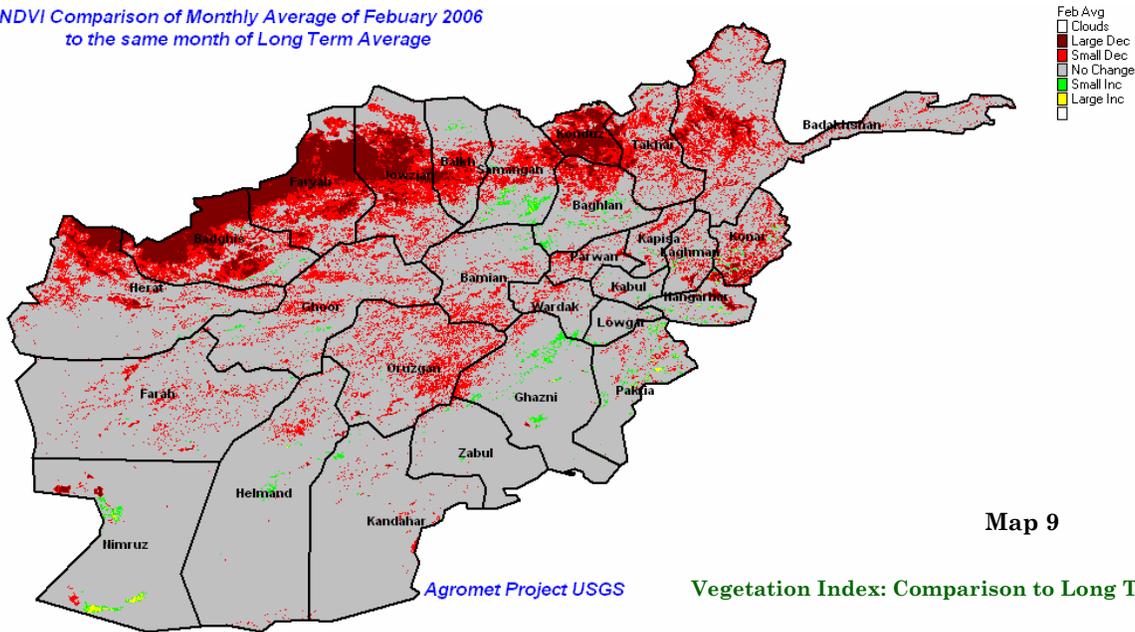
*NDVI Comparison of Monthly Average of February 2006
to the same month of 2005*



Map 8

Vegetation Index: Comparison to Last Year

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



Map 9

Vegetation Index: Comparison to Long Term Average

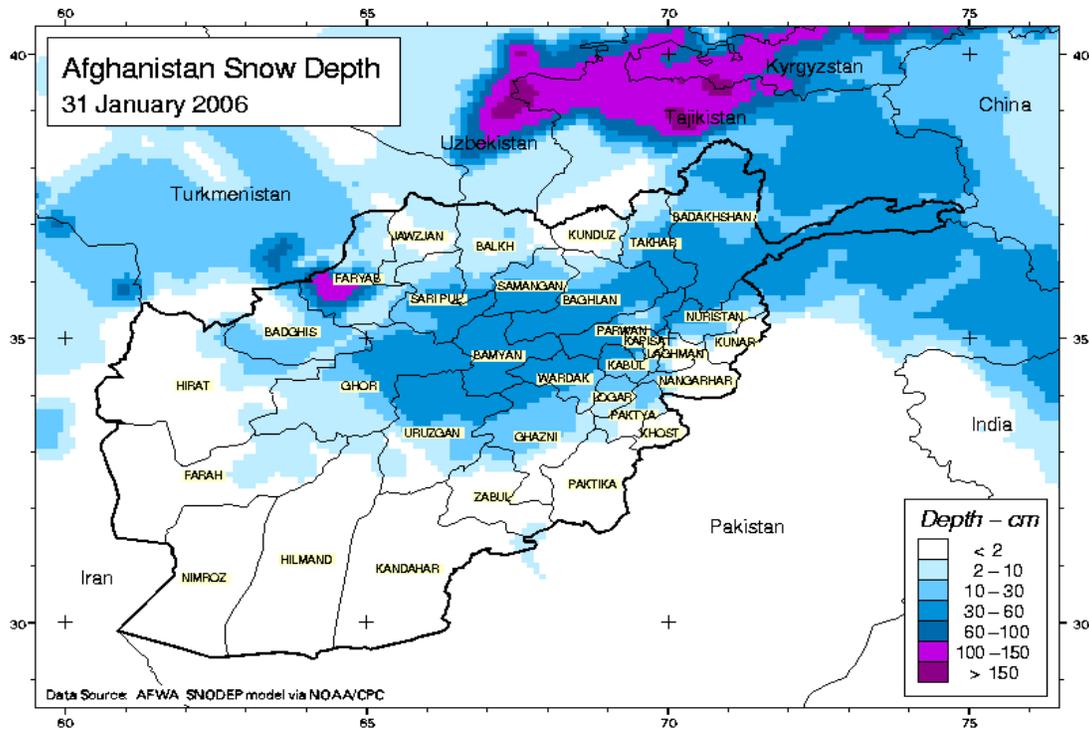
NDVI: February 2006

The NDVI comparison of the month of February 2006 to the same month of 2005 shows large increase of NDVI during 2006, especially in the Eastern region , the Southeast, Eastern Center, some parts of the North, West and some parts of the Central Regions.

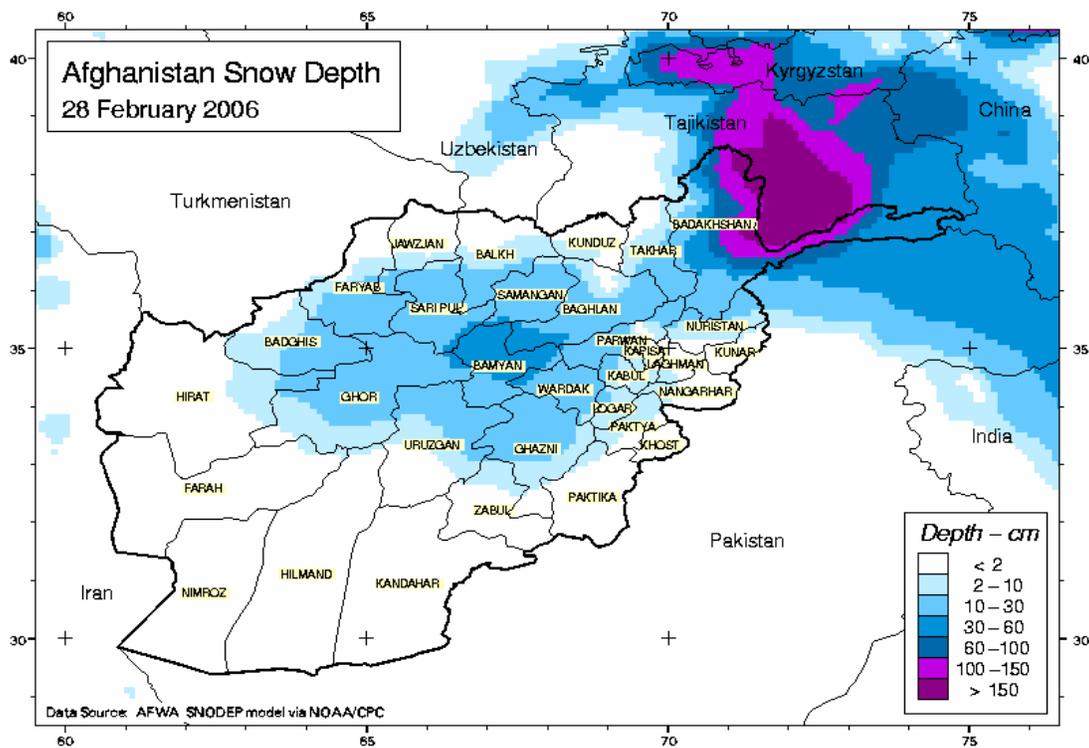
Comparison also shows large decrease of NDVI in limited areas in the Northern Region. There is no change of NDVI value in the Northeast, most parts of the Central Highlands, the Southeast and some parts of the Western Region.

The NDVI comparison for the month of February 2006 to that of the same month of long term average shows large decrease of NDVI value in the North and some parts of the Northeast in 2006. A small decrease of NDVI value has occurred in some parts of the Northeast, North, East, Eastern Center and Central Highlands during the month of February 2006 over the long term average of the same month. No change in NDVI value is detected in the remaining parts of the country.

Comparison of Snow extent and Depth



Map 10



Map 11

Comparison of snow maps (10, 11) shows that due to high temperatures which were above normal during the month of February 2006 have significantly changed regarding snow depth extending into the month of February 2006. Due to this reason, the snow melted rapidly, well before the desired time and the resulting decreases happened in both snow depth and snow extent in the snow covered areas, except in some parts of the Northeast which experienced cold and wet air masses during past weeks and snowfall has continued up to the end of February 2006 in above mentioned region, as map (11) shows the snow depth over 150 cm in the Northeast and around 60 cm in the Central Highlands

