Agrometeorological

Monthly Bulletin

October - 2006

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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)

Agromet Network

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Summary

In South Western region as reported form Nimroz and Urozgan Provinces the Maize crop is normal conditon. Also the rice crop is in normal condition in Urozgan Province. As reported from Zabul Province, crops are in under normal condition .

In this region the main adverse factors are poor rain and lack of agricultural inputs for example in from Yakawlang District of Bamyan Province and center of Bamyan.

Rainfall for the month of October 2006 had an increase over the same month in 2005 in most part of the country.

Temperature for the month of October 2006 had an increase over the same month in 2005 across the country.

Comparison of monthly average of NDVI for the month of October 2006 with the same month in 2005 map (9) shows small increase of NDVI in some parts of the North Eastern region.

Crop Phenological Stages

Central Region:

In most parts of the Central region the crop is in the planting stage, for example, in Seya Gerd District of Parwan Province, the Chak and Jaghatoo Districts of Wardak Province, Maidan, the center of Wardak Province Siakhak District of Wardak Province also in Kabul, the capital of Afghanistan, the wheat is in the planting stage.

In some parts of this region such as Gelga and Behsod Districts of Wardak Province, the wheat is in the Emergence stage, the height of wheat is less than 10Cm. In the Sarobi District of Kabal Province the crop is in the preplanting stage. In Mahmood Raqee Center of Kapisa Province wheat is in the ploughing stage.(Soil preparation is underway for wheat cultivation).

East Central Region:

In this region crop is in different grwoing stages for example in Yakawlang District of Bamyan Province the crop is in the emergence stage and height of the wheat is less than 10 cm, in some areas of this District the wheat is in the planting stage, in some parts of the center of Bamyan wheat is in the harvesting stage and in some other areas wheat is in the maturity stage (near the harvesting stage).

South Western Region:

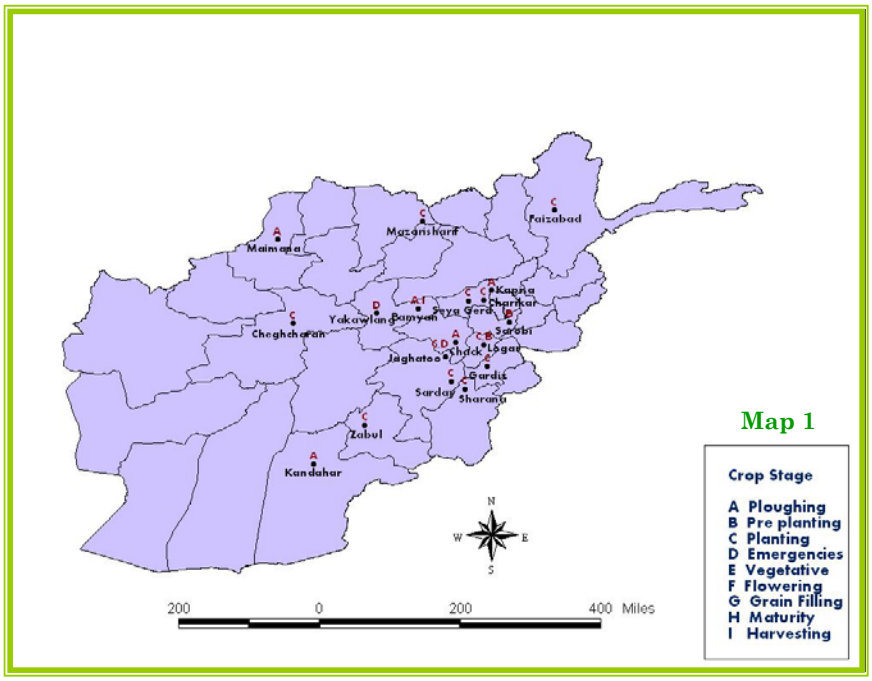
In this region the crop is in different stages for example, reports from Kandahar, Faryab and Nemroz Provinces saying that the wheat is in the ploughing stage, in the Zaranj Center of Orozghan Province maize is in the harvesting stage. The farmers are busy in preparation of their lands for the wheat cultivation.

North Eastern Region:

In this region the crops are in different growing stages , from (Qala zal, chahardara) Districts of Kunduz Province and Center of Kunduz the maize and rice crops are in the harvesting stage, farmers are busy in preparation their lands for the wheat cultivation. In the Badakhshan province the wheat is in the planting stage. From Polykhomry center of Baghlan Province and Bangi District of Takhat Province reports are saying that the maize and rice crops are in the maturity stage.

Eastern Region:

In this region from Asmar and Asad Abad Districts of Kunar Province reports are saying that maize and rice crops are in the harvesting stage. In Laghman Province the wheat is in the preplanting stage but, in some area of Laghman Province the wheat is in the planting stage.



Map 1

Crop Phenological Stage

North Western Region:

In this region most of the wheat fields are in the planting stage such as Moqur District of Badghis Province, Mazarisharf, the center of Balkh Province and Maimana, the center of Fariab Province. In Ghor Province the wheat is in Emergence Stag.

Southern Region:

In the south region, reports from Gardiz center of Paktika Province saying that the wheat is in the planting stage. In Sharana center of Paktika Province, Urgon and Khir Kot Districts of Paktika Province the wheat is in the planting stage.

In Center of Khost Province the maize is in the harvesting stage.

Northern region:

In this region, crops are in different growing stages reported as: from the Shaberghan center of Jawzjan Province faremers are busy in preparation of their lands for wheat cultivation. (ploughing stage) and from some other parts of the Jawzjan Province reports are saying that wheat is in the planting stage.

From center of Saripol and Moqor District of Jwazjan Province reports are saying that the wheat is in the planting stage, in some other parts of Saripul Province wheat is in the maturity and harvesting stage.

Crop Condition

Central Region:

In the central region, as reported from Chack District of Wardak Province, Seya Gard District of Parwan Province and Mahmood Raqee center of Kapisa Province the crops are in normarl condition From Jaghatoo District of Wardak Province reports are saying that the crop is in poor and under normal conditions.

East Central Region:

In this region spring wheat in excellent condition as in Yakawlang District of Bamyan Province but as repoted from center of Bamyan province the crops are in poor conditon in this area.

North Western Region:

In this region the crops are in the failure (the crop products are damage not expect for yield) condition as reported from Chekhaharan center of Ghor Province, Maimana center of Fariab Province, Moqour District of Basghis Province and center of Badghis Provine.

South Western Region:

In this region as reported form Nimroz and Urozgan Provinces the Maize crop is normal conditon. Also the rice crop is in normal condition in Urozgan Province. As reported from Zabul Province, crops are in under normal condition .

North Eastern Region:

From Chahadara district and the center of Kunduz Province reprts are saying that the maize crop condition is normal. As reported from Aqtipa District of Kunduz Province the the crop condition is better then normal. Maize crop is in normal condition in Chahrdad and Aqtipa Districts.

Southern Region:

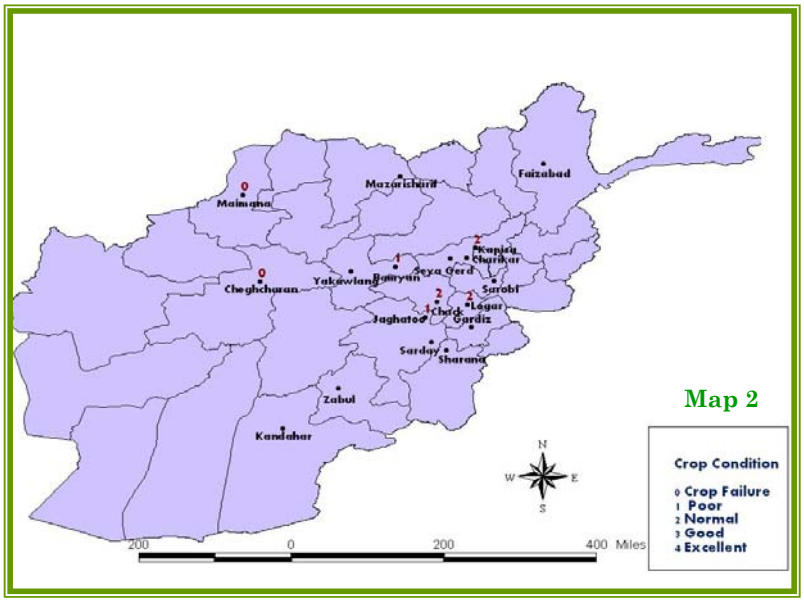
From most parts of this region as reported from Urgon , Khir Kot and Sharana Districts of Paktika Provinec,and Zarmat District of Paktya Province crops are in normal condition. From Gardiz center of Paktya Province crop is in poor .In Khost Province the crop condition is good.

Eastern Region:

In some parts of this region crops are in normal condition but in some other parts crops are in poor condition., but in Asmar District of Kunar Province coprp condition is better than normal. In Laghman Province maize and rice crops are in normal condition.

Northern Region:

From Taloqan, the center of Takhar Province,reports are saying that the crop condition is normal in this area. In Shaberghan center of Jawzjan Province the crop condition is poor .



Map 2

Adverse Factore

Central region:

In this region main adverse factor is micronutrient deficiency in all fruit Orchard such as: Apricot, Apple, Grapes and Almond as in Jaghatoo and Chack Districts of Wardak province and Logar Province. Poor rain is the other adverse factor in the Jaghatoo District of Wardak province and up to end of October 2006 farmers had cultivated wheat only 10% of their land. In Mahmood Raqee center of Kapisa Province farmers are complaining about too mach weeds in their agricultural fields.

East central region:

In this region the main adverse factors are poor rain and lack of agricultural inputs for example in from Yakawlang District of Bamyan Province and center of Bamyan.

Northern region:

In this region reports are saying about poor rain, dry season and shortage of inputs (tractors, seeds, cleaner machines, seed sprinkle machines, chemical fertilizer, insecticide spreaders to control insects and weeds in the agriculture field).

North East reported:

In this region poor rains,lack of water for irrigation, too mach weeds, pests and shortage of inputs for example in Baghlan Province, Chahadara and Qala zal Districts of Kunduz Province. In the Urgo District of Badakhshan Province,shortage of in puts is reported.

Eastrn Region:

In this Region poor rain is the main adverse factor. The Mehterlam center of Laghman Province reported weeds and a shortage of inputs such as tractors, seed cleaner machines, cultivators, chemical drug spray machines etc.

Southern Region:

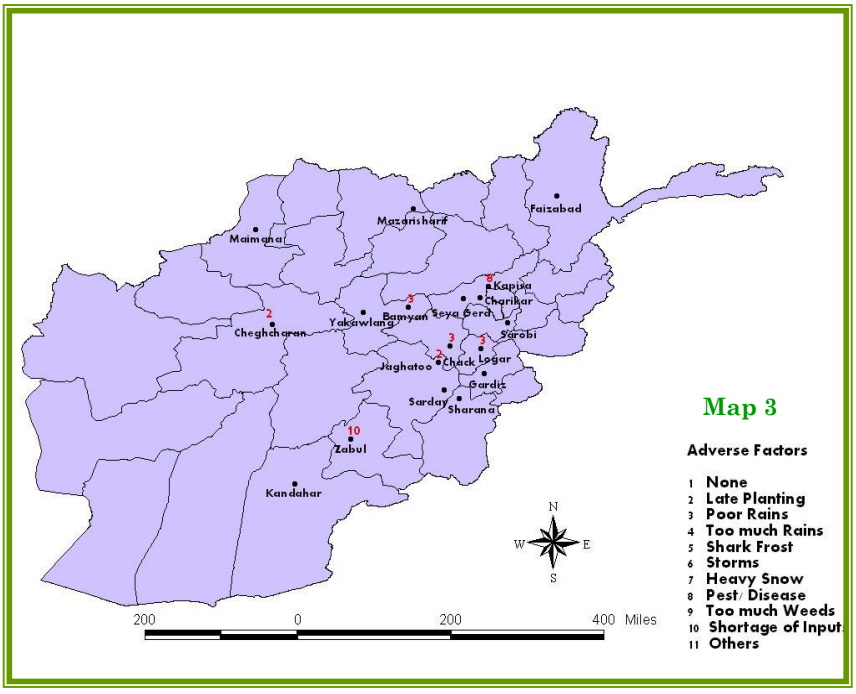
In this region,the Zarmat District of Paktia Province reported too much rain, frost, storm, and the center of Khost Province reported too many Weeds as 20% of maize field are affected by weeds in Zurmat District., also shortage of inputs such as tractor with all of equipment, chemical fertilizer, improve seed of wheat and maizeis reported from the region.

North West region:

In this Region the main adverse factor is lack of rain qne dry season and at the result of this problem there is a reduction in agriculture products. In Cheghcharan center of Ghor Province poor rain and desert mice which has damaged agriculture products are the main problems.

South west region:

In this region the main adverse factors are dry season and poor rain, late planting, storm and shortage of inputs for example in Zarnj center of Nemroz Province and Zabul Province.



Wheat Rust

Rust virus is one of the important and harmless diseases which is badly affecting the crops particularly the wheat crop.

Types of Rust:

Leaf rust: Generally this type of rust appears on the surface of plant leaf with brown color and circle shape when the temperature is between 15 – 20 ° C.


Photo courtesy of:
Western Committee on Plant Diseases

Stem rust: For this fungus the temperature between 20 – 25 ° C is very suitable to grow. Usually appears on the stem and later on covering all parts of the plant.

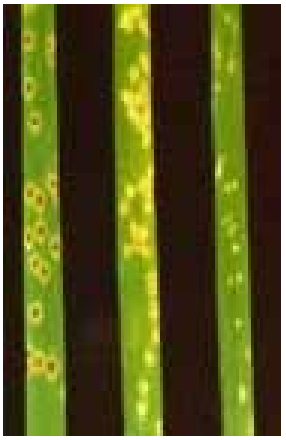
Strip rust: This type of rust between 10 – 15 ° C has considerable production and appears as strip shape on the stem and leafs and damages the plant.

The following factors must be present for wheat leaf rust infection to occur: viable spores; susceptible or moderately susceptible wheat plants; moisture on the leaves (six to eight hours of dew); and favorable temperatures (60 to 80 degrees Fahrenheit). Relatively cool nights combined with warm days are excellent conditions for disease development.

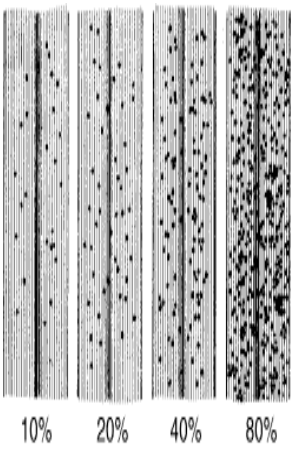
Under favorable environmental conditions, rust spores germinate and penetrate into the wheat leaf. The fungus obtains nutrients from the wheat leaf, and within a week to 10 days the fungus produces more spores, which erupt through the leaf surface. These newly produced spores are windblown to other wheat leaves or fields.

Resistant and susceptible wheats react differently to infection. If a variety is resistant, a reaction develops within the leaf which kills or retards the fungus, and the infection is stopped. Resistant varieties may develop yellowish-white "flecks" at the site of spore penetration (Figure 1). Moderately resistant varieties develop small reddish-orange pustules surrounded by a yellow-white halo (Figure 1). Susceptible varieties do not have the ability to retard fungal growth; the fungus grows extensively and produces relatively large pustules that may produce about 1,000 spores daily, each one of which is capable of reinfecting wheat. The outcome of a 10-day repeating cycle is the formation of many spores during the growing season, and these spores can move great distances on wind currents. Therefore, this disease can increase rapidly and epidemics may occur whenever susceptible varieties are grown and weather conditions are favorable for rust development.

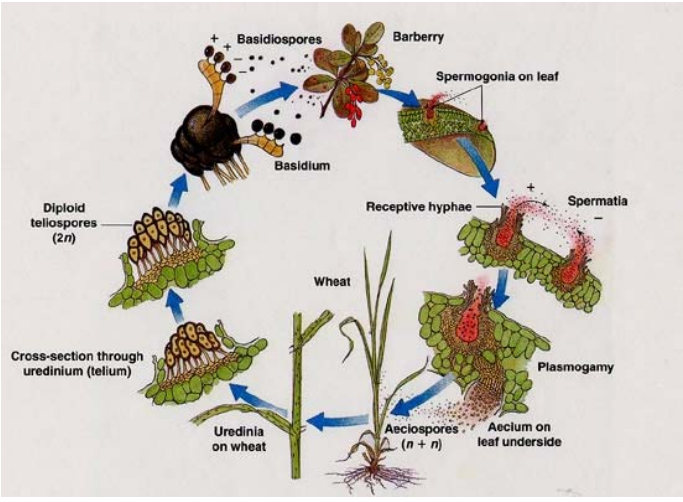
The extent of yield losses caused by leaf rust depends on the severity and duration of infection. The greatest losses occur if the crop is severely rusted from the seedling stage to maturity. However, in North Dakota, this long duration of severe rust is unlikely, because leaf rust generally does not become severe until the crop reaches the boot stage (flag leaf fully developed) or later.

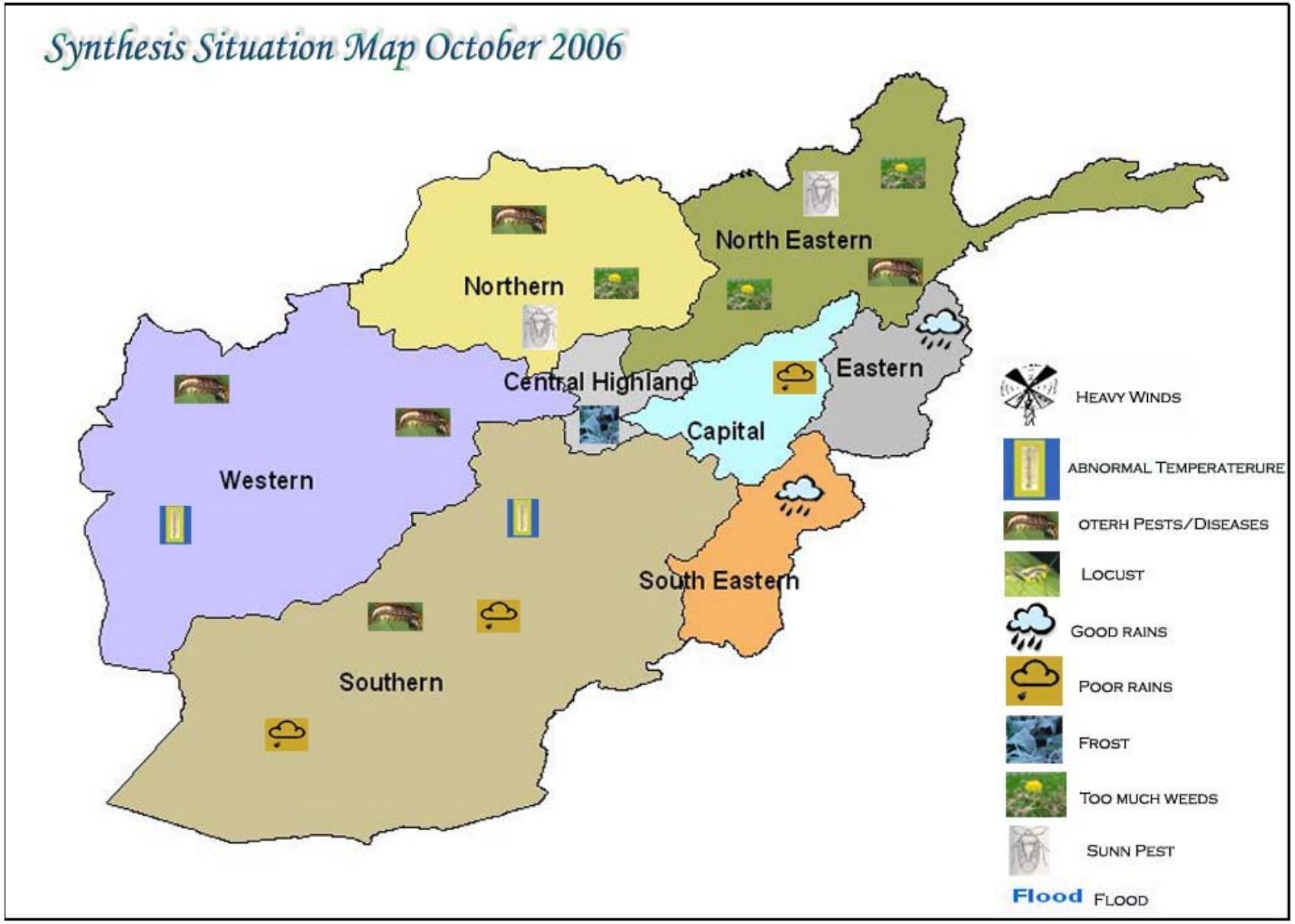


The amount of leaf area covered by leaf rust is expressed as percent severity (Figure 3) and can vary with weather, the amount of spores present, and the wheat variety. Yield losses are related to percent severity, especially on the top (flag) leaf. Wheat leaves manufacture carbohydrates and other nutrients. The flag leaf is a primary contributor to the nutrients necessary for grain fill. The greater the flag leaf area damaged by rust, the smaller the leaf area available to manufacture nutrients needed for producing plump kernels.



Initial infections are found on the lower leaves where high humidity persists for long durations. As the crop develops and matures, leaf rust generally appears on upper leaves of plants and severity increases. Flag leaf severity on susceptible varieties may range from 40 to nearly 100 percent (Figure 3). In North Dakota, corresponding yield losses have been as high as 30 percent for severely infected susceptible varieties, IF severe infection occurred before flowering. If high leaf rust severity does not occur until the soft or hard dough stage, yield losses may range from 5 to 15 percent. Leaf rust also causes reduction of test weight, which can lower market grade and selling price.




Synthesis Situation Map October 2006
North Eastern
Northern
Central Highland
Eastern
Capital
Western
South Eastern
Southern
HEAVY WINDS
ABNORMAL TEMPERATERURE
OTERH PESTS/DISEASES
LOCUST
GOOD RAINS
POOR RAINS
FROST
TOO MUCH WEEDS
SUNN PEST
Flood FLOOD

Map 4

Rainfall Satiuation

Rainfall for the month of October 2006 had an increase over the same month in 2005 in most part of the country.

Comparison the rainfall data for the month of October 2006 to the same month in 2005 chart (1) clearly shows an increase of rainfall during the month of October 2006 compares to the same month in 2005. the percentage increase of rainfall is as follow:

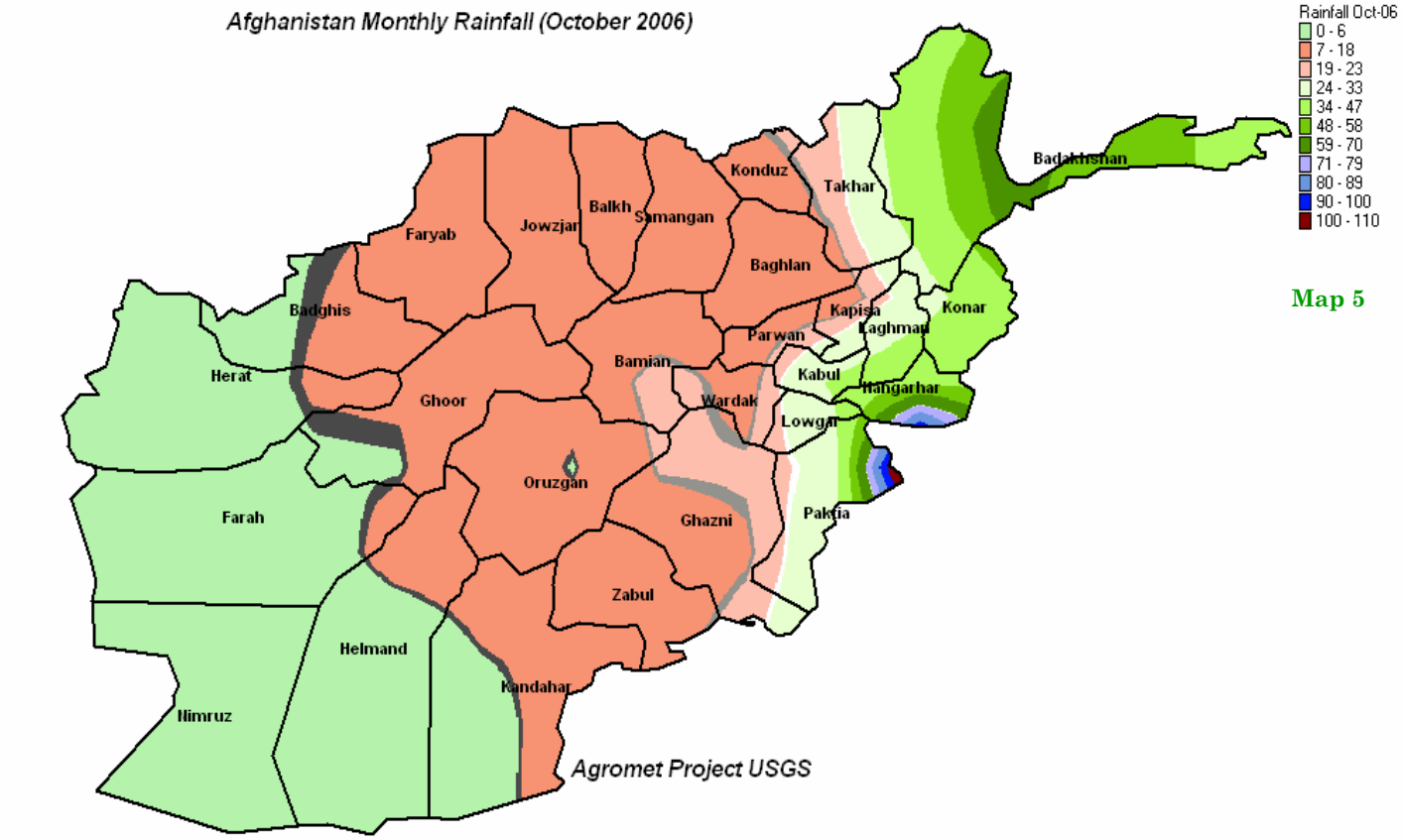
In Baghlan 100 %, Faizabad 100%, Ghaziabad 100 %, Jalalabad 100 %, Kabul 100 %, Kandahar 100 %, Kariz Mir 100 %, Sarobi 100 %.

Comparison of rainfall data the month of October 2006 to the same month of long term chart (2) shows an increase of rainfall in most parts of the country during the month of October 2006 over the same month in 2005, except Baghlan, Sheberghan and Saripul which rainfall had decrease during the month of October 2006 over the same month of long term average.

The percentage +/- is as follow:

In Baghlan – 17 %, Faizabad 33 %, Ghaziabad 100 %, Jabul Seraj 100 %, Jalalabad 100 %, Kabul 100 %, Kunduz 100 %, Murghab 100 %, Sheberghan – 90, Sarobi 14 %, Saripul – 99%.

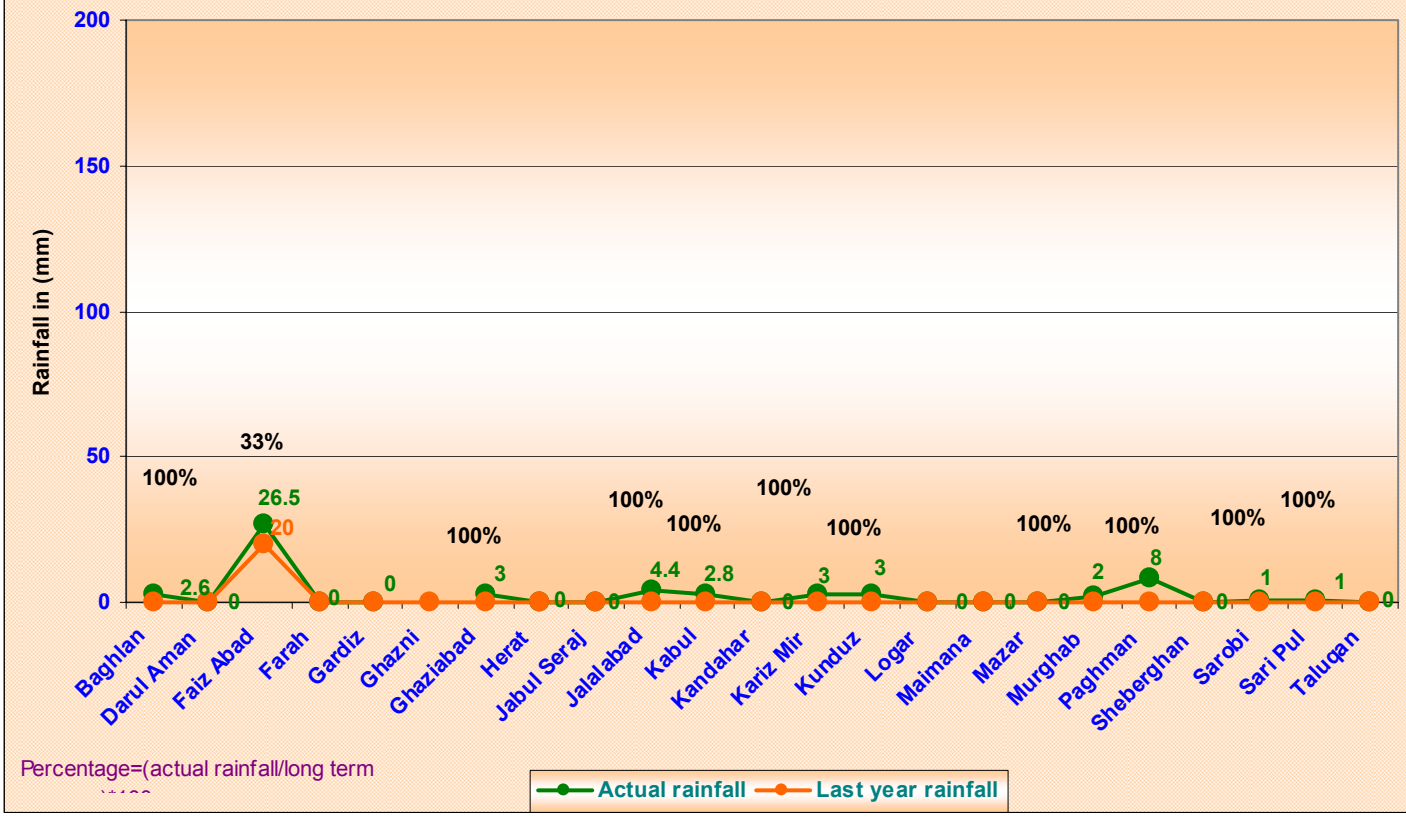
Distribution of rainfall is variable in deferent regions of the country. As map (5) shows the most amount of rainfall occurred in some parts of the Eastern and Southeastern regions during the month of October 2006 and the Northeastern regions experienced good rainfall in this month. The South and most parts of the Western regions experienced less amount of rainfall during the month of October 2006.



Map 5

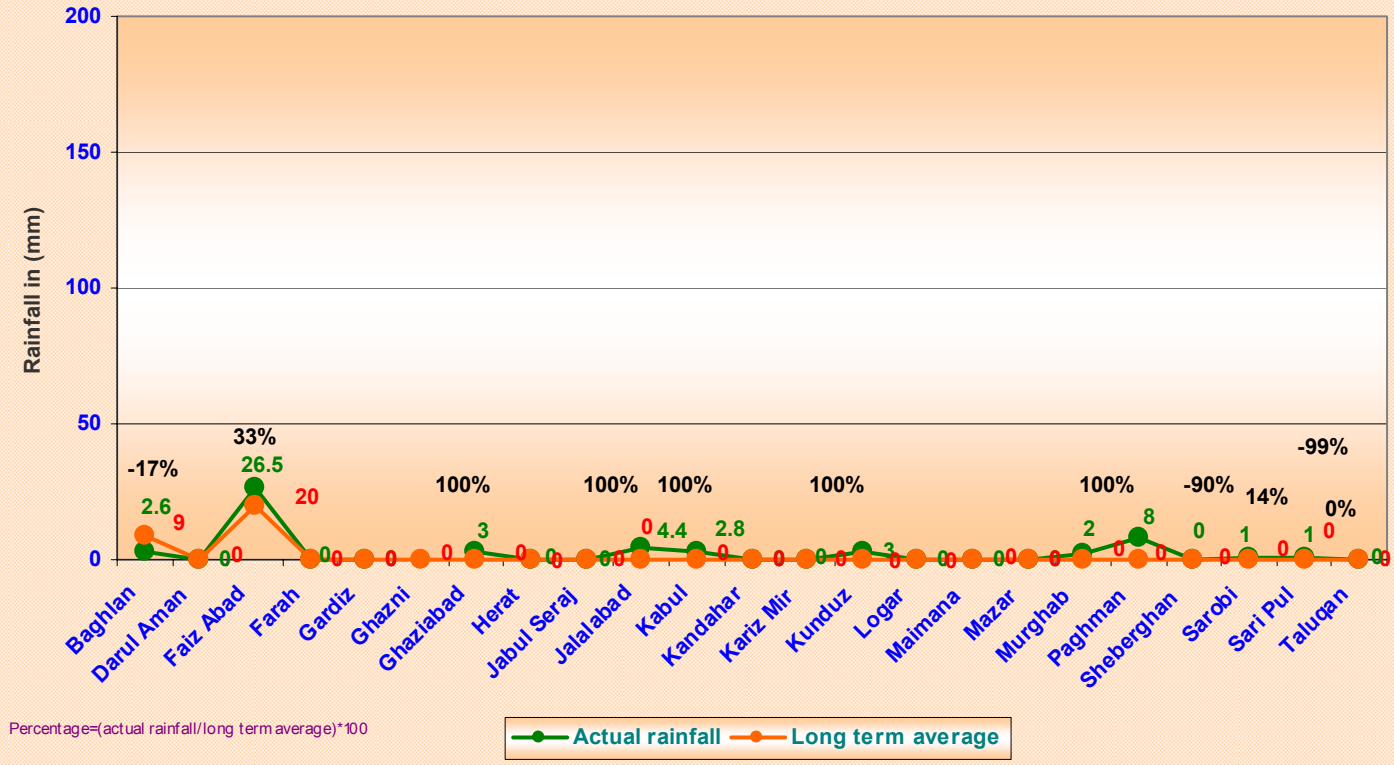
Rainfall Graphs for the Month of October 2006

Comparison of Actual and Last Year Rainfall (October 2006) Chart 1



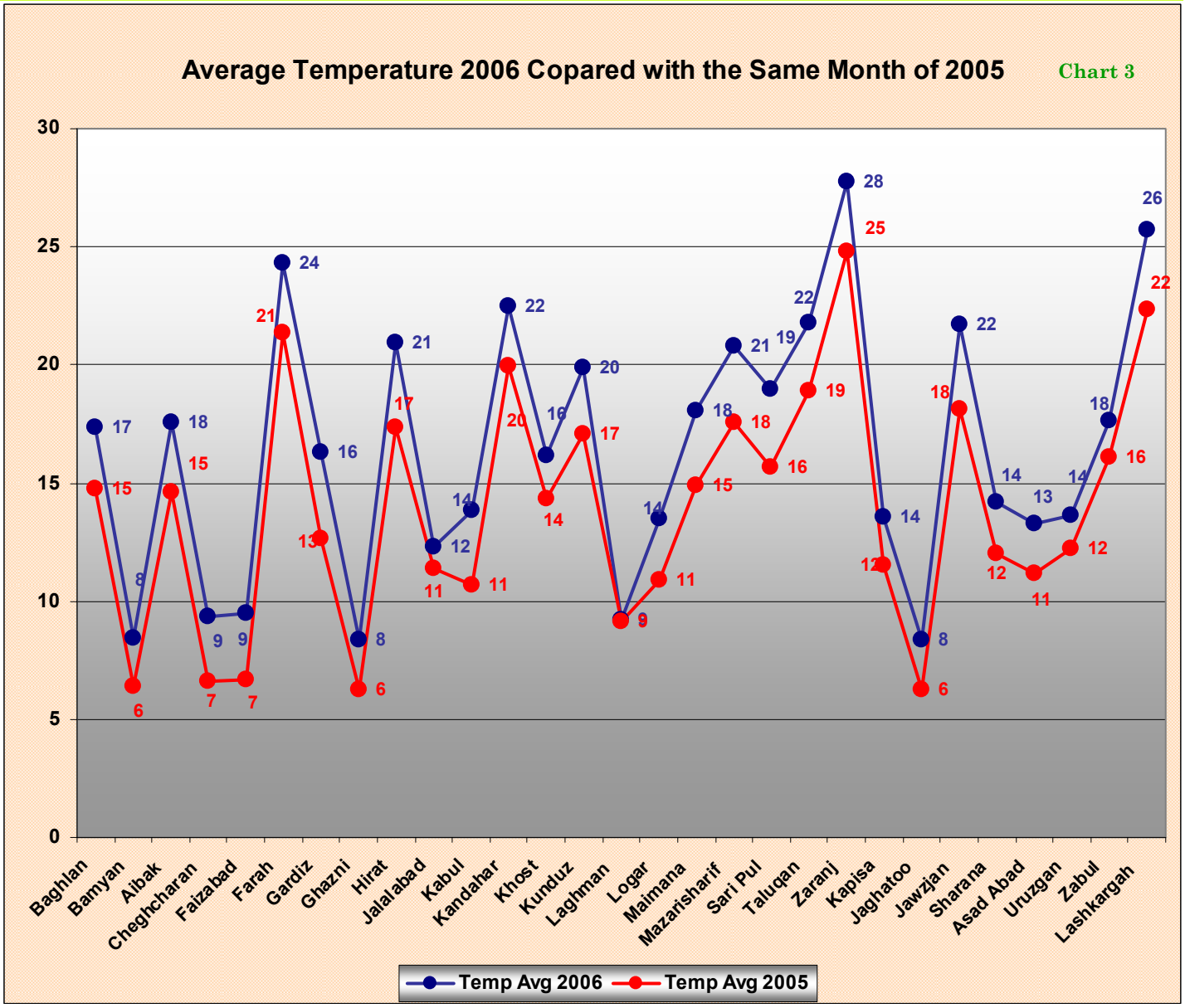
Percentage=(actual rainfall/long term

Comparison of Actual Rainfall and Long Term Average (October 2006) Chart 2



Percentage=(actual rainfall/long term average)*100

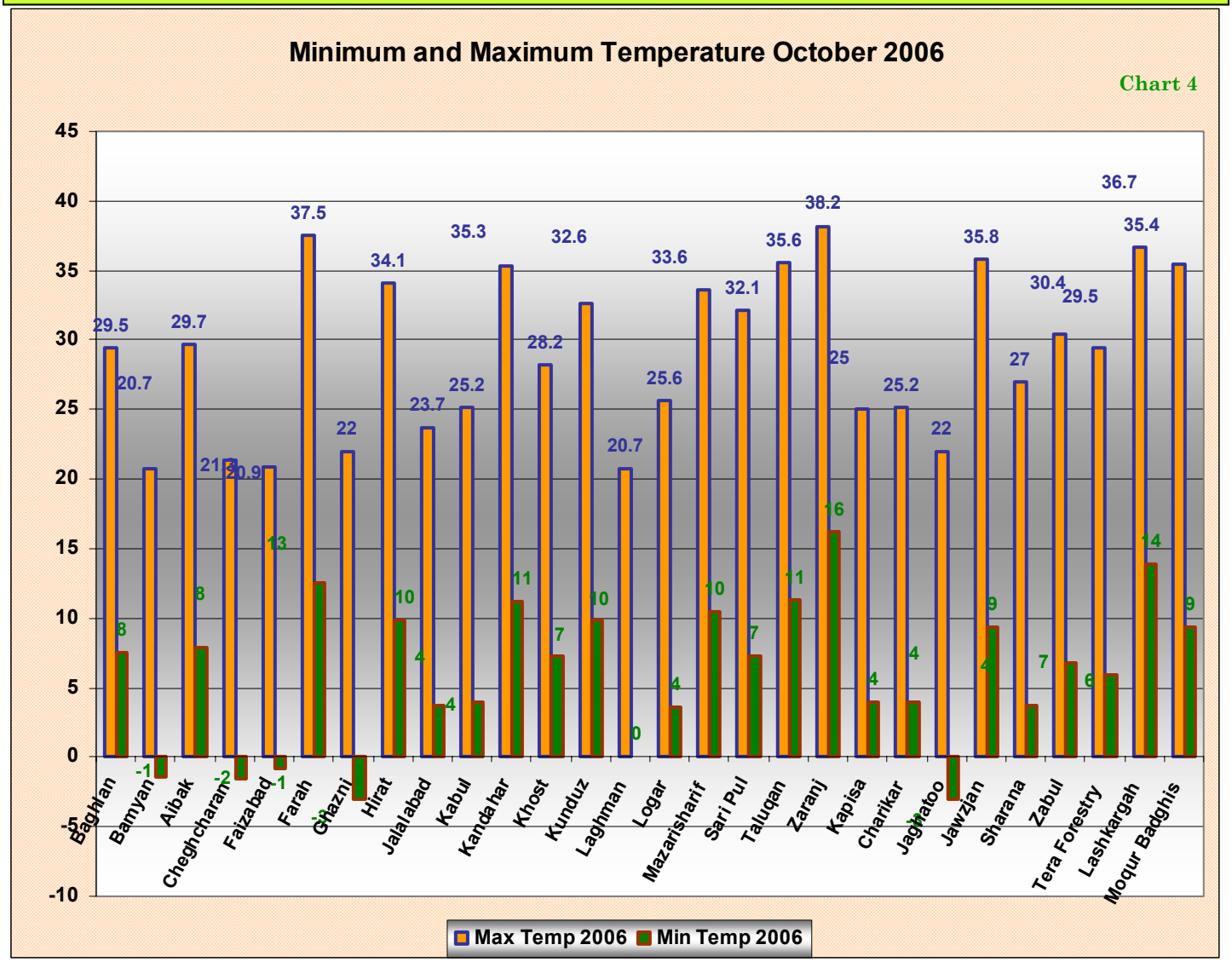
Average Température for the Month of October 2006



Temperature for the month of October 2006 had an increase over the same month in 2005 across the country.

Comparison of the monthly temperature average of October 2006 to the same month in 2005 chart (3) shows an increase of temperature during the month of October 2006 over the same month in 2005, which the monthly average temperature departure for the month of October 2006 is 1- 3 ° C compares to the same month in 2005.

Temperature for the Month of October 2006

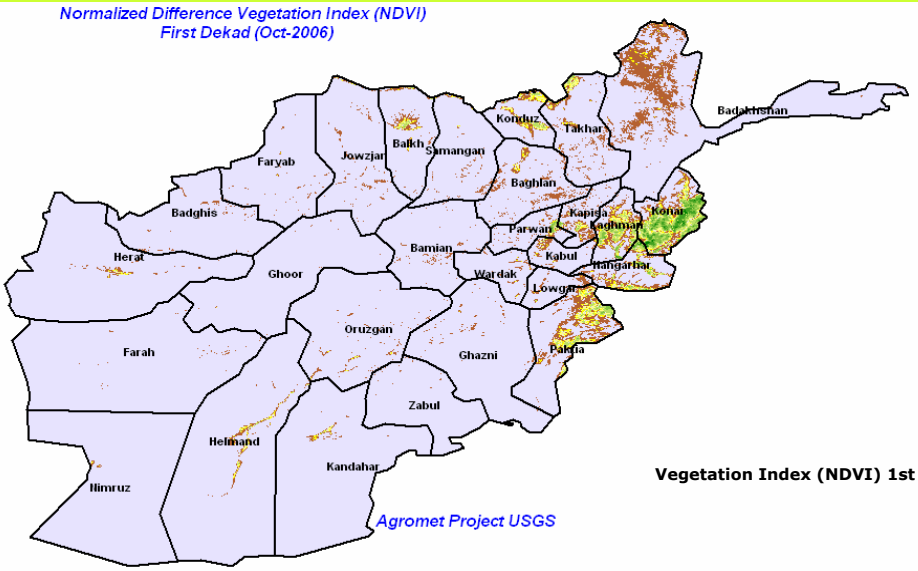


Zaranj with 40.3 ° C experienced warmest temperature during the month of October 2006

Chart (4) shows maximum and minimum temperature for the month of October 2006 , as chart shows the temperature distribution is variable across the country and frost occurred in Baghlan, Cheghcheran, Faizabad, Ghazni and Jaghatoo.

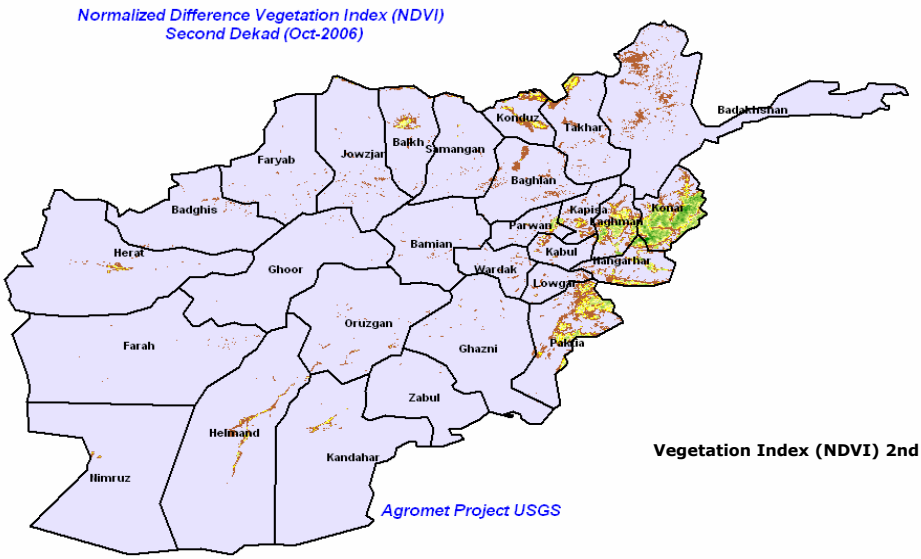
Zaranj with 40.3 ° C experienced warmest temperature during the month of October 2006 and Ghazni had the lowest temperature in the month of October 2006.

Normalized Difference Vegetation Index (NDVI) (October 2006)



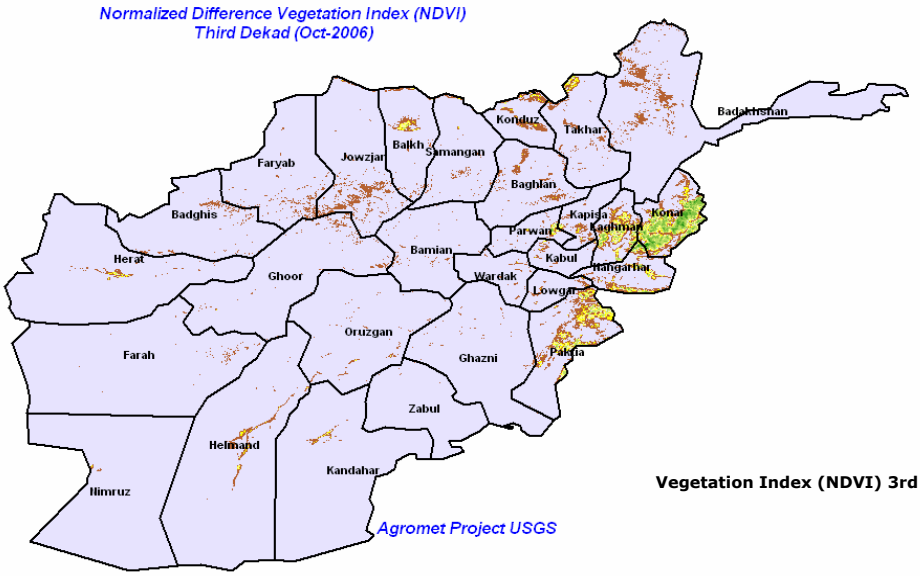
Map 6

Vegetation Index (NDVI) 1st Dekad of October2006—Afghanistan



Map 7

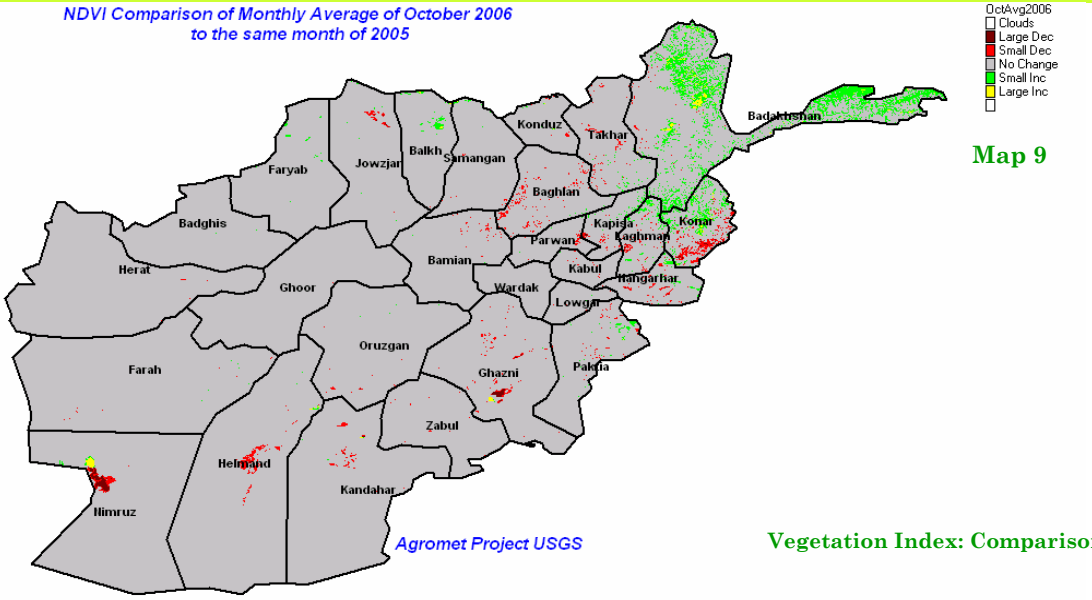
Vegetation Index (NDVI) 2nd Dekad of October 2006—Afghanistan



Map 8

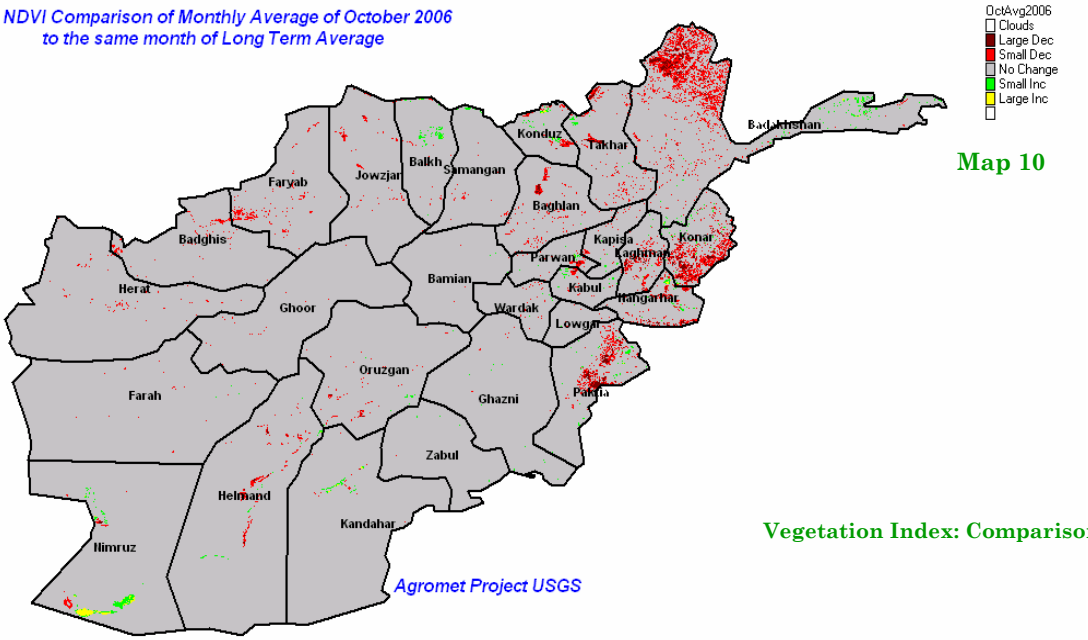
Vegetation Index (NDVI) 3rd Dekad of October 2006—Afghanistan

Comparison of NDVI October 2006



Map 9

Vegetation Index: Comparison to Last Year



Map 10

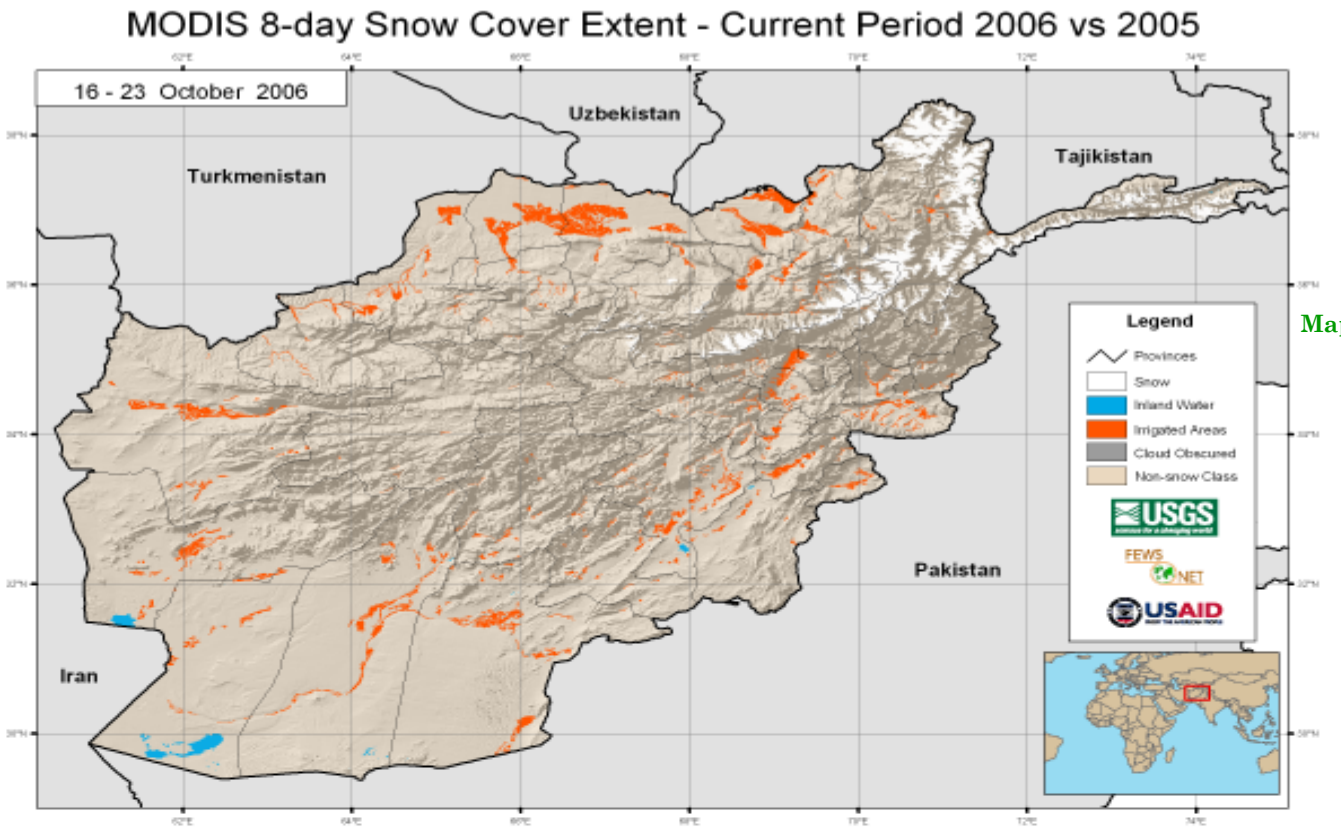
Vegetation Index: Comparison to Long Term Average

NDVI: October 2006

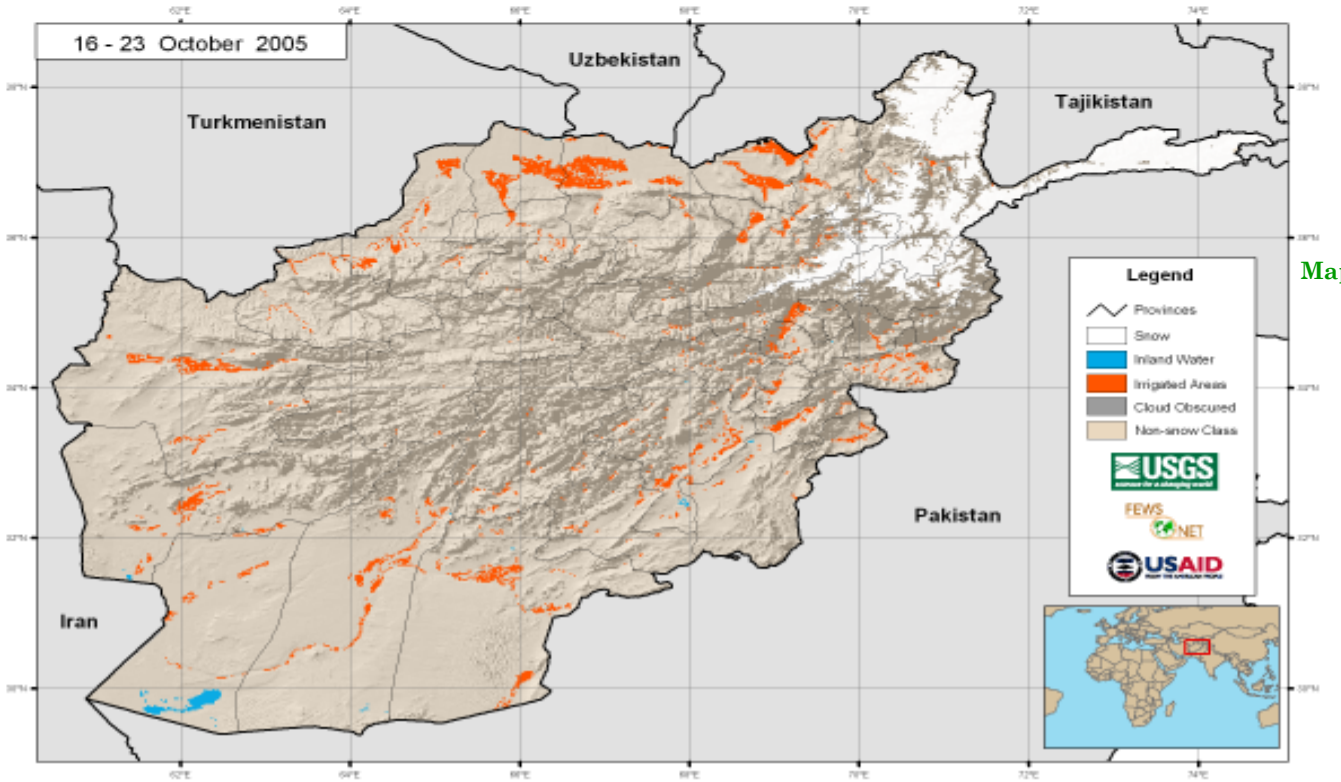
Comparison of monthly average of NDVI for the month of October 2006 with the same month in 2005 map (9) shows small increase of NDVI in some parts of the North Eastern region and some parts of the Eastern region. No change of NDVI has been occurred during the month of October 2006 compared to the same month in 2005 in the remaining region of the country.

Comparison of monthly average of NDVI the month of October 2006 with the same month of long term average map (10) shows small decrease of NDVI in some parts of the North Eastern region and some parts of the Eastern and South Eastern regions. There is no considerable change of NDVI occurred in the month of October 2006 over the same month of long term average in the remaining regions of the country.

Comparison of snow extent and depth:



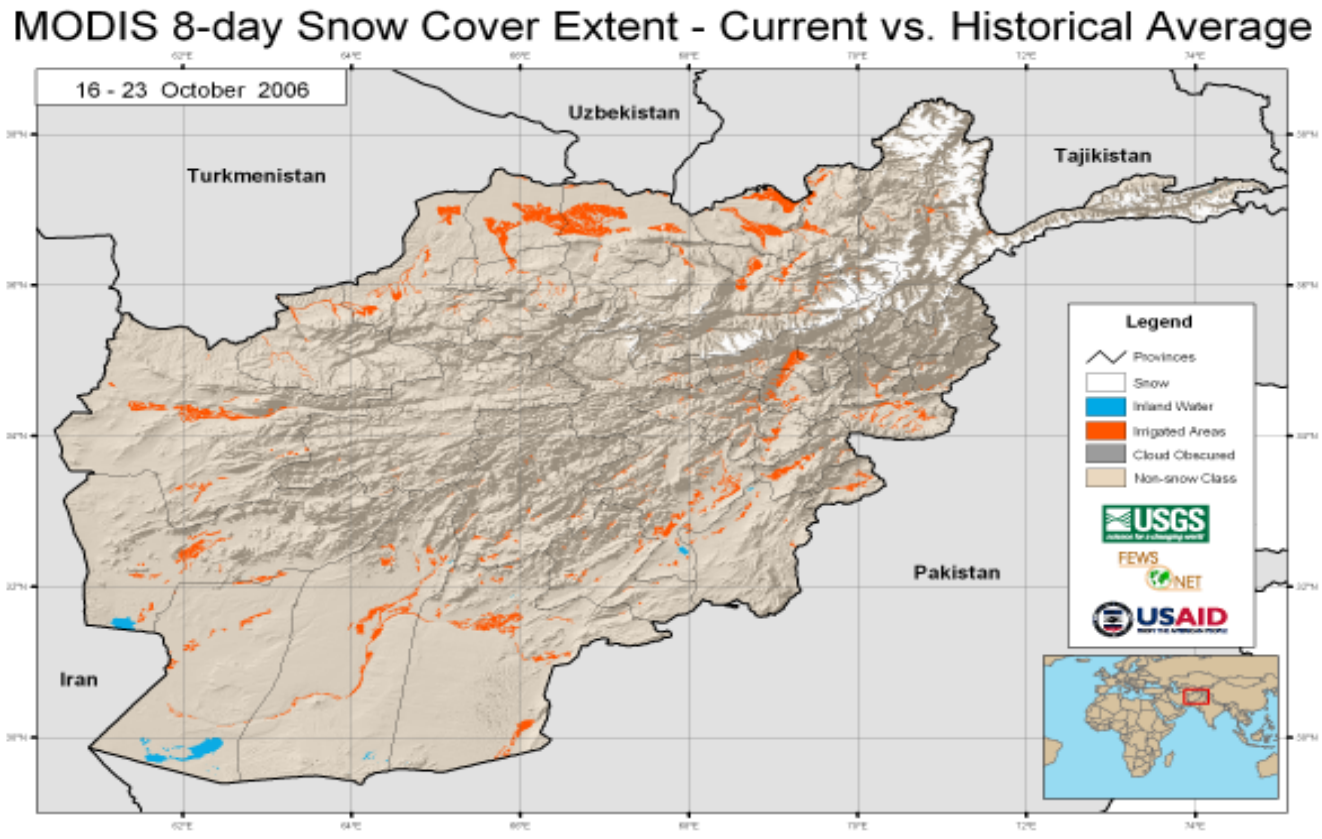
Map 11



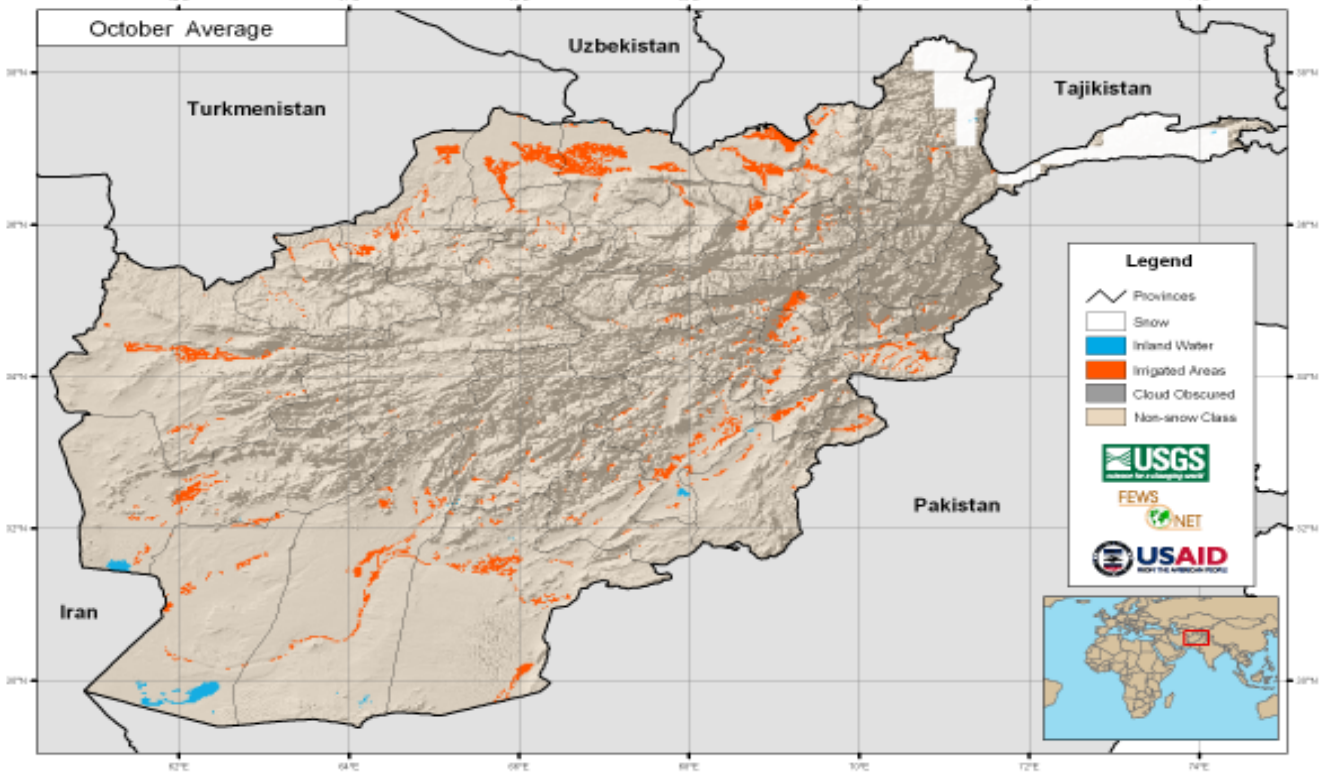
Map 12

The snow extent during the month of October 2006 particularly in the medial of October 06 was less than the same period in 2005 maps (11 and 12). Comparison shows a decrease of snow extent in the Northeastern regions during the month of October 2006 over the same month in 2005.

Comparison of snow extent and depth:



Map 13



Map 14

Comparison of the snow extent for the month of October 2006 with the same month of long term average (maps 13 and 14) shows a decrease of snow extent in some parts of the North Eastern region and an increase occurred in some parts of mentioned area during the month of October 2006 compared to the same month of long term average.

Afghanistan Snow Depth July 2006

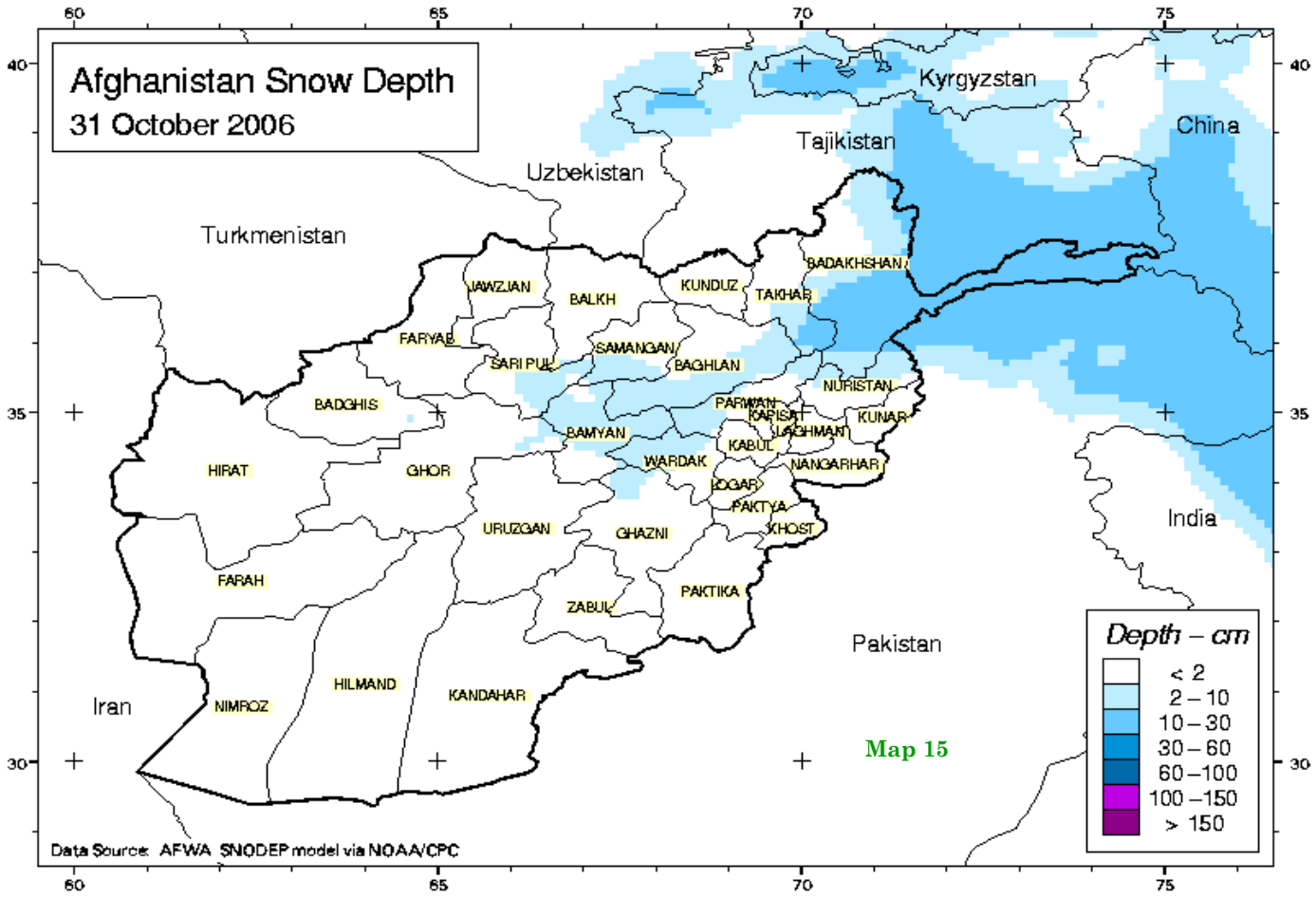


Figure (15) shows the snow depth in early October 2006 . As figure shows the snow depth from 10 to 30 cm in the Northeastern region and from 2 up to 10 cm has been recorded in the Central Highlands and neighboring areas

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