

The Afghanistan Agrometeorological AAM Monthly Bulletin



Issue No. 25

January 2007



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Wheat Crop
Condition

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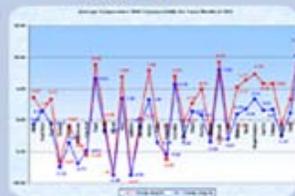
Synthesis
Situation
Map

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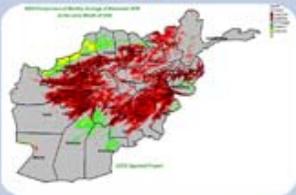
Rainfall
Saturation

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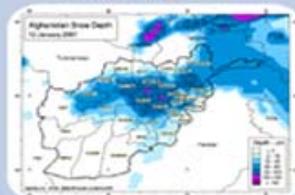
Rainfall
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Comparison
of NDVI

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Afghanistan
Snow Depth

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

Agromet Network



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Summary

In Western Region the crops are in the normal condition (agricultural commodities shown better results at district level) as in Ghor Province and Farah Provinces, Maqure District of Badghis Province and Qala-e-Naw Center of Badghis Province .

In Dashtak and Dara Districts of Panjshir Province, Jaghatoo District of Wardak Province, Paghman District of Kabul Province and Logar Province the main adverse factors were heavy snow and sharp frost.

During the month of January 2007 in most parts of the country rainfall had significant decrease compared to the same month in 2006.

Comparison of monthly average of NDVI for the month of January 2007 with the same month in 2006 (map 9) shows large increase of NDVI in most parts of the Northern flat areas, most parts of the Northeastern and some parts of the western region.

Crop Phenological Stages

Central Region:

In most parts of the Central Region the crops are in dormancy stage (most of the crops have been covered by the snow) as in Chak, Siakhak, Jaghtoo Districts and Center of Wardak Province, Seya Gerd District of Perwan Province, Karizmir District of Kabul Province, Dara District of Panjshir Province and Kapisa Province. Reports from Logar Province are saying that the crops are in emergence stage (the highest is less than 10 cm) in this area.

In Sarobi District of Kabul Province the crops are in the vegetative stage (the highest of the plant is more than 10 cm).

East Central Region:

Due to cold weather and snow cover on the ground in most parts of this Region the crops are in the dormancy stage.

North East Region:

In this region the crops are in the different stages as in Imam Sahib, Chahadara, Aqtipa, Qala zal Districts and Center of Kunduz Province the crops are in the emergence stage (the highest of the plant is less than 10 cm).

In Baghlan Province the crops are in the planting and emergence stage. Reports from Faizabad Center of Badakhshan Province are saying that the crops are in dormancy stage in this area.

North Region:

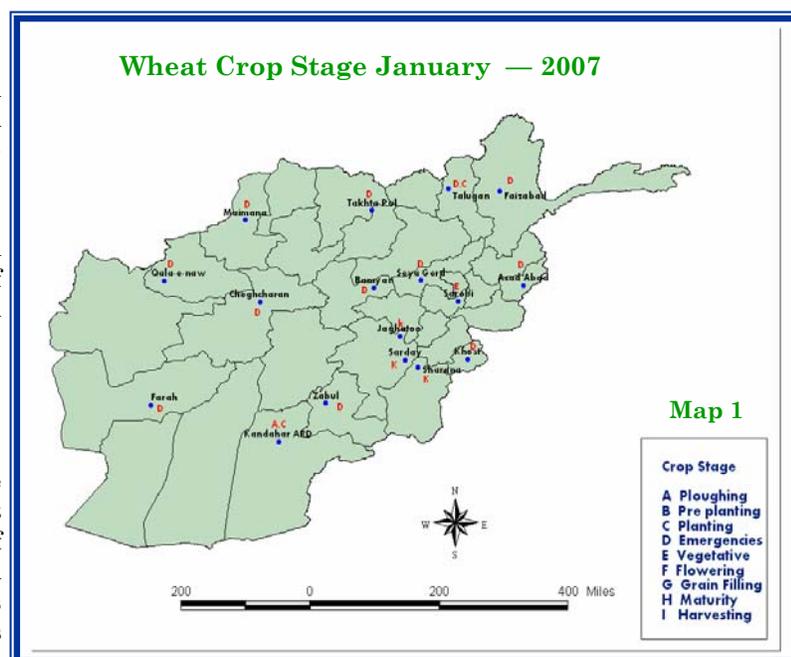
Reports from this region are saying that the crops are in different stages in this region. In Sozma Qala District and Center of Saripul Province, Shaberghan Center of Jawzjan Province The crops are in the planting and emergence stage, while in Balkh and Faryab Provinces the crops are in the emergence and dormancy stages

Southern Region:

In Nad Ali, Nawa, Greshk Districts and Center of Helmand Province and Urozgan Province the crops are in the vegetative stage (the highest of the plant is more than 10 cm). From Zabul Province reports are saying that the crops are in the emergence stage (the highest of the plant is less than 10 cm). While in Ghazni Province the crops are in the dormancy stage. In Kandahar Province the crops are in the planting and ploughing stage.

Western Region:

In this region reports are saying about different crop stages as in Farah and Ghor Provinces and Qala-e-naw Center of Badghis Province the crops are in the emergence stage (the highest of the plant is less than 10 cm). From Maquar District of Badghis Province reports are saying that the crops are in the planting and emergence stage.



Crop Phenological Stages

Eastern Region:

In most parts of this region the crops are in the vegetative stage (the highest of the plant is more than 10 cm), for example in Asmar District and Center of Kunar Province and Mehtherlam Center of Laghman Province.

In some parts of Jalalabad the crops are in the emergence stage, while in some other areas the crops are in the vegetative stage (the highest of the plant is more than 10cm).

South East Region:

It is stated from Urgon, Sharana and Khaircot Districts of Paktika Province, Gerdiz and Tera District of Paktya Province that the crops are in the dormancy stage (the crop have been covered by snow).

From Khost Province reports are saying that the crops are in the planting and vegetative stage (the highest of the plant is more than 10 cm).

Crop Condition

Central Region:

In most parts of this region the crops are in normal condition as in Mahmood Raqee Center of Kapisa Province, Dashtak and Dara District of Panjshir Province, Chak and Jaghatoo Districts of Wardak Province and Seya Gard and Charikar District of Perwan Province.

Eastern Region:

In Eastern Region of the country crops are better condition (good crop condition then usual) as in Asad abad District and Center of Kunar Province, but from Nangarhar Province reports are saying that the crops are in normal condition.

North Eastern Region:

Reports from this region are saying that in most parts of this region the crops are in normal condition as in Imam Sahib, Chardara, Aqtipa Districts and Center of Kunduz Province, Faizabad Center of Badakhshan Province, Bangi Districts of Takhar Province. In Baghlan Province the crops condition is better than normal.

Northern Region:

In this most parts of this region the crops are in normal condition as in Sosma Qala District and Center of Saripul Province, Shaberghan Center of Jawzjan Province, Nahershahi and Dehdadi Districts of Balkh Province and Samangan Province. In Faryab Province the crops are in poor (below normal) condition.

Southern Region:

In this region the crops are in normal condition as in Nad Ali, Nawa and Greshk Districts of Helmand Province, Moqur and Sardy Districts of Ghazni Province and Center of Kandahar Province. In Zabul and Nimroz Provinces the crops are in poor condition.

Western Region:

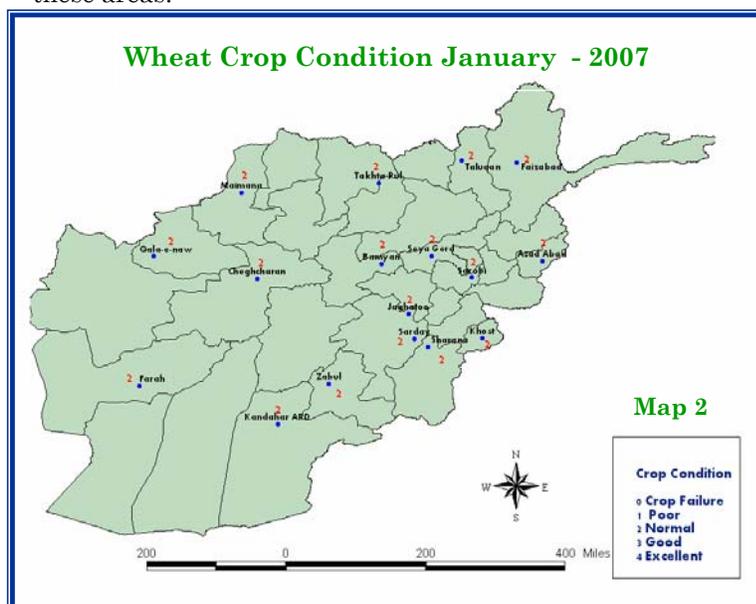
In Western Region the crops are in the normal condition (agricultural commodities shown better results at district level) as in Ghor Province and Farah Provinces, Maqure District of Badghis Province and Qala-e-Naw Center of Badghis Province .

East Central Region:

From East Central Region reports are saying that the crops are in normal condition as in Panjab, Yakawlang, and shiber Districts of Bamyán Province and Center of Bamyán Province.

South East Region:

As Reports are saying from Khairkot, Urgon and Sharan Districts of Paktika Province and Gardiz Center of Paktya Province the crops are in normal condition in these areas. In Khost Province as reported from Farm Shamal and Farm Ali Shir areas the crops are in good condition (better than normal) in these areas.



Adverse Factors

Central Region:

During the month of January 2007 the main Problems in Central Region were shortage of inputs such as tractor, seed cleaner machine, drug sprinkler, chemical fertilizer and too much weeds.

In Dashtak and Dara Districts of Panjshir Province, Jaghatoo District of Wardak Province, Paghman District of Kabul Province and Logar Province the main adverse factors were heavy snow and sharp frost.

East Central Region:

As Reported from this region, the main adverse factors were too much cold and lack of Agricultural inputs during the month of January 2007 as in Yakawlang, Panjab Districts of Bamyan Province and Center of Bamyan Province.

North Eastern Region:

During the moth of January 2007 the main adverse factors in North Eastern Region were lack of agricultural inputs, pest and diseases (wheat crops cut worm), heavy rain and late planting as reported from Bangi District of Takhar.

Northern Region:

In this region the main adverse factors were shortage of inputs, sharp frost and late planting as reported from, Sozma Qala District of Saripul and Center of Saripul Province.

Southern Region:

Based on the reports from most parts of this region the main adverse factors during the month of January 2007 were heavy snow, cold weather and lack of agricultural inputs as in Sarday District of Ghazni Province.

Western Region:

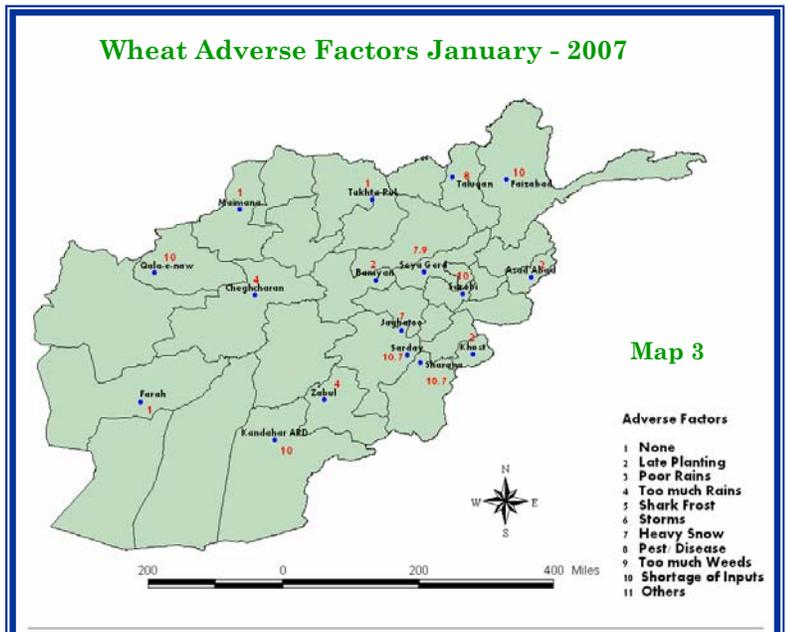
In this region, the main suffered areas are Farah Province, Ghor Province and Qala-e-Naw Center of Badghis Province where experiencing poor rains since long time. In Herat Province severe storm had damaged about 70 % of agricultural lands and resulted in closing of irrigational canals and streams.

Eastern Region:

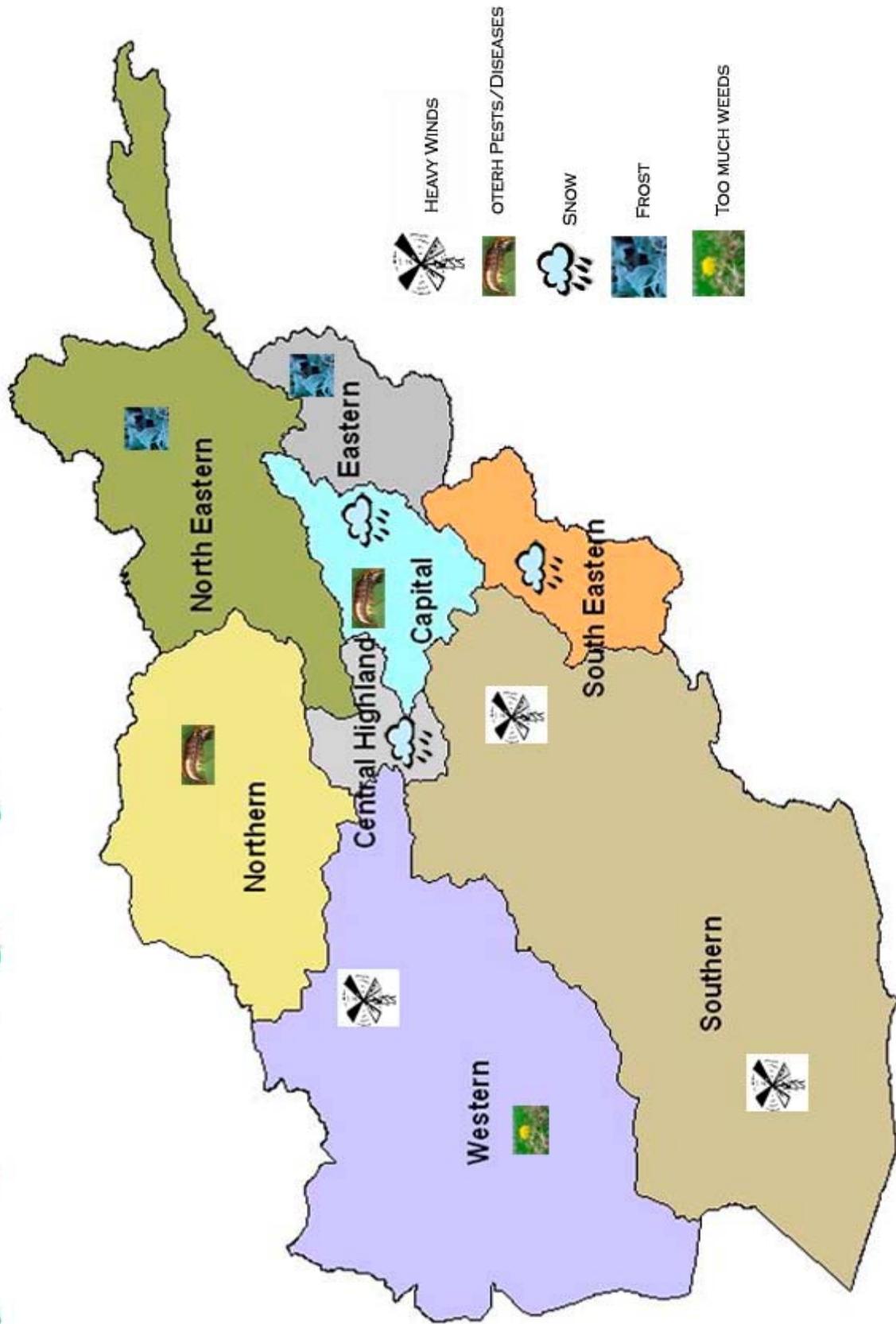
In this region reports from Agam District of Nangarhar Province and Mehtherlam Center of Laghman Province are saying that the main adverse factors were late planting and shortage of agricultural inputs. In Asmar District and Asadabad of Kunar Province the adverse factors were shark frost and too much rains.

South Eastern Region:

In most parts of this region as Khairkot, Urgon and Sharana Districts of Paktika Province and Khost Province the main adverse factors were sharp frost and heavy snow. Lack of agricultural inputs and too much weeds competing the main crops were the other adverse factors in the region.



Synthesis Situation Map January 2007



Map 4

Rainfall Satiation

During the month of January 2007 in most parts of the country rainfall had significant decrease compared to the same month in 2006, except Kunduz Province where the rainfall had increased during the month of January 2007 over the same month in 2006.

In the month of January 2007 the rainfall had decreased compared to the same month of long term average except Kunduz and Mazar where the rainfall had increased during the month of January 2007 over the same month of long term average (chart 2).

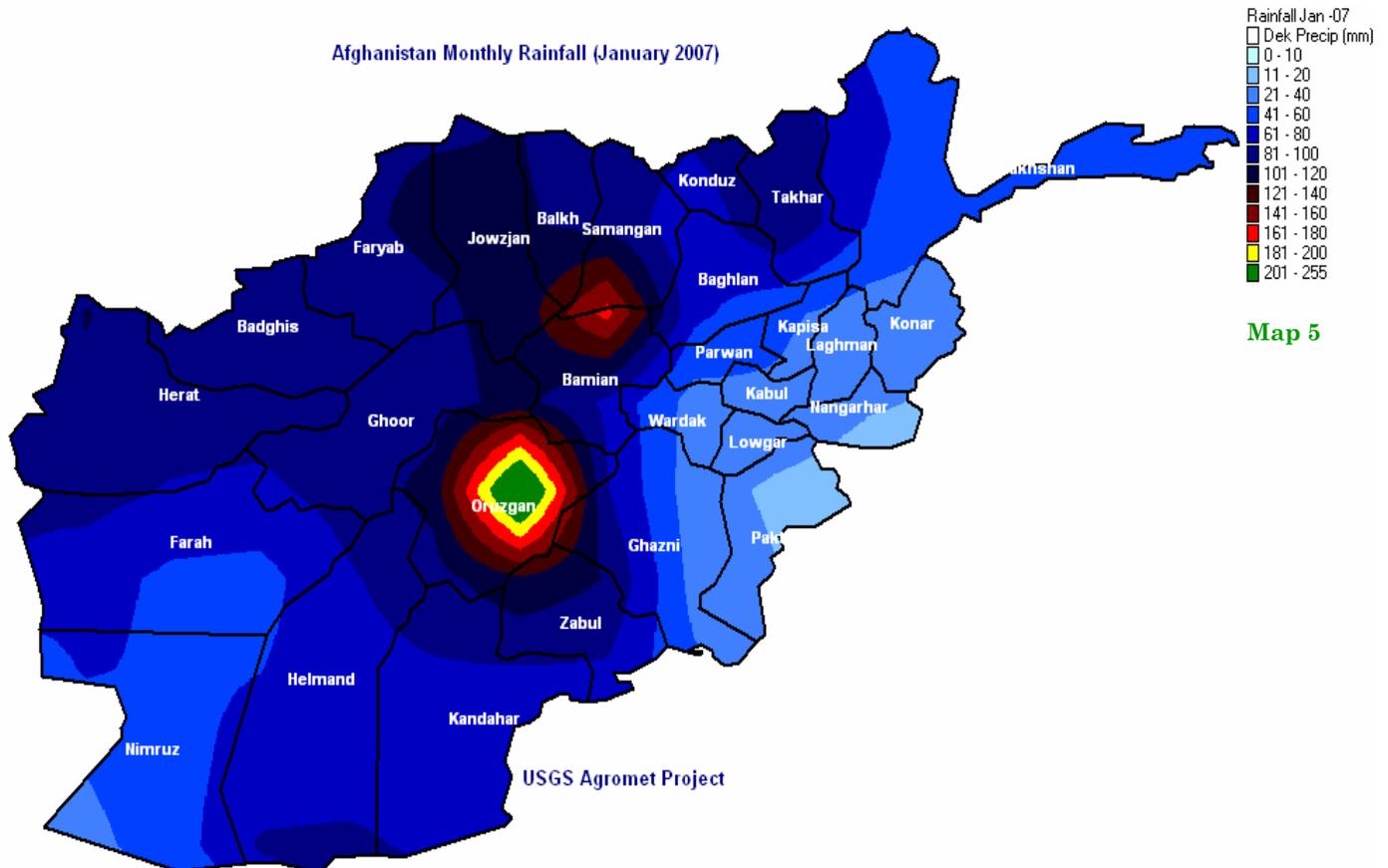
Comparison of rainfall data for the month of January 2007 with the same month in 2006 (chart 1) shows decrease in rainfall amount in most parts of the country.

The percentage +/- of rainfall is as follow:

The percentage +/- of rainfall is as follow:

In Baghlan –78%, Darul Aman – 57 %, Faiz abad – 91 %, Farah –87 %, Gardiz – 89 %, Gazni – 66 %,Ghaziabad – 100 %, Herat – 73 %, Jabul Seraj – 78 %, Jalalabad – 100 %, Logar – 84 %, Kabul 86 %, Kunduz + 113 %, Kandahar – 79 %,Kariz Mir – 82 %, Maimana + 9 %, Mazar – 73 %, Paghman – 81 %, Sheberghan – 62 %, Sarobi – 84 %,Sripul – 48 %, Taluqan – 58 %.

In Baghlan – 80%, Darul Aman – 56 %, Faiz abad – 60 %, Farah – 75 %, Gardiz – 90 %, Gazni – 80 %,Ghaziabad – 100 %, Herat – 50 %, Jabul Seraj – 77 %, Jalalabad – 100 %, Logar – 86 %, Kabul – 63 %, Kandahar – 72 %, Kariz Mir – 72 %, Kunduz + 153 %, Logar – 86 %, Maimana – 37 %, Mazar 22 %, Paghman – 67 %, Sheberghan – 53 %, Sarobi – 80 %, Sari Pul – 55 %, Taluqan – 65 %.



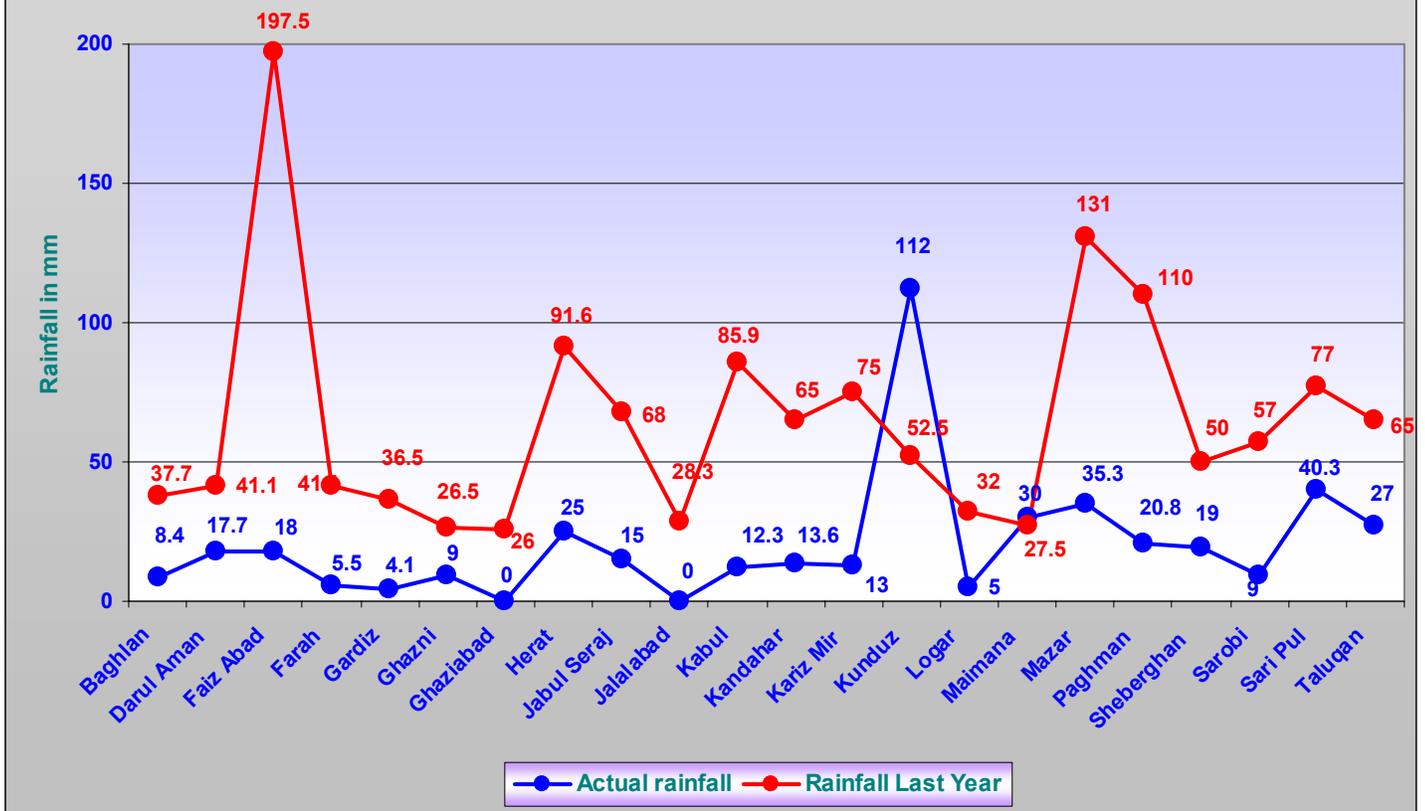
Map 5

Distribution of rainfall is variable in different regions of the country. Map (5) shows that most amount of rainfall occurred in some parts of Southern regions (particularly in Uruzgan province) and some parts of the Northern mountainous areas. Most parts of Southern, Western, Eastern and southeastern regions experienced less amount of rainfall during the month of January 2007.

Rainfall Graphs for the Month of January 2007

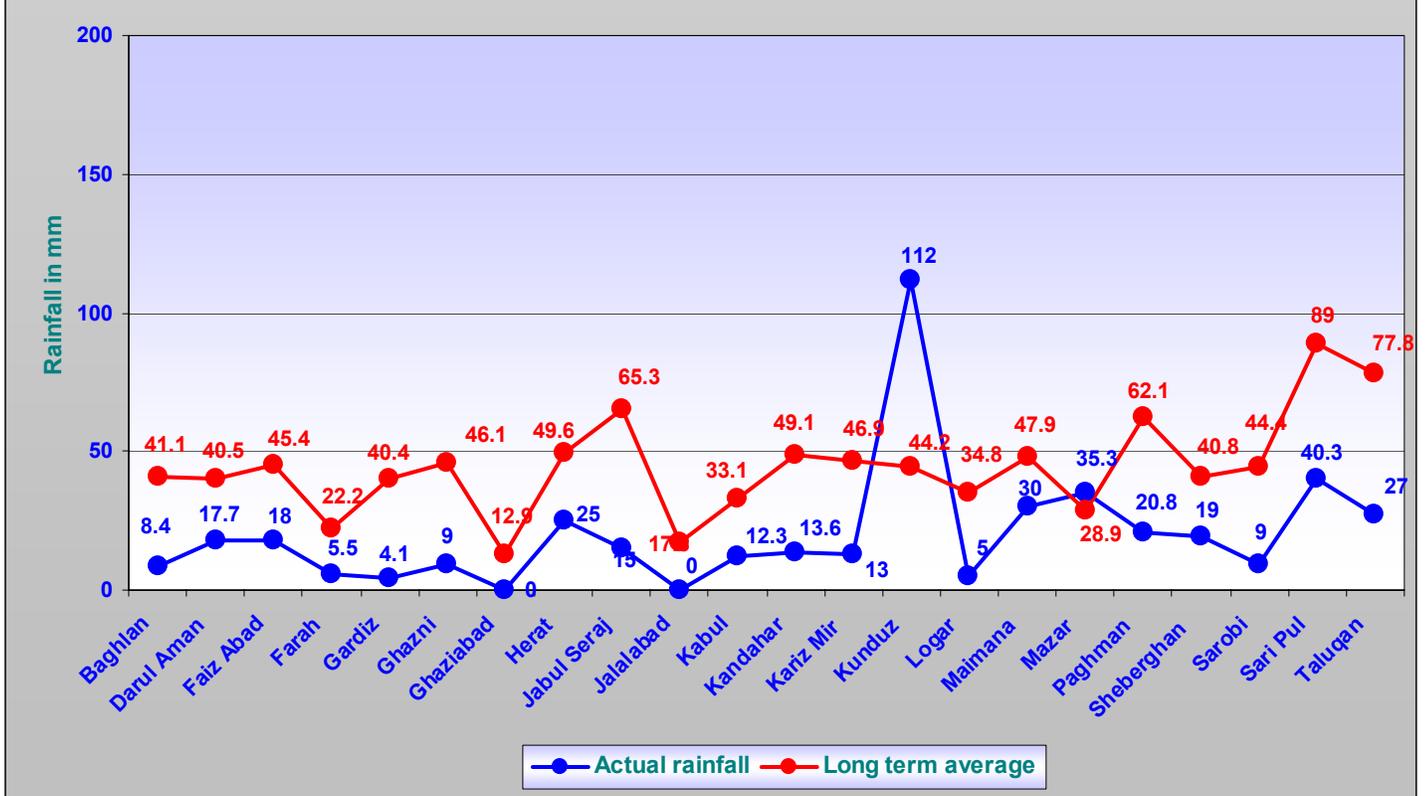
Comparison of actual and Last Year Monthly rainfall (January 2007)

Chart 1



Comparison of actual and long term average accumulated rainfall (January 2007)

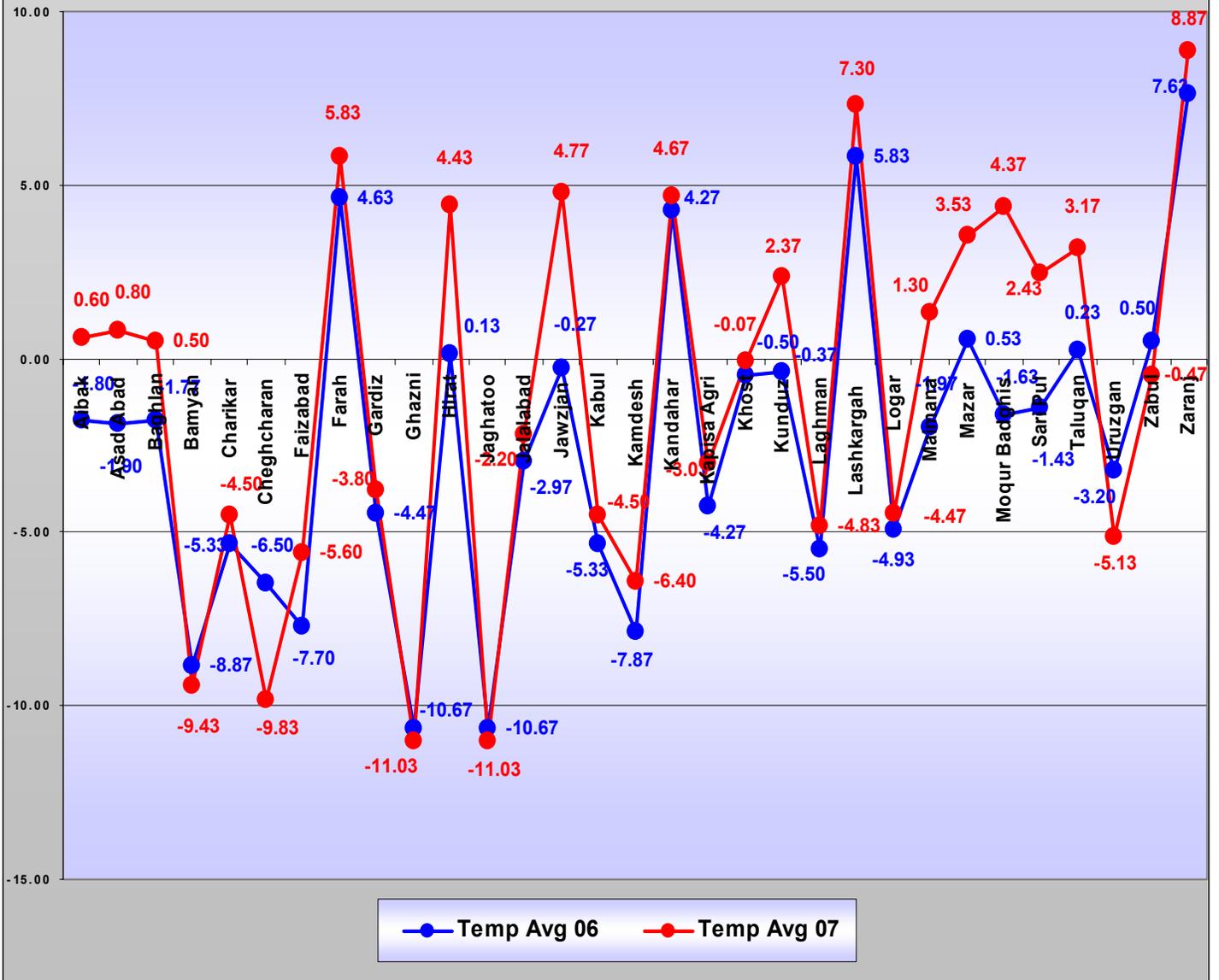
Chart 2



Average Temperature for the Month of January 2007

Average Temperature 2007 Compared with the same Month of 2006

Chart 3



Temperature for the month of January 2007 had an increase compared to the same month in most part of the country.

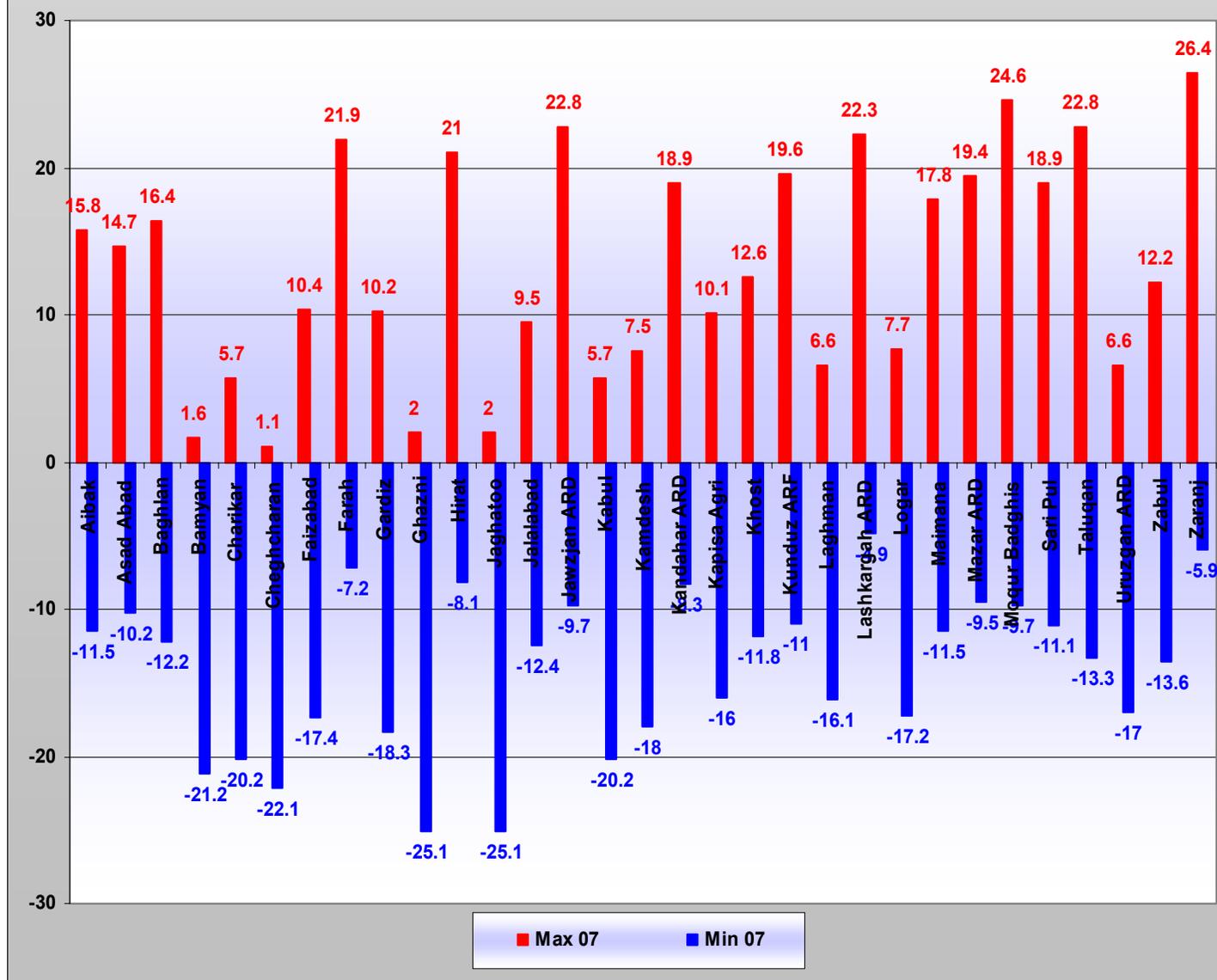
Temperature for the month of January 2007 had an increase compared to the same month in most parts of the country, except Bamyan, Faizabad, Ghazni, Jaghatoo and Urozgan where the temperature had small decrease during the month of January 2007 over the same month in 2006 (chart 3).

Above normal temperature in the month of January had reduced the continuous rainfall and resulted decrease of snow extent and depth. Bellow normal temperature will be needed to prevent rapid snow melt before the right and expected time.

Temperature for the Month of January 2007

Minimum and Maximum Temperature January 2007

Chart 4

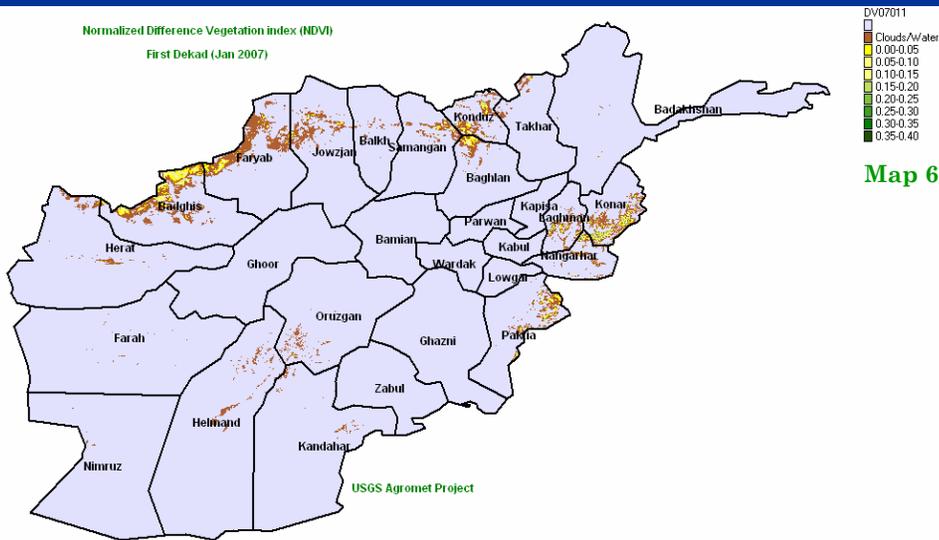


Zaranj with 26.4 ° C was the warmest part of the country during the month of January 2007.

Chart (4) shows maximum and minimum temperature during the month of January where maximum temperature was above freezing point across the country and the minimum temperature remained at freezing point across the country. Zaranj with 26.4 °C was the warmest part of the country during the month of January 2007,

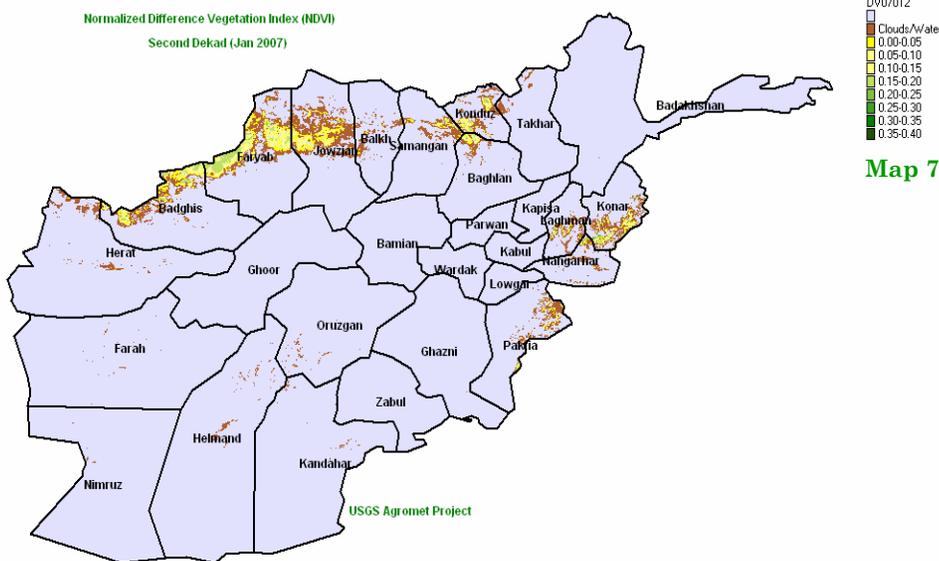
Gazni and Jaghtoo with - 25.1° C experienced extreme cold compared to other regions of the country .The extreme cold temperature limited in some parts of the Capital, Central Highlands, Hindikosh areas and the northeast regions during the month of January 2007.

Normalized Difference Vegetation Index (NDVI) (January 2007)



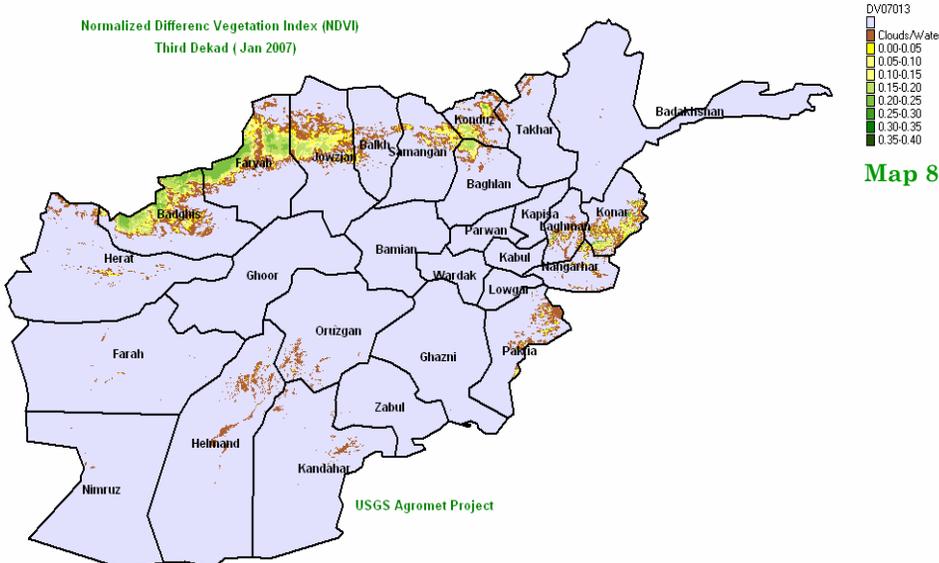
Map 6

Vegetation Index (NDVI) 1st Dekad of January 2007—Afghanistan



Map 7

Vegetation Index (NDVI) 2nd Dekad of January 2007—Afghanistan

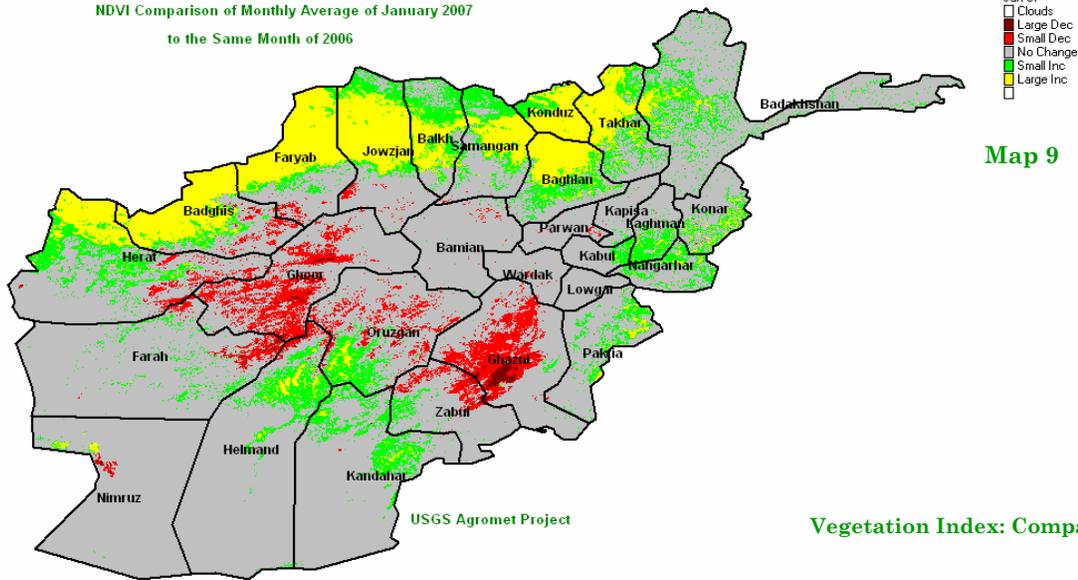


Map 8

Vegetation Index (NDVI) 3rd Dekad of January 2007—Afghanistan

Comparison of NDVI January 2007

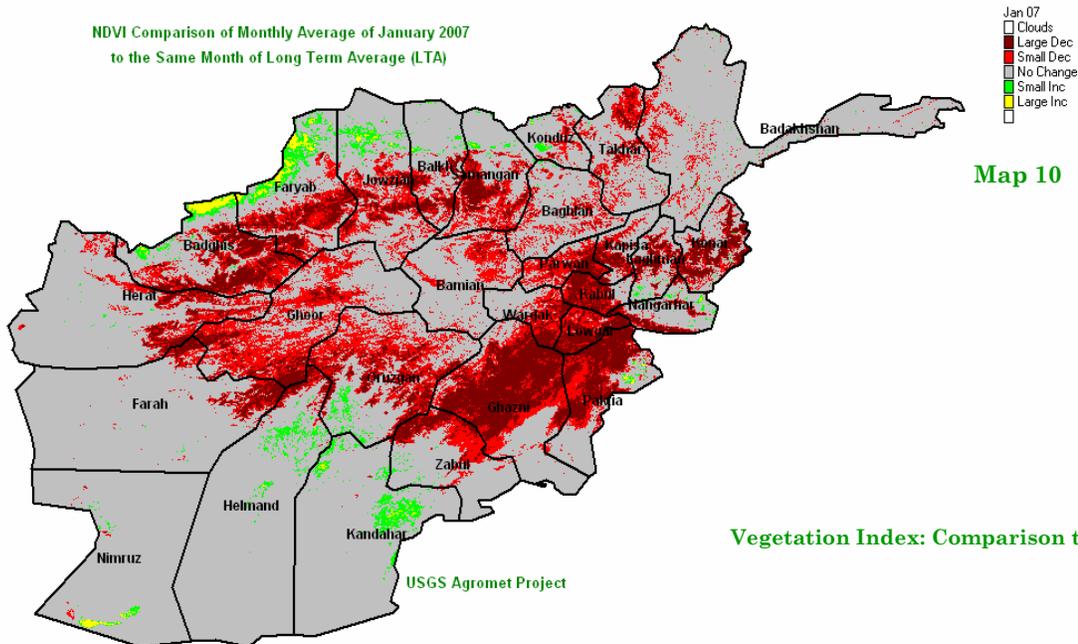
NDVI Comparison of Monthly Average of January 2007
to the Same Month of 2006



Map 9

Vegetation Index: Comparison to Last Year

NDVI Comparison of Monthly Average of January 2007
to the Same Month of Long Term Average (LTA)



Map 10

Vegetation Index: Comparison to Long Term Average

NDVI: January 2007

Comparison of monthly average of NDVI for the month of January 2007 with the same month in 2006 (map 9) shows large increase of NDVI in most parts of the Northern flat areas, most parts of the Northeastern and some parts of the western region. Small increase of NDVI occurred in some parts of the Eastern regions, limited area in the Northeastern and some parts in the South. Small decrease of NDVI occurred in some parts in the Southeastern and Western regions. In the remaining regions there is no change of NDVI during the month of January 2007 over the same month in 2006.

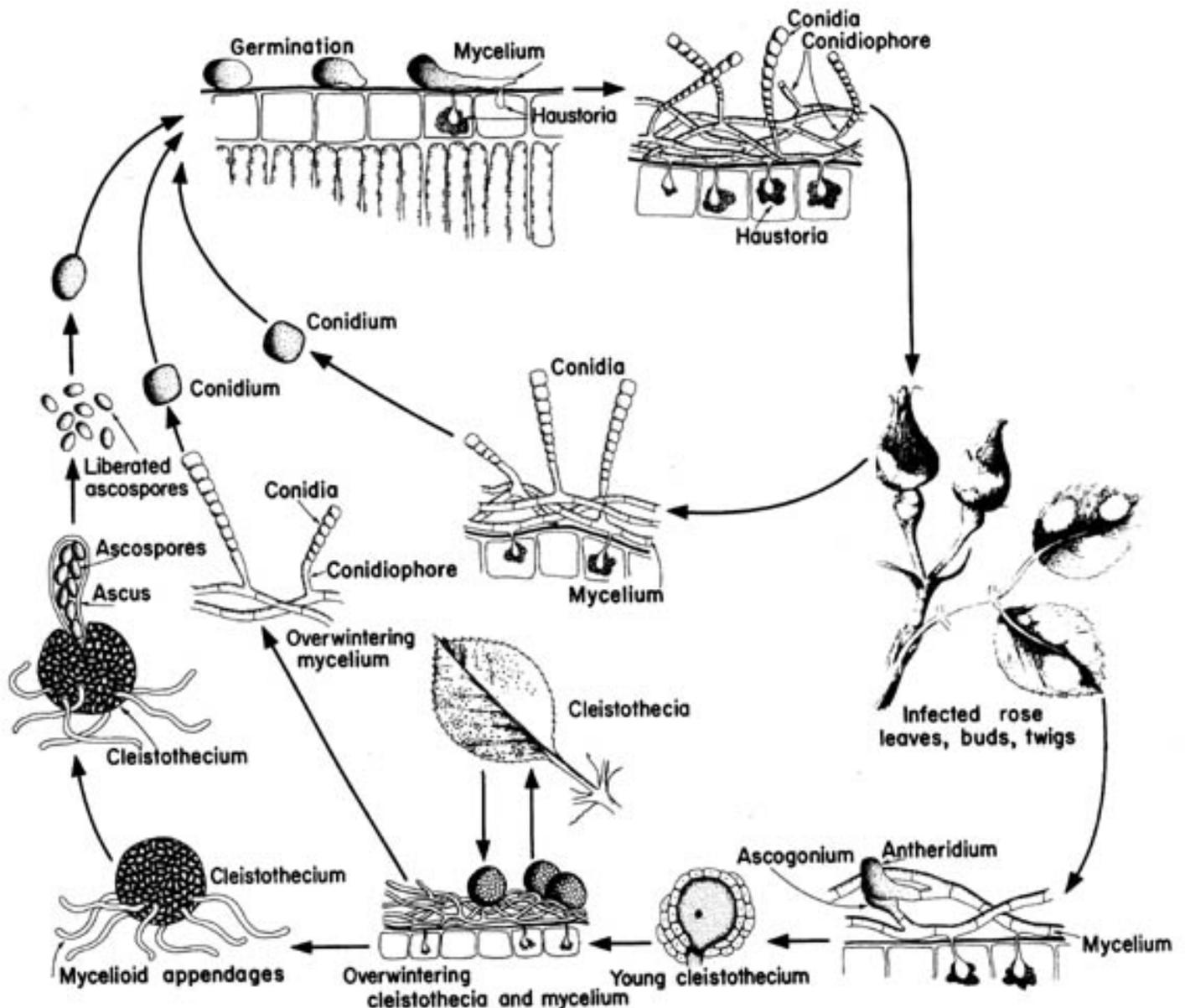
Comparison of monthly average of NDVI for the month of January 2007 with the same month of long term average (map 10) shows large decrease of NDVI in most parts in the North mountainous areas, western mountainous region, Capital, Central Highlands, South-eastern and Eastern regions. There is no change of NDVI in the Southern region, most parts of the West and Northeastern regions during the month of January 2007 over the same month of long term average.

Powdery Mildew

The powdery mildew is a type of disease caused by fungus and in Latin called *Unciula Necator*. Main target of the disease is grapes vines. This disease discovered first time in Japan and later on spread widely all over the world where plenty of grapes vine existed. Powdery mildew produces spores which are reproduced asexually.

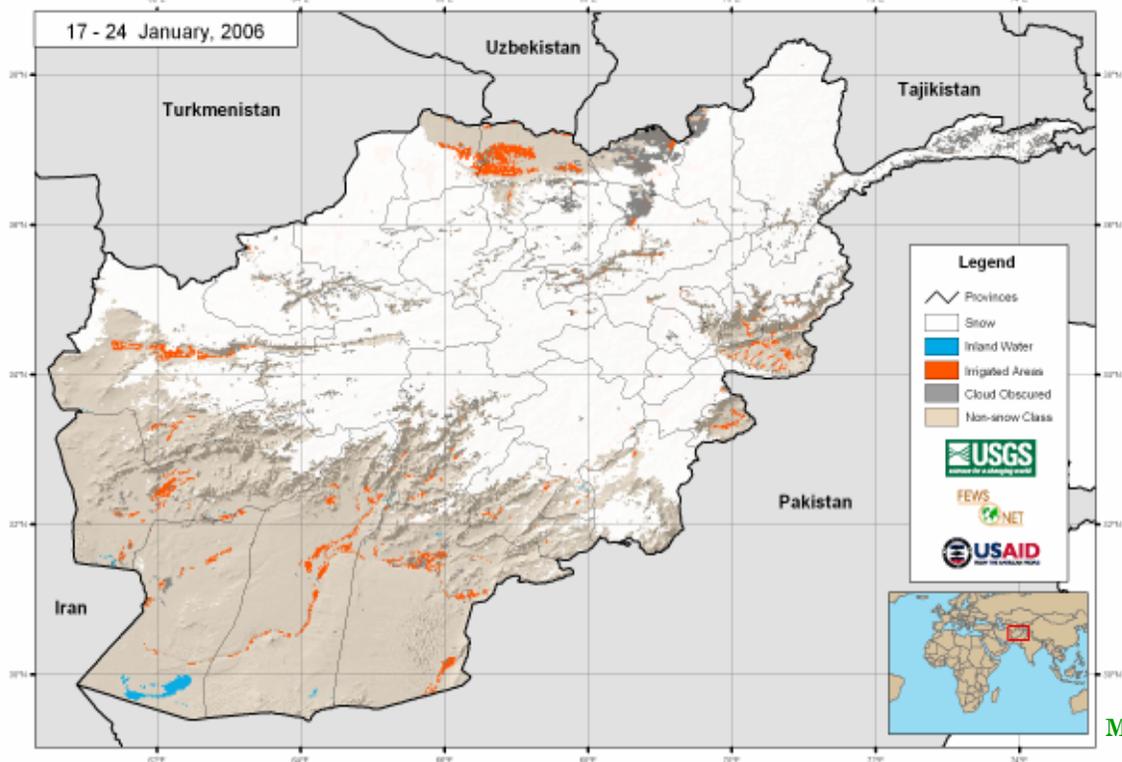
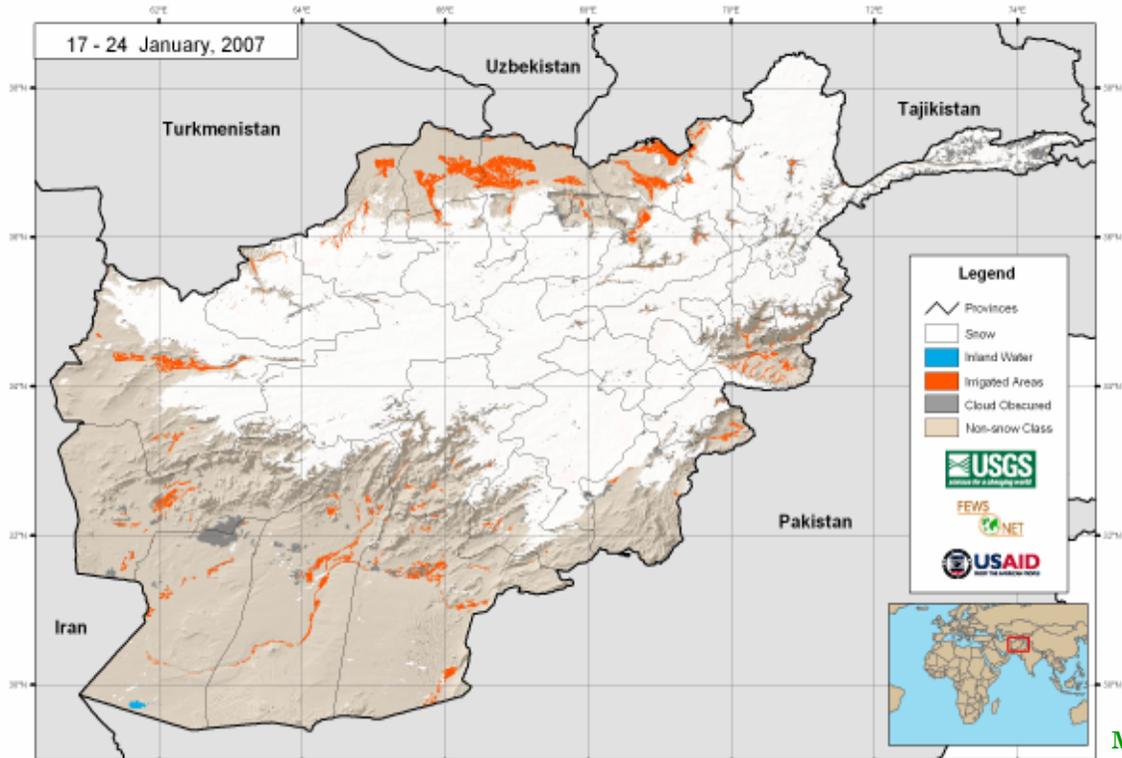
During an optimal temperature of 10 C° at the time of bud flowering, the fungus attack and the spores produce mycelium (flag shoots) on the branches. The spores form colony under this suitable situation. When the temperature raises (at high humidity level) from 18-30 C° by less than the spores growth become fast reducing about 30-40 percent in its production and may exceed 80-90 percent by spreading and organizing new colonies on the plant surface. When the temperature reaches below 18 and raises 30 C° or exceeds from 35 C° the colonies may not survive more and eventually destroy.

The life Cycle of Powdery Mildew



Comparison of snow extent and depth

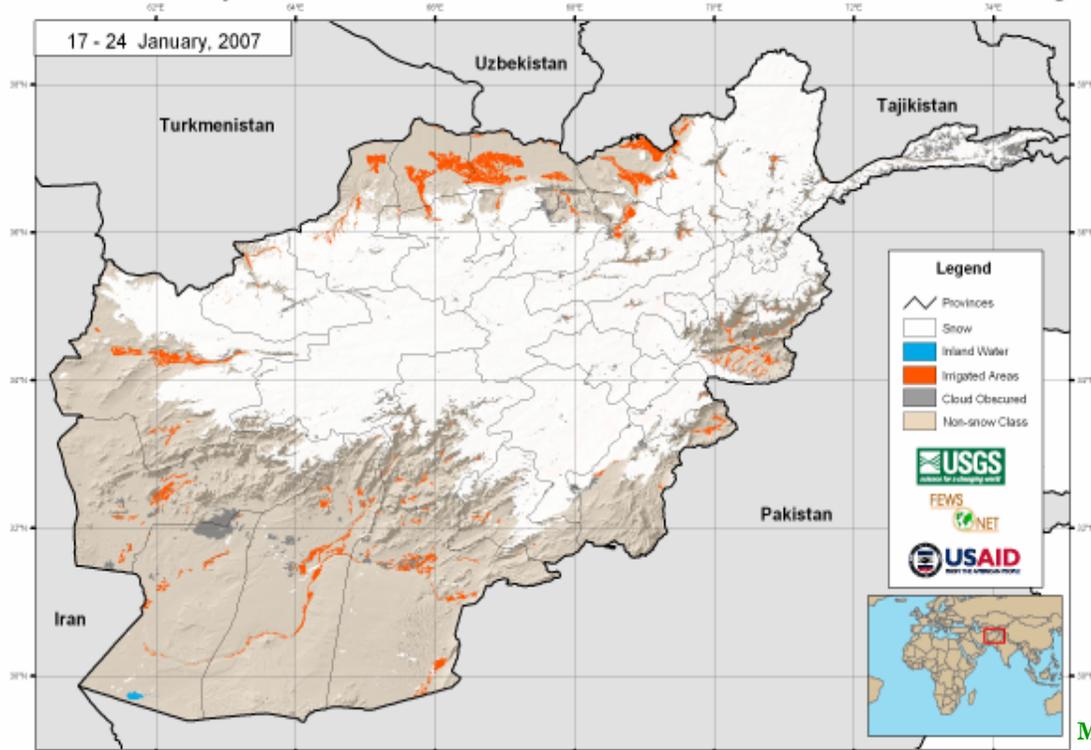
MODIS 8-day Snow Cover Extent - Current Period 2007 vs 2006



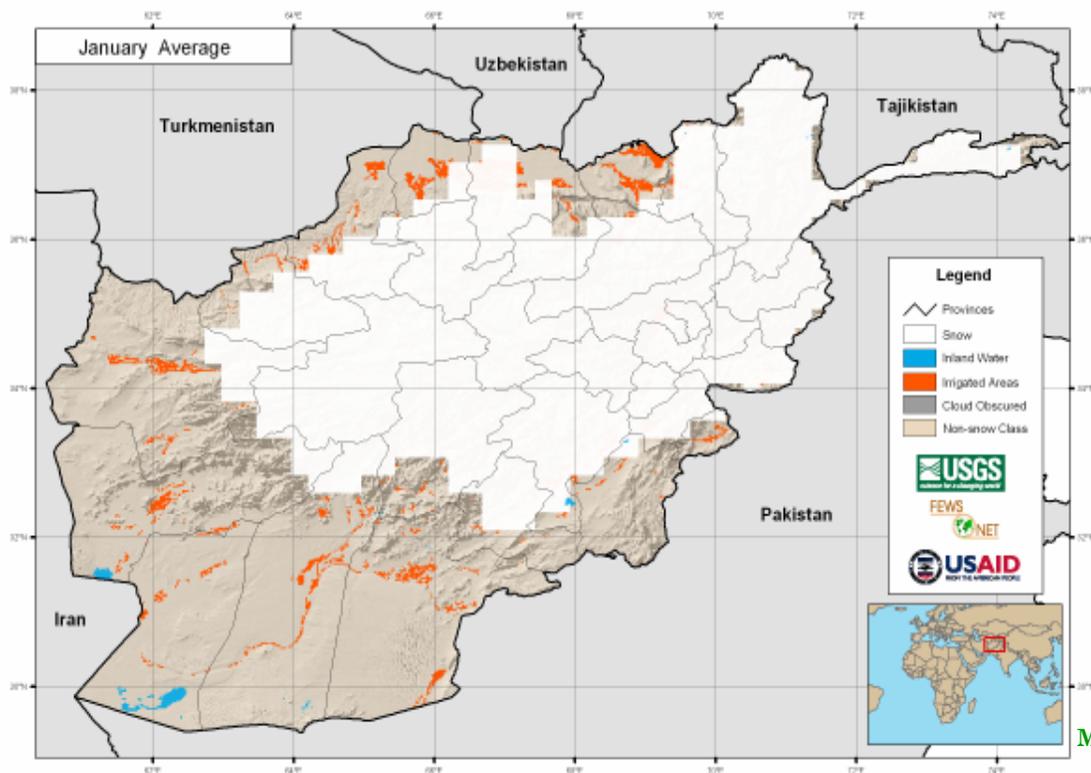
Comparison of snow extent for the month of January (11 and 12) 2007 with the same month in 2006 (maps11-12) shows that there is no considerable change occurred in snow extent during the month of January 2007 over the same month in 2006 in snow coverage areas.

Comparison of snow extent and depth

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



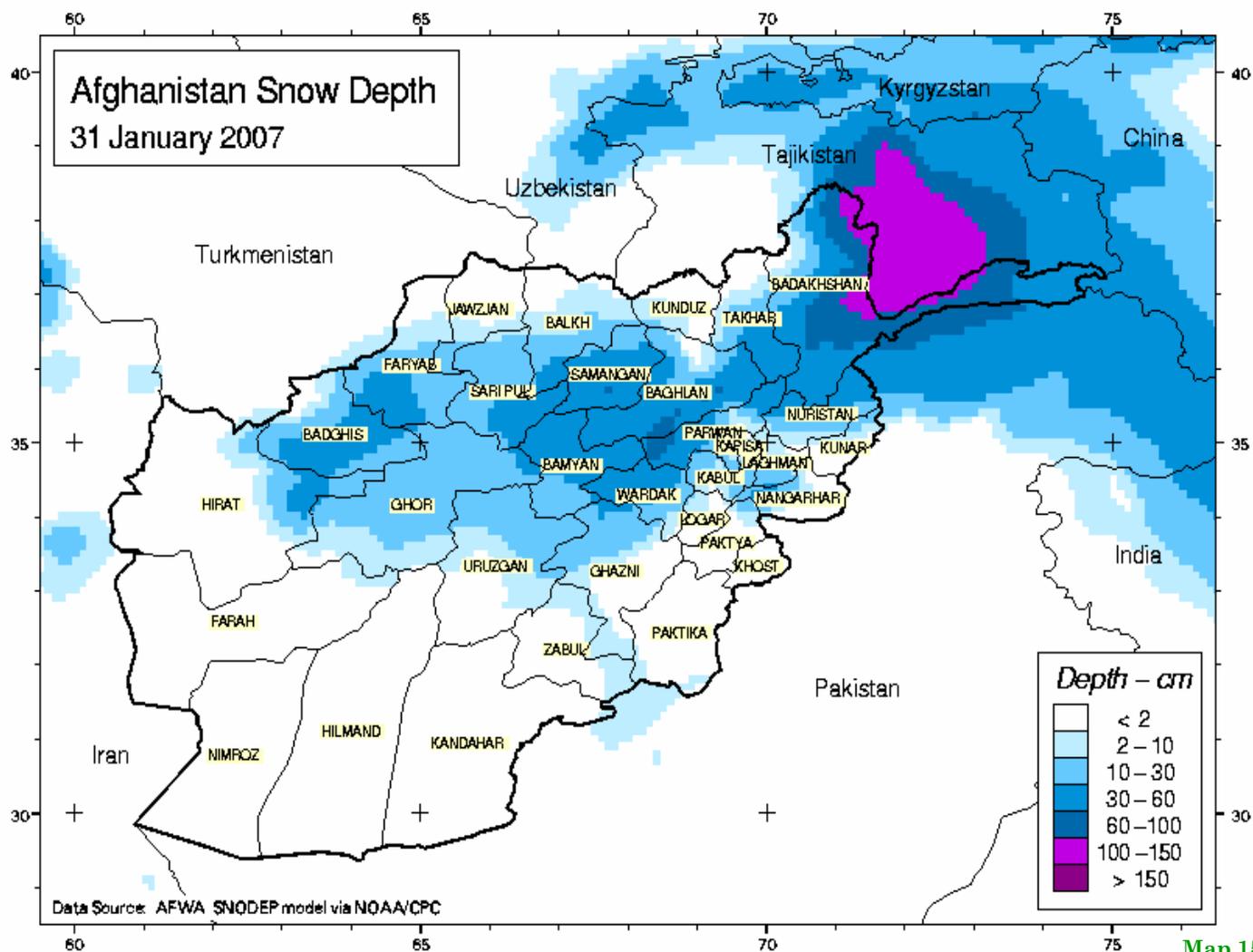
Map 13



Map 14

Comparison of snow extent for the month of January 2007 with the same month of long term average (map 13-14) shows that there is no significant change occurred in snow extent during the month of January 2007 compared to the same month of long term average across the country.

Afghanistan Snow Depth January 2007



Map (15) shows the snow depth in Afghanistan where the snow depth is 100 – 150 cm in some parts of the North-eastern and 60 – 100 cm has been recorded in Central Highlands and neighboring areas.

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