



Civil Aviation Authority  
Islamic Republic of Afghanistan

First steering committee meeting (SCM 1)  
South Asia Flood Guidance (SAsiaFFG) PROJECT

New Delhi, india

26-28 April 2016

Afghanistan Civil Aviation Authority (ACAA)

Afghanistan Meteorological Department (AMD)

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# AFGHANISTAN

- ▶ *Afghanistan is a landlocked country that is bordered by Turkmenistan, Uzbekistan and Tajikistan to the north, China to the east, Pakistan to the east and south and Iran to the west.*
- ▶ *Kabul is the capital and largest city in Afghanistan, located in the Kabul Province;*
- ▶ *Afghanistan is made up of **34 provinces.***
- ▶ *With a estimated population of Afghanistan about 30 millions.*

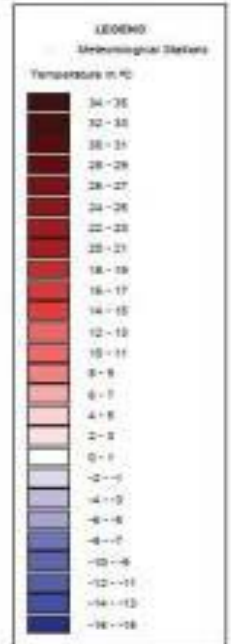
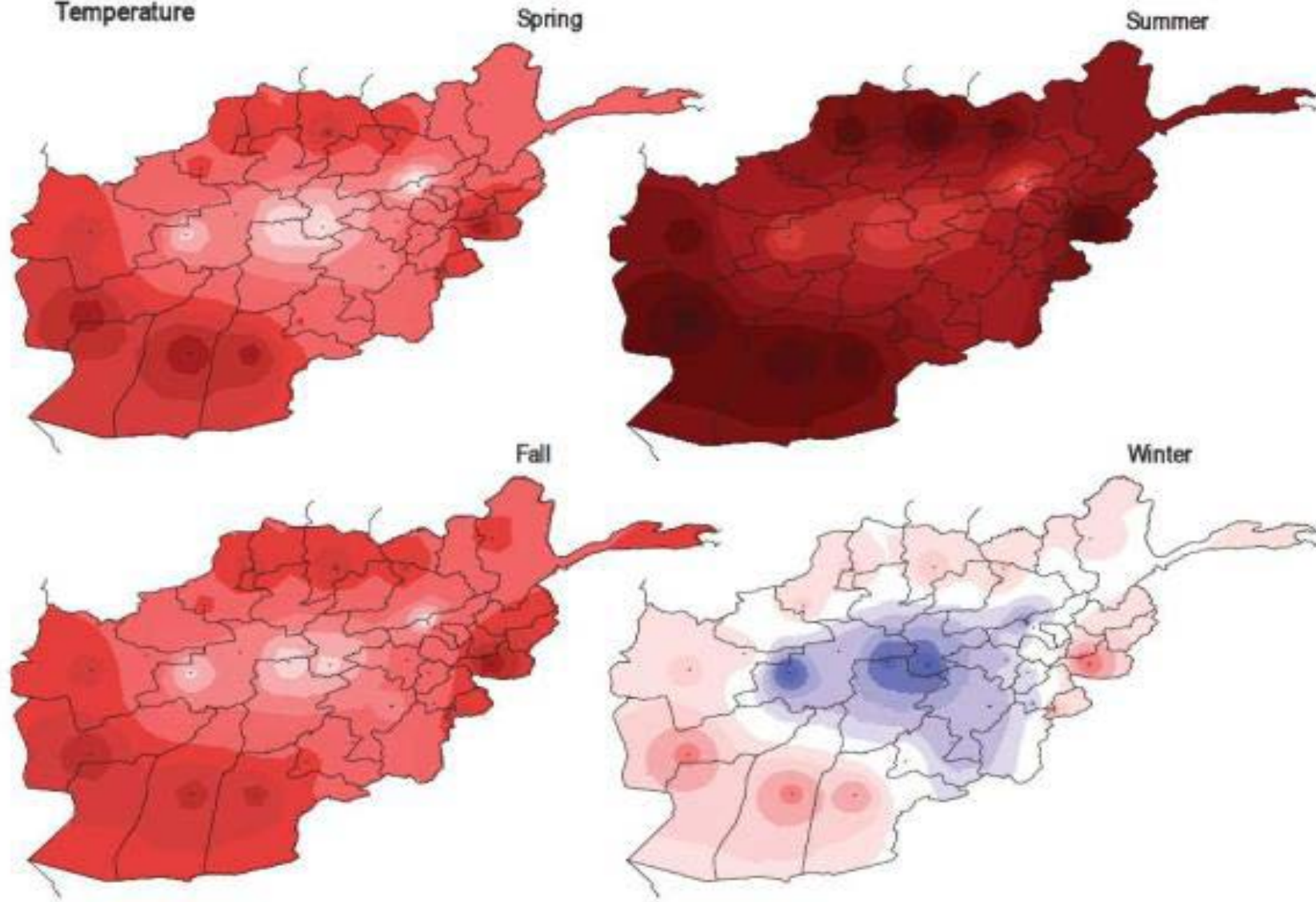


# CLIMATE OF AFGHANISTAN:

- ▶ Afghanistan is a mountainous country in a dry part of the world which experiences extremes of climate and weather . Winters are cold and snowy , summers hot and dry the wet season generally runs from winter through early spring , but the country on the whole is dry . The climate is typical of an arid or semiarid steppe , with cold winters and dry summers . *The Hindu Kush mountain range reaches a high of 7,492 meters (24,580 fit) at Nushaq, Afghanistan's highest peak.*



# Average Seasonal Temperature



Source: Agrometeorology Division, ICAD-SCOP and ICAAN National Geologic and Atmospheric Administration, collected from 1989 and 1991. Interpolated from 51 meteorological stations.

# GEO-CLIMATIC

Afghanistan has a dry continental climate with a large diurnal temperature range. However, the country is mountainous affected mainly by Mediterranean, Indian Monsoon cyclones, Gulf and seldom by Siberian cyclones. The average rain precipitation in desert areas is less than 250 mm, in plain areas 300 mm and in highlands 700-950 and even 1212 mm/annum had been recorded. Mainly the country is affected by seasonal rain precipitation and snowfall.

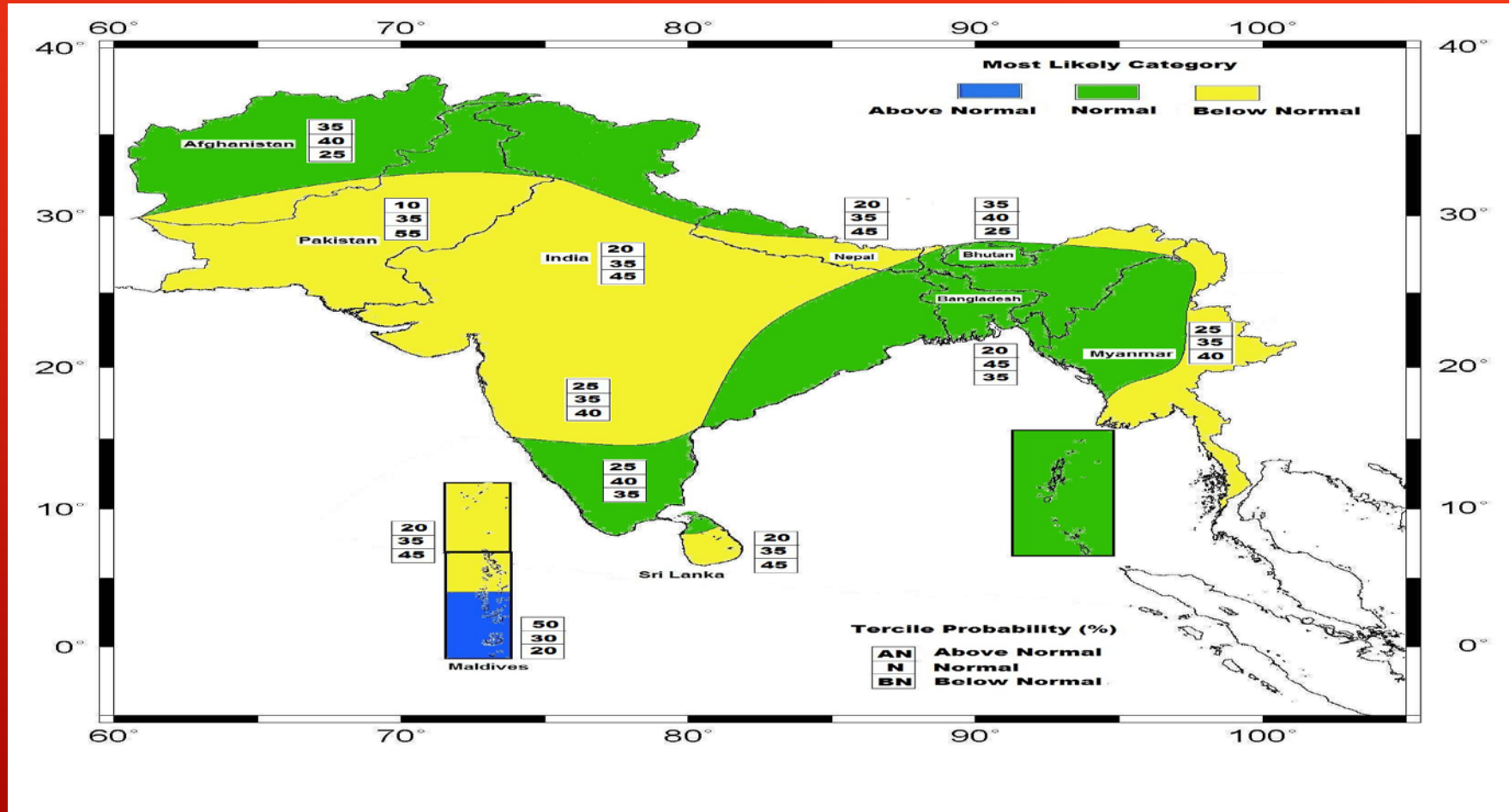
# EFFECT OF INDIAN MONSOON ON AFGHANISTAN:

- ▶ The main source of Indian monsoon is the up stream of Tibetan plateau Indian monsoon bring tropical air masses that determine the climate between July and September at that times these air masses advance in to central and southern

Afghanistan bringing increased humidity and some rain, but the snow season averages roughly October – April in the mountains and varies considerably with elevation .



► Fig.1. Consensus outlook for 2015 Southwest Monsoon Rainfall over South Asia.



# HOW TO FLOOD HAPPEN :

- ▶ A flood happens when a river overflows its banks. Too much rain or melted snow can cause .
- ▶ Flooding is one of the most widespread of climatic hazards .

Flood hazards may increase as a result of climate change .





# FLOOD AND AVALANCHE IN AFGHANISTAN

People suffer from natural disasters every year in Afghanistan province , people lost their properties and lives the most critical disasters are earthquake , landslides, drought and floods which are caused enormous lost , humanitarian , and financial resources .



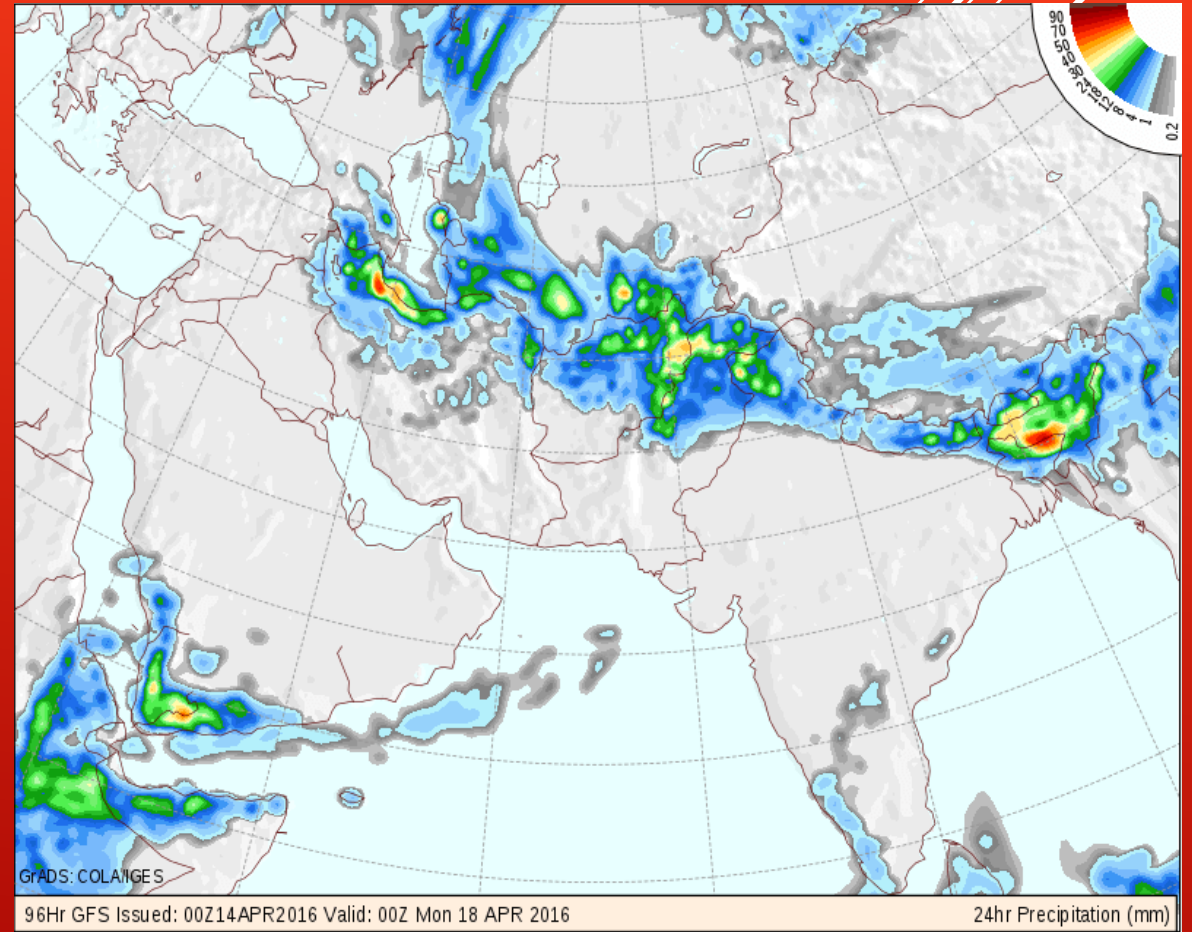
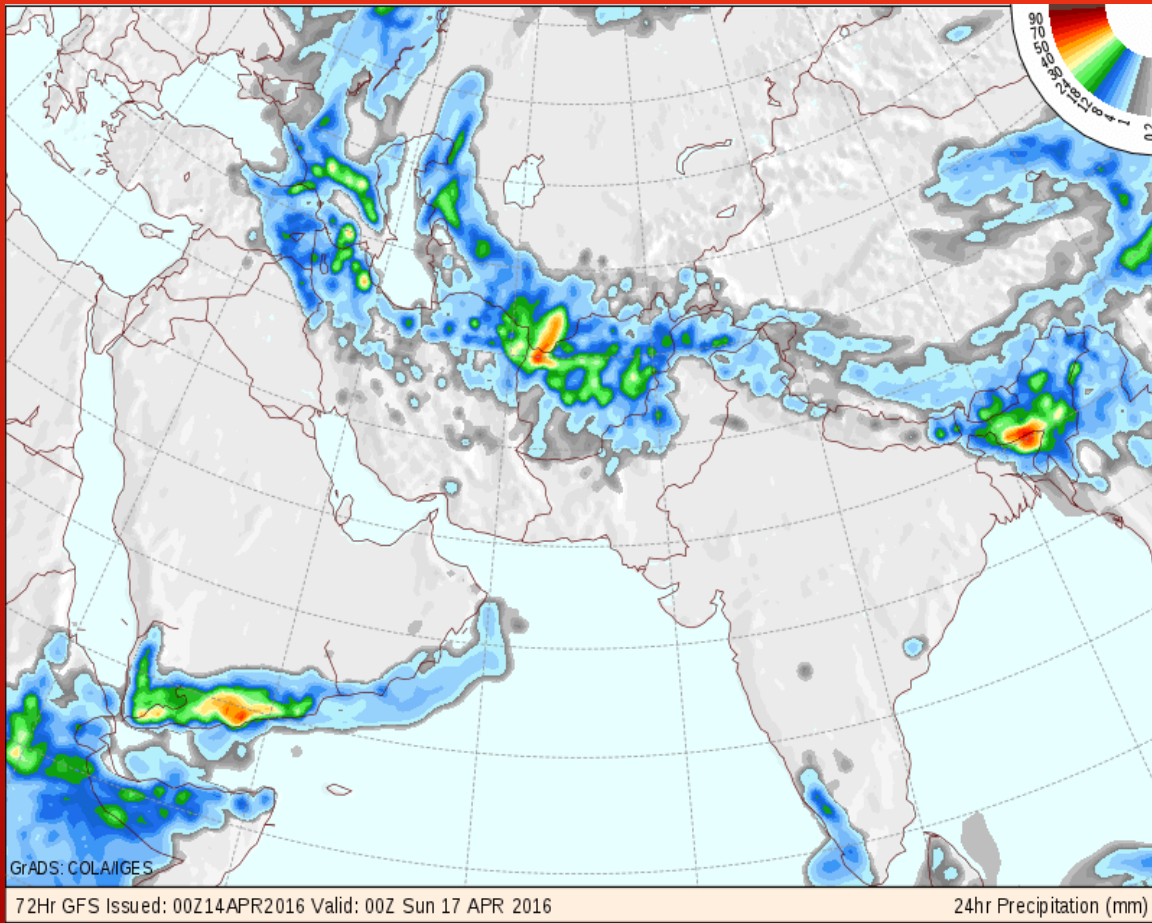
In recent year, more investment on reconstruction project have been done in Afghanistan but unfortunately, in the natural disaster risk reduction , very less investment and assessment.



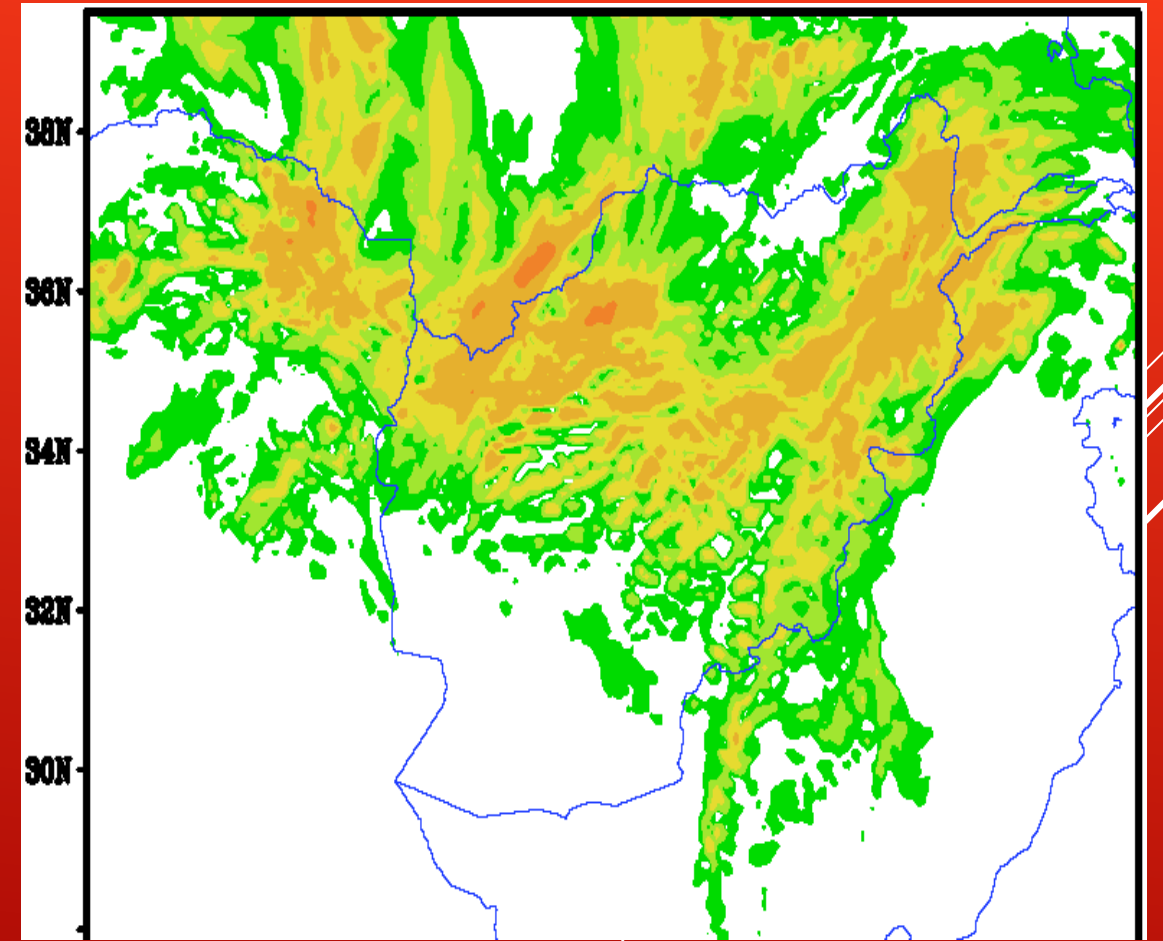
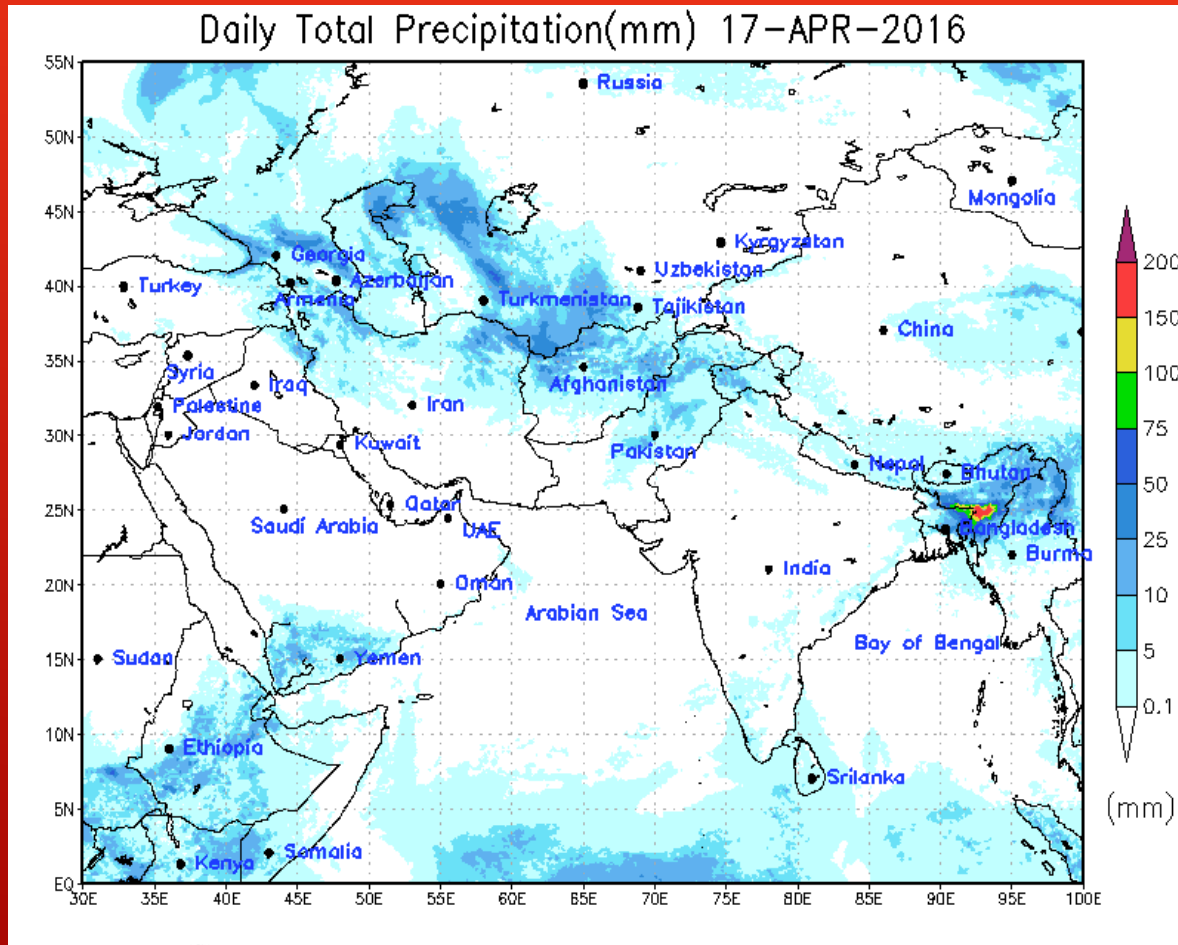
# AREA EFFECTED BY HEAVY RAINFALL AND FLOOD



# GFS MEDIUM RANGE FORECASTS OF VERTICAL VELOCITY AND PRECIPITATION



# METEOROLOGICAL MODELS USED FOR FORECAST



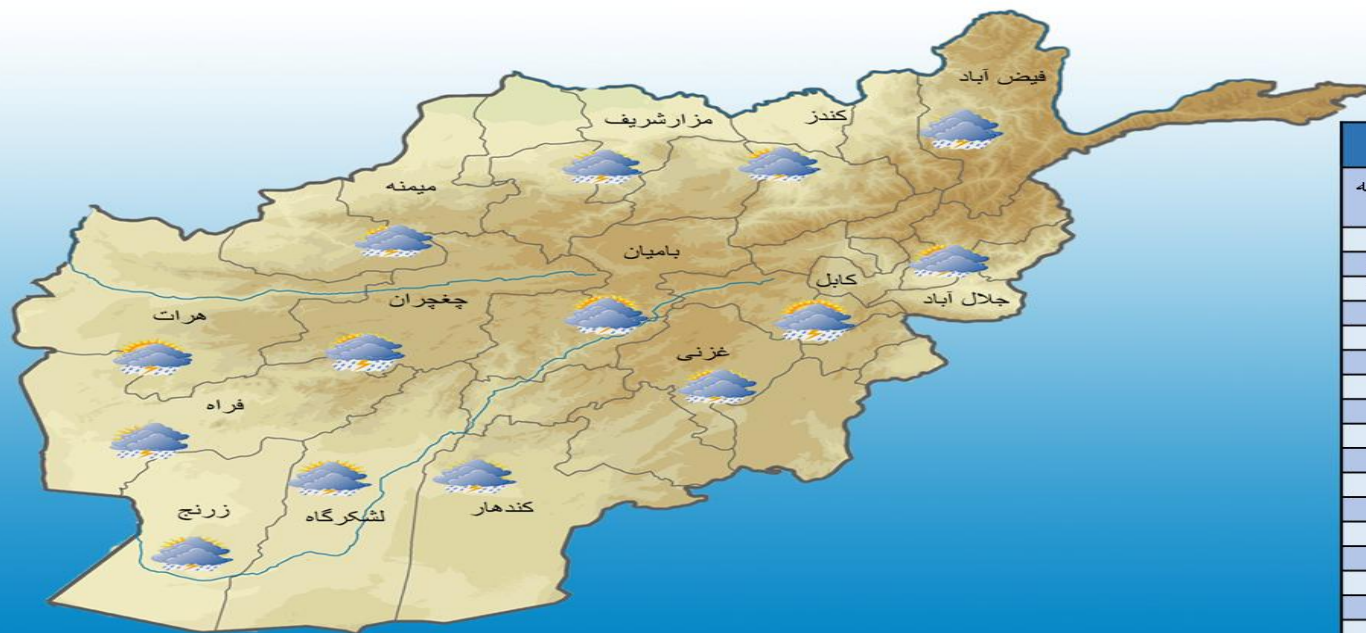
# FLOOD FORECASTING REPORT PREPARED BY AFGHAN (AMD)FORECAST

اداره مستقل هوا نوردی ملی  
ریاست هوا شناسی  
CIVIL AVIATION AUTHORITY  
DEPARTMENT OF METEOROLOGY

تاریخ : 27 حمل 1395

پیشگوئی اوضاع جوی طی سه روز آینده

شماره : 1147



ر سایر پدیده ها		درجه حرارت به سانتی گراد		استیشن ها
ضخامت طبقه برف	مقدار بارندگی	پایین ترین	بلندترین	
		10	21	کابل
220cm	2mm	3	8	سالنگ شمالی
140cm	1mm	5	11	سالنگ جنوبی
		17	35	کندهار
		17	29	هرات
		12	27	جیل السراج
		8	22	غزنی
		14	28	میمنه
				شبرغان
		16	28	مزار شریف
	1mm	6	11	فیروز کوه
	10mm	5	27	فایض آباد
		21	33	جلال آباد
		8	21	بامیان
		8	19	گوردیز
		11	26	کندهار
		13	26	قلعه نو
		22	35	لشکرگاه

پیشگوئی وضع جوی طی سه روز آینده: طی 24 ساعت آینده اکثر مناطق کشور بشمول کابل و سالنگ ها نیمه ابری و پوشیده از ابر خواهد شد احتمال رگبار پراکنده همراه بارعدوبرق ربعی از مناطق فوق الذکر پیشبینی میگردد و بعد از ظهر احتمال بارندگی پراکنده همراه بارعدوبرق در شهر کابل بملاحظه خواهد رسید . همچنان احتمال سیلابها در مناطق شمالغربی مناطق شمال مرکزی - مناطق شرقی - مناطق جنوب شرقی - مناطق غربی بشمول کابل بوقوع خواهد پیوست .  
 روز یکشنبه : اکثر مناطق کشور بشمول کابل و سالنگ ها احتمال رگبار پراکنده توام بارعدوبرق و ریزش برف در مناطق مرتفع مرکزی و مرتفع مرزی شمالشرقی پیشبینی میگردد . همچنان احتمال سیلابها در مناطق شمالغربی - مناطق شمال - مناطق مرکزی - مناطق شرقی - مناطق جنوب شرقی - مناطق غربی بشمول کابل بوقوع خواهد پیوست .  
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## FLOOD KILLS 23 PEOPLE IN QALA-E-NAW PROVINCENCE IN AFGHANISTAN :

QALA-E-NAW, Afghanistan April 17- Heavy rainfall and floods claimed the lives of 23 people including women and children in the western Badghhis province with Qala-e-Naw as its capital 555 km northwest of Kabul on Saturday night and Sunday morning, province.

"Based on the reports we have received so far, 23 people including women and children have confirmed dead due to downpour and flooding in Jawand, Balamurghab and Abkamari districts .

Rainstorms and flooding hit several parts of Afghanistan including the capital city Kabul on Saturday night and parts of the country is still raining.

18 April 2016

Flash waters killed six people, three women and three children, and damaged about 20 houses and at least five area of agricultural land in Samangan Province.

## Afghanistan – Over 30 Killed After Flash Floods

According to News in Afghanistan at least 31 people have been killed in flash floods that struck in northern parts of the country between 16 and 17 April, 2016. Several people are also reported to be missing in the floods.

At least 5 of the deaths occurred in a village near Taloqan in Takhar province. The Chinese news agency, say that in Badghis province, the districts of Jawand, Murghab and Ab Kamari were the worst hit. As many as 23 people deaths have been reported in those 3 districts alone.

Khaama Press say that Afghanistan is often “hit by heavy rainfalls as the weather gets warm across the country which mainly contributes to flash floods that leave hundreds of people dead every year.



## SOME FLOOD PICTURES IN DIFFERENT PARTS OF AFGHANISTAN



## SOME FLOOD PICTURES IN DIFFERENT PART OF AFGHANISTAN



# GAPS AND CHALLENGES

- Lack of sufficient Meteorological stations and equipment
- Security problems
- Shortage of technical staff
- Lack of trainings in the section of climate and forecasting
- Lack of cooperation between the hydromet sectors in the national and international levels
- Lack of flood forecasting software and modeling for foold forecasting

Thank you



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