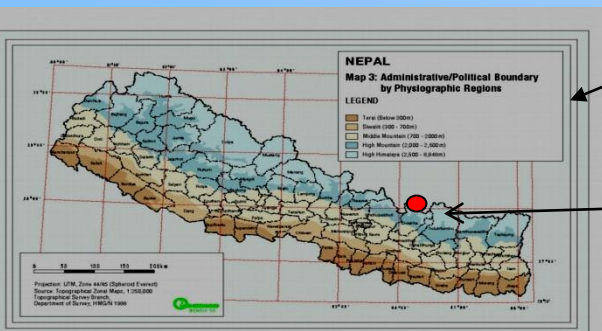


Country Presentation-Nepal



Mt.Everest,



Overview

Brief Climatology

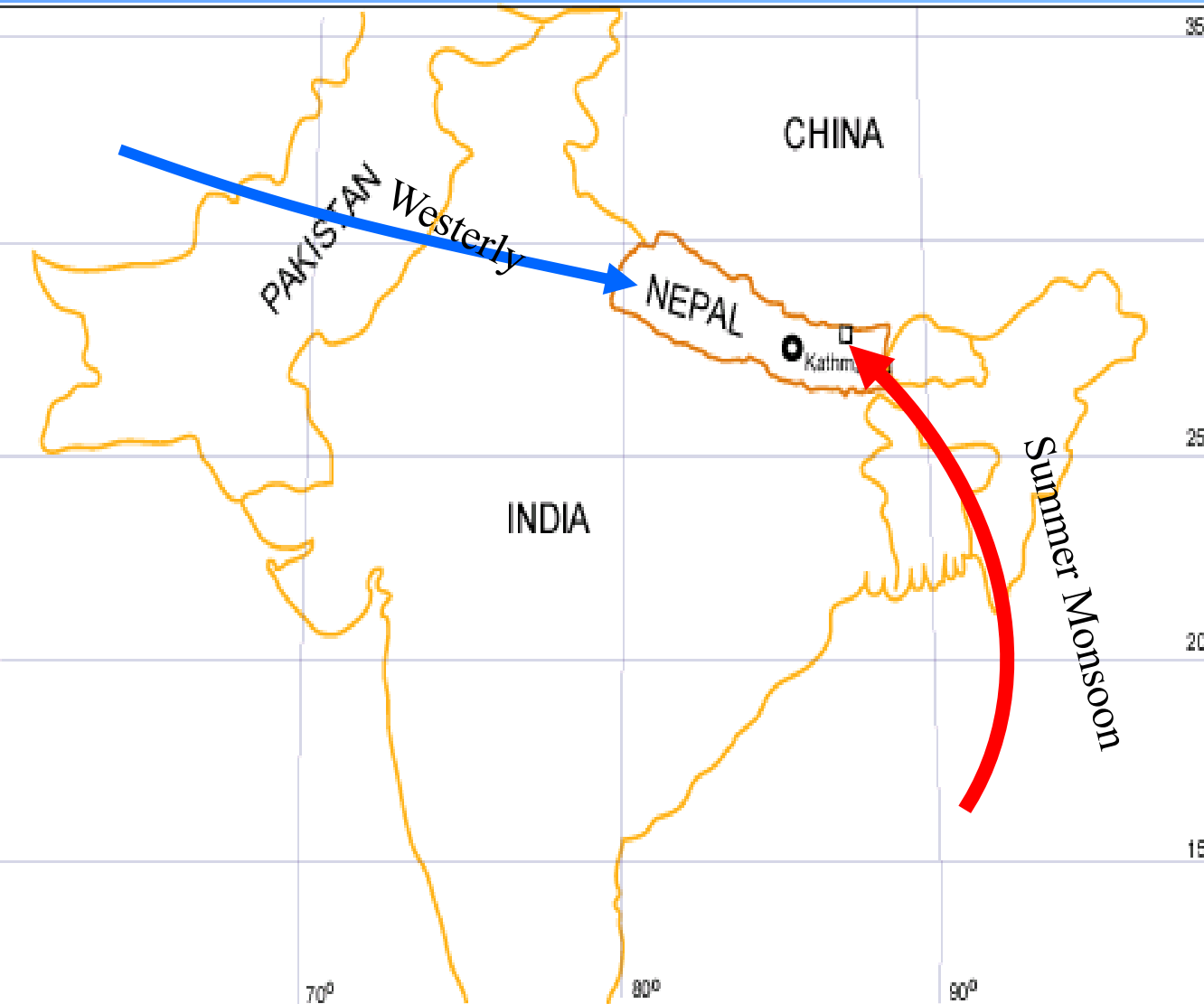
Climate activities- DHM

PPCR (Pilot Program for Climate Resilience) and BRCH

Drought related activities in Nepal

Brief Climatology

-General Seasons in Nepal

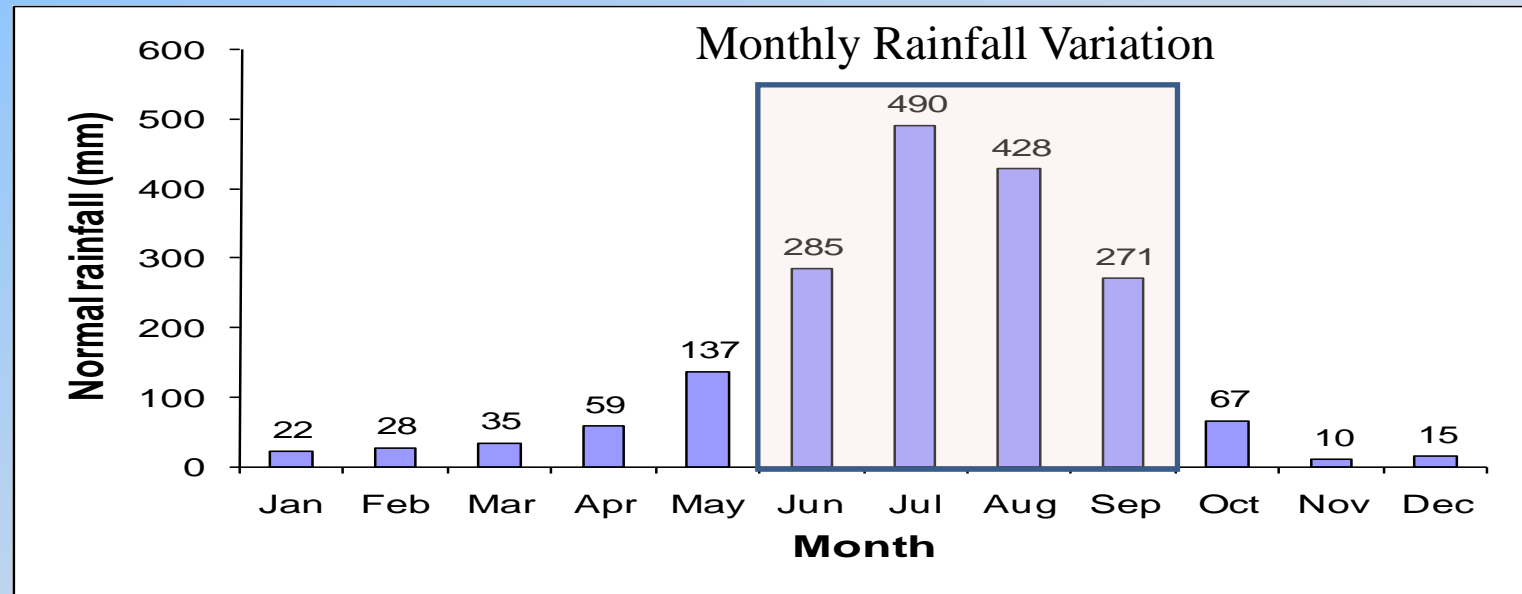
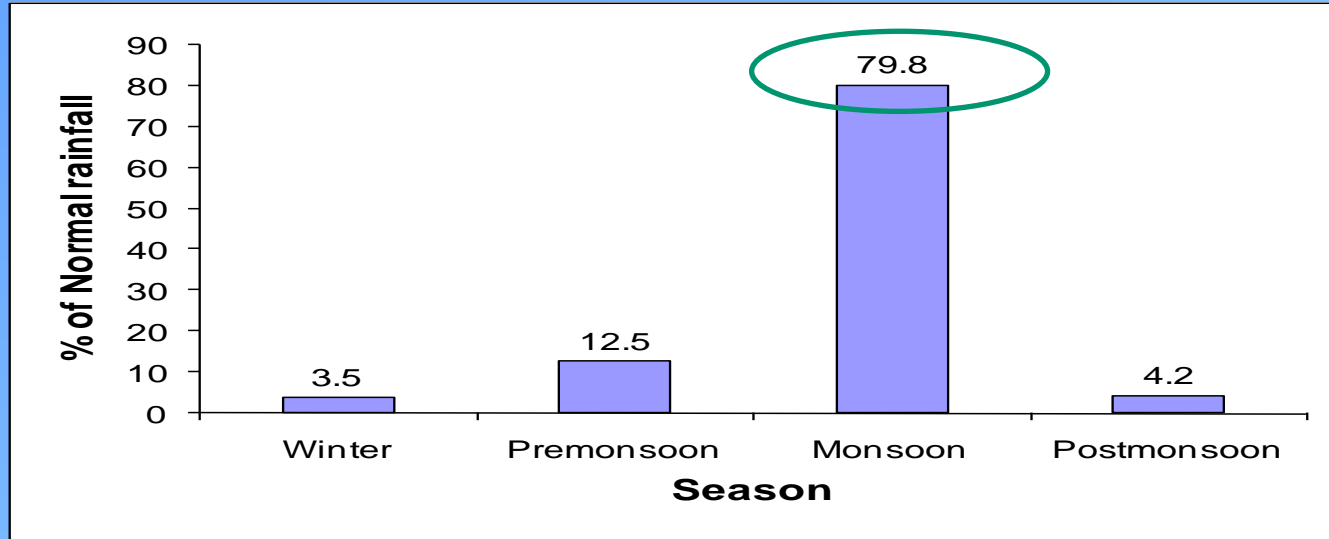


Nepal is strongly Influenced by
Monsoon Circulation
Based on
Monsoon Phenomenon

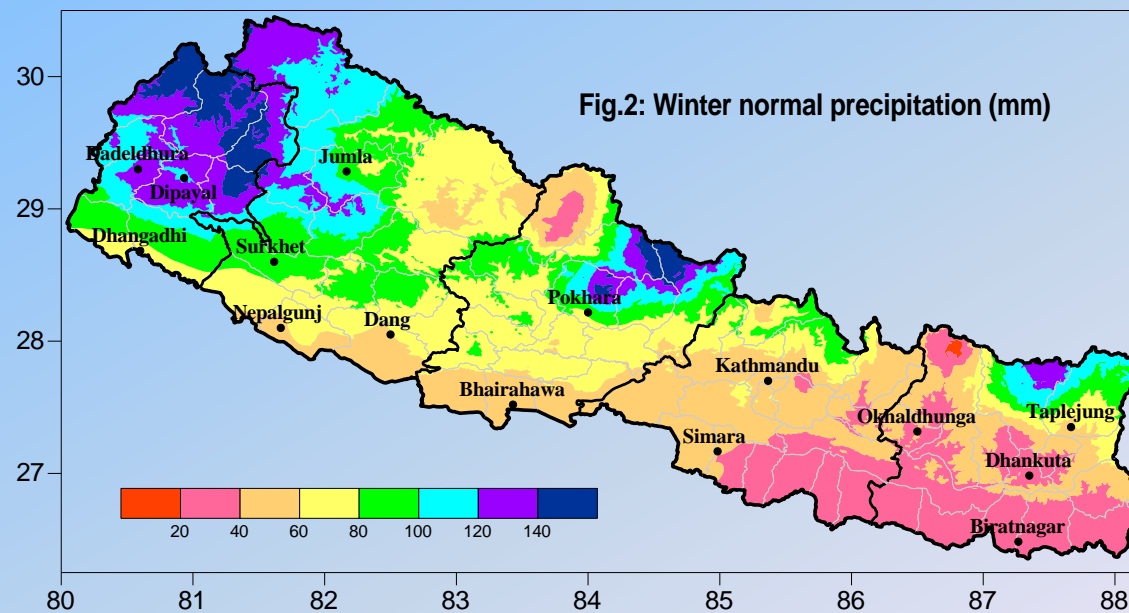
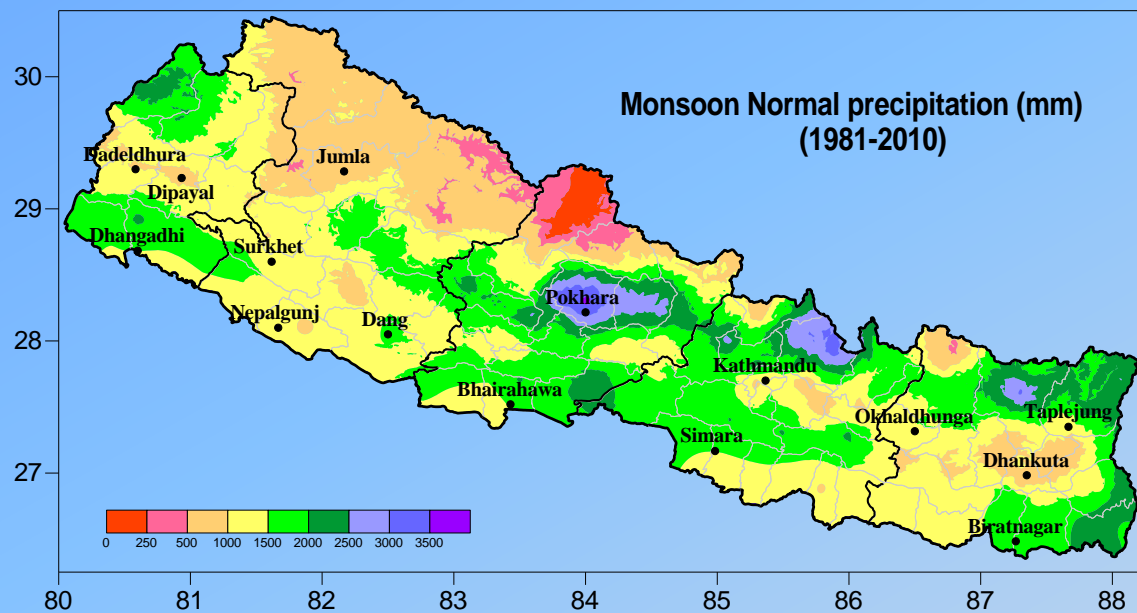
Four Seasons

- Pre- Monsoon(March-May)
- Monsoon(June – September)**
- Post Monsoon(October- November)
- Winter (December- February)

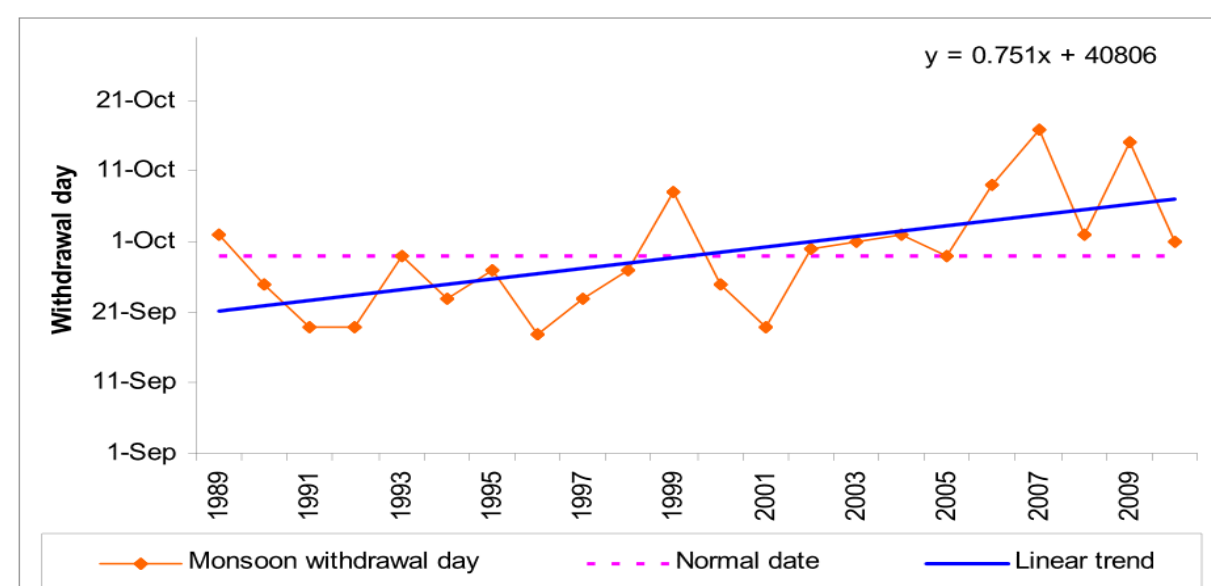
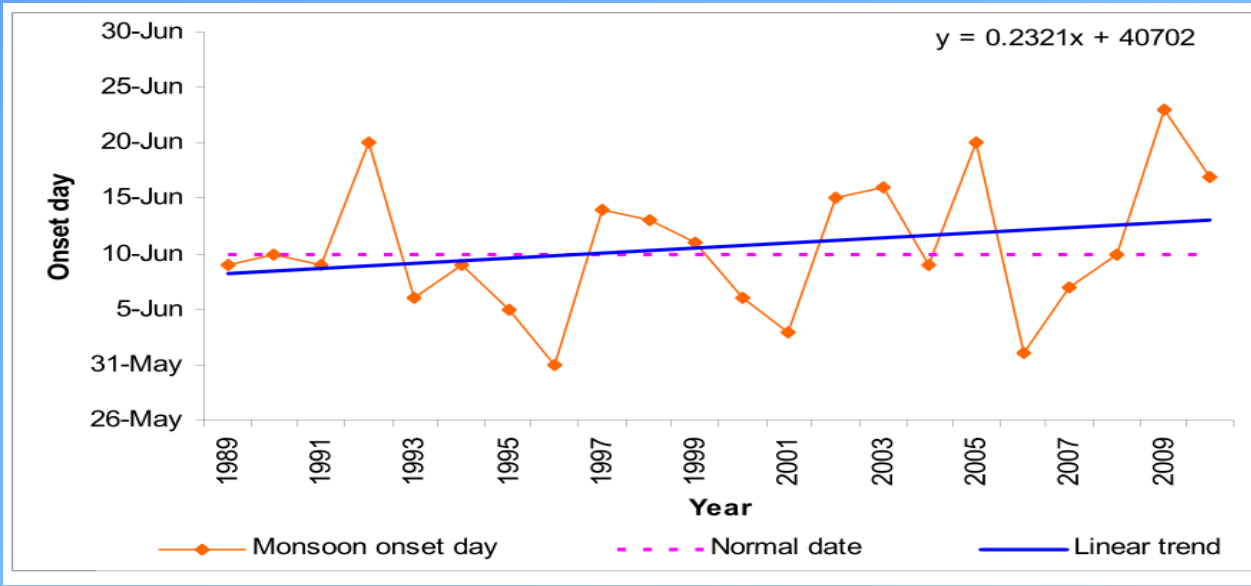
Seasonal/Monthly Rainfall Variation



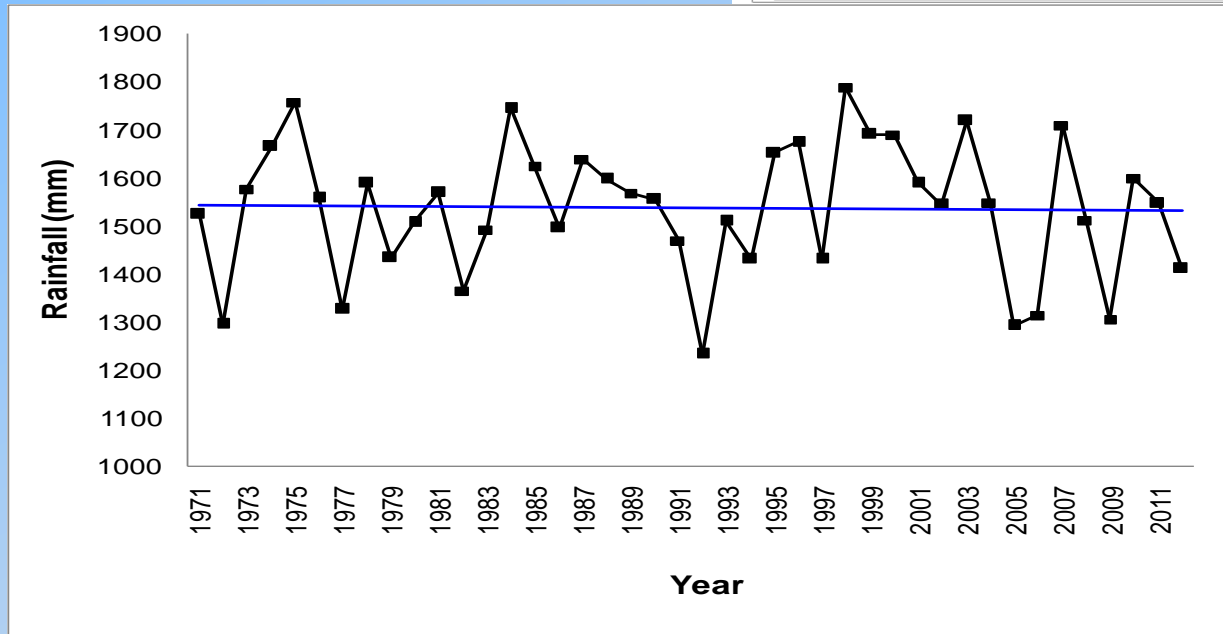
Normal Monsoon and winter Rainfall Pattern



Monsoon Trends – Onset & Withdrawal



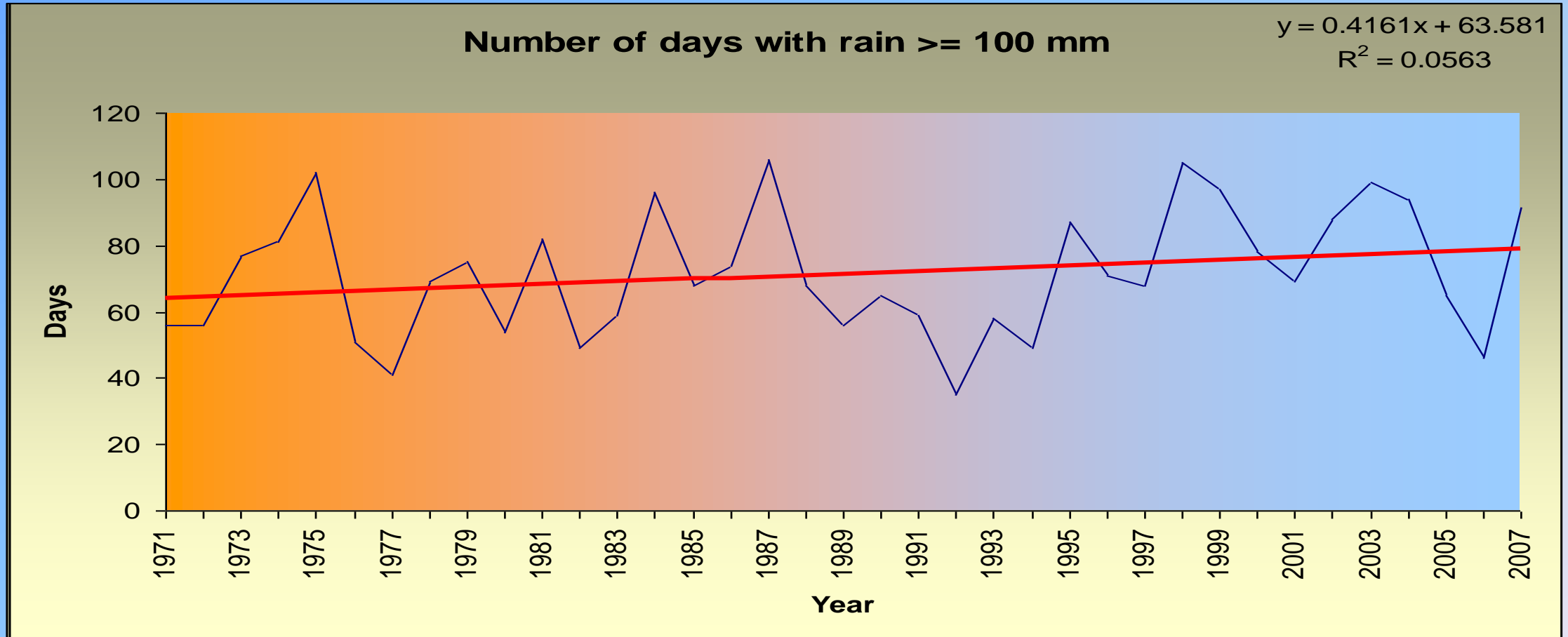
Trend of Monsoon Onset



Trend of Monsoon Withdrawal

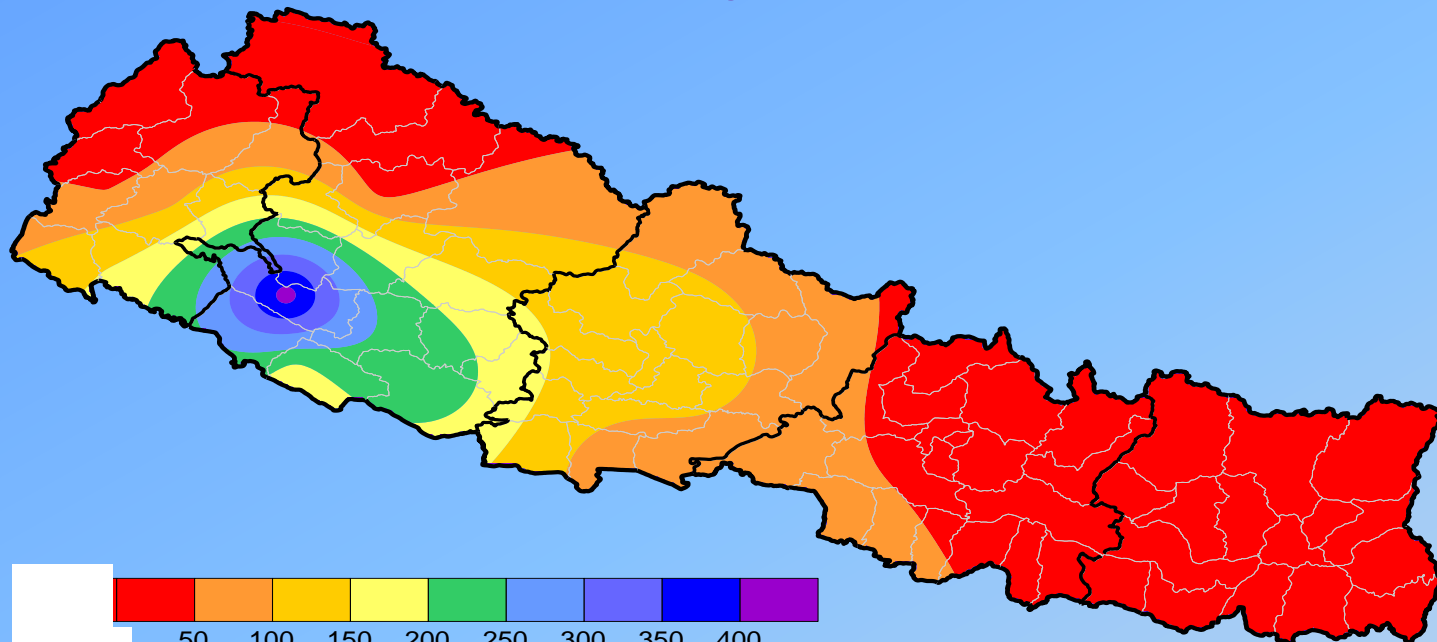
No trend

Rainfall Extremes



Increase in frequency of heavy rainfall events (> 100 mm/day)

Heavy rainfall of 13-15th August, 2014



| | People | | |
|---|--------|---------|---------|
| | Death | Missing | Injured |
| Western Nepal flood (13-14 August 2014) | 96 | 115 | 32 |

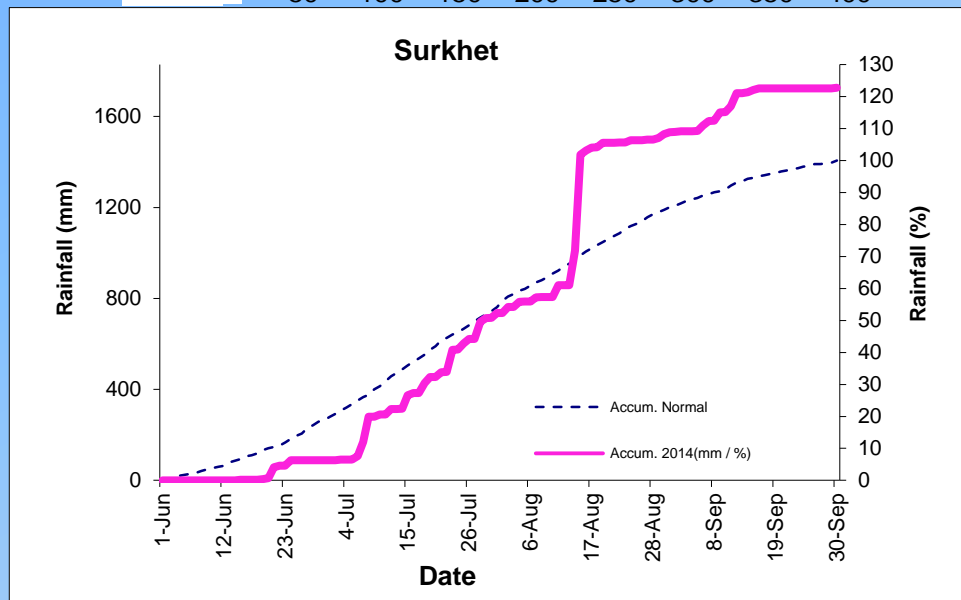
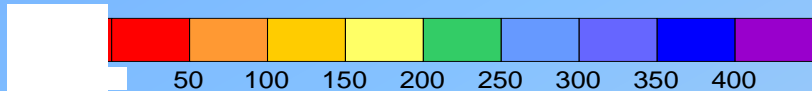
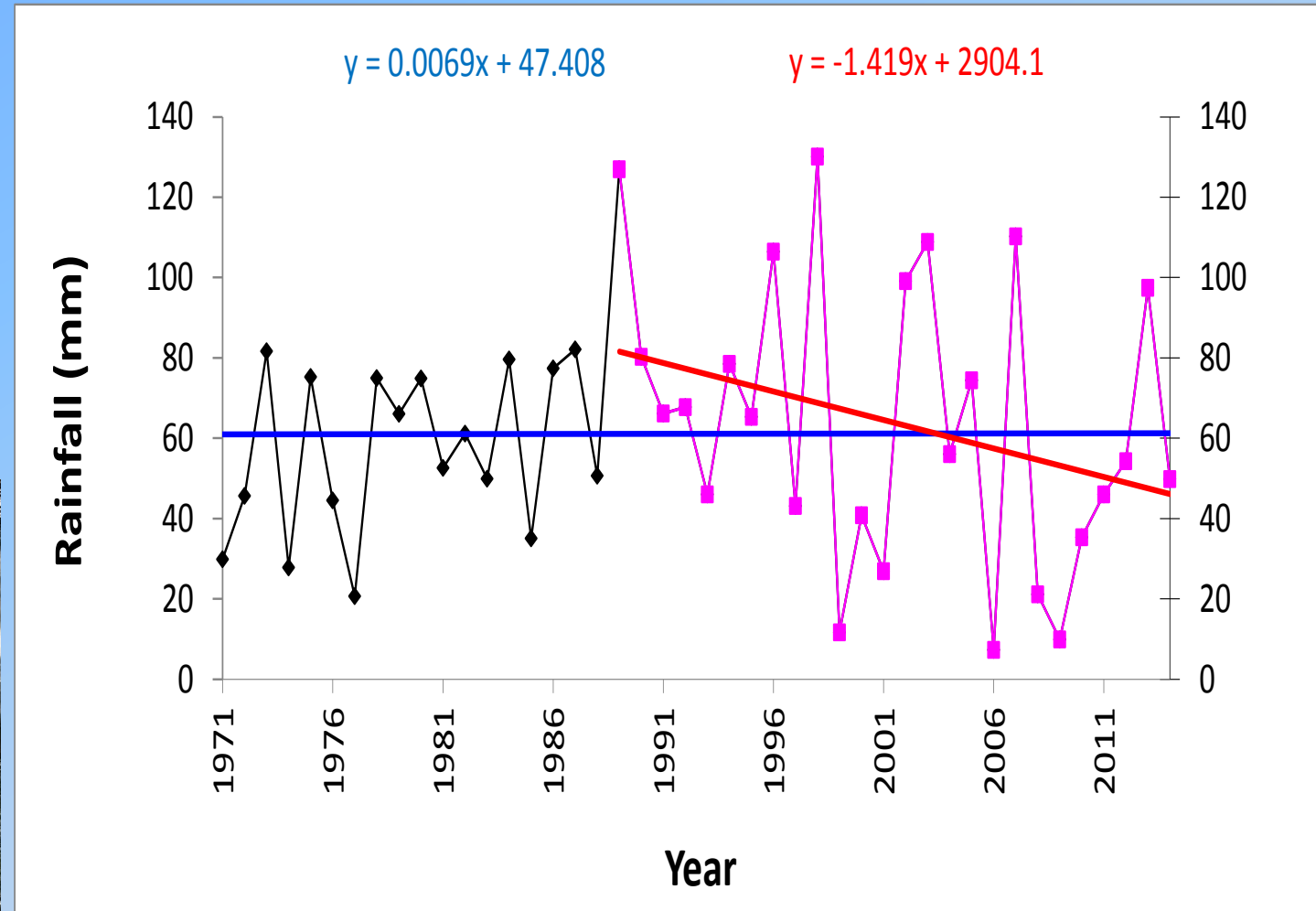
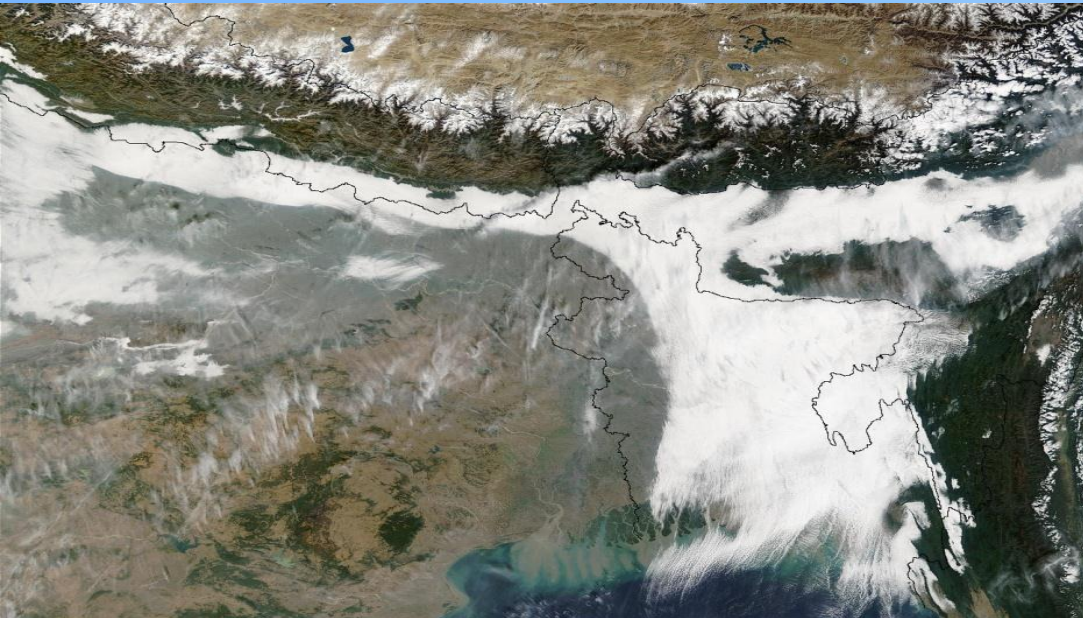
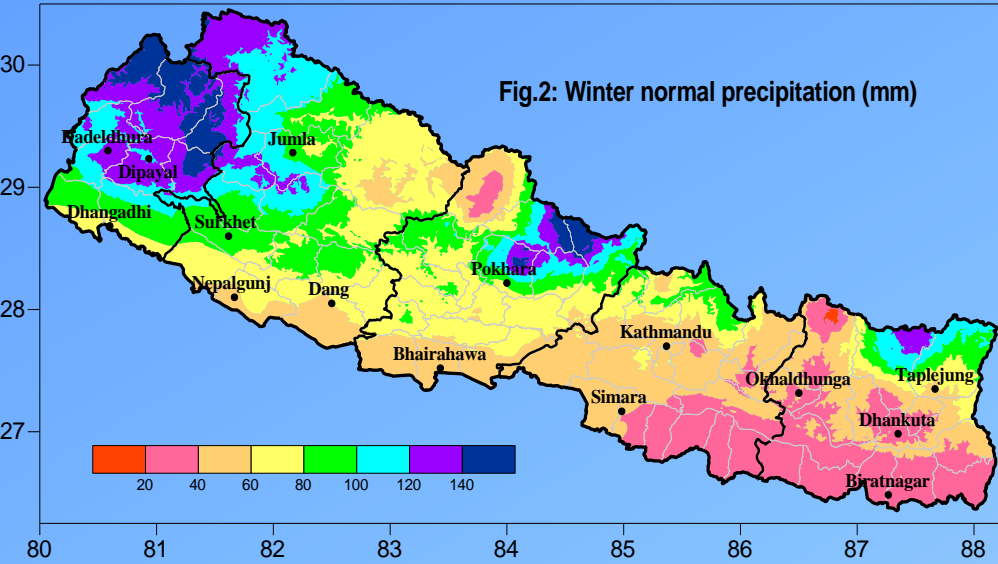


Table 1: Total rainfall recorded during 24 hours period on 15th August

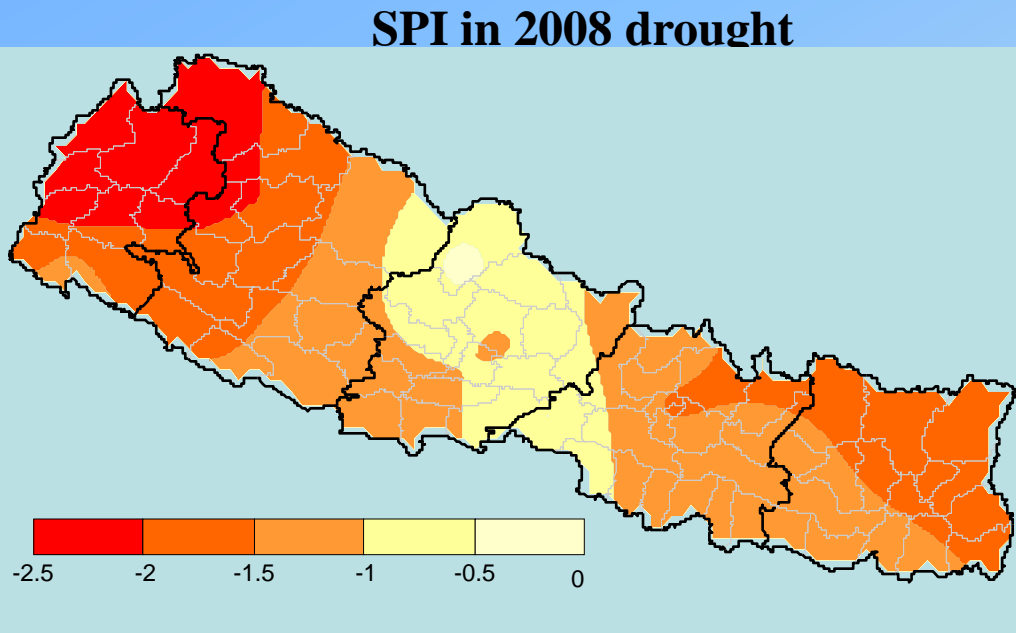
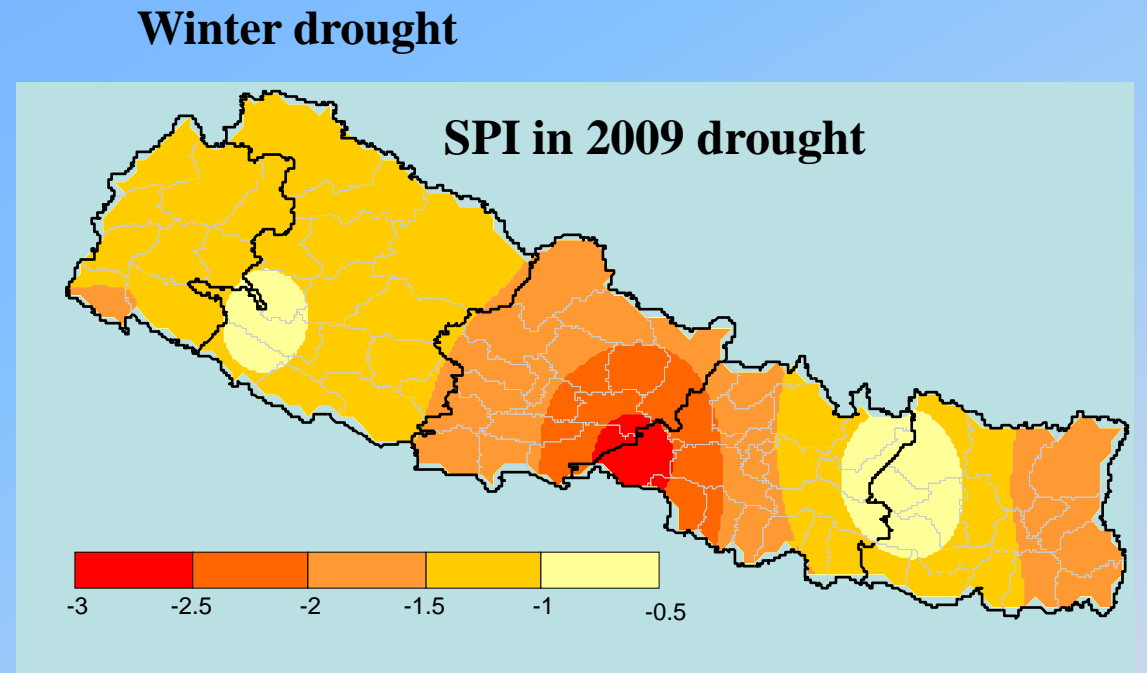
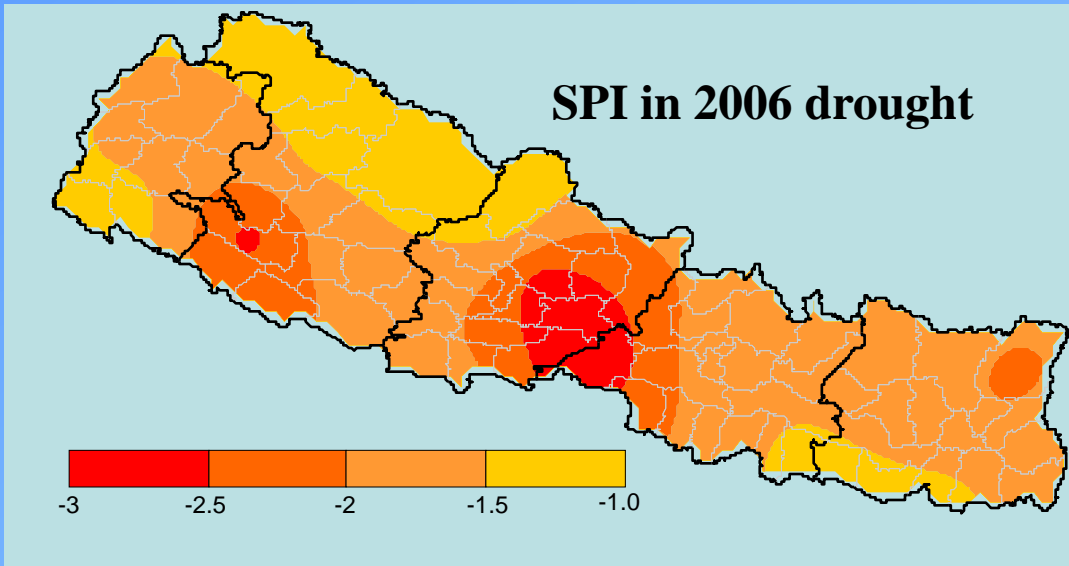
| Stations | Rainfall (mm)* | Stations | Rainfall (mm)* |
|-----------------|----------------|-------------------|----------------|
| Dhangadhi | 105 | Belhundi Dang | 346 |
| Birendranagar | 423.1 | Babai Chepang | 326 |
| Nepalgunj | 184.4 | Dang Tulsipur | 299 |
| Dang Gorahi | 298.4 | Karnali Chisapani | 493.8 |
| Rajapur Bardiya | 233 | | |

* Rainfall ending at 0845AM

Characteristics of Winter Precipitation



- ❑ Winter droughts becoming more frequent
- ❑ Severe Extreme droughts observed in the recent decade



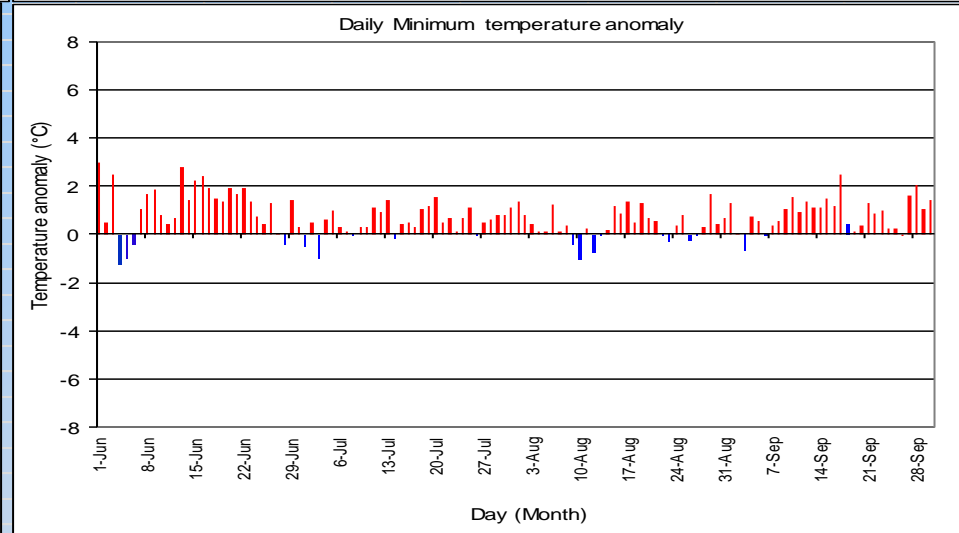
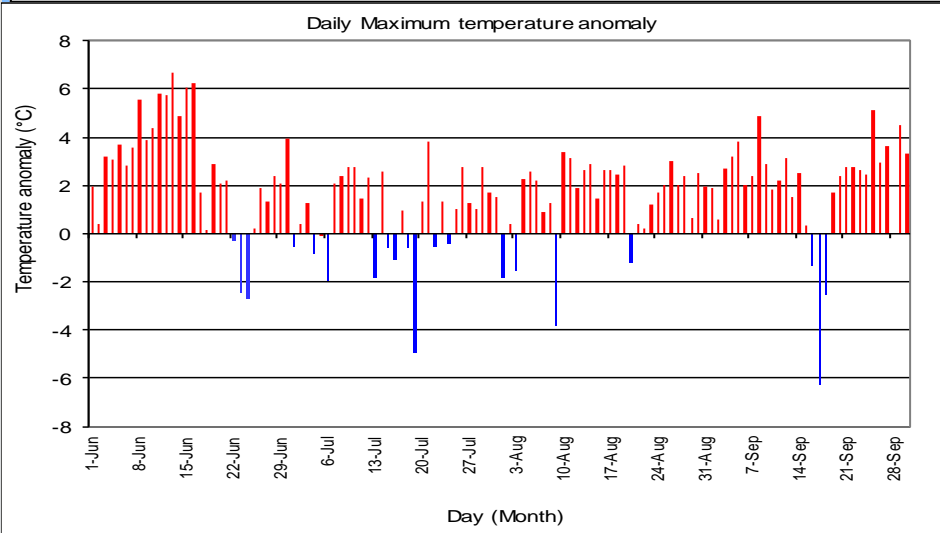
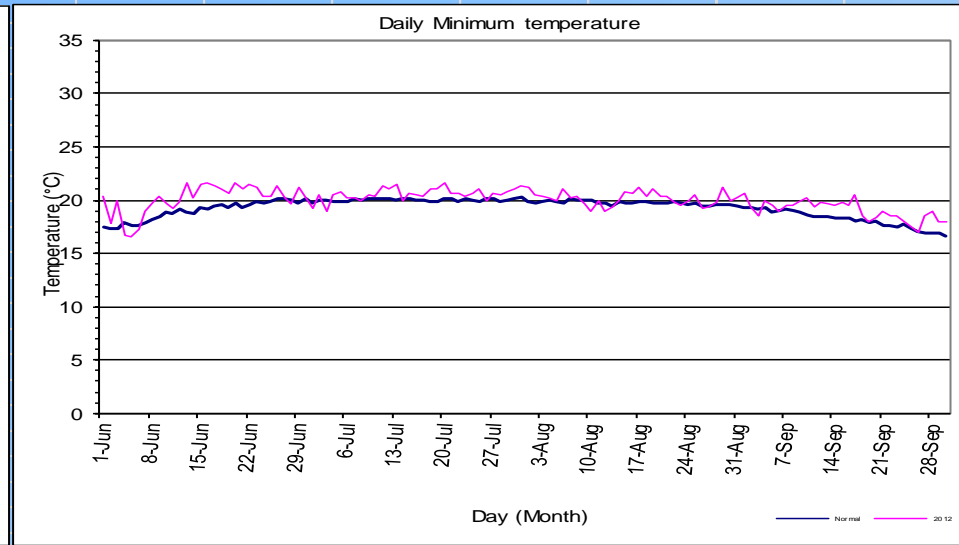
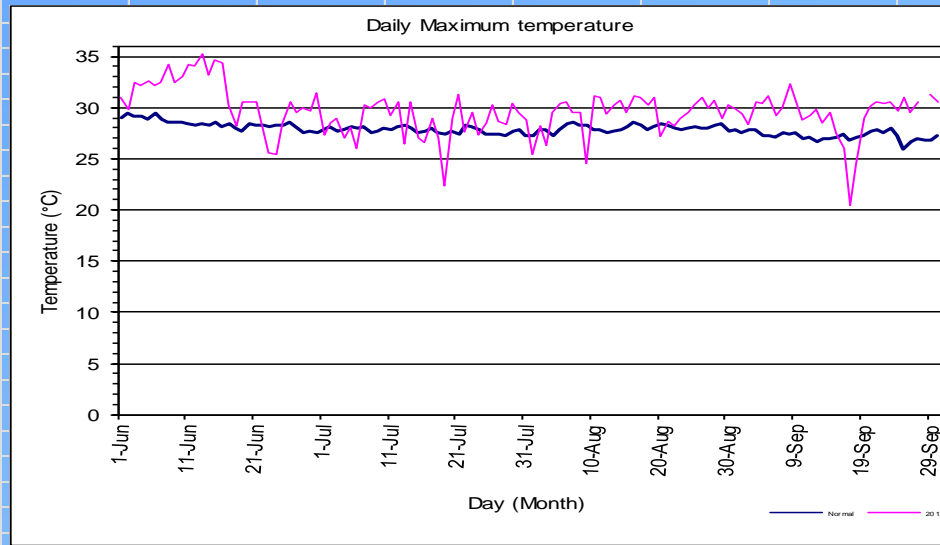
| SPI Value: | Drought Category: |
|----------------|-------------------|
| 2.00 and above | Extremely wet |
| 1.50 to 1.99 | Very wet |
| 1.00 to 1.49 | Moderately wet |
| -0.99 to 0.99 | Near normal |
| -1.00 to -1.49 | Moderately dry |
| -1.50 to -1.99 | Severely dry |
| -2.00 and less | Extremely dry |

- Water table decreased
- Wells, tube-wells, natural water spouts dried
- Water shortage
- Energy crisis declared (up to 16 hours of load-shedding/day)

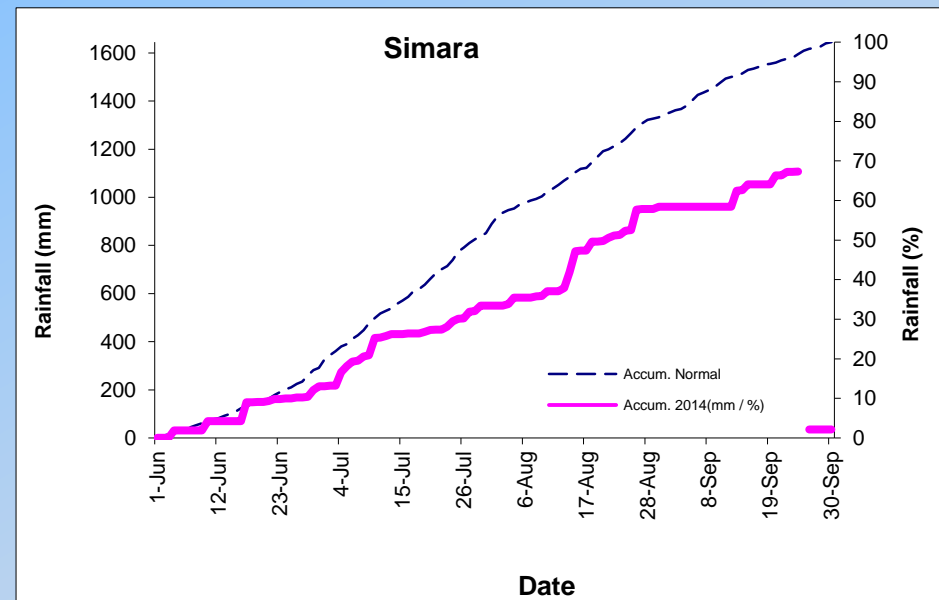
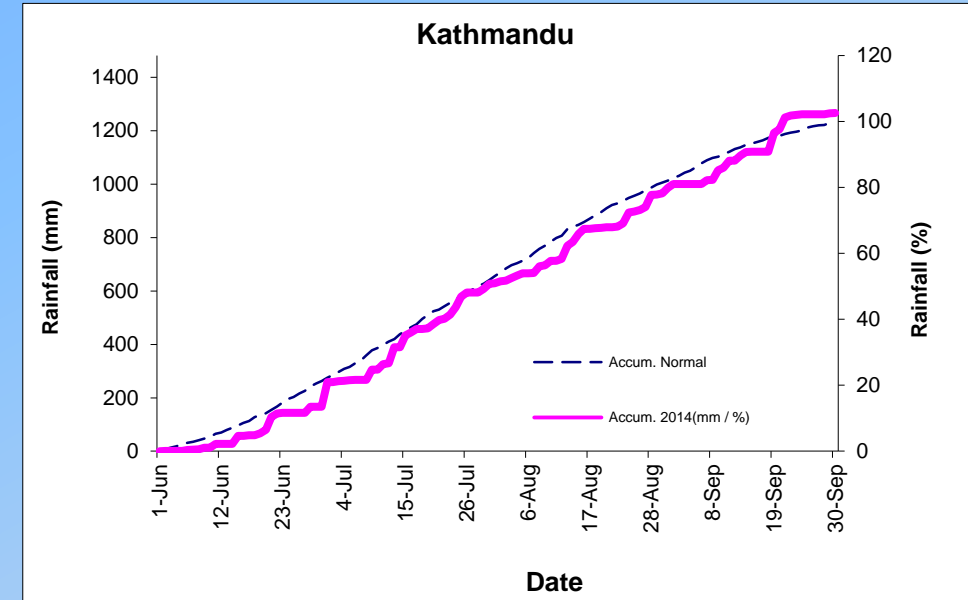
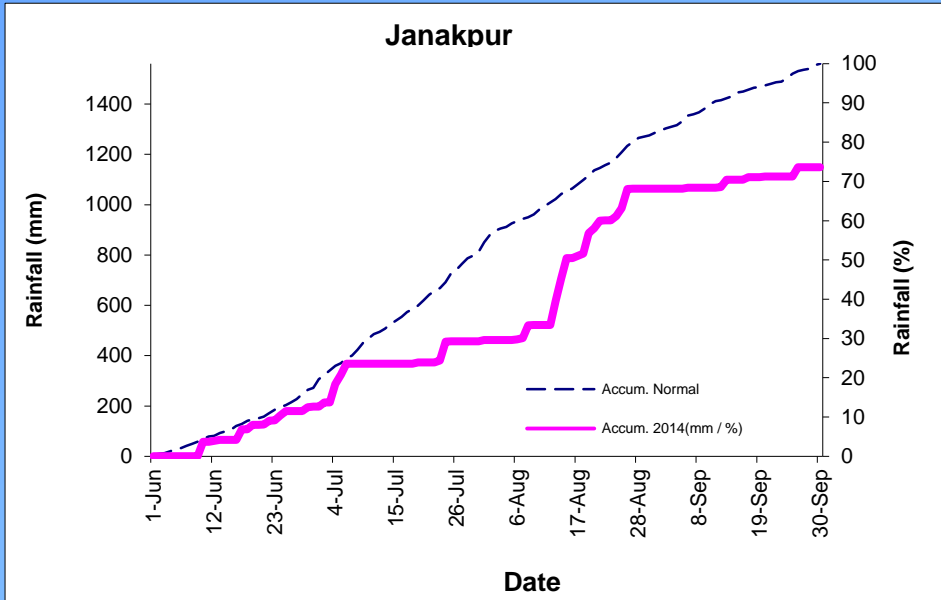
Climate Activities-DHM

- ❑ Extreme Rainfall and Air Temperature Monitoring
- ❑ Daily temperature monitoring and Rainfall monitoring
- ❑ Monsoon Monitoring
- ❑ Weekly, Monthly and Seasonal Climate Reports
- ❑ Year Book publication

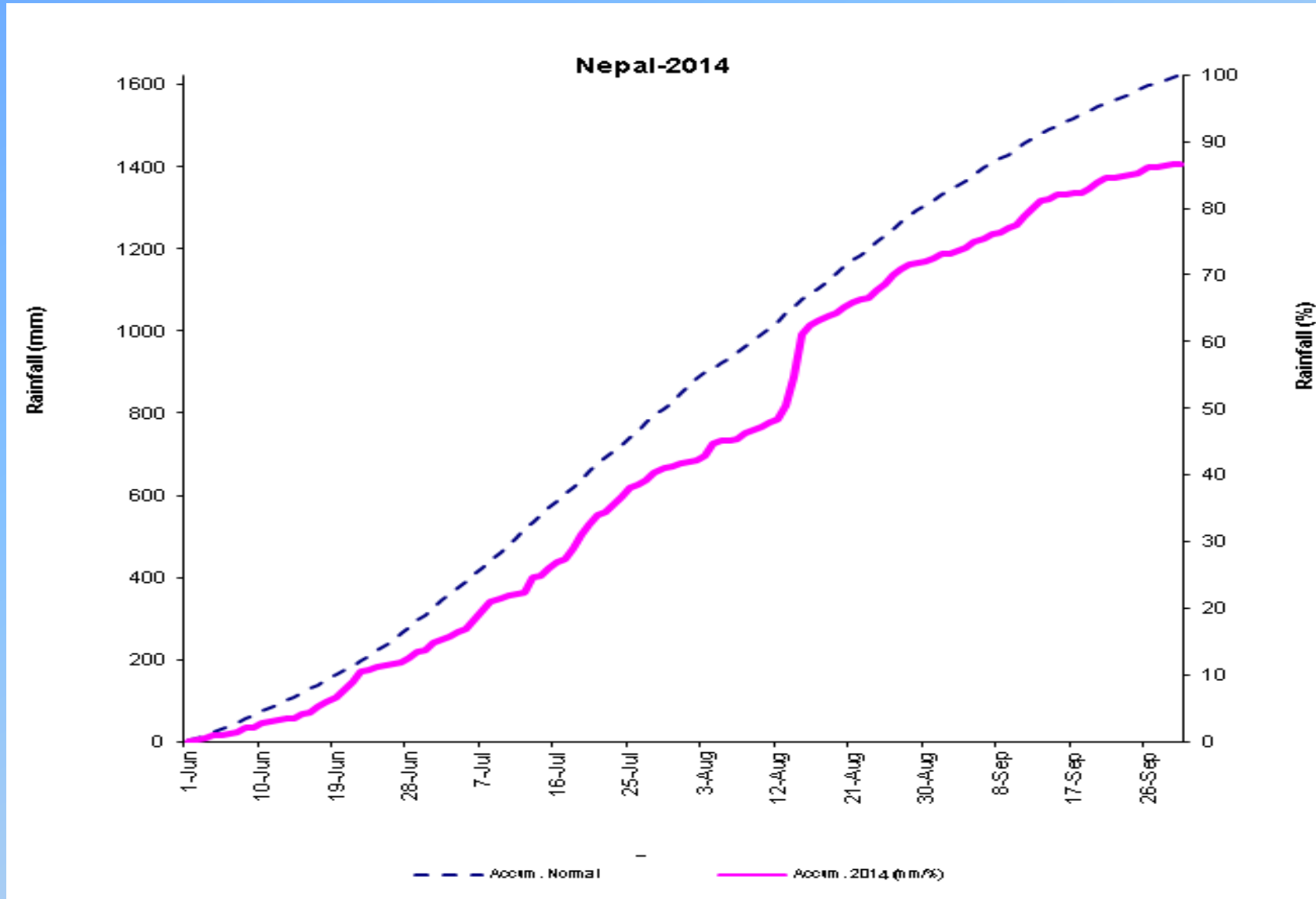
Daily Temperature Monitoring at Kathmandu Airport



Monsoon 2014 Accumulated Rainfall



Nepal Average Monsoon Rainfall in 2014



Nearly 87%

Project: Pilot Program for Climate Resilience (PPCR) , Building Resilience to Climate Related Hazards (BRCH)

Main Objectives

- Increase government capacity to mitigate Climate-related hazards by improving the accuracy and timeliness of weather and flood forecasts.
- Early Warnings for climate vulnerable communities.
- Developing agricultural management information system services to help farmers to mitigate climate-related production risks.

Under PPCR – BRCH project:

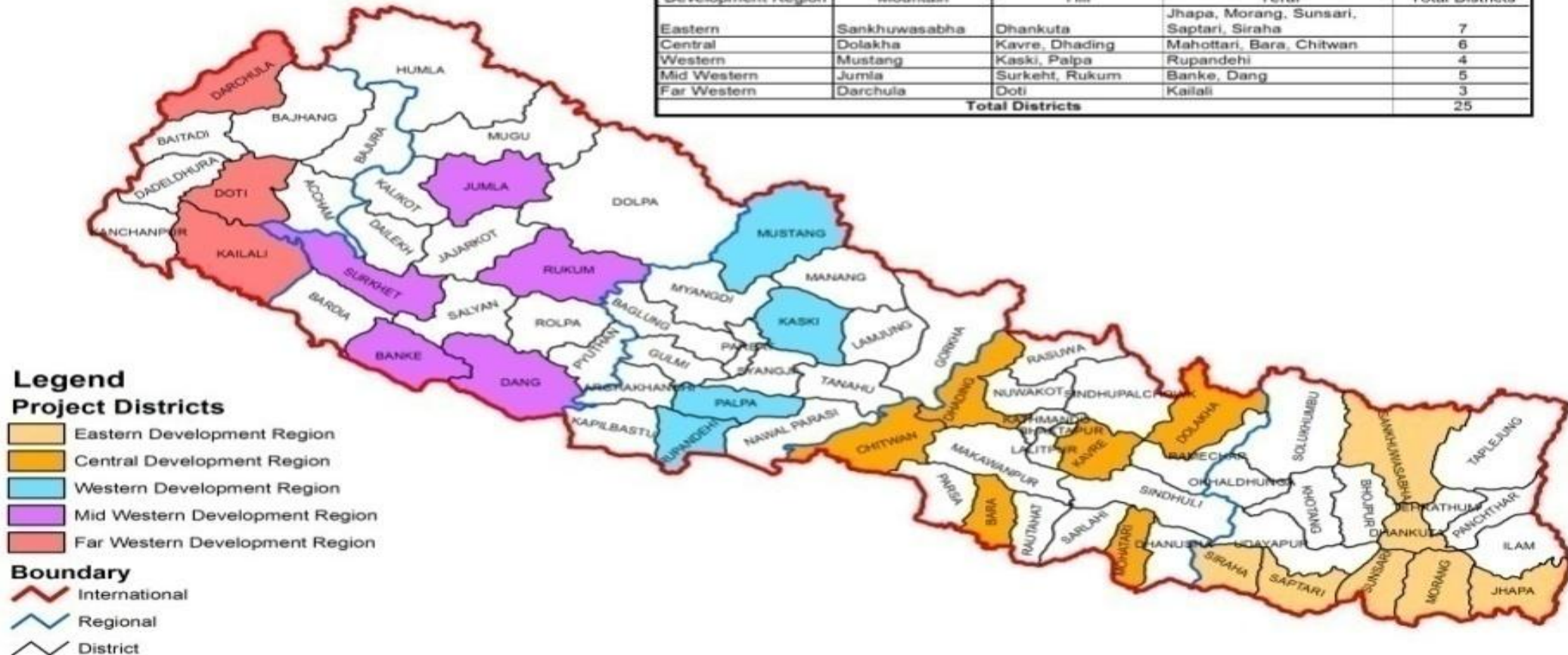
- Establishment of 3 Radio sound Stations (Vertical profile of Atmosphere).
- Establishment of 100 AWS (15 Agro met) and 74 Hydrological stations
 - Establishment of 3 Weather Radar Stations to cover whole Nepal.
 - Establishment of GIS Lab
- Improvement of Forecasting skills 3 to 5 days
- Improvement of Seasonal forecasting skills.
- Developing agricultural management information system services to help farmers to mitigate climate-related production risks
 - Agro Advisory and weather based Crop insurance for Farmers in 25 pilot districts

AMIS Projects Pilot Districts

PPCR: Building Resilience to Climate Related Hazards Project (Agriculture Management Information System) Districts



| Development Region | Mountain | Hill | Teral | Total Districts |
|------------------------|---------------|----------------|---|-----------------|
| Eastern | Sankhuwasabha | Dhankuta | Jhapa, Morang, Sunsari, Saptari, Siraha | 7 |
| Central | Dolakha | Kavre, Dhading | Mahottari, Bara, Chitwan | 6 |
| Western | Mustang | Kaski, Palpa | Rupandehi | 4 |
| Mid Western | Jumla | Surkeht, Rukum | Banke, Dang | 5 |
| Far Western | Darchula | Doti | Kailali | 3 |
| Total Districts | | | | 25 |



Proposed agro call center

Model of Agro-Info Call Center

कृषि प्राविधिक तथा
अनुसन्धानकर्ताहरु

मेरो केरा खेतीमा
ब्यापक रुपमा गुभो
कृहिने रोग लागेको छ,
के गर्नुपर्ला जेटिए
साप



AMIS पोर्टल

संघीय सरकार
कृषि विकास मन्त्रालय
कृषि विभाग
क्षेत्रीय कृषि निर्देशनालय
कृषि विकास
ओखलढुंगा



म धान वाली
भिन्ऱ्याउन खोज्दै छु
मौसम कति दिन सम्म
सफा रहला जेटिए
साप



Klsan Call Center, Banke

Proposed SMS services

Model of SMS Service

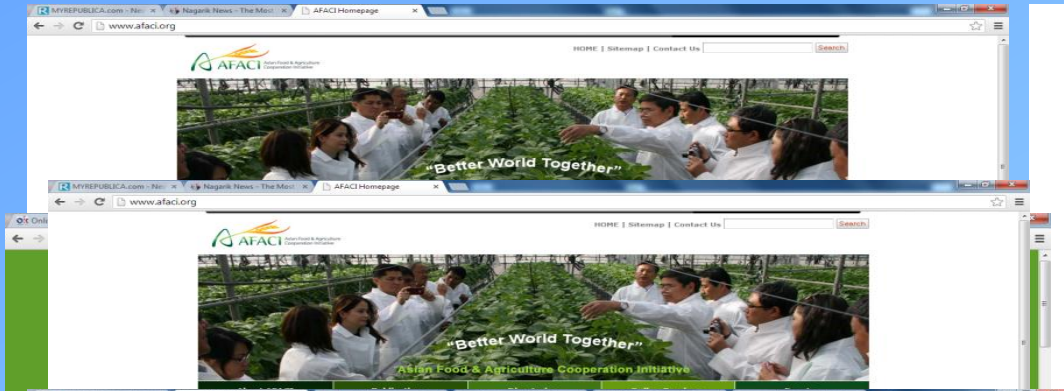
आजको तापक्रम ३२ डिग्रि से. रैछ,
यो तापक्रम आगामी दूई हप्ताको लागि रहने
भएकोले केरामा सिंचाई गर्नुपर्ने रहेछ



AMIS Portal
SMS Service
IVR Service

आजको तापक्रम १५ डिग्रि से., आद्रता ९० प्रतिशत तपाईंको
आलुमा डडुवा रोग लाग्न सक्छ, डाइथेनम ४५ विषादी विहान र बेलुका २
टाईमा स्प्रे गर्नुहोला

Proposed web portal





Drought related activities in Nepal

- Winter Drought monitoring -few case study using SPI (DHM)
- Satellite Remote sensing based Crop Monitoring System (ICIMOD)
- Agro Advisory and weather based Crop insurance for Formers in 25 Pilot districts in Nepal (PPCR project (MoAD/DHM /NARC)
- Use of Space Technology for Drought Monitoring and Early Warning in Nepal – (UNESCAP up coming project)



Thanks