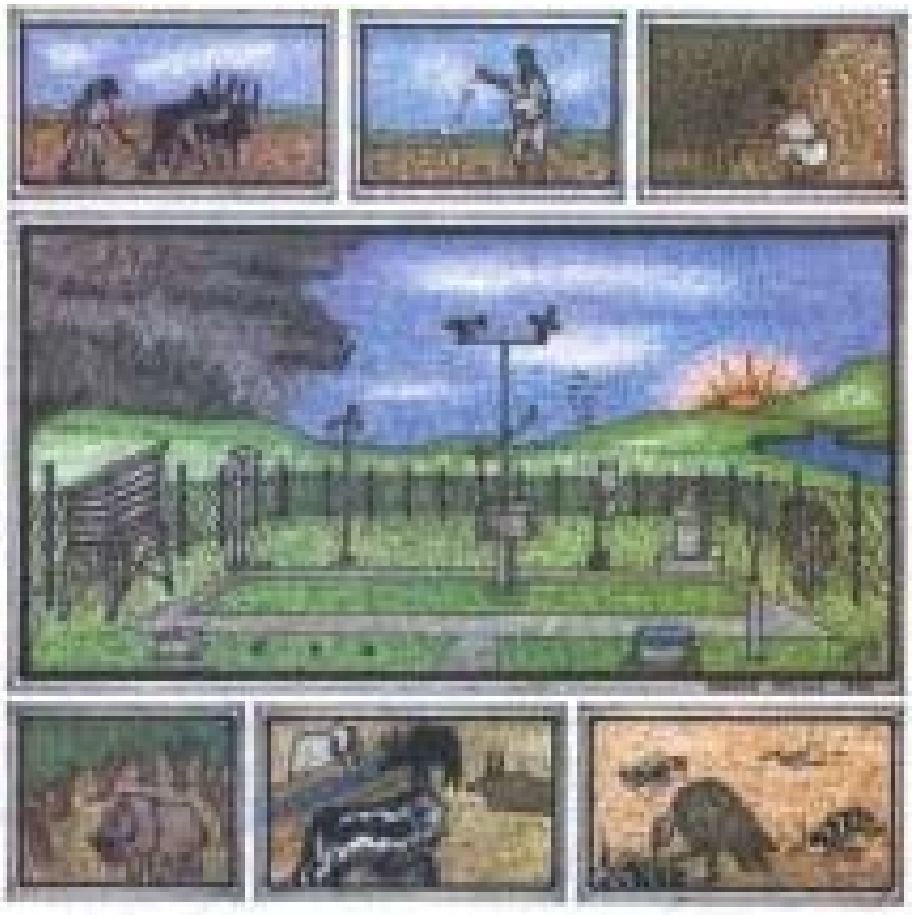
NATIONAL METEOROLOGICAL AGENCY AGROMETEOROLOGICAL BULLETIN

SEASONAL AGROMETEOROLOGICAL BULLETIN
BELG 2006
VOLUME 16 No. 15
DATE OF ISSUE: - JUNE 8, 2006



P.O.BOX 1090, ADDIS ABABA, ETHIOPIA
E.Mail: nmsa@ethionet.et Fax: 251-11-6625292, Tel. 251-11-6615779

FORE WARD

This Agro met Bulletin is prepared and disseminated by the National Meteorological Agency (NMA). The aim is to provide those sectors of the community involved in Agriculture and related disciplines with the current weather situation in relation to known agricultural practices.

The information contained in the bulletin, if judiciously utilized, are believed to assist planners, decision makers and the farmers at large, through an appropriate media, in minimizing risks, increase efficiency, maximize yield. On the other hand, it is vital tool in monitoring crop/ weather conditions during the growing seasons, to be able to make more realistic assessment of the annual crop production before harvest.

The Agency disseminates ten daily, monthly and seasonal weather reports in which all the necessary current information's relevant to agriculture are compiled.

We are of the opinion that careful and continuous use of this bulletin can benefit to raise ones agro climate consciousness for improving agriculture-oriented practices. Meanwhile, your comments and constructive suggestions are highly appreciated to make the objective of this bulletin a success.

Director General
NMA
P.O.Box 1090
Tel: 011661-57-79
FAX 00251-11-6625292
E-mail nmsa@ethionet.et
Addis Ababa

አህፅሮት
እ.ኤ.አ በልግ 2006

በመደበኛ ሁኔታ መካከለኛው የሰሜን ከፍተኛ ቦታዎች የምሥራቅ፣ ከፍተኛ ቦታዎች ከፊል የመካከለኛው፣ የደቡብ ምዕራብና የደቡብ ኢትዮጵያ በልግ አብቃይ በመባል ይታወቃሉ። በሰሜን፣ በሰሜን ምሥራቅና በምስራቅ ከአመታዊው ምርት የበልግ ምርት አስተዋፅኦ ከ5-30% ሲሆን፣ በደቡብና ደቡብ ምዕራብ ከ30-60% ይደርሳል። ሰሜን ሸዋ፣ ምስራቅና ምዕራብ ሐረርጌ፣ አርሲ፣ ባሌ፣ ሰሜንና ደቡብ ወሎ ቦረና የደቡብ ብሔር ሔረሰቦችና ህዝቦች ክልል (ከምባታ፣ ሃድያ፣ ወላይታ፣ ጉለኔ፣ ከፋና ቤንች) የማሣ ዝግጅትና የዘር ጊዜ የሚጀምሩት ከታህሳስ እስከ የካቲት ባለው ጊዜ ውስጥ ነው። በተጨማሪም ወቅቱ የደቡብና ደቡብ ምሥራቅ አካባቢዎች ለግጦሽ ሣርና ውሃ አቅርቦት የሚሆን ውሃ የሚያከማቹበት ቦታ ነው።

እ.ኤ.አ የካቲት 2006 በጋምቤላ አብዛኛዎቹ የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል መካከለኛውና በአንዳንድ የደቡብ ኦሮሚያ አካባቢዎች ታይቶ የነበረው መካከለኛ የርጥበት ሁኔታ (Moist to moderately dry moisture status) ለበልጉ የእርሻ እንቅስቃሴ ማለትም ለዘር ጊዜ እና ለማሳ ዝግጅት አወንታዊ ጎን ነበረው። በሌላ በኩል ደግሞ በደቡብ ትግራይና በምስራቅ አማራ ታይቶ የነበረው ደረቅና እጅግ በጣም ደረቅ የርጥበት እጥረት አባብሶት ነበር። ይሁንና በወሩ ሁለተኛ አስር ቀናት የነበረውን የዝናብ ሁኔታ በተለይም በልግ አብቃይ በሆኑት ከአንዳንድ የመካከለኛው፣ ደቡብና የደቡብ ምዕራብ ኢትዮጵያ፣ የደቡብና የደቡብ ምሥራቅ ዝቅተኛ ቦታዎችን ጨምሮ ለማሳ ዝግጅት በጎ ጎን ነበረው። በተጨማሪም በአንዳንድ የበልግ አብቃይ አካባቢዎች የዘር ጊዜያቸውን እንዲጀምሩ ረድቷቸው ነበር። በሌላ በኩል ደረቃማ የአየር ሁኔታ በደቡብ ትግራይና ምስራቅ አማራ (መሃል ሜዳ፣ ጤና) የመካከለኛው ኦሮሚያን ጨምሮ እንደ አርሲ ሮቤ፣ መራሮ፣ ኮፈሌና ዝዋይ አካባቢዎችን በመደበኛ ሁኔታ ቀደም ብለው የወቅቱን የእርሻ እንቅስቃሴ እና የዘር ጊዜያቸውን የሚጀምሩ ሲሆኑ ሰፍኖ የነበረውን የእርጥበት እጥረት ከላይ በተጠቀሱት አካባቢዎች በወቅቱ የእርሻ እንቅስቀሴ ላይ አሉታዊ ተፅዕኖ ነበረው። በሱማሌ የእንሰሳት፣ የዕጽዋትና የተፈጥሮ ሃብት ልማት ቢሮ (Somali Regional State Livestock Crop and Natural Resource Development Bureau) (መጋቢት 1,2006) የደረሰን ሪፖርት እንደሚመለከተው በዝናብ እጥረት የተነሳ በሊበን እና አፍደር ዞን የእንሰሳት በሽታና ከበድ ያለ የውሃ እና የግጦሽ እጥረት ተከስቶ ነበር። የአየር ሙቀትን በተመለከተ በመጀመሪያው አስር ቀን አማካይ ከፍተኛ ሙቀት ቆላ በሆኑት የሰሜን ምስራቅ፣ የሰሜን ምዕራብ ፣ የምስራቅ የመካከለኛውና የደቡብ ምስራቅ ኢትዮጵያ ከ1.8-3.7^{0}c መጨመር አሳይቶ ነበር ከረዥሙ አማካይ የአሥር ቀኑ ከፍተኛ ሙቀት ጋር ሲነፃፀር። ስለዚህ ይህ ሁኔታ ትንትን በመጨመር ለአዝርዕቱ ጤናማ እድገትና ልምላሜ ላይ አሉታዊ ተፅዕኖ አሳድሮ ነበር።

እ.ኤ.አ በመጋቢት 2006 በአብዛኛው የበልግ ተጠቃሚ አካባቢዎች ደህና የእርጥበት ሁኔታ (Moist to humid moisture status) (Fig 4) ነበር የታየባቸው በወሩ በመደበኛ ሁኔታ በተለይ በመካከለኛውና ምስራቅ ኦሮሚያ የማሳ ዝግጅት የሚደረግበት ነው። እንዲሁም በአብዛኛው የደቡብ ብሔር ሔረሰቦችና ህዝቦች ክልል ምስራቅና በአብዛኛው የደቡብ ኦሮሚያ ወይና ደጋ ሥፍራዎችና በምስራቅ አማራ አንዳንድ አካባቢዎች የአገዳ ሰብሎች እንደ በቆሎና ማሽላ እንዲሁም ሌሎች አዝርዕት የጥራጥሬ አዝርዕትን ጨምሮ የሚዘሩበት ወቅት ነው። በሰሜን ሶማሌም በአካባቢው አጠራር “ጉ” በመባል የሚታወቀው ዝናብ የሚጀምርበት ነው። ታይቶ የነበረው ሰፋ ያለ የዝናብ ስርጭት ሁኔታ በተለይም በወሩ ሁለተኛ አስር ቀናት በአብዛኛው በልግ አብቃይ በሆኑት አካባቢዎች በወቅቱ ተዘርተው ለነበሩ አዝርዕቶች በጎ ጎን ነበረው። በሌላ በኩል በአንዳንድ የመካከለኛው አካባቢዎች እንደ ናዝሬት፣ ዝዋይ፣ መራሮ፣ ቡኢ እና ወሊሶ፣ ከምስራቅ እንደ መኤሶ ገለምሶ ጂጂጋ እና አለማያ እና ከሰሜን ምስራቅ እንደ ማጀቴ ጨፋ እና ባቲ ባሉ አካባቢዎች ለዘር ጊዜና ለማሳ ዝግጅት ጥሩ አስተዋፅኦ ነበረው። በተጨማሪም በደቡብ ኦሮሚያ ደቡብ አፋር እና ደቡብ ሶማሌ ጥምር ግብርና በሚካሄድባቸው አካባቢዎች ታይቶ የነበረው የእርጥበት ሁኔታ ለቁጥቋጦዎች ለግጦሽና ለመጠጥ ውሃ አቅርቦት ላይ አወንታዊ ጎን ነበረው። የአየር ሙቀትን በተመለከተ የመጀመሪያው አሥር ቀን አማካይ ከፍተኛ ሙቀት ቆላማ በሆኑት ከሰሜን ምስራቅ እንደ ዱብቲ፣ ከሰሜን ምዕራብ እንደ ፓዌ፣ ከመካከለኛው እንደ መተሃራ ከምስራቅ እንደ ድሬዳዋ ባሉ አካባቢዎች ከ1.3-2.2^{0}c መጨመር አሳይቶ ነበር ከረዥሙ አማካይ የአስር ቀኑ ከፍተኛ ሙቀት ጋር ሲነፃፀር። ስለዚህ ይህ ሁኔታ በእፅዋት ዕድገትና ልምላሜ ላይ ተፅዕኖ እንደሚያሳድር እሙን ነው።

እ.ኤ.አ በሚያዚያ 2006 ከአንዳንድ የደቡብ ምስራቅ አማራ እና ከመካከለኛው ኦሮሚያ ኪስ ቦታዎች በስተቀር በአብዛኛው በልግ አብቃይ አካባቢዎች ደህና እርጥበት(Moist to humid moisture status)(Fig 5) አግኝተው ነበር። በመደበኛ ሁኔታ በረዥም ጊዜ ለሚደርሱ ለአገዳ ሰብሎች ማለትም ለበቆሎና ማሽላ እንዲሁም የብርዕ ሰብሎችን እንደ ቦለቄ ጨምሮ የዘር ጊዜያአቸው ነው። በተጨማሪም ጥምር ግብርና በሚካሄድባቸው በደቡብና ደቡብ ምስራቅ ኢትዮጵያ ቆላማ አካባቢዎች ለግጦሽ ለመጠጥ የሚሆን ውሃን የማሰባሰቢያ ጊዜያቸው ነው። በአብዛኛው የበልግ አብቃይ አካባቢዎች ታይቶ የነበረው መደበኛና ከመደበኛ በላይ የሆነ ዝናብ በተለያየ የዕድገት ደረጃቸው ላይ ለነበሩት አዝርዕቶች በጎ ጎን የነበረው ሲሆን፤ በተለይም በአብዛኛው የደቡብ ብሔር ብሔረሰቦችና ህዝቦች እና አንዳንድ የምስራቅ አማራ ኪስ ቦታዎች የነበረው ጥሩ የሆነ የዝናብ ስርጭት በአንድ የዝናብ ቀን (15-22 ሚ.ሜ) በማሳ ላይ ለነበሩት አዝርዕቶች ዕድገትና ልምላሜ ላይ በጎ ጎን ነበረው። በተጨማሪም ጥምር ግብርና በሚካሄድባቸው እንደ ደቡብ ምስራቅ ኦሮሚያ ባሉ አካባቢዎች ታይቶ የነበረው ጥሩ የሆነ የዝናብ መጠንና ስርጭት ለግጦሽና ለመጠጥ ውሃ አቅርቦት አዎንታዊ ጎን ነበረው።

በአንፃሩ ደግሞ የመደበኛ ዝናብ ትንተና እንደሚያሳየው ምንም እንኳን በወሩ የመጀመሪያ አስር ቀናት ከመደበኛ በላይ የሆነ የዝናብ ስርጭት (2-3 በአንዳንድ የዝናብ ቀን) በአብዛኛው አፋር አካባቢ ቢኖርም በሁለቱ ተከታታይ አስር

ቀናት ግን የዝናብ እጥረት ታይቶባቸው ነበር። ይህ ሁኔታ ደግሞ ለአካባቢው ለግጦሽ ሳርና የውሃ አቅርቦት ላይ አሉታዊ ተፅዕኖ አሳድሮ ነበር። ከበድ ያለ ዝናብን በተመለከተ አንዳንድ አካባቢዎች ከ30 ሚ.ሜትር በላይ የሆነ ዝናብ ተመዝግቦባቸው ነበር። ለአብነት በቡኢ፣ ዝዋይ፣ ባቲ፣ መቀሌ፣ ባቢሌ፣ ሲሪንካ፣ ጉርሱም እና ጊኒር የዝናብ መጠኑ ከ67-116 ሚ.ሜትር የሚሆን ከባድ ዝናብ በአንድ የዝናብ ቀን ተመዝግቦባቸው የነበረ ሲሆን፣ ሁኔታው የሚያመለክተው ከአካባቢው የአዝርዕቱ የውሃ ፍላጎት አኳያ ያልተስተካከለ የዝናብ ስርጭት እንደነበር ነው። ይህ ያልተስተካከለ የዝናብ ስርጭት ለአንዳንድየምስራቅና የደቡብ ኦሮሚያ የደቡብ ብሔር ብሔረሰቦችና ህዝቦችን ጨምሮ ለተምች መከሰት ጥሩ ሁኔታን ፈጥሮ ነበር። ይሁን እንጂ በሚመለከታቸው ክፍሎች አፋጣኝና ጥሩ የሆነ የመከላከል ዘዴ ተካሂዶበት በአዝርዕት ላይ ጉዳት ሳይደርስ ለመቆጣጠር ተችሏል (MOARD Bulletin No 9/1998 EC, Ginbot 2)። ቢሆንም ቅሉ በሃገራቱ የITCZ (Inter tropical convergence zone) ወደሰሜን አቅጣጫቀ ያለውን እንቅስቃሴ ተከትሎ ሊፈጠር የሚችለውን የተምች መዛመትን ለመቀነስ ቁጥጥር ማድረጉ ጠቃሚ ነው።

እ.ኤ.አ በግንቦት ወር 2006 በአብዛኛው የክረምት አብቃይ አካባቢዎች እንደ ምዕራብ አማራና ትግራይ ባሉት የአገሪቱ ክፍሎች ላይ እንዲሁም በአንዳንዱ የበልግ አብቃይ አካበባዎች ላይ የእርጥበት ሁኔታ ተስተውሎ ነበር (Moist to humid moisture status) (Figure 6 ይመልክቱ)። በሌላ በኩል ደረቅ የአየር ሁኔታ (Dry to moderately dry moisture status) በአንዳንድ የበልግ አብቃይ አካባቢዎች ማለትም እንደምስራቅ አማራና ትግራይ በደቡብና ምስራቅ ኦሮሚያ ላይ ተስተውሎ ነበር። በዚሁ ወር የጀመሪያው አስርተ ቀናት የተመዘገበው መደበኛና ከመደበኛ በላይ ዝናብ ቀደም ብለው ለተዘሩት ለረጅም ጊዜ ሰብሎች እንዲሁም በማደግ ላይ ላሉት እፅዋት የውሃ ፍላጎት በጎ ጎን ይኖረዋል። በሌላ ቡል ደግሞ ለክረምት የእርሻ እንቅስቃሴ ማለትም ለማሳ ዝግጅትና ለዘር ጊዜ ምቹ ሁኔታ ይኖረዋል። በተመሳሳይ ይህ የእርጥበት ሁኔታ ለሰሜን ምዕራብና ምዕራብ አካባቢዎች እንደ ቻግኒ ጊምቢ እና አልጌ ባሉት ጣቢያዎች የዘር ጊዜ ምቹ ሁኔታ እንደሚፈጠርላቸው እሙን ነው። ከባድ ዝናብን በተመለከተ ባብዛኛው የሃገሪቱ ክፍል ከ30 ሚ.ሜትር በላይ ዝናብ ተመዝግቧል። የጠቂቶቹን ለመጥቀስ ያህል በአይራ፣ ጎንደር፣ አዲስ አበባ፣ አብዘርቫቶሪ፣ ደንቢዶሎ፣ ጊምቢ፣ ቡኢ፣ ሻምቡ፣ ዳንግላ፣ ነጆ፣ ሐረርና በደሌ 62.5፣ 56.7፣ 51.0፣ 48.5፣ 47.8፣ 46.6፣ 46.5፣ 43.6፣ 42.5፣ 40.5፣ እና 40.0 እንደየቅደም ተከተላቸው ተመዝግቦባቸዋል። የአየሩን ሙቀት በተመለከተ ድሬደዋ፣ ጎዴ፣ መተሃራ፣ ፓዌ፣ ሰመራ፣ አሳይታና መተማ 37.3፣ 37.5፣ 40.0፣ 40.5፣ 41.0፣ 41.5 እና 42.0 ከፍተኛ የሙቀት መጠን እንደየቅደም ተከተላቸው ተመዝግቦባቸው ነበር።

የዕጽዋት ልምላሜ እንደሚጠቁመው የሳተላይት መረጃ (NLVI ከ USGS) የዕጽዋት ሁኔታ በምስራቅ ደጋማ ስፍራዎች፣ በደቡብ ምስራቅ ቆላማ ስፍራዎች መሻሻል አሳይቶ ነበር። በተለይ በወሩ ሶስተኛ አስር ቀን የተሻሻለ የዕጽዋት ሁኔታ ታይቶ ነበር። ጎጂ የአየር ሁኔታን በተመለከተ በረዶና ነፋስ ቀላቅሎ የጣለው ዝናብ በበደሌ ጣቢያ በበቆሎ ሰብል ጉዳት ማድረሱን ከስፍራው የደረሰን መረጃ ይጠቁማል። በአንፃሩ ደግሞ በአይራ በሙዝ ተክል ላይ ጉዳት አድርሷ። በተጨማሪም በዳንግላ ጣቢያ ላይ በረዶና ነፋስ ቀላቅሎ የጣለው ዝናብ ባህርዛፎችን ነቃቅሎ ጥሏል። በአልጌላይም በረዶና ንፋስ ቀላቅሎ የጣለው ዝናብ የመስኖ እርሻ ላይ ጉዳት ማድረሱን ከስፍራው የደረሰን መረጃ ያመለክታል።

በአጠቃላይ ያልተስተካከለ የዝናብ ስርጭት በደቡብ ትግራይ እና በአንዳንድ የምስራቅ አማራ ቆላማ ቦታዎች የመዝሪያ ጊዜያቸውን አዘግይቶባቸው ነበር። በመጋቢት ወር በሁለተኛው አስር ቀናት ታይቶ የነበረው የዝናብ ሁኔታ በልግ አብቃይ በሆኑት በተለይም የምስራቅ አማራ ከፍተኛ ቦታዎች፣ የምስራቅና የደቡብ ኦሮሚያ ወይናደጋማ ቦታዎች እና በአብዛኛው የደቡብ ብሔር ብረተሰቦችና ሕዝቦችን አመቺ ሁኔታን የፈጠረላቸው ሲሆን፣ ጥምር ግብርና ለሚካሄድባቸው ደቡብ ኦሮሚያ እንደ ያቤሎ፣ ሜጋ እና ሞያሌ ላሉት የማሣ ዝግጅት ጥሩ አስተዋፅኦ ነበረው።በተጨማሪም በአንዳንድ የመካከለኛው ቦታዎች ማለትም እንደ ናዝሬት፣ ዝዋይ፣ መራሮ፣ ቡኢ እና ወሊሶ ከምስራቅ እንደ ሚኤሶ፣ ገለምሶ፣ ጂጂጋ እና አለማያ ከሰሜን ምስራቅ እንደ ማጀቴ፣ ጨፋ እና ባቲ ባሉት አካባቢዎች ለሚዘሩ የአገዳ ሰብሎች (በቆሎና ማሽላ) ለዘር ጊዜና ለማሳ ዝግጅት በጎ ጎን ነበረው። በሚያዚያ ወር ታይቶ የነበረው የዝናብ ሁኔታ በመካከለኛው፣ በምዕራብ፣ በምስራቅ እና ደቡብ የሃገሪቱ ክፍሎች ለበልግ አዝርዕትም ሆነ ለረዥም ጊዜ ለሚደርሱ ሰብሎች ጥሩ ጎን የነበረው ሲሆን ጥምር ግብርና በሚካሄድባቸው ለደቡብ ቆላማ ቦታዎች ለግጦሽና ለመጠጥ ውሃ አቅርቦት ጉልህ የሆነ አስተዋፅያ ነበረው። በተጨማሪም የአርብቶ አደሩ አካባቢ በአካባቢው አጠራር በ"ገና" ለሚዘሩት እንደ በቆሎ፣ ቦሎቄ፣ ጤፍ፣ ማሽላና ስንዴ ላሉት የዘር ጊዜ አመቺ ሁኔታን ሊፈጥር ይችላል።

በሌላ በኩል እ.ኤ.አ በመጋቢት ሁለተኛው አስርተ ቀናት እንዲሁም በግንቦት የመጀመሪያው አስር ቀናት የነበረው ከባድ ዝናብ (31.5-93 ሚ ሜ) በሰሜን ምስራቅ በመካከለኛው በምስራቅ እና በደቡብ ኪስ ቦታዎች እንደ በደሌ ሻምቡ እና ጂንካ በአዝርዕት እና በሰብል ስብሰባ ላይ ጉዳት አስከትሎ ነበር። በተጨማሪም በአንዳንድ ቦታዎች ታይቶ የነበረው ያልተስተካከለ የዝናብ ስርጭት ከአዝርዕቱ የውሃ ፍላጎት አኳያ በቂ አልነበረም። የሙቀትን መጠን በተመለከተ በአንዳንድ የሰሜን ምስራቅ በሰሜን ምዕራብ የምስራቅ የመካከለኛው የደቡብ ምዕራብ እና የደቡብ ምስራቅ ቆላማ ስፍራዎች እ.ኤ.አ በጥር ወር በየካቲት እና በመጋቢት በመጀመሪያው አስር ቀናት ከረዥሙ አማካይ የአስር ቀን የሙቀት መጠን ጋር ሲነፃፀር ከ1.8-3.7^{0}c መጨመር አሳይቶ ነበር። ይህ ሁኔታ ለአዝርዕት ጤናማ እድገትና ልምላሜ ላይ አሉታዊ ተፅዕኖ ሊያስከትል ይችላል።

BELG 2006
SUMMARY

Normally central parts of northern highland, eastern highlands, parts of central, southwestern and southern Ethiopia are known as Belg growing areas. The contribution of Belg rainfall is ranging from 5-30 % over the north, northeastern and eastern highlands, where as 30 -60 % over south and southwestern parts of the country from annual total crop production of the areas. North Shewa, East and West Harargie, Arsi, Bale, North and south Wello, Borena and SNNPR (Kembata, Hadiya, and Wolayta, Gurage, Keffa and Bench) start their land preparation and sowing activities during December to February. It is the time for water harvesting over pastoral and agro pastoral areas of southern and southeastern Ethiopia.

During the month of February 2006, moist to moderately dry moisture condition has been observed over Gambela, much of SNNPR, central and parts of southern Oromia(Figure 2). Thus this situation could have a positive impact for Belg season agricultural activities like land preparation and sowing activities at places. While the observed dry and very dry moisture status over southern Tigray and eastern Amhara could exacerbate the deficient condition persisted during the month of January 2006. Besides the rainfall condition observed as of the second dekad of the month particularly Belg growing areas of central, south and southwestern Ethiopia including south and southeastern lowlands could have significant contribution mainly for land preparation. Besides it could be helpful to start sowing activities in some isolated areas of Belg growing areas. On the other hand as the anticipated weather condition it has been a dry spell over south Tigray and eastern Amhara (MehalMeda, WegelTena) including central Oromia like ArsiRobe, Meraro, Kofelle, and Ziway in areas where the early season agricultural activities start earlier under normal circumstances and in areas where sowing activities is under question. Thus, the persisted moisture stress in the aforementioned stressed areas could have significant negative impact on season agricultural activities. As the Somali Regional State Livestock Crop and Natural Resource Development Bureau (LCNRDB) reported on Agricultural Task Force Meeting (March 1, 2006) livestock disease incidence, sever water and pasture shortage has been observed over Liban and Afder Zone due to deficient rainfall. With regard to temperature anomalies, a rise in decadal mean maximum temperature by 1.8 – 3.7 ^{0}C has been observed over some lowland areas of north eastern, northwestern, eastern, central, and southeastern as well as Rift valley parts of Ethiopia as compared to that of long-term mean maximum temperature during the first dekad of February2006. Thus this condition exacerbates the negative effect of deficient moisture on crops by increasing the rate of evapotranspiration, more over could have a negative impact for normal growth and development of plants.

During the month of March 2006, most parts of Belg benefiting areas exhibited moist to humid moisture status. Normally Land preparation is the normal practice over some areas of central and eastern Oromiya. Moreover sowing of cereals like maize, sorghum and others including pulses is the major activities over most parts of SNNPR, eastern and mid lands of southern Oromia and some areas of eastern Amhara. Major “gu” rains expected to start over northern region of Somali in March. The wide spread rainfall condition observed particularly as of the second dekad of March over most parts of Belg growing areas could have significant positive contribution for the existing Belg crops in some areas. Besides, it could also favor land preparation and sowing activities (for long cycle crops like maize and sorghum) in some areas of central (Adama, Ziway, Meraro, Bui and Weliso), eastern (Meiso, Gelemso, Jijiga and Alemya) and northeastern (Majete, Chefa and Bati) parts of the country. In addition, the observed wet condition could favor the regeneration of grasses and bushes for pasture and the availability of drinking water over

pastoral and agro pastoral areas of southern Oromia, southern Afar and southern Somali to some extent. With regard to air temperature, a rise in decadal mean maximum temperature during the first dead of March by 1.3 – 2.2 ^{0}C has been observed over some lowland areas of north eastern like Dubti, northwestern, like Pawe, central like Methera and eastern like DireDawa that of long-term mean maximum temperature during the first dekad of March 2006, thus this condition would have a negative impact for normal growth and development of plants.

During the month of April 2006, except some pocket areas of south eastern Amhara, and central Oromia, of most parts of the Belg growing areas hasexibited moist to humid moisture condition. Under normal circumstance it is time for sowing of long cycle crops like maize and sorghum including pulse crops like haricot bean over most parts of crop growing areas. More over, it is also time to harvest water for pasture and drinking water over the lowlands of pastoral and agro pastoral areas of south and south-eastern Ethiopia. The observed normal to above normal rainfall condition observed over most parts of Belg growing areas could favour the existing crops in the field which are at different phenological stages. Particularly the well distributed rainfall amount i.e., falls in 15 – 22 days during the month over most parts of SNNPR and pocket areas of eastern Oromia could support the normal growth and development of crops, which are found in the field. Moreover, good rainfall amount and distribution observed during the month over pastoral and agro pastoral areas of south western Oromia could favour the availability of pasture and drinking water. On the contrary, even though the monthly cumulative percent of normal rainfall analysis shows above normal rainfall distribution over most parts of Afar region due to the abundant fall in 2-3 rainy days in the first dekad of April 2006, there were areas that experienced deficient rainfall situation during the two consecutive dekads. This deficient condition could negatively affect the availability of pasture and drinking water in the areas. Regarding to heavy fall above 30 mm of heavy fall observed in most places, among the reporting stations Bui, Ziway, Bati, and Mekelle, Babile, Sirinka, Gursum and Ginir recorded 67 – 116 mm of heavy fall in one rainy day. This condition indicates that the erratic nature of rainfall distribution in the areas interms of the crop water requirements. The erratic rainfall distribution, which is one of the conducive factors for the outbreak of pests, observed over some areas of eastern and southern Oromia including some areas of SNNPR favored the outbreak of pest (Armyworm). However, by the effective control measures taken by the concerned personnel no significant crop damage has been observed (MoARD Bulletin No 9/1998 EC, Ginbot 2). However it is very important to have close monitoring of the north ward movement of the moths of the army worms following the northward mitigation of the ITCZ carried by the low level wind.

During the month of May 2006, moist to humid moisture status has been observed over most parts of Meher growing areas like western Amhara and Tigray as well as some areas of Belg growing areas. While dry to moderately dry moisture condition has been observed in some areas of Belg growing areas like eastern Amhara and Tigry and southern and eastern Oromia. The observed normal to above normal rainfall over Belg growing areas during the first dekad of May favored the water requirement of the existing Growing crops and the recently sown long cycle crops. Besides it has a positive contribution for the early season's agricultural activities of the coming Meher. Moreover, the wet condition favored sowing activity in some northwestern and western parts of the country like Chagni, Gimbi and Alge areas where sowing activity is under question. With regard to heavy fall, heavy fall graterthan 30 mm observed in most places. To mention some of them, Aira, Gonder, A/A Obs, DembiDolo, Gimbi, Bui, Shambu, Dangla, Nejo, Harar, and Bedelle received heavy fall, 62.5, 56.7, 51.0, 48.5, 47.8, 46.6, 46.5, 43.6, 42.5 40.5, And 40.0 mm respectively in one rainy days during the month. With regard to extreme Maximum temperature Dire Dawa, Gode, Methera, Pawe Semera, Assayta and Metema recorded Extreme maximum temperature as high as 37.3, 7.5, 40.0, 40.5, 41.0, 41.5 and 42.0 respectively. Thus this situation could affect for normal growth and development of plants. As the NDVI picture (USGS) indicates, there was an improvement of vegetation cover over eastern highlands, southeastern lowlands, particularly better vegetation cover during the third dekad of May. Nevertheless pursuant to the crop phenological report some pocket areas reported crop

damage due to adverse weather condition; Bedelle reported Maize crop damage due to heavy fall with strong wind; Aira reported banana fruit damage due to torrential rainfall with strong wind; Dangla reported falling of trees due torrential rainfall; Alge reported crop damage on irrigated farm during the month.

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Generally the erratic rainfall distribution over South Tigray and some low land areas of eastern Amhara resulted in delay of planting time of Belg crops over the areas. The rainfall condition observed as of the second dekad of March has favoured Belg crops particularly over the highlands of eastern Amhara, eastern and midlands of southern Oromiya and most parts of SNNPR. Besides it could favour land preparation in agro pastoral areas of southern Oromiya like Yabello, Mega and Moyale.Besides, it could also favor land preparation and sowing activities (for long cycle crops like maize and sorghum) in some areas of central (Adama, Ziway, Meraro, Bui and Weliso), eastern (Meiso, Gelemso, Jijiga and Alemya) and northeastern (Majete, Chefa and Bati) parts of the country. The rainfall condition observed during the month of April has favoured Belg crops as well as sowing of long cycle crops over central, western, eastern and southern parts of the country.Moreover, the April moisture condition has significant contribution for pastoral and agro pastoral areas of southern low lands for the availability of pasture and drinking water. Besides, it could favour sowing activities of “Gena” season’s crops like maize, haricot bean, Teff, sorghum and wheat. On the contrary heavy falls observed during the second dekad of March to first dekad of May 2006 (31.5- 93 mm of rainfall in one rainy day) over pocket areas of north - eastern, central, eastern and southern parts of the country like Bedelle, Shambu and Jinka resulted in crop damage and affected post harvest activities in some pocket areas. Besides, it shows that the erratic nature of the rainfall distribution observed in some areas which are not suitable for crop production in terms of the crop water requirements**.** Rise in mean maximum temperature has been observed particularly during the month of January, February and first dekad of March (by 1.8 – 3.7°C) over some lowland areas of northeastern, northwestern, eastern, central, southwestern and southeastern parts of the country as well as along the Rift valley and its adjoining areas. Thus this condition could exacerbate the effect of deficient moisture on crops by increasing the rate of evapotranspiration.

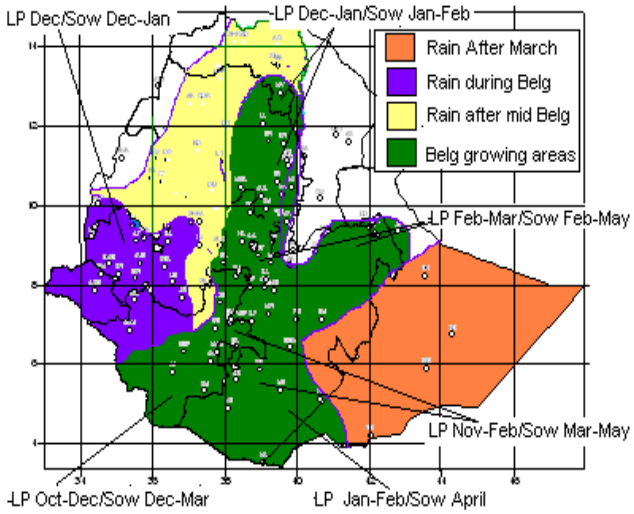


Figure 1 Belg growing areas of the country (The dark green shaded area)

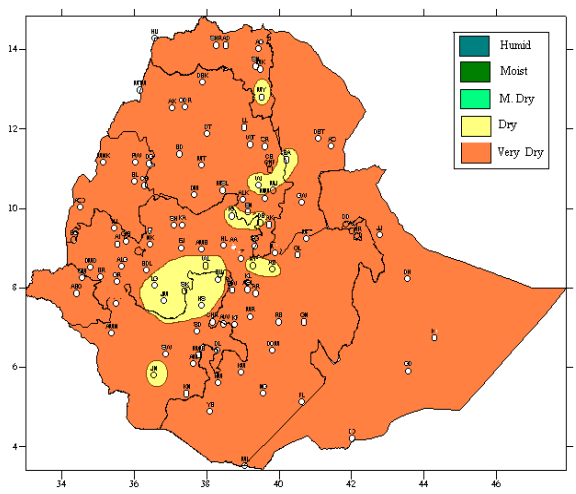


Figure 2 Moisture status for the month of January 2006

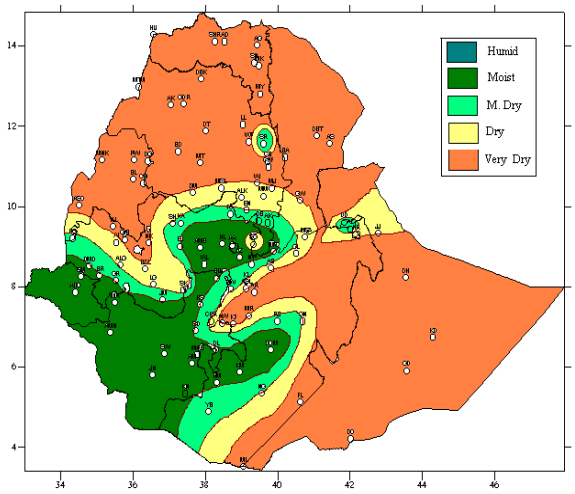


Figure 3 Moisture status for the month of February 200 2006

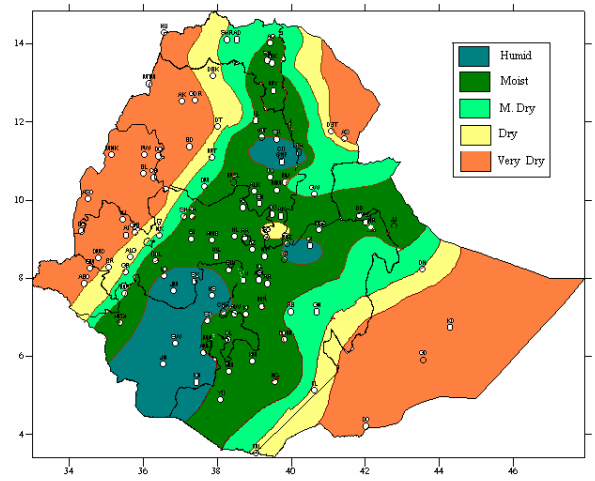


Figure 4 Moisture status for the month of March 2006

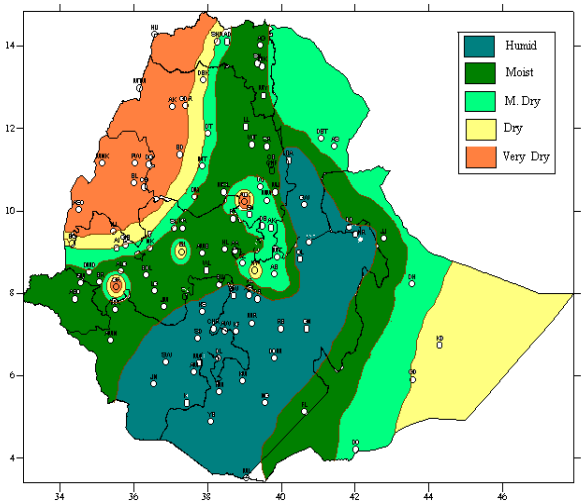


Figure 5 Moisture status for the month of April 2006

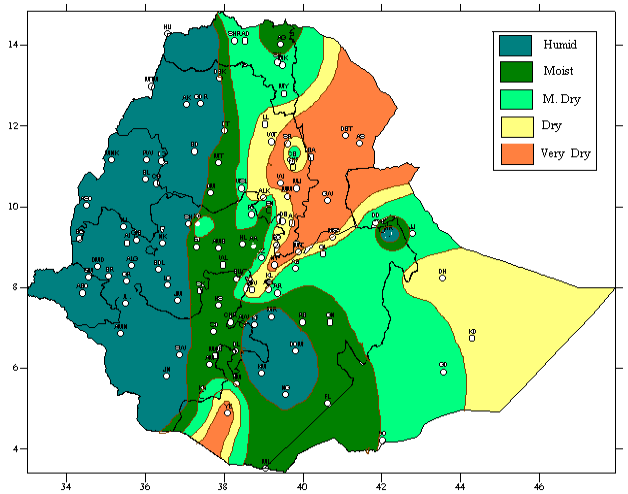


Figure 6 Moisture status for the month of May 2006

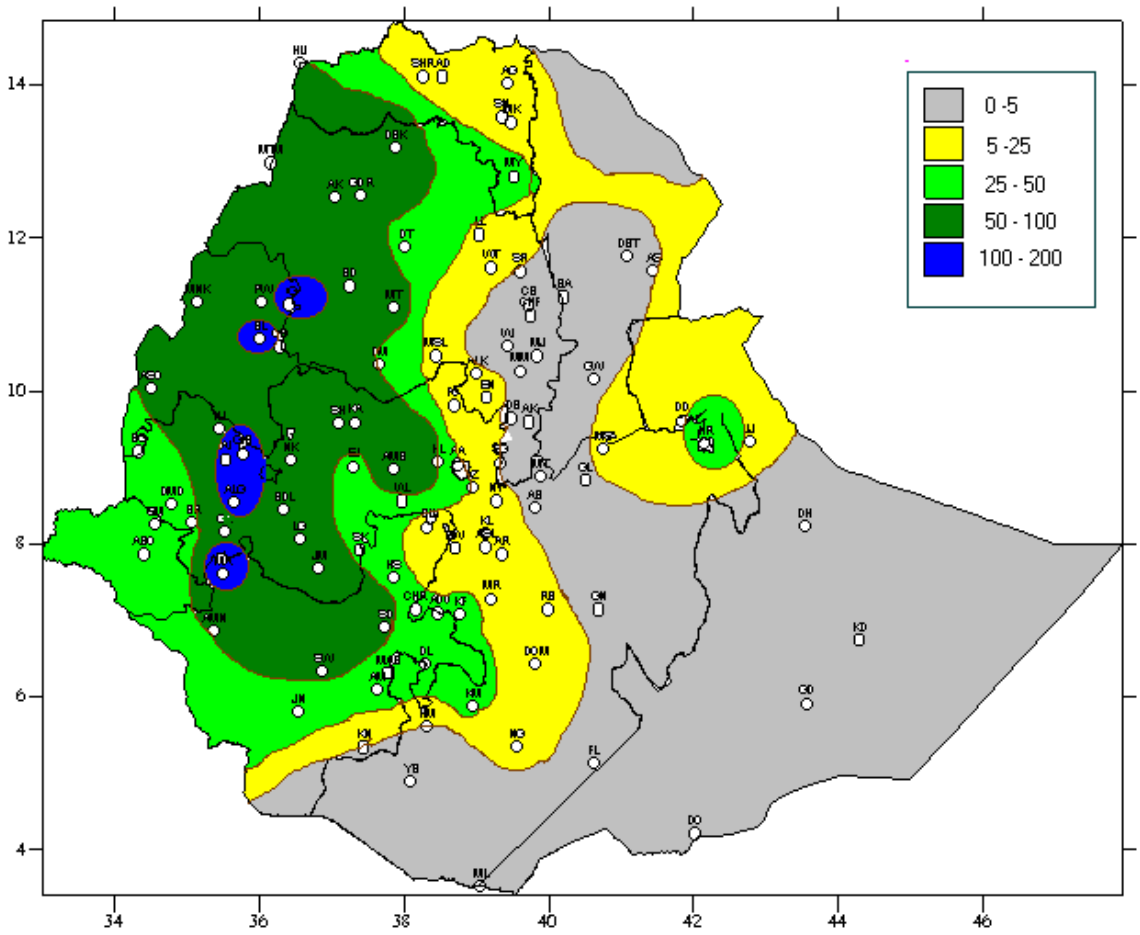


Fig 7 Rainfall distribution in mm (21-31 May 2006).

1. WEATHER ASSESSMENT

May 21-31, 2006

1.1.1. Rainfall Amount (Fig 6)

Better rainfall was observed over pocket areas of western Amhara, western Benhangul-Gumuz and western Oromia ranging from 100 -200mm of rainfall. Few areas of western Tigry,most parts of western Amhara, Benshngul-Gumuz, western Oromia and some areas of northwestern SNNPR received 50 -100 mm of rainfall. Gambella, some parts of western Tigray and Amhara, some areas of central Oromia, western and southwestern SNNPR and pocket areas of northern Somali experienced 25– 50 mm of rainfall. Parts of northern Tigray, eastern Amhara, northern Afar, central and southern Oromia and northern Somali exhibited 5 – 25 mm of rainfall. There was little or no rainfall for the rest parts of the country.

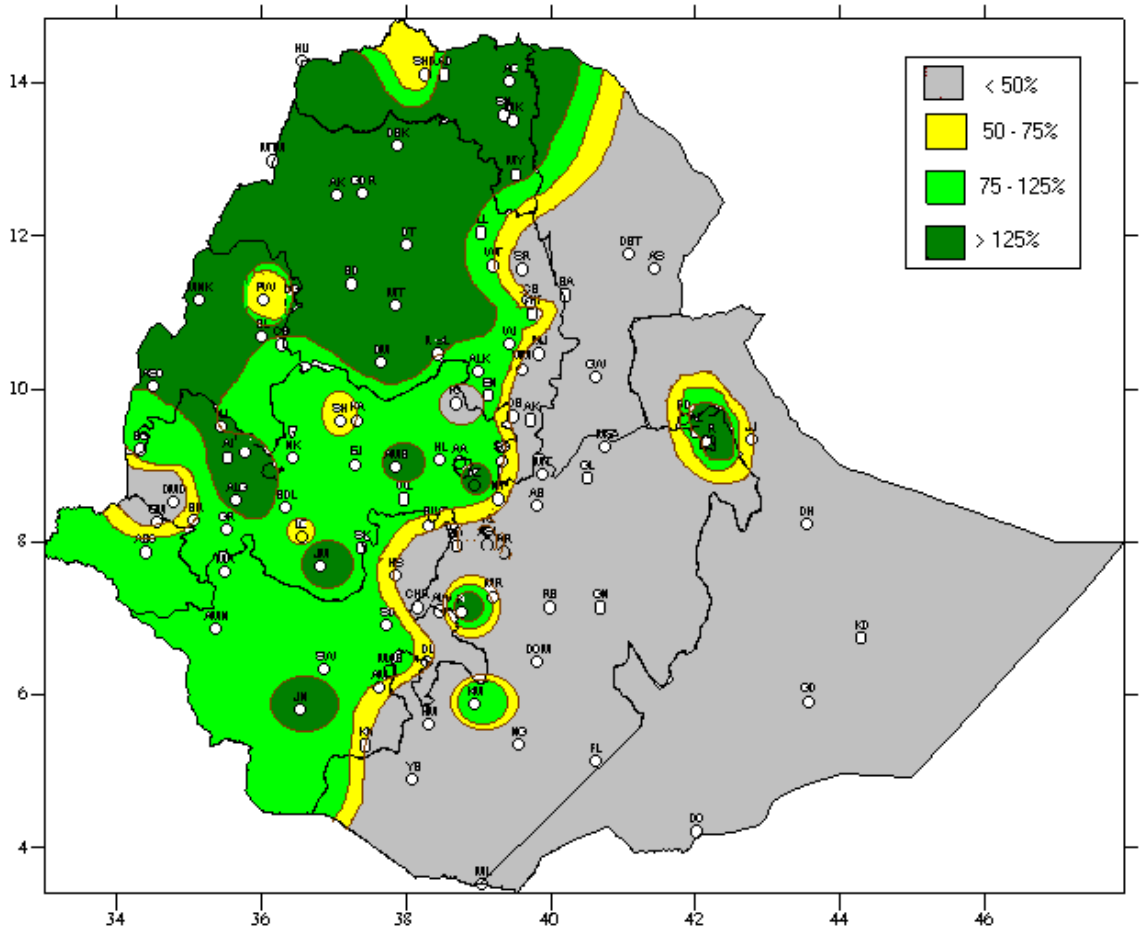


Fig 8 Percent of normal rainfall for (21-31 May 2006)

Explanatory notes for the Legend:

< 50-Much below normal
50-75%-Below normal
75-125%- Normal
> 125% - Above normal

1.1.2 Rainfall Anomaly (Fig 7)

Western half of the country, pocket areas of central and southern Oromia, and northern Somali experienced normal to above normal rainfall while the rest parts of the country received below to much below normal rainfall.

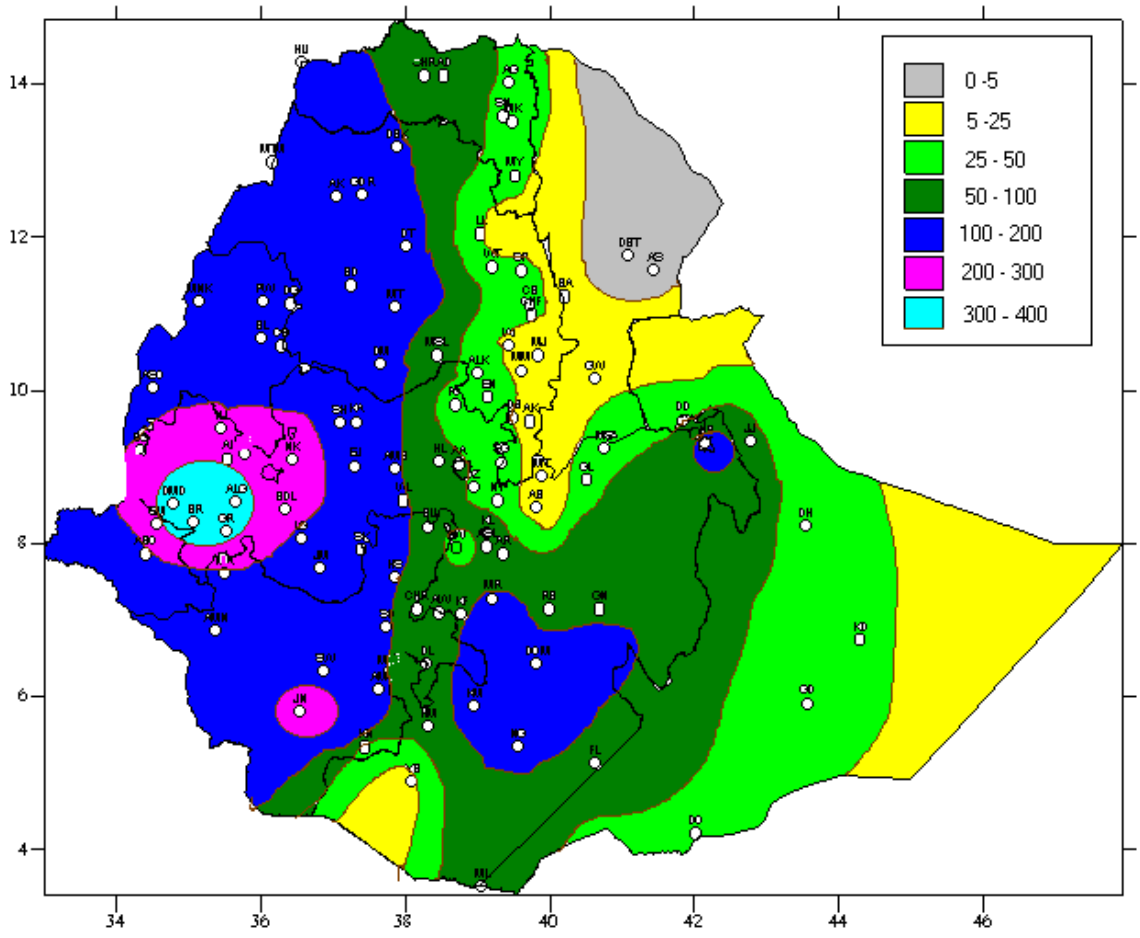


Fig. 9 Rainfall Distribution in mm for the month of May 2006

1.2 May 2006

1.2.1 Rainfall Amount (Fig. 8)

Pocket areas of western Oromia received 300-400 mm of rainfall. Pocket areas of western Oromia and southern SNNPR experienced 200-300mm of rainfall. Some parts of western Tigray, most parts of western Amhara, Benshangul-Gumuz, Gambella and SNNPR, pocket areas of southern Oromia and northern Somali exhibited 100-200mm of rainfall. Parts of Tigray and Amhara, central, southern and eastern Oromia experienced 50-100mm of rainfall. Parts of eastern Tigry and Amhara, central and eastern Oromia northern and southern Somali received 5-25 mm of rainfall. Parts of western half of Afar, southern Oromia and south eastern Somali received 5-25 mm of rainfall. There was little or no rainfall for the rest parts of the country (eastern Afar).

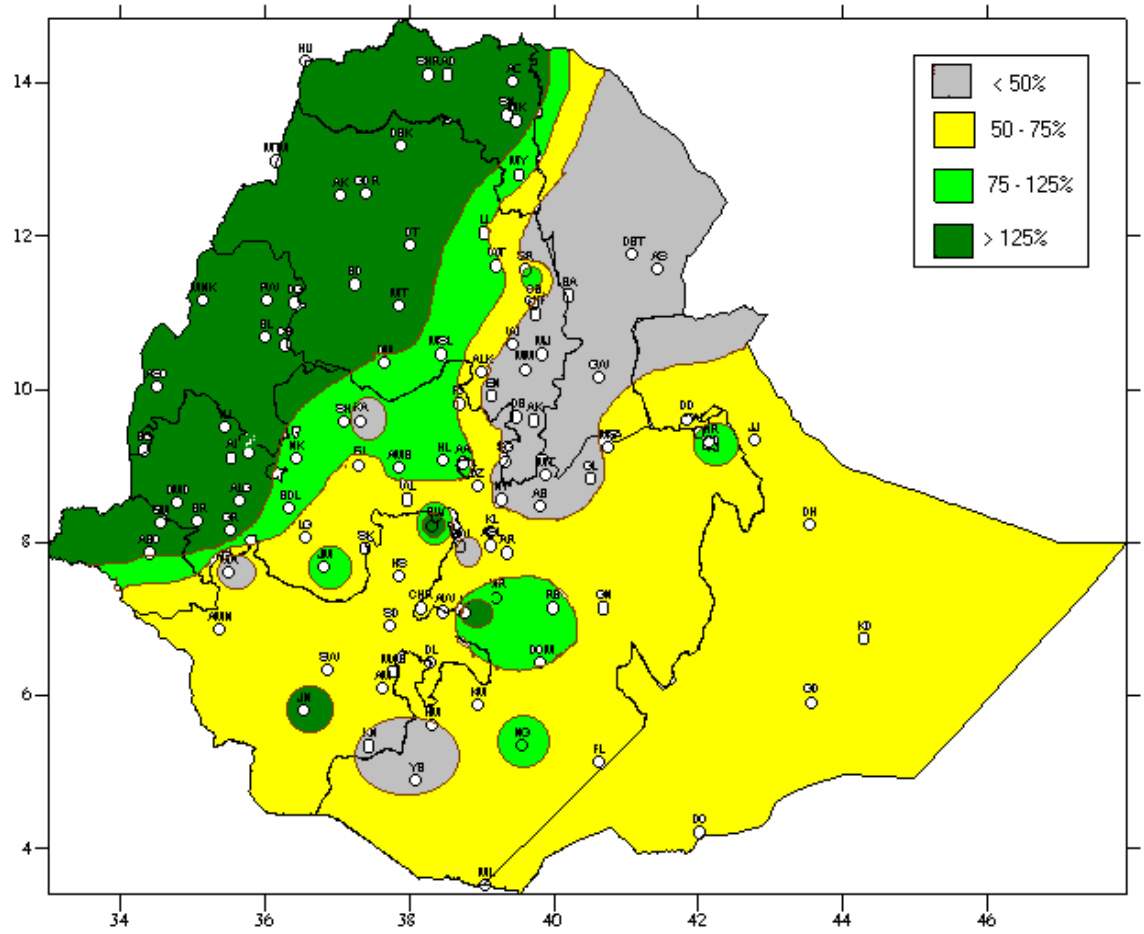


Fig. 10 Percent of Normal Rainfall for the month of May 2006

Explanatory notes for the Legend:
< 50 -Much below normal
50-75%-Below normal
75-125%- Normal
> 125% - Above normal

1.2.2 Rainfall Anomaly (Fig. 9)

Most parts of western half of the country, as well as some pocket areas of central and southern Oromia and northern Somali received normal to above normal rainfall while the rest parts of the country experienced below to much below normal rainfall. .

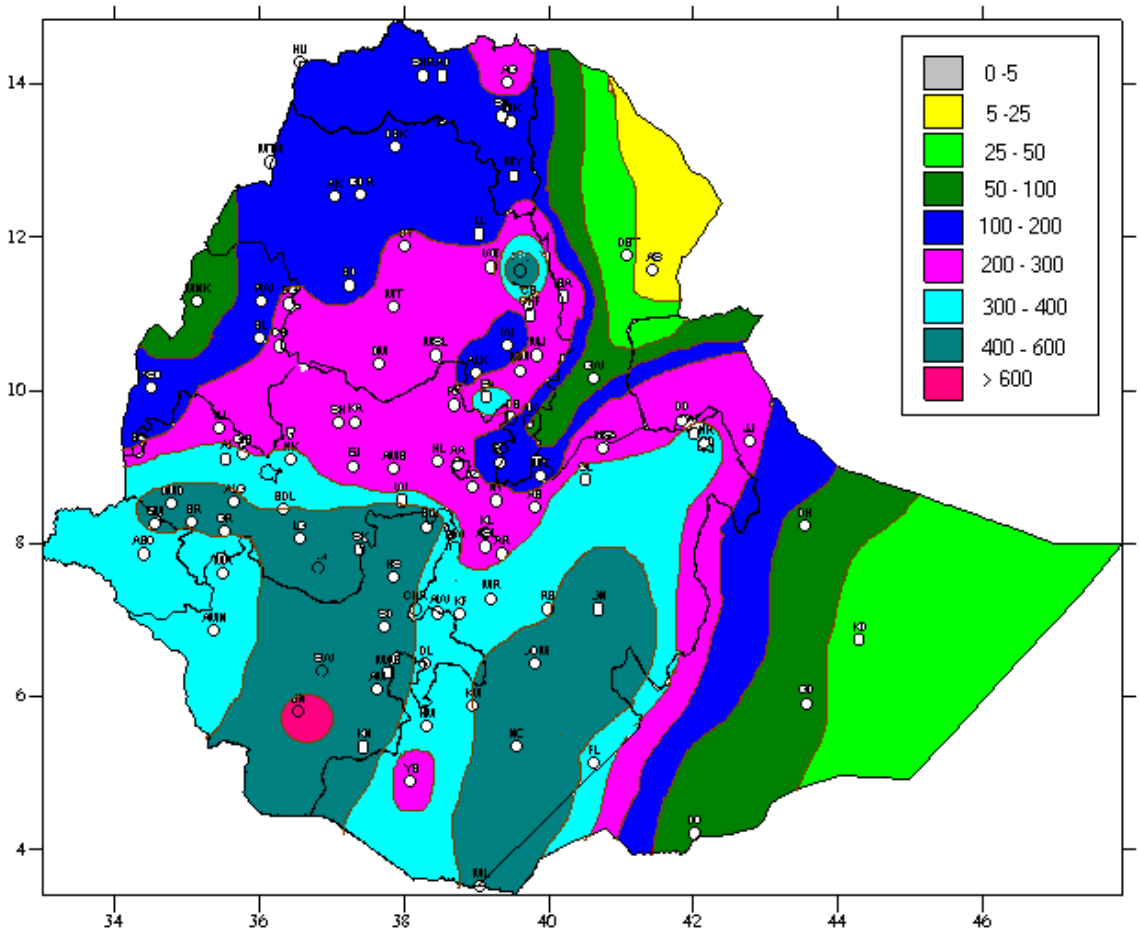


Fig. 11 Rainfall Distribution in mm for Belg 2006

1.3 Belg 2006

1.2.1 Rainfall Amount (Fig. 10)

Pocket areas of SNNPR received grater than 600mm of rainfall. Gambella, SNNPR, parts of parts of western and eastern Oromia, most parts of southern Oromia as well as pocket areas of eastern Amhara experienced 300 – 600 mm of rainfall. Tigris, Amhara, much of Benshangul - Gumuz parts of central, northwestern and eastern Oromia, parts of northern and southwestern Somali received 100 -300 mm of rainfall. Northern tip of Benshangu-Gumuz, most parts of Afar and eastern, Southeastern parts of the country experienced 5 - 100 mm of rainfall.

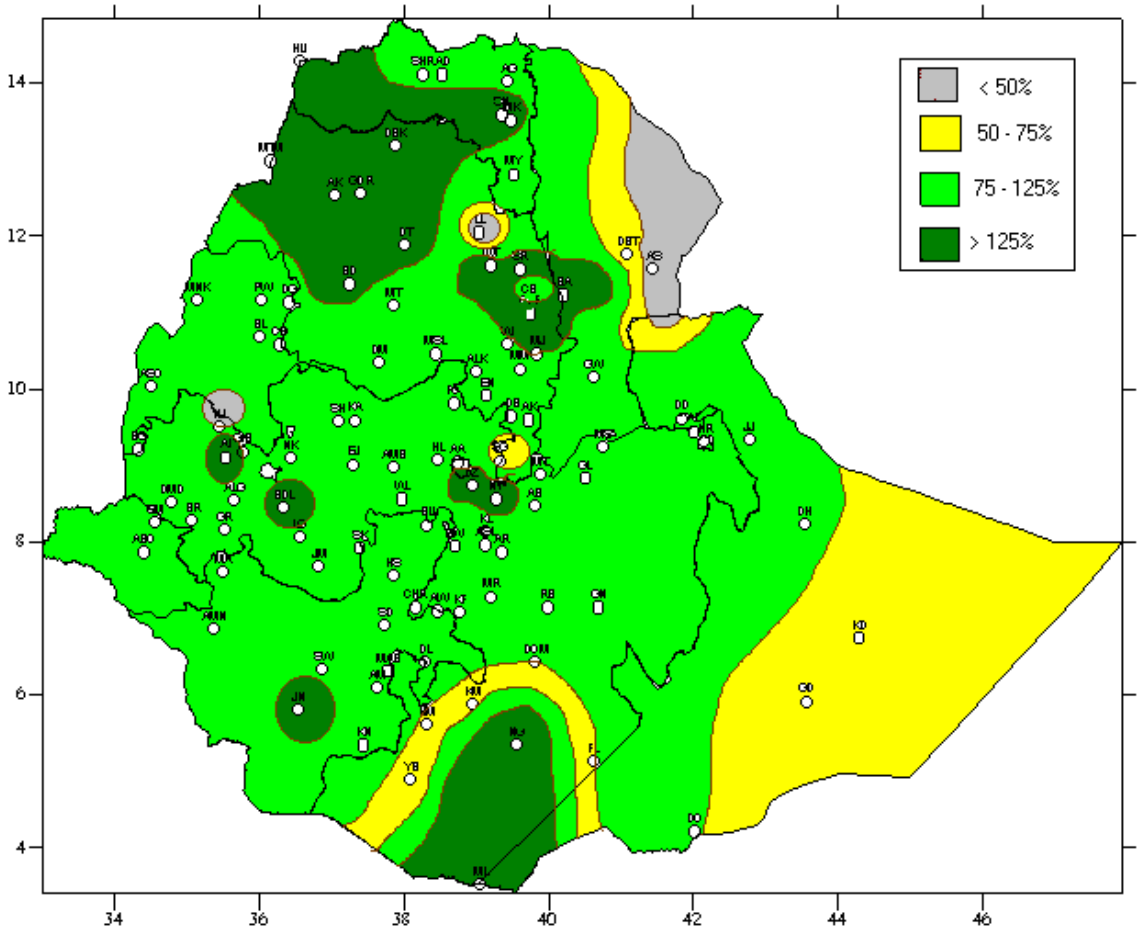


Fig. 12 Percent of Normal Rainfall for Belg 2006

Explanatory notes for the Legend:
< 50 -Much below normal
50-75%- Below normal
75-125%- Normal
> 125% - Above normal

1.2.2 Rainfall Anomaly (Fig. 11)

With the exception of eastern and southeastern parts of Afar, most parts of eastern and southeastern Somali and parts of southern Oromia, the rest parts of the country exhibited normal to above normal rainfall.

1.4 TEMPERATURE ANOMALY

A rise in mean maximum temperature particularly we observed during the first dekad of February (by 1.8 – 3.7 ^{0}C) and the first dekad of March (By1.3 – 2.2) over some lowland areas of northeastern, northwestern, eastern, central, southeastern parts of the country as well as along the rift valley and its adjoining areas during the season under review.

2. WEATHER OUTLOOK

2.1 For the first dekad of June 2006

For the coming ten days, the rain producing systems are expected to have a better strength over western half of the country. In general, western Tigray and Amhara, Bensahngul-Gumuz, Gambella, western Oromia, northern SNNPR as well as some sectors of central Ethiopia are likely to get normal to above normal rainfall. Eastern Tigray and Amhara, Afar, eastern Oromia as well as northern Somali are anticipated to receive less than normal rainfall. However, in some places will have nearly normal rainfall.

2.2 For the month of June 2006

For the coming month, much of western half the nation is expected to have stable rainfall distribution and amount. As a result Gambella, SNNPR, western half of Oromia, Benshangul-Gumuz and western Oromia are likely to get normal to above normal rain showers with heavy falls at some places. Besides, central Ethiopia and western Tigray are anticipated to receive normal rainfall.

Even though, dry weather conditions dominate various portions of eastern Tigray and Amhara, southern Afar, eastern Oromia as well as central Somali including DireDawa and Harari will have near normal rainfall. Southern Oromia and adjoining eastern SNNPR regions are likely to get few rains at some places. On the other hand, southern half of Somali will be under dry weather condition.

2.3 for the Kiremt season, 2006

Kiremt, which is the main rainy season across the major portion of Ethiopia, span for June to September. In this, most parts of Tigray, Amhara and Benshangul-Gumuz and Afar, and parts of Gambella, Oromia, Harari and northern portions of Somali as well as SNNPR states. Heavy downpour and covers wide areas generally characterize the seasonal rainfall that usually falls over the aforementioned regions. As a result, heavy rains that mostly accompanied by strong winds, hail and thunder shower generate flash floods and overflow of seasonal or perennial rivers over various parts of Ethiopia. In the coming Kiremt season most of the regional and global systems, which are associated to the seasonal climatic patterns, are infavour of normal rainfall performance across the nation. In line with this there are enhanced probabilities of getting normal to above normal rains over the western half including central Ethiopia. Similarly, normal rainfall patterns are strongly predicted over the remaining portion of the country.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

The erratic rainfall distribution over South Tigray and some low land areas of eastern Amhara resulted in delay of planting of Belg crops over the areas. The rainfall condition observed as of the second dekad of March has favoured Belg crops particularly over the highlands of eastern Amhara, eastern and midlands of southern Oromia and most parts of SNNPR. Besides it could favour land preparation in agro pastoral areas of southern Oromia like Yabello, Mega and Moyale.Besides, it could also favor land preparation and sowing activities (for long cycle crops like maize and sorghum) in some areas of central (Adama, Ziway, Meraro, Bui and Weliso), eastern (Meiso, Gelemso, Jijiga and Alemya) and northeastern (Majete, Chefa and Bati) parts of the country. The rainfall condition observed during the month of April has favoured Belg crops as well as sowing of long cycle crops over central, western, eastern and southern parts of the country. Moreover, has significant contribution for pastoral and agro pastoral areas of southern low lands for the availability of pasture and drinking water. Besides, it could favour sowing activities of "Gena" season's crops like maize, haricot bean, teff, sorghum and wheat. On the Contrary, heavy falls observed during the second dekad of March to first dekad of May 2006 (31.5- 93 mm of rainfall in one rainy day) over pocket areas of north - eastern, central, eastern and southern parts of the country like Bedelle, Shambu and Jinka resulted in crop damage and affected post harvest activities in some pocket areas. Besides, it shows that the erratic nature of the rainfall distribution observed in some areas, which are not suitable for crop production in terms of the crop water requirements.

Pursuant to phonological report, maize was at emergence stage over some areas of western and northeastern parts of the country like Aira, Alge, Bedelle, Gimbi Nedjo and Bati. It was at ninth leaf stage over some areas of eastern like Gelemso and it was at flowering stage in southern like Dolomean.Teff was at flowering stage in some areas of northeastern and southern like Majite, Sirinka and DoloMena. Barely was at earing stage in some areas of eastern like Sirinka and it was at shooting stage in WegelTena. Sorghum was at sowing and emergence stage in some areas of western and northeastern like Nedjo and Bati respectively.

3.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING BELG SEASON

Most parts of the highlands including southern and eastern midlands are known as Kiremt growing areas.The Belg season rainfall particularly the rainfall amount and distribution observed during the months of April and May has significant impact on the performance of long cycle crops like maize and sorghum, which are considered as Maher crops and their contribution is about 35% of the total Meher production.

The anticipated 85% probability of normal to above normal rainfall distribution over central and western Tigray, most parts of central and western Amhara, central and western Oromia, Gambela, Benishangul-Gumuz and parts of northern half of SNNPR would favor season's agricultural activities. Thus, farmers are advised to use the expected better opportunity appropriately (on time). Moreover, the expected 75% probability of normal to above normal rainfall would favor the availability of pasture and drinking water in pastoral and agro pastoral areas of northeaster and eastern Ethiopia while would favor the water requirement of crops in eastern and South Tigrai eastern Amhara, eastern and midlands of southern Oromia and most parts of SNNPR. However attention should be given to strengthen the existing water conservation methodologies so as to use the expected moisture efficiently.

The normal on-set would favor land preparation and sowing of cereals and pulses where the activities are under question during the month of June in areas like central (Abomsa, Kulumsa, Meraro, Ziway, Bui, Woliso, Ambo, Kachise, Debre Birhan), western and northwestern (Benishangul Gumuz, some areas of western Oromiya) including north and northeastern highlands (Adwa, Fiche, Enewary, Alem Ketema, Debre Birhan, Sola Gebeya, Mehal Meda, Chefa, Amba Mariam, Laibela, etc).

The June rainfall condition would also favour the existing Belg crops, which are not attaining maturity, and the recently sown long cycle crops.) Nevertheless, the expected 25 - 33% probability of below normal rainfall condition over eastern and South Tigrai, eastern and southern Oromia, most parts of SNNPR, eastern Amhara and Afar (particularly over the lowlands of the aforementioned areas, which are classified under drought prone areas) would affect the water requirements of the crops and the availability of pasture and drinking water as well over pastoral and agro pastoral areas. Therefore, proper water harvesting techniques would be advisable over those areas. Besides, alternate and appropriate copping mechanisms should be designed ahead of time in order to mitigate the effect of deficient moisture condition.

The expected erratic nature of rainfall over pocket areas of south-western, midlands of southern, eastern, central (Rift valley and adjoining areas) and north-eastern parts of the country would favor the occurrence of pests. Hence attention should be given for those areas in order to mitigate the effect of adverse situation below economic threshold level accordingly.

The anticipated heavy falls over some areas of south-western, western, north-western and central Ethiopia would result in water logging and flooding in low lying areas and in areas where the soil type is clay. Besides it would result in flood near the riverbanks. Therefore, proper attention should be given over sensitive areas.

The anticipated abundant falls over some areas of western, central and northern Ethiopia would enhance weed infestation. Hence proper cultural practices should be applied according to the existing realty of the specific areas judiciously. The normal cessation of Kiremt rain would favour harvest and post harvest activities over some areas (under normal circumstance harvesting of maize H/Bean going on in some areas like Sidama, Gedio, G/Gofa, S/Omo, Dawro, Yem, etc during the month of September).

Last but not least the onset, distribution and cessation of season’s rainfall are very important in terms of agricultural activities. Thus, users should interpret the weather forecast in terms of their area of interest and the existing condition of the specific area.

Table 1. Climatic and Agro-Climatic elements of different stations for the month of May2006

	Stations	Region	A/ rainfall	Normal	%of Normal	Eton mm/day	Monthly Eton	Moisture status
1	**Adigrat**	**TIGRAI**	79.0	56.3	140.3	4.34	134.5	M
2	**Adwa**		49.3	38.1	129.4	4.92	152.5	MD
3	**Mekele**		46.0	30.1	152.8	5.76	178.6	MD
4	**Michew**		48.1	73.0	65.9	4.73	146.6	MD
5	**Senkata**		61.7	62.3	99.0	NA	NA	NA
6	**Shire**		71.7	30.2	237.4	4.87	151.0	MD
1	**Assayta**	**AFAR**	0.2	9.9	2.0	NA	NA	NA
2	**Dubti**		0.0	13.5	0.0	NA	NA	NA
1	**A. Ketema**	**AMHARA**	31.2	70.9	44.0	5.07	157.2	D
2	**Bahir Dar**		151.2	84.7	178.5	4.67	144.8	H
3	**Bati**		6.2	62.9	9.9	5	155.0	VD
4	**Bullen**		181.9	167.7	108.5	3.87	120.0	H
5	**Chagni**		195.9	146.3	133.9	3.85	119.4	H
6	**Combolcha**		44.4	58.8	75.5	4.69	145.4	MD
7	**Chefa**		26.0	104.6	24.9	5.72	177.3	D
8	**D.Birhan**		16.6	34.9	47.6	4.8	148.8	D
9	**D.Markos**		106.5	94.9	112.2	4.29	133.0	M
10	**D.Tabor**		141.3	92.0	153.6	NA	NA	NA
11	**Dangla**		216.6	138.7	156.2	3.76	116.6	H
12	**Enwary**		90.1	51.6	174.6	5.8	179.8	M
13	**Gonder**		146.3	88.8	164.8	4.55	141.1	H
14	**Lalibela**		20.3	34.6	58.7	4.59	142.3	D
15	**Majete**		9.0	85.2	10.6	5.28	163.7	VD
16	**Metema**		177.6	75.1	236.5	5.44	168.6	H
17	**Motta**		108.8	81.5	133.5	4.69	145.4	M
18	**S. Gebeya**		25.0	48.8	51.2	4.99	154.7	D
19	**Sirinka**		40.4	70.4	57.4	NA	NA	NA
20	**Wegeltena**		31.3	40.9	76.5	4.69	145.4	D
21	**Wereilu**		11.2	41.6	26.9	5.83	180.7	VD
1	**Ambo Agi.**	**OROMIYA**	123.4	78.3	157.6	4.48	138.9	M
2	**Arjo**		175.3	249.3	70.3	NA	NA	NA
3	**Arsi Robe**		61.9	119.9	51.6	NA	NA	NA
4	**Abomsa**		7.0	71.4	9.8	NA	NA	NA
5	**Aira**		306.8	60.7	505.4	NA	NA	NA
6	**Alemaya**		71.4	103.9	68.7	4.29	133.0	M
7	**Alge**		330.4	211.6	156.1	NA	NA	NA
8	**Assela**		0.0	110.9	0.0	NA	NA	NA
9	**Bedelle**		230.1	226.1	101.8	NA	NA	NA
10	**Bui**		95.9	25.1	382.1	NA	NA	NA
11	**Chira**		258.1	230.5	112.0	NA	NA	NA
12	**D.Dollo**		310.2	197.6	157.0	3.32	102.9	H
13	**D.Mena**		147.1	190.0	77.4	4.09	126.8	H
14	**D.Zeit**		33.3	51.6	64.5	5.52	171.1	D
15	**Ejaji**		86.9	124.9	69.6	NA	NA	NA
16	**Fitche**		48.4	55.8	86.7	4.41	136.7	MD
17	**Gelemso**		46.0	127.4	36.1	4.54	140.7	MD
18	**Gimbi**		255.1	183.4	139.1	NA	NA	NA

19	**Ginir**		119.1	211.3	56.4	NA	NA	NA
20	**Gore**		228.0	240.2	94.9	3.44	106.6	H
21	**H. Mariam**		85.9	187.6	45.8	NA	NA	NA
22	**Jimma**		183.6	170.9	107.4	3.63	112.5	H
23	**K.Mengist**		133.0	220.1	60.4	3.49	108.2	H
24	**Kachise**		55.9	128.3	43.6	4.71	146.0	MD
25	**Koffele**		144.8	114.5	126.5	3.08	95.5	H
26	**Kulumsa**		62.3	91.4	68.2	4.56	141.4	MD
27	**Lumugenet**		111.2	214.1	51.9	NA	NA	NA
28	**Meisso**		37.5	58.6	64.0	5.72	177.3	D
29	**Metehara**		10.0	35.4	28.2	6.1	189.1	VD
30	**Moyale**		54.3	82.2	66.1	3.44	106.6	M
31	**Nazreth**		27.8	56.7	49.0	NA	NA	NA
32	**Neghele**		126.6	147.2	86.0	4.05	125.6	H
33	**Nedjo**		214.5	186.7	114.9	3.17	98.3	H
34	**Nekemte**		229.4	237.8	96.5	3.66	113.5	H
35	**Robe(Bale)**		76.5	93.4	81.9	3.92	121.5	M
36	**Sekoru**		109.1	161.3	67.6	4.03	124.9	M
37	**Shambu**		194.6	194.3	100.2	4.27	132.4	H
38	**Yabello**		6.1	101.5	6.0	3.8	117.8	VD
39	**Ziway**		25.0	76.9	32.5	5.4	167.4	D
1	**Jijiga**	**SOMALI**	63.8	103.1	61.9	NA	NA	NA
2	**Gode**		29.7	53.4	55.6	5.56	172.4	D
1	**A.Minch**	**SNNPR**	111.6	153.2	72.8	4.28	132.7	M
2	**Awassa**		75.0	123.3	60.8	NA	NA	NA
3	**Billate**		126.7	195.0	65.0	NA	NA	NA
4	**Hosaina**		68.1	131.0	52.0	4.28	132.7	M
5	**Jinka**		209.2	158.0	132.4	3.35	103.9	H
6	**Konso**		41.9	98.6	42.5	4.65	144.2	MD
7	**M.Abay**		81.8	125.7	65.1	4.81	149.1	M
8	**Masha**		123.8	278.7	44.4	NA	NA	NA
9	**Sodo**		114.2	180.8	63.2	NA	NA	NA
1	**Assosa**	**B/GUMUZ**	185.3	134.2	138.1	3.97	123.1	H
2	**Pawe**		103.2	120.9	85.4	4.13	128.0	M
1	**Gambela**	**Gambela**	0.3	160.4	0.2	NA	NA	NA
1	**A.A.Obs.**	**A.A**	75.5	76.0	99.3	3.83	118.7	M
2	**A.A. Bole**		38.9	78.5	49.6	5.29	164.0	D
1	**Dire Dawa**	**D.D**	29.4	46.8	62.8	NA	NA	NA
1	**Harar**	**Harar**	128.0	114.7	111.6	4.07	126.2	H

Legend

VD	Very Dry	< 0.1
D	Dry	0.1 - 0.25
MD	Moderatly Dry	0.25 - 0.5
M	Moist	0.5 - 1
H	Humid	>1

Explanatory Note

ETo Reference Evapotranspiration(mm)

DEFNITION OF TERMS

ABOVE NORMAL RAINFALL: - Rainfall in excess of 125% of the long term mean

BELOW NORMAL RAINFALL: - Rainfall below 75 % of the long term mean.

NORMAL RAINFALL: - Rainfall amount between 75 % and 125 % of the long term mean.

BEGA: - It is characterized with sunny and dry weather situation with occasional falls. It extends from October to January. On the other hand, it is a small rainy season for the southern and southeastern lowlands under normal condition. During the season, morning and night times are colder and daytime is warmer.

BELG: - Small Rainy season that extends from February to May and cover s southern, central, eastern and northeastern parts of the country.

CROP WATER REQUIREMENTS: - The amount of water needed to meet the water loss through evapotransipiration of a disease free crop, growing under non-restricting soil conditions including soil water and fertility.

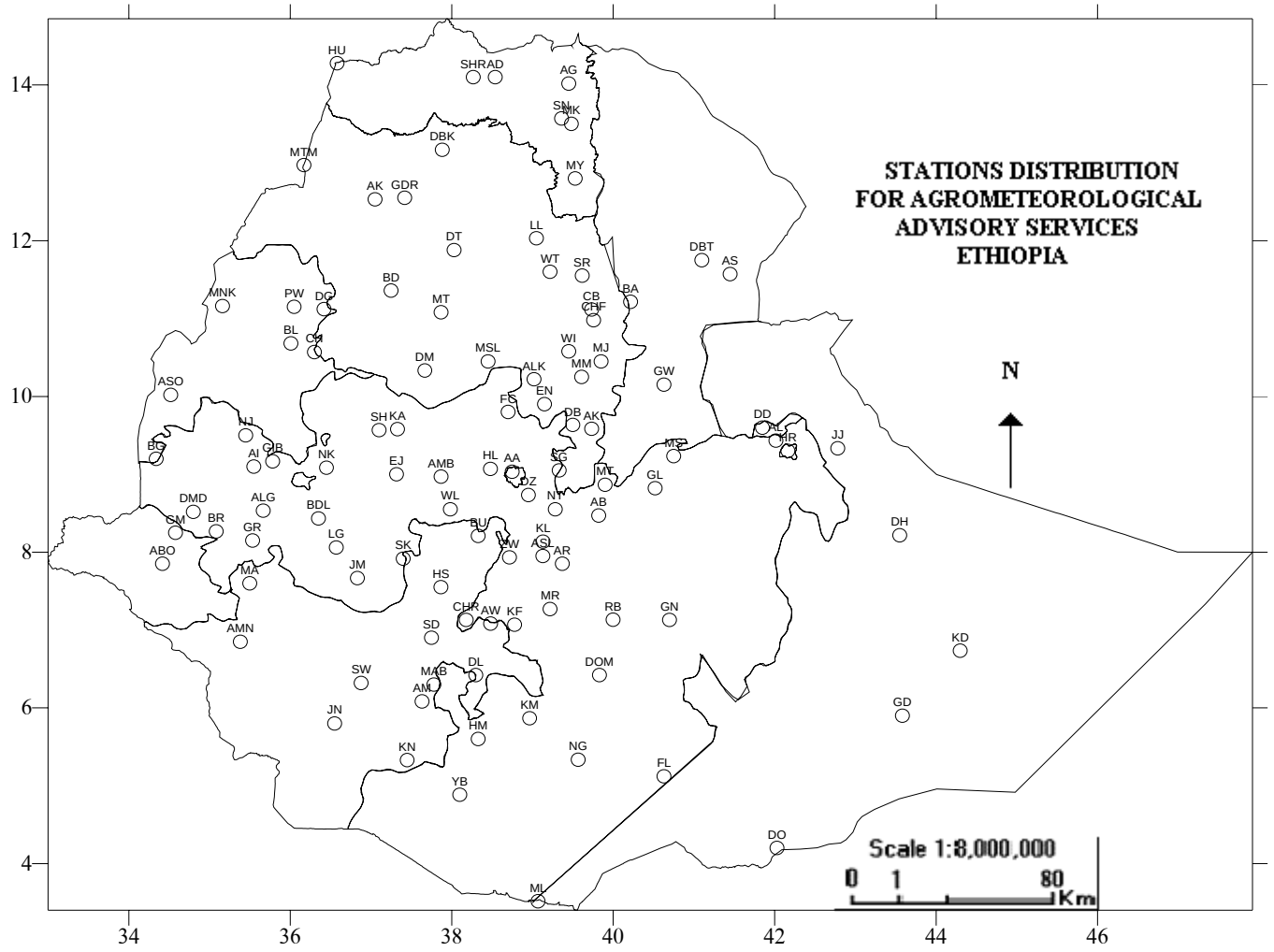
DEKAD: - First or second ten days or the remaining days of a month.

EXTREME TEMPERATURE: - The highest or the lowest temperature among the recorded maximum or minimum temperatures respectively.

ITCZ: - Intertropical convergence zone (narrow zone where trade winds of the two hemispheres meet.

KIREMT: - Main rainy season that extends from June to September for most parts of the country with the exception of the southeastern lowlands of the country.

RAINY DAY: - A day with 1 or more mm of rainfall amount.



Station	CODE	Combolcha	CB	Gonder	GDR	Metema	MTM
A. Robe	AR	Chagni	CH	Gore	GR	Mieso	MS
A.A. Bole	AA	Cheffa	CHF	H/Mariam	HM	Moyale	ML
Abomsa	AB	Chira	CHR	Harer	HR	Motta	MT
Abobo	ABO	D.Berehan	DB	Holleta	HL	M/Selam	MSL
Adigrat	AG	D.Habour	DH	Hossaina	HS	Nazereth	NT
Adwa	AD	D.Markos	DM	Humera	HU	Nedjo	NJ
Aira	AI	D.Zeit	DZ	Jijiga	JJ	Negelle	NG
Alemaya	AL	Debark	DBK	Jimma	JM	Nekemte	NK
Alem Ketema	ALK	D/Dawa	DD	Jinka	JN	Pawe	PW
Alge	ALG	D/Mena	DOM	K.Dehar	KD	Robe	RB
Ambo	AMB	D/Odo	DO	K/Mingist	KM	Sawla	SW
Aman	AMN	D/Tabor	DT	Kachise	KA	Sekoru	SK
Ankober	AK	Dangla	DG	Koffele	KF	Senkata	SN
Arbaminch	AM	Dilla	DL	Konso	KN	Shambu	SH
Asaita	AS	Dm.Dolo	DMD	Kulumsa	KL	Shire	SHR
Asela	ASL	Dubti	DBT	Lalibela	LL	Shola Gebeya	SG
Assosa	ASO	Ejaji	EJ	Limugent	LG	Sirinka	SR
Awassa	AW	Enwary	EN	M.Meda	MM	Sodo	SD
Aykel	AK	Fiche	FC	M/Abaya	MAB	Wegel Tena	WT
B. Dar	BD	Filtu	FL	Maichew	MY	Woliso	WL
Bati	BA	Gambela	GM	Majete	MJ	Woreilu	WI
Bedelle	BDL	Gelemso	GL	Masha	MA	Yabello	YB
Begi	BG	Gewane	GW	Mankush	MNK	Ziway	ZW
BUI	BU	Ginir	GN	Mekele	MK		
Bullen	BL	Gimbi	GIB	Merraro	MR		
Bure	BR	Gode	GD	Metehara	MT		