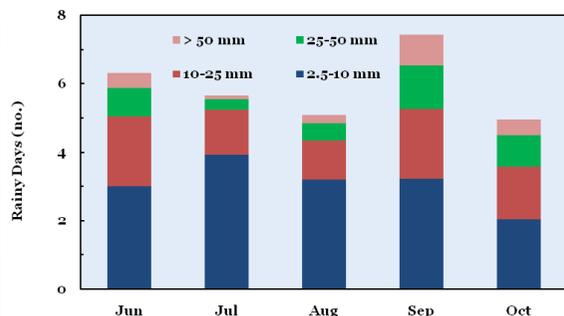


### Climatic Features and Trends at Baramati (1986-2011)

- ◆ Long term average rainfall of the location with respect to the aforesaid period is 588 mm (71 % during June-September with CV of 39 % and 22 % during October-December with CV of 88 %).



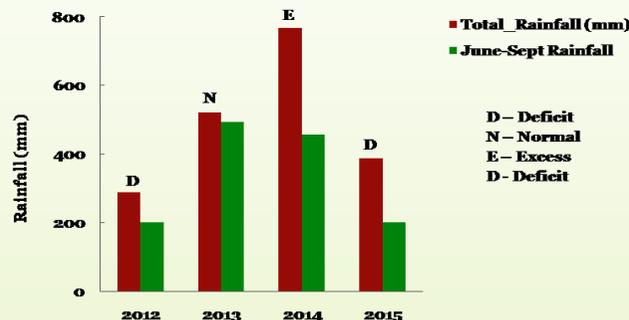
#### Mean Rainfall Intensity Distribution

- ◆ Only 6 out of 52 weeks in the year have > 5 mm of dependable rainfall (at 75 % probability). These are standard meteorological week nos. 23 (4-10 Jun), 24 (11-17 Jun), 37 (10-16 Sep), 38 (17-23 Sep), 39 (24-30 Sep) and 40 (1-7 Oct).
- ◆ The highest annual rainfall was in 2009 (1145 mm) and the lowest in 2003 (151 mm). In 7 out of 26 years, rainfall were either deficit or scanty (20-59 % or more less than the normal) whereas in 5 years rainfall were excess by more than 20 % of the normal.
- ◆ No clear signal of change in annual rainfall but apparently an increasing trend in no. of rainy days for August, particularly the 10-25 mm rain/day .

- ◆ Daily maximum temperature often exceeds 40 °C with very high variability in numbers but seldom crosses 42 °C (the average no. for the later is 1-2 days/year). Maximum no. of > 42 °C days occurred in 2000 (8). Daily maximum temperature reached 45 °C threshold in only two years (2003 and 2004).

- ◆ The average no. of days with minimum temperature dipping below 10 °C is 5, but has become more frequent since 2001.

#### Recent variability in short term (2012-2015)



Year	Annual Tmean(°C)	Tmax (°C)	Tmin (°C)	Frequency	
				Tmax > 40 °C	Tmin < 10 °C
2012	26.3	40.5	10.2	4	0
2013	25.9	41.4	8.5	14	10
2014	25.3	40.0	7.0	0	8
2015	25.6	41.0	6.0	10	12

#### Technical Folder No. 2

Prepared by:  
**Sunayan Saha, S.K. Bal, Sunil Potekar,  
 M.P. Brahmane and N.P. Singh**

For details please contact:  
 Director  
 ICAR-NIASM, Baramati 413 115, Maharashtra  
 Tel: 02112-254057, FAX: 02112-254056

Website: <http://www.niam.res.in>

### An overview of ICAR-NIASM Agrometeorological Observatory and Present Climatic Trend at Baramati



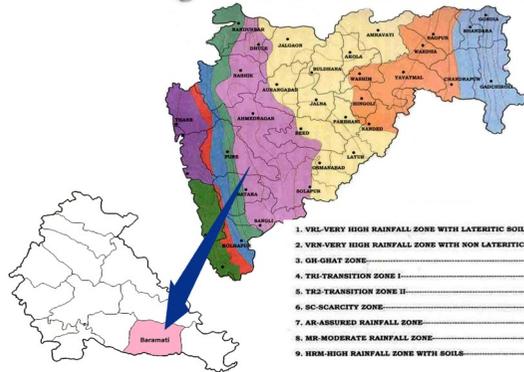
**ICAR - National Institute of Abiotic Stress Management**

Malegaon Kh, Baramati,  
 Pune, Maharashtra - 413 115

## Introduction

- ◆ Knowing agro-climatic features at micro level (e.g., block or village) helps farmers in adjusting farming schedule and would be useful for adoption of climate smart management practices
- ◆ Baramati falls under the arid to semi-arid western Maharashtra Scarcity zone (MH-6) located in the *deccan* plateau interspersed with hillocks and hills
- ◆ Apart from overall low rainfall, its spatio-temporal variability are also high; even within few kilometers there could be huge rainfall variations
- ◆ Spatial distribution and frequency of agro-meteorological observational network in India needs to be improved to capture the true nature of climate change and climatic variability and to enrich the national data pool for better climate prediction

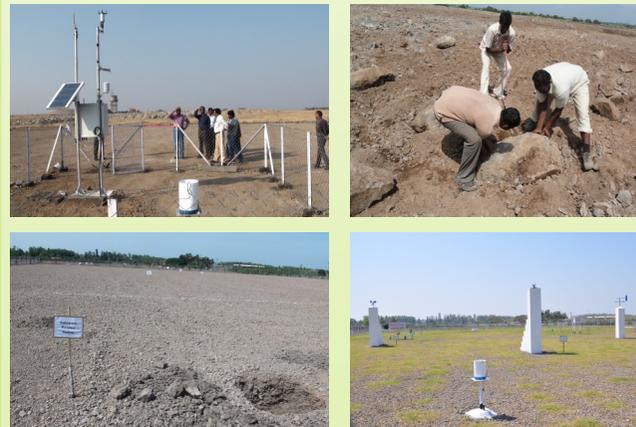
### Agro-climatic zones of Maharashtra



Location of Baramati in Maharashtra

## Meteorological Observation Facility at NIASM

- ◆ Initiation of surface weather observation began with installation of an automatic weather station (AWS) in 2012. Then it was relocated to the present site (South Farm) in June, 2013. Presently, the site is developed as a full-fledged and functional Agromet Observatory with standard and special equipments to cater to the scientific needs of the Institute.
- ◆ Observation Parameters: Wind (speed and direction); Temperature (Maximum, Minimum, Dry Bulb & Wet Bulb); Soil Moisture at 4 different depths; Rainfall (non-recording and self-recording); Pan evaporation; Bright Sunshine duration and Photosynthetically Active Radiation (PAR)
- ◆ Observation Hours:  
Temperature, Wind- 0732 & 1432 IST  
Rainfall, Evaporation & Wind-0830 & 1430 IST  
PAR - At desired temporal frequency



Sequence of Observatory Establishment

## Standard Instruments for Agromet. Observatory

- ◆ Thermometers (Maximum, Minimum, Dry Bulb & Wet Bulb) inside single Stevenson Screen
- ◆ Wind Vane
- ◆ Cup Counter Anemometer
- ◆ Pan Evaporimeter
- ◆ Rain Gauge (non-recording)
- ◆ Rain Gauge (self-recording)
- ◆ Campbell Stokes Sunshine Recorder
- ◆ Dew Gauge

