

SANDEEP

VM

Contact

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AICRPAM, ICAR- CRIDA,
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Key Skills

Programming: FORTRAN, C,
MATLAB, Python

Data Analysis: GrADS, CDO,
Origin, NCO, NCL

GIS Packages : ESRI ArcGIS,
QGIS

Image Processing: ERDAS
Imagine, ENVI

Statistical Packages : SPSS

NWP Models: WRF

Crop Models: DSSAT, Infocrop,
Aquacrop

Additional Qualification

**National Eligibility Test (NET) in
Earth Sciences** from **CSIR/UGC**,
India.

Summary

More than 10 years of progressing research experience in the domain of Meteorology. Sound expertise in handling all types of meteorological (in situ, reanalysis and remote sensing) datasets, database management, NWP and crop models with excellent programming skills. Well-versed in preparation of scientific reports and articles.

Experience

Research Associate - 03/2011 to Present

AICRPAM, ICAR-CRIDA, Hyderabad, India.

- Climate change impact studies on agriculture by employing statistical and crop simulation models.
- Quality checking of weather data and database management.
- Preparation of dynamic crop weather calendars for principal crops in India.
- Preparation of crop weather reports and maps in GIS platforms to be submitted to Ministry of Agriculture, Govt of India on daily, weekly and monthly basis.
- Attend to questions raised in Parliament of India related to climate variability and its impacts on agricultural scenarios.
- Acted as organizer as well as resource person in various training programs conducted in the institute.
- Preparation and assessment of agro-met advisories used by farmers and options to improve their effectiveness.

Senior Executive - 06/2010 to 02/2011

National Collateral Management Services Ltd, Hyderabad, India.

- Quality checking of Automatic Weather Station (AWS) data.
- Leading and Coordinating the installation, acquisition, quality assurance and delivering teams of AWS network.
- Preparation GIS maps according to the requirement from clients.

Research Scholar - 05/2006 to 05/2010

Cochin University of Science and Technology (CUSAT), Cochin, India.

- Installation of satellite based AWS network and quality checking of weather data.
- Participating scientific cruises in the Arabian Sea for data collection and analysis as part of ARMEX (Arabian Sea Monsoon Expedition).
- Working experience in WRF forecast model.
- Experience Quantitative Precipitation Estimates and Quantitative Precipitation Forecasts from ground based and satellite datasets.

Education

Course and Institution	Grade	Period
PhD in Meteorology and Oceanography , Andhra University, Visakhapatnam, India	-	2014-2019
MSc in Meteorology , CUSAT, Cochin, India	First	2003-2005
BSc in Physics with Instrumentation , Calicut University, Calicut, India	First	1999-2002

List of Publications in Peer Reviewed Journals

1. **V.M. Sandeep**, V.U.M. Rao, B. Bapuji Rao, G. Bharathi, V. P. Pramod, P. Santhibhushan Chowdary, N.R. Patel, P.Mukesh and P.Vijaya kumar (2018) Impact of future climate change on sorghum productivity in India and its adaptation strategies. *Journal of Agrometeorology*, 20 (2), 89-96.
2. V. P. Pramod, B. Bapuji Rao, S.S.V.S. Ramakrishna, **V.M. Sandeep**, N.R. Patel, M.A.Sarath Chandran, V.U. M. Rao, P.Santhibhushan Chowdary and P.Vijaya kumar (2018). Projected trends in water requirements of wheat in future climates of India (2018). *Journal of Agrometeorology*, 20 (2), 110-116.
3. **V.M. Sandeep**, B.Bapuji Rao, G. Bharathi, V. U. M. Rao, V.P. Pramod, P. Santhibhushan Chowdary, N.R.Patel and P.Vijaya kumar (2017). Projecting future changes in waterrequirement of grain sorghum in India. *Journal of Agrometeorology*, 19 (3), 217-225.
4. V. P. Pramod, B. Bapuji Rao, S.S.V.S. Ramakrishna, M. Muneshwar Singh, N.R. Patel, **V.M.Sandeep**, V.U.M. Rao, P. Santhibhushan Chowdary, V. Narasimha Rao and P. Vijaya Kumar(2017).Impact of projected climate on wheat yield in India and its adaptation strategies. *Journal of Agrometeorology*,19 (3), 207-216.
5. B. Ajithkumar, P.P. Sreekala, M. A. Sarath Chandran and **V.M. Sandeep** (2017). Temporal and spatial variability of drought in Kerala, *Contemporary research in India*, 7(1), 11-16.
6. K.G. Sumesh, S. Abhilash, **V.M.Sandeep**, B.S. Yenagi and J.R. Hiremath (2016). Influence of weather parameters on the yield of rabi Sorghum in Vijayapura district during different climatic modes. *International Journal of Academic Research*, Volume 3, Issue 9(1) September, 2016.
7. M.A. Sarath Chandran, A.V.M. Subba Rao, **V.M. Sandeep**, V.P. Pramod, P. Pani, V.U.M. Rao, V. Vishakumari and Ch. Srinivasa Rao (2016) Indian summer heat wave of 2015: A biometeorological analysis. *International Journal of Biometeorology*. (doi:10.1007/s00484-016-1286-9).
8. B. Bapuji Rao, P. Santhibhushan Chowdary, **V.M. Sandeep**, V.P. Pramod and V.U.M. Rao (2015). Spatial analysis of sensitivity of wheat yields to temperature in India. *Agricultural and Forest Meteorology*, 200, 192-202.
9. B.Bapuji Rao, P. Santhibhushan Chowdary, **V.M. Sandeep**, V.U.M. Rao and B.Venkateswarlu(2014). Rising minimum temperature trends over India in recent decades: Implications foragricultural production. *Global and Planetary Change*, 117 (2014) 1–8.
10. B. Bapuji Rao, **V.M. Sandeep**, P. Shantibhushan Chowdary, V.P. Pramod and V.U.M. Rao (2013). Reference crop evapotranspiration over India: A comparison of estimates from Open pan with Penman-Monteith method. *Journal of Agrometeorology*, 15(2) : 108-114.
11. B. Bapuji Rao, I. Praveen Kumar, I. R. Khanda Gonda, V. P. Pramod, **V. M. Sandeep**, V.U.M. Rao and M.B. Rajegowda (2013). Finger millet production in Southern Karnataka - An agroclimatic analysis. *J. Agrometeorology* (Special Issue-I) 15: 6-12.
12. B. Bapuji Rao, **V.M. Sandeep**, V. U. M. Rao and A.V.M.S. Rao (2012). Climatic change and crop water requirements: An assessment for future climates. *J. Agrometeorology* (Special Issue-I), 4(14), 125-129.

Technical Bulletins

1. P. Vijaya Kumar, **V.M. Sandeep**, S.K. Bal, A.V.M. Subba Rao and V.P. Pramod. (2019). Spatial and temporal variability of dry spells over India. ICAR–Central Research Institute for Dryland Agriculture, Santoshnagar, Hyderabad-500059, Telangana, India. 44p.
2. **V.M. Sandeep** and V. U. M. Rao (2019) Climate change and sorghum productivity in India. In Climate Change and Agriculture, Causes, Impacts and Interventions[Eds. G.S.L.H.V. Prasada Rao, V.U.M Rao and D.V.S Rao]. 527-550 pp.
3. Vijaya Kumar, P., Subba Rao, A.V.M., Sarath Chandran, M.A., **Sandeep, V.M.**, Pramod, V.P., Dhakar, R., Bal, S.K., Rao, V.U.M. and Sammi Reddy, K. (2018). Network of Automatic Weather Stations: An AICRPAM-NICRA Initiative. ICAR - Central Research Institute for Dryland Agriculture, Hyderabad 500059, p.40.
4. J.L. Chaudhary, G.K. Das, Deepika Unjan, U.K. Diwan, M.A. Sarath Chandran, **V.M. Sandeep** and P. Vijaya Kumar. (2018). Studies on Extreme Weather Events in Chhattisgarh State for Strategic Crop Planning in Rice based Cropping System. AICRP on Agrometeorology, IGKV, Raipur. pp. 39.
5. B. Bapuji Rao, **V.M. Sandeep**, V. U. M. Rao and B Venkateswarlu (2012).Potential evapotranspiration estimation for Indian Conditions: Improving accuracy through calibration coefficients. Technical Bulletin 1/2012, Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad.

Seminar/Symposia Attended

1. Increase in Temperature in India during recent decades: A district wise analysis (2020) Subba Rao A.V.M., Bal, S.K., **Sandeep V.M.**, Pramod, V.P. and Vijaya Kumar, P. In National Seminar on "Agrometeorological Interventions for Enhancing Farmers Income", Kerala Agricultural University, Thrissur, Kerala, During 20-22 January 2020.
2. Climate change across sorghum growing tract in India (2018). **Sandeep V.M.**, Prasada Rao G.S.L.H.V., Rao V.U.M., Bharathi G., Pramod V.P., Bapuji Rao B. and Vijaya Kumar P. In National Seminar on "Recent trends on climate change and carbon research", Department of Botany, University of Calicut, Kerala, India, during 26-28 February 2018.
3. Rainfall and Temperature variability in past and future climates over major sorghum growing regions in India (2017). **Sandeep V.M.**, Rao V.U.M., Bapuji Rao B., Bharathi G., Pramod V.P., Santhibhushan Chowdary P. and Vijaya Kumar P. In National Symposia on "Extreme Weather Events on Indian Ocean", held at Department of Meteorology and Oceanography, Andhra University, Vishakhapatnam, India during 27-29 November 2017.
4. Temperature Projections Across Major Wheat Growing Districts In India Using CMIP5 Model (2017) Pramod V.P., Bapuji Rao B., Ramakrishna S.S.V.S, **Sandeep V.M.**, Rao V.U.M., Santhibhushan Chowdary P. and Vijaya Kumar P. In National Symposia on "Extreme Weather Events on Indian Ocean", held at Department of Meteorology and Oceanography, Andhra University, Vishakhapatnam, India during 27-29 November 2017.
5. Reference crop evapotranspiration over India: A comparison of estimates from Open pan with Penman-Monteith method (2013). Bapuji Rao B., **Sandeep V.M.**, Shantibhushan Chowdary P., Pramod V.P. and Rao V.U.M. In National Seminar on "Climate Change and Indian Agriculture: Slicing Down the Uncertainties" at Central Research Institute for Dryland Agriculture(CRIDA), Hyderabad during 22-23 January, 2013
6. Rainfall variability in Andhra Pradesh and agricultural productivity of downstream Krishna river basin: problems and prospects in 2030's (2011). **Sandeep V.M.**, Bapuji Rao B., Rao V.U.M and Venkateswarlu B. In Tropmet 2011 on Meteorology & Social Development held at Marri Channa Reddy Human Resource Development Institute, Hyderabad, India during 14-16 Dec 2011.
7. Climatic Changes & Crop Water Requirement-An Assessment for Future Climates (2011). Bapuji Rao B, **Sandeep VM**, Rao V.U.M. and Rao A.V.M.S. In National Seminar on Agrometeorological Research and Services to Combat Climate Change Challenges, held at Bidhan Chandhra Krishi Viswavidyalaya, Kalyani, West Bengal during 9 - 11 Dec 2011.
8. Weather data quality assurance procedures in the meteorological database for automatic weather stations network (2010). Santhibhushan Chowdary P., Pramod V.P, Lekshmi Revi, **Sandeep V.M.**, Ramaraj A.P., Yogesh Patil, Ganesh Ramamurthi and Sanjay Kaul. In International conference on climate change perspectives & projections, a system approach, held at Osmania University, Hyderabad during 9-11 Dec 2010.
9. Variability of surface weather parameters over Kerala and Tamilnadu during monsoon and post monsoon 2007 using Automatic Weather Stations (2008). **Sandeep V.M.**, Hebin C., Lekshmi Revi, Smitha John and Rajan C.K. In National Space Science Symposium, Ooty, Tamilnadu, India during 26 - 29 Feb 2008.