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## **ABBREVIATIONS**

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ANN	Artificial Neural Network
ASCII	American Standard Code for Information Interchange
ASR	Aquifer storage recovery
CGWB	Central ground water board
DEM	Digital Elevation Model
DGPS	Differential Global Positioning System
ET	Evapotranspiration
FEM	Finite Element Method
GHAT African	Generalised intelligence control with Hybrid Ant colony- Buffalo Optimization
GIC	Generalised intelligence control
GLCF	Global Land Cover Facility
GMS	Groundwater Modelling Software
GP	Genetic Programming
GPS	Global Positioning System
GW	Groundwater
HAC-ABO	Hybrid Ant colony- African Buffalo Optimization
HRU	Hydrological Response Unit
IMD	India Meteorological Department
LULC	Land Use Land Cover
MAR	Managed aquifer recharge
Mha-m	Million hectares meter
MLP-WA	Multilayer perceptron whale algorithm model
MLR	Multiple linear regression

MO	Monsoon
MSL	Mean Sea Level
RBF	River Bank Filtration
RBF-WA	Radial basis function-whale algorithm
SOI	Survey of India
SRTM	Shuttle Radar Topography Mission
SUFI-2	Sequential Uncertainty Fitting version 2
SWAT	Soil and water assessment tool
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WE-GREM	Water enabled groundwater recharge estimation model
WRIS	Water Resource Information System

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