ABBREVIATIONS

ANFIS = Adaptive Neuro-Fuzzy Interactive System
ANNS = Artificial Neural Networks
ARIMA = Autoregressive Integrated Moving Average
ASCE = American Society of Civil Engineer
ATG = Automatic Tide Generation
BISAG = Bhaskaracharya Institute for Space Applications and Geo-Information
BPS = Benefit Promotion Sub-System
BPTT = Back Propagation through Time
CANFIS = Co-Active Neuro-Fuzzy Inference System
CDO = Central Design Organization
CED = Civil Engineer Department
CRED = Commission on Red Event Disaster
Cumecs = Cubic meter per Second
Cusecs = Cubic feet per Second
CWC = Central Water Commission
CWPRS = Central Water Power Research Station.
D/S = Downstream
DDMS = Digital Database Management System
DEM = Digital Elevation model
DOI = Date of Inception
DPFNN = Dynamic Programming Fuzzy Neural Network
DSS = Decision Support System
EFA = Environmental Flow Assessment
EMPSO = Elihst-Mutated Particle Swarm Optimization
F.P.S. = Feet, Pound, Second
FBRO = Forecast Based Reservoir Operation
FFWS = Flood Forecasting and Warning System
FRL = Full Reservoir Level
ft = Feet
GAMS = General Algebraic Modeling System
Gas = Genetic Algorithms
GERI = Gujarat Engineering Research Institute
GFN = Generalized Feed-forward Networks
GI = Gravelius Index
GIS = Geographical Information System
GOG = Government of Gujarat
GP = Genetic Programming
GPS = Global Positioning System
ha = Hector
HFL = High Flood Level
Hrs=Hours
I-D = Inflow Depth Model
ILWIS = Integrated Land and Water Information System
IMSD = Integrated Mission for Sustainable Development
IRS = Indian Remote Sensing
Km= Kilo meter
LGO = Lipchitz Global Optimizer
LTB = Lower Tapi Basin
LUP = Land use Planning
M = Meter
M. K. S. = meter, Kilogram, second
m$^3$/s = Cubic meter per second
MAF = Million Acre Feet
MLAD = Minimizing Largest Absolute Deviation
MW = Mega Watt
MWL = Maximum Water Level
MWSAD = Minimizing Weighted Sum of Absolute Deviations
NA-ACO = Non-dominated Archiving Ant Colony Optimization
NBSS = National Bureau of Soil Survey
NFA = Network Flow Algorithms
NRIS = National (Natural) Resources Information System
OSS = Operational Simulation Sub-System
PMF = Probable Maximum Flood
PSO = Particle Swarm Optimizers
RBF = Radial Basis Function networks
SDP = Stochastic Dynamic Programming
SMC = Surat Municipal Corporation
SOI = Survey of India
SRTM = Shuttle Radar Topography Mission
SW = Spring Tide Wave
SWAT = Soil and Water Assessment Tool
SWDC = State Water Data Center
SYI = Sediment Yield Index
Thwg = Tidal high wave generation
TIN = Triangulated Irregular Network
U/S = Upstream
ULBC = Ukai Left Bank Canal
US = United State
USLE = Universal Soil Loss Equation
WLASF = Water Level to Alarm a more Severe Flood
WRM = Water Resources Management