



OMEGA ANALYTICS



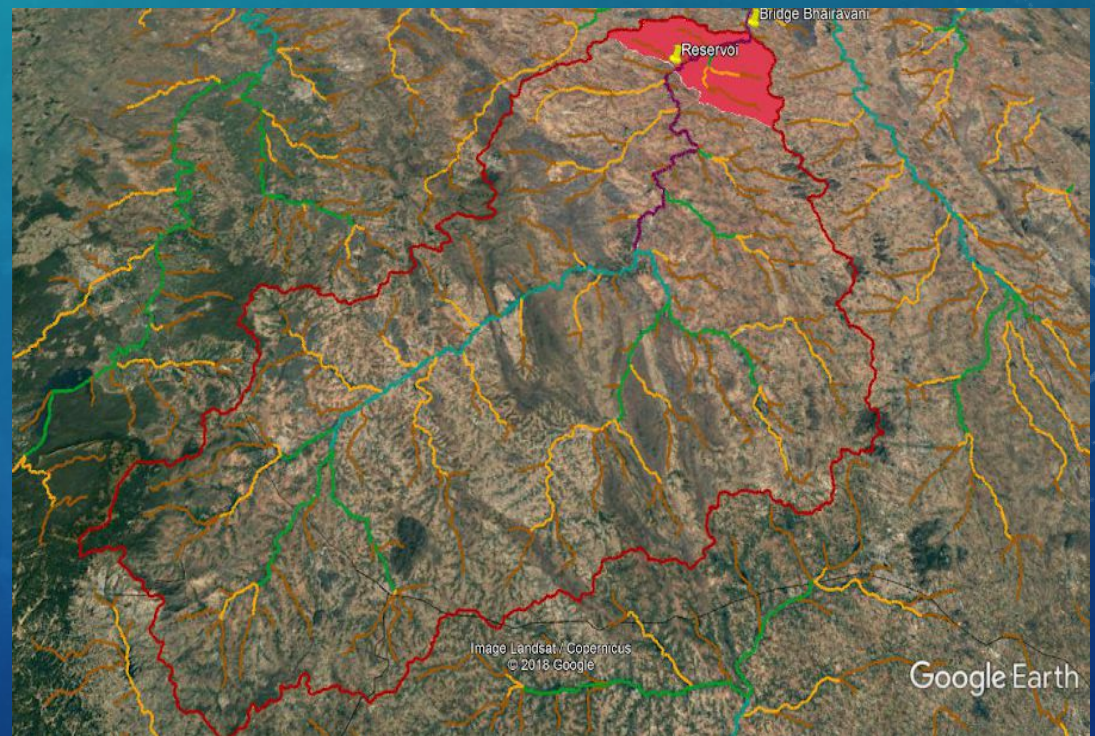
# CASE STUDY

## Project

Estimation of design discharge for hydraulic design of important bridge (10 \* 45 m) across Vedavathi river

## Challenge

- Very large catchment area
- Existing dam, approx. 19 km upstream of bridge site







# Solution & Value Proposition

## Study completed in two weeks

- Delineation of entire drainage network of Krishna river basin using Digital Elevation Model (DEM)
- Total catchment at bridge site (15558 sq. km) and catchment intercepted by the dam (14532 sq. km) estimated using GIS software
- Peak discharge from free catchment (1026 sq. km) obtained from synthetic unit hydrograph for Krishna basin
- Maximum discharge from the dam obtained from dam authority
- River cross section at bridge site obtained from ground survey
- Design high flood level for 50 year return period and flow velocity obtained through mathematical programming

