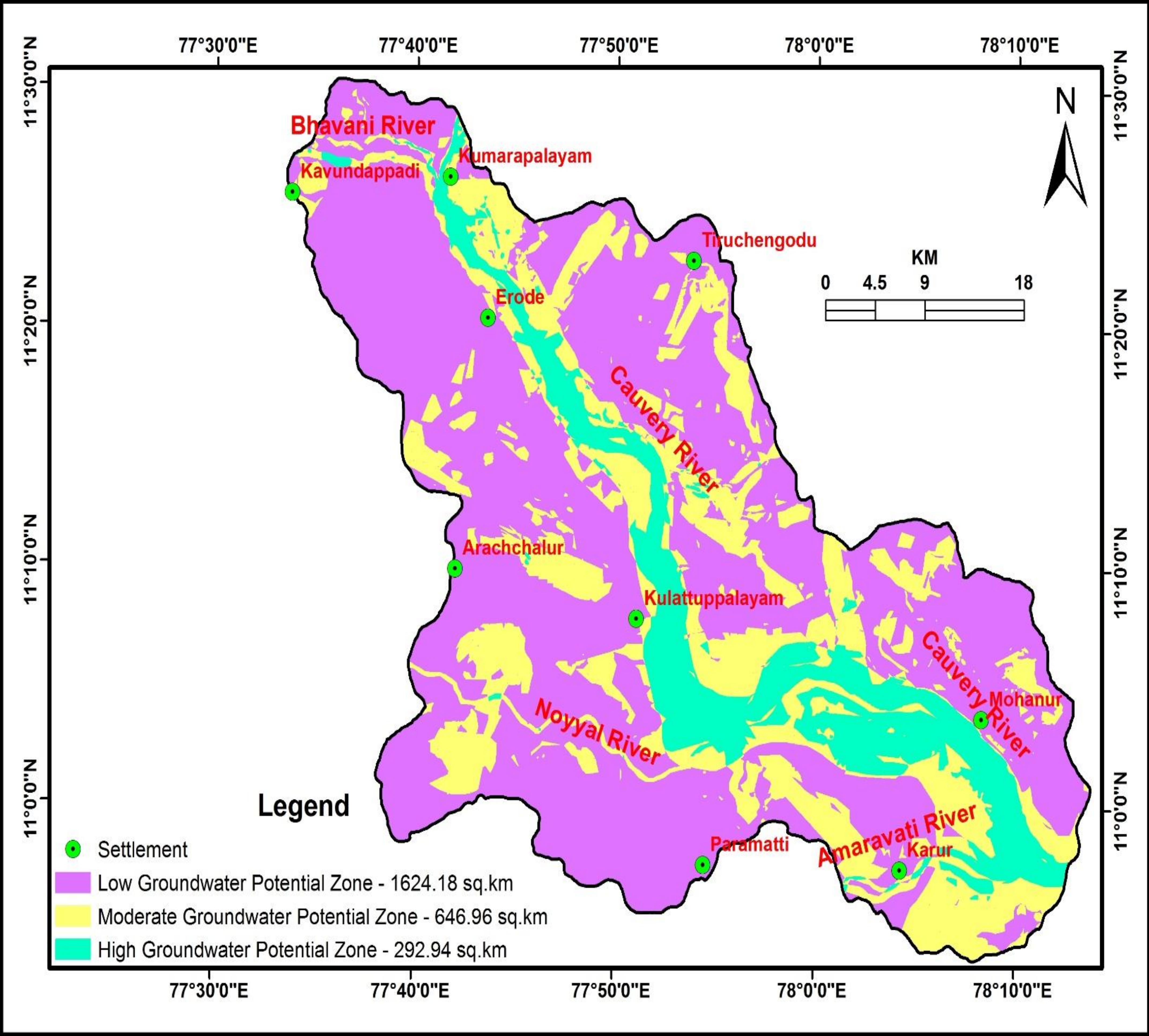


Title: Ground Water Potential Zone Map for Cauvery Basin, South India

Map description and analysis



Map description and analysis

Introduction:
Cauvery basin extends over the states of Tamilnadu, Karnataka,Kerala and Union territory of Puducherry draining an area of 81,155 sq.km which is nearly 2.7% of the total geographical area of the country with a maximum width of about 560km.

Source Data:

- Survey of India (Topo Sheets)
- Satellite Data
- Digital Elevation Model Data
- Water Sample data by field visit

Specific Steps in GIS:

- Data Collection and Processing** – Topo sheets for Cauvery Basin were obtained from Survey of India and further digitized to features. Surface water and ground water samples were collected and analyzed for physico-chemical parameters.
- Inclusion of Attributes and Features** –Necessary details were added as attributes for further processing and analysis
- Thematic map preparation:** Slope, Lineament, Elevation, Geology, Geomorphology, Soil map, Drainage map, LULC Map and water quality parameters map were prepared using Spatial Analysis tool
- Layout Creation and Output export** – Final maps were generated using Overlay Weighted analysis to obtain the ground water potential zones in the basin.

Complexity:

- Implementation and data extraction of various data from the toposheets was time consuming.
- A large set of data was required for assessing the water quality which made it difficult in field surveying process.

Potential Application:

- Groundwater analysis by conventional method is highly tedious. developing maps using GIS techniques saves time and cost and could have a better reach to people.
- This thematic map, if available as open source could be utilized even by common people to understand ground water potential
- The areas with low ground water potential could be given importance to adopt suitable measures to avoid scarcity through alternate water sources.
- This map enables the effective usage of Groundwater which is a primary source of domestic, agricultural and industrial purposes
- A region for an establishment of high per-capita water demand structures like hospitals, commercial zones could be easily identified.
- The ground water could be classified according to its usage based on its quality parameters



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• *Data courtesy:* Survey of India (Topo Sheet) , Satellite Data, Digital Elevation Model Data, Water Sample data by field visit