Bharathidasan University

Tiruchirappalli – 620 023, Tamil Nadu

6 Yr. Int. M.Tech. Geological Technology and Geoinformatics

Course code : **MTIGT0604**

GEOINFORMATICS IN WATER RESOURCES MANAGEMENT

Unit-6 : Current Contours – Hydrological Information System, Hydrological Models in GIS

Dr. K. Palanivel
Professor, Department of Remote Sensing

28 15:47

Course Objectives

- To know the potential sources, origin, occurrences of water resources
- To understand the concepts of water resources prospecting, water quality mapping and conservation
- To learn the capabilities of Geoinformatics and its applications for water resources targeting, quantification, budgeting and management
- To learn the Geological Technology and Geoinformatics in understanding the functions of aquifers and groundwater movement
- To learn the basics and applications of hydrogeological models.

MTIGT0604: GEOINFORMATICS IN WATER RESOURCES MANAGEMENT --- 4 Credits

1. Surface Water Resources: Hydrological Cycle - Global Distribution of Surface water Bodies – Drainage Morphometry – Sources of Surface water – Snow, Rainfall and groundwater table. Modelling assumptions - choice of equation - phenomena and model geometry - choice of variables and parameters - data and knowledge acquisition - model building – calibration and verification, results presentation. **12Hrs.**

2. Geoinformatics in Surface Water Resources: Satellite data based Surface water budgeting and Quantification – Automated drainage Mapping Using DEM – Spectral Response Pattern of Water – Water quality mapping and monitoring using Remote Sensing – Infra Red data based Water Quantity Forecasting – Water quality Mapping and Monitoring using satellite data. **12 Hrs.**

3. Groundwater Resources: Groundwater Origin & Occurrence: Sources of Groundwater – Classification of Groundwater. Aquifer Types**:** Crystalline Aquifer, Sedimentary aquifer, Unconsolidated Sedimentary Aquifer, Geomorphic aquifer. Darcy's Law in homogeneous and heterogeneous media, Groundwater quality, Application of H and O isotopes in groundwater studies; Targeting: General Investigations - Geological mapping- Geological Cross sections - Well inventory – Geophysical Methods – Drilling and Exploration - Pump tests **-** Groundwater Assessment and Budgeting - Issues and conservation Strategies**.** **16 Hrs.**

4. Geoinformatics in Groundwater Resources: Geoinformatics and evaluation of lithologically controlled, Structurally controlled and Geomorphologically controlled aquifers – Concept of Hydro geomorphic mapping. Natural and Artificial recharge site selection - detection of site specific mechanisms – Quantification of allowable recharge. **12 Hrs.**

5. Hydrological Models: Surface Water Hydrological Models: Snow melt Runoff modeling – GIS based Runoff modeling – Various hydrological models using Geoinformatics. Models for Inter watershed water transfer. Groundwater models: Stochastic – MOD Flow- Linear – Finite Element Modeling. **12 Hrs.**

6. Current Contours: (Not for Final Exam only for Discussion): Hydrogeological Information System; Hydrological models in GIS, Use of Digital Image Processing methods for surface water prospecting; Use of high resolution DEM for surface water quantification; Use of tracers to understand the aquifer characters, recharge behaviors and contaminant transport through groundwater.

Course outcomes

After the successful completion of this course, the students are able to:

- ✓ Understand the availability, sources and importance of the water resources prospect for both surface and groundwater resources using Geoinformatics technology
- ✓ Determine the types of aquifers, their characteristics and their recuperation ability
- ✓ Delineate suitable sites and mechanisms for natural and artificial recharge
- ✓ Understand the application of Geoinformatics technology for surface and groundwater resources exploration, targeting, quantification, budgeting, conservation and management
- ✓ Learn the application of Geological technology and Geoinformatics tools in developing various hydrological models.

Text Books:

1. David Keith Todd, Groundwater Hydrology, Wiley Student Edition.
2. Raghunath H.M., Ground Water, New Age International (P) Limited Publishers, 1987.
3. Ramakrishnan. S. Groundwater, 1998.

References:

1. Chang, H.H. Fluvial processes in river engineering, John Wiley and Sons, New York. 1988.
2. Bedient, P.B, Hydrology and flood Plain analysis, Addision westery publishing company. 1988.
3. Driscoll, F.S. Groundwater & Wells, 2nd Edition, Scientific Publishers, Joclpur, 1986.
4. Karanth K.R., Groundwater Assessment Development and Management, Tata McGraw Hill Publishing Company Limited, New Delhi, 1987.
5. Clorer. R.C., Groundwater Management.
6. Scalf M.R., Manual of SW Quality Sampling procedure
7. Mutreja, K.N Applied Hydrology, Tata McGraw Hill Publishing Company Limited, New Delhi, 1986.
8. Thomann R.V, Principles of Surface Water Quality Modeling and Control, HIE, Harper & Row, Publishers, New York, 1987.
9. Mohammed Ali, George E Radosevich, Water Resource Policy for Asia, A. A. Balkema/Rotterdam/Boston, 1987.

10. Mc Donald AT, Water Resources: Issues and Strategies, Longman Scientific & Technical, 1988.
11. Pillai, K.M., Water Management and Planning, Himalaya Publishing House, 1987.
12. Gower. A.M., Water Quality in Catchment Ecosystem, John Willey & Sons, 1980.
13. Ramesam. V. Trends in Groundwater Research, The Geological Society of India, Bangalore, 1987.
14. Trivedi, R.N., Shatrunjay Kumar Sing, Water Resources and Quality Management, Commonwealth Publishers, New Delhi, 1990.
15. Fetter C.W. Applied Hydrology, CBS Publishers & Distributors, 1988.
16. Gautam Mahajan. Groundwater Surveys and investigations, Ashish Publishing House, New Delhi, 1995.
17. Chow V.T., maidment, D.R., and Mays, L.W. applied Hydrology, McGraw Hill, New York, pp.530 to 537. 1988.
18. Deman, MCJ. Smith G.S and H.T.Verstappen (eds), Remote Sensing for resources development and environmental management, A.A. Ballkema Publishers, Totterdam, Netherlands. 1986.

Unit-6: Current Contours : Geoinformatics in Water Resources Management

6. Current Contours: (Not for Final Exam only for Discussion): Hydrogeological Information System; Hydrological models in GIS, Use of Digital Image Processing methods for surface water prospecting; Use of high resolution DEM for surface water quantification; Use of tracers to understand the aquifer characters, recharge behaviors and contaminant transport through groundwater.

WATER RESOURCES BUDGETTNG

Ambedkar S Krithiga N K & Tharun Raj S U
6 Yr. Int. M.Tech. GTG - 8th Semester (UG) Major Project Work -May 2023

Under the guidance of **Dr.K.Palanivel**

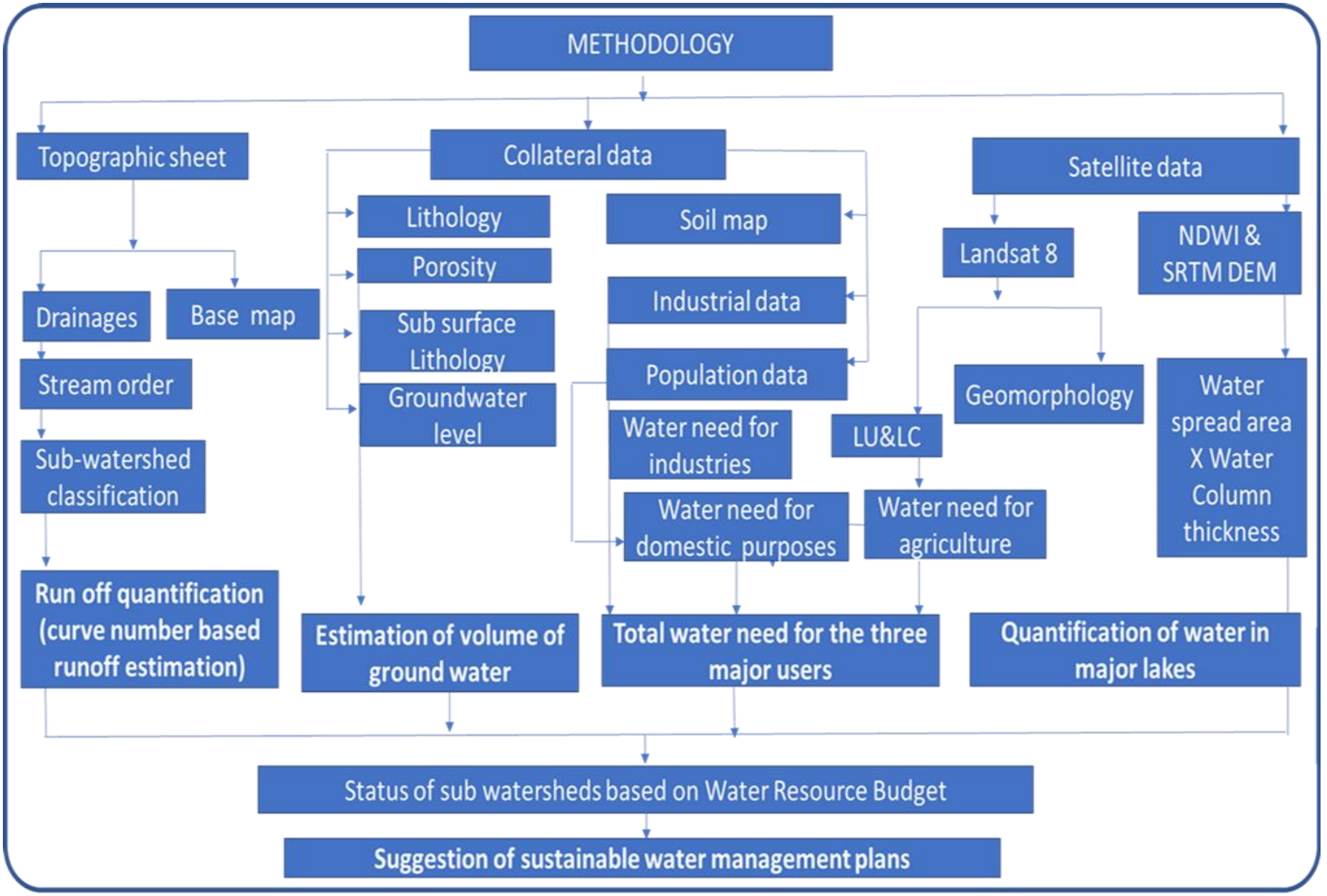
AIM

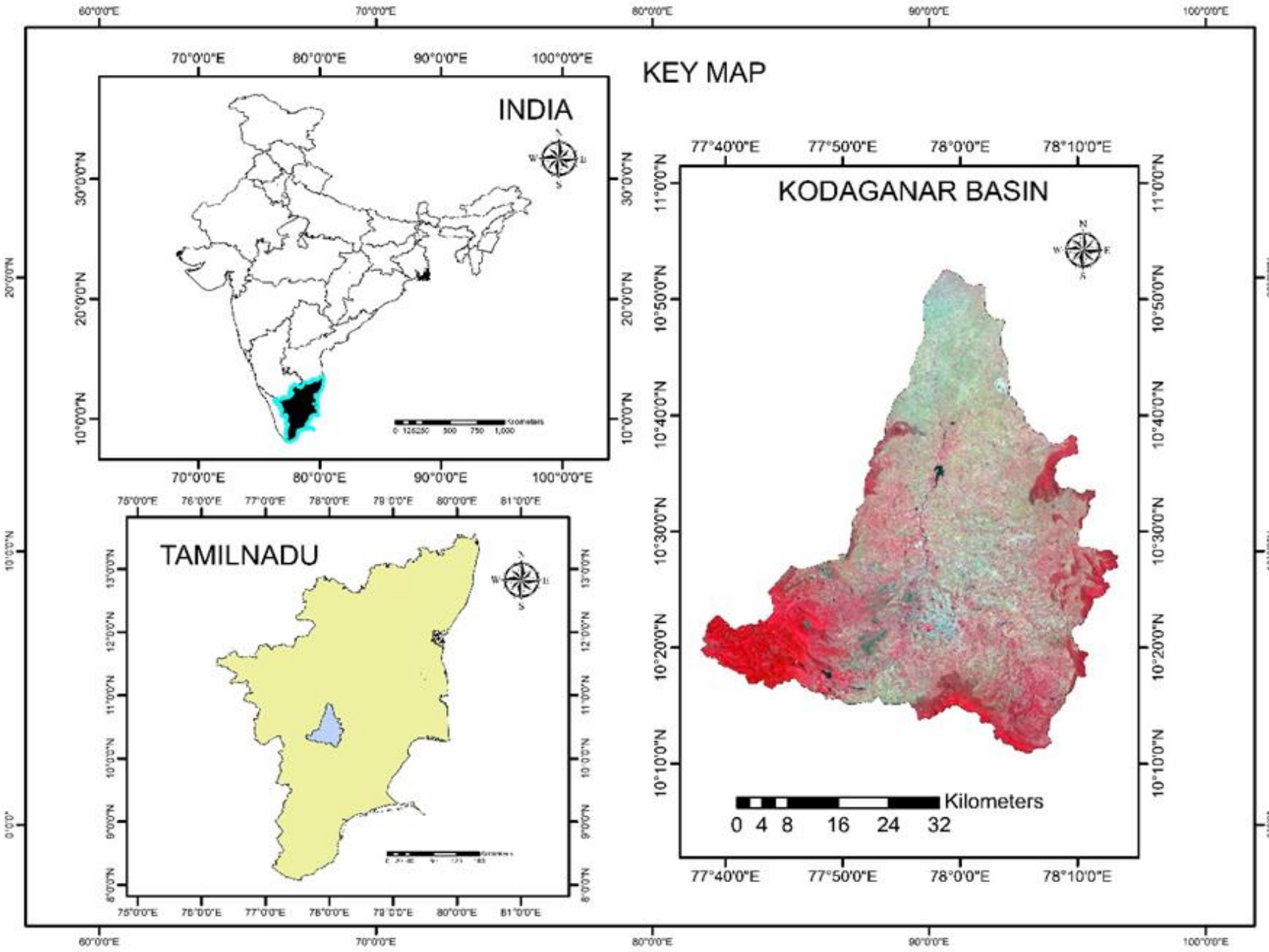
The aim of this study is to carry out **water resource budgeting** in **Kodaganar watershed**, covering **parts of Dindigul and Karur districts**, Tamil Nadu.

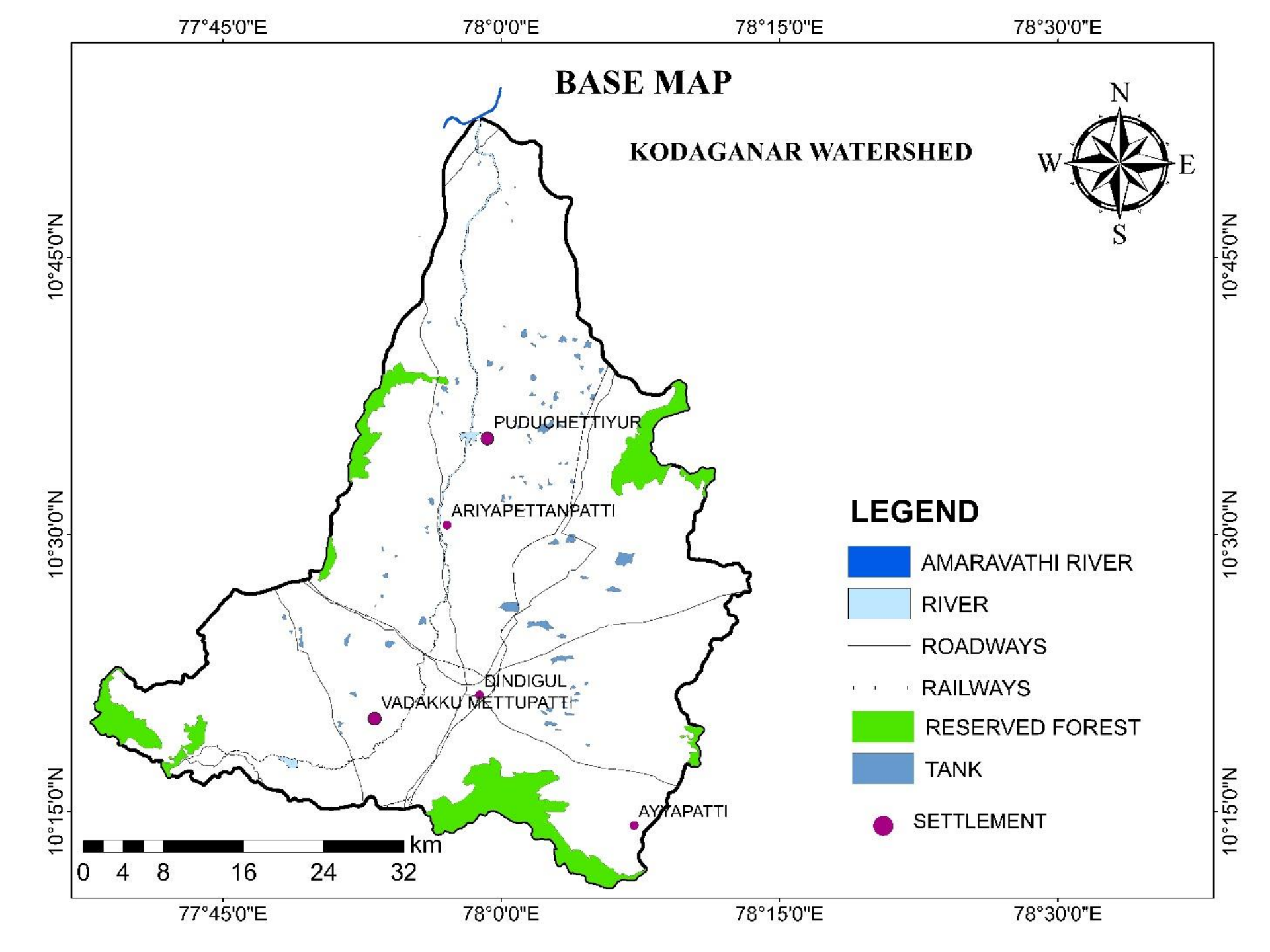
OBJECTIVES

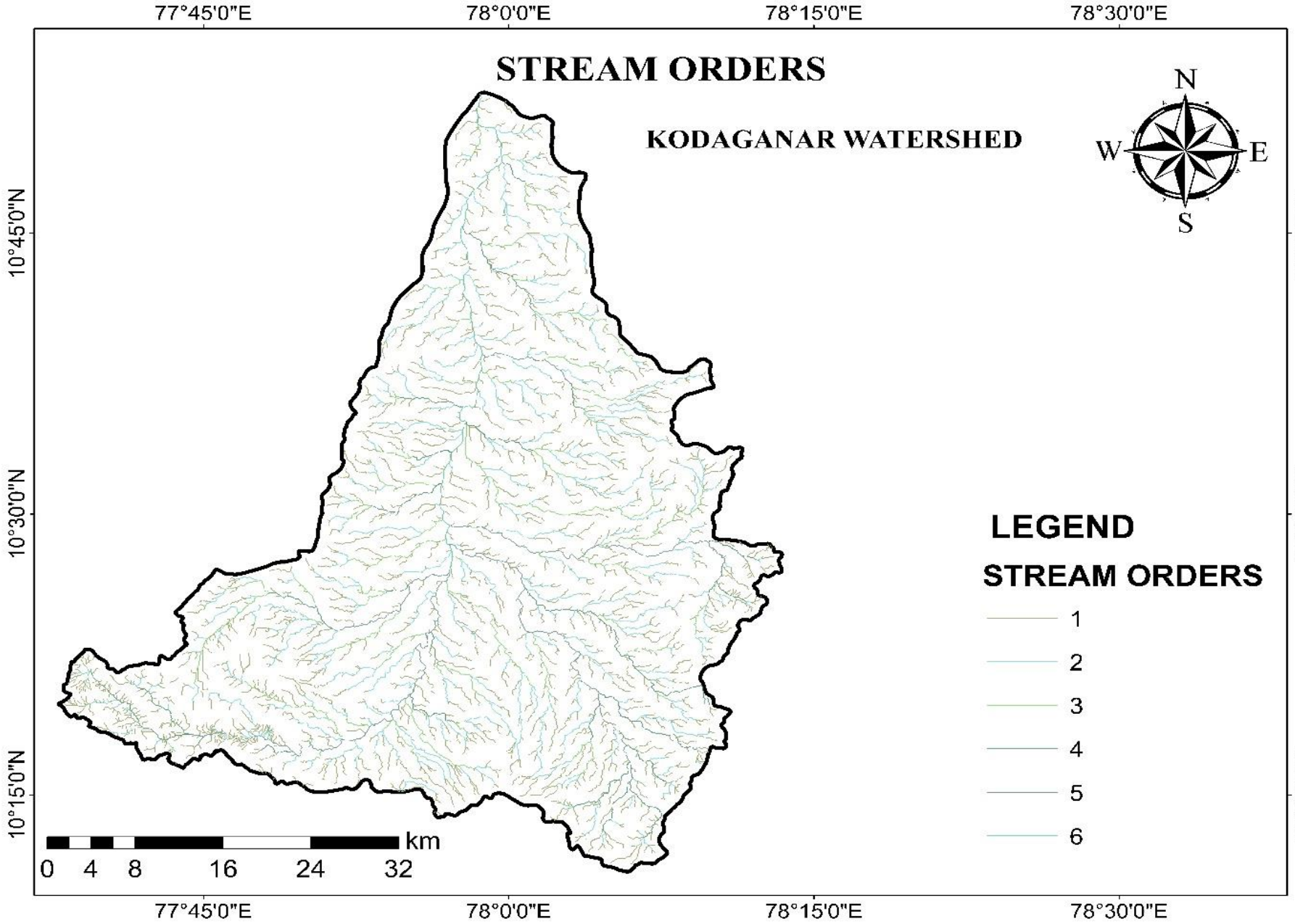
The main objectives of this study are:

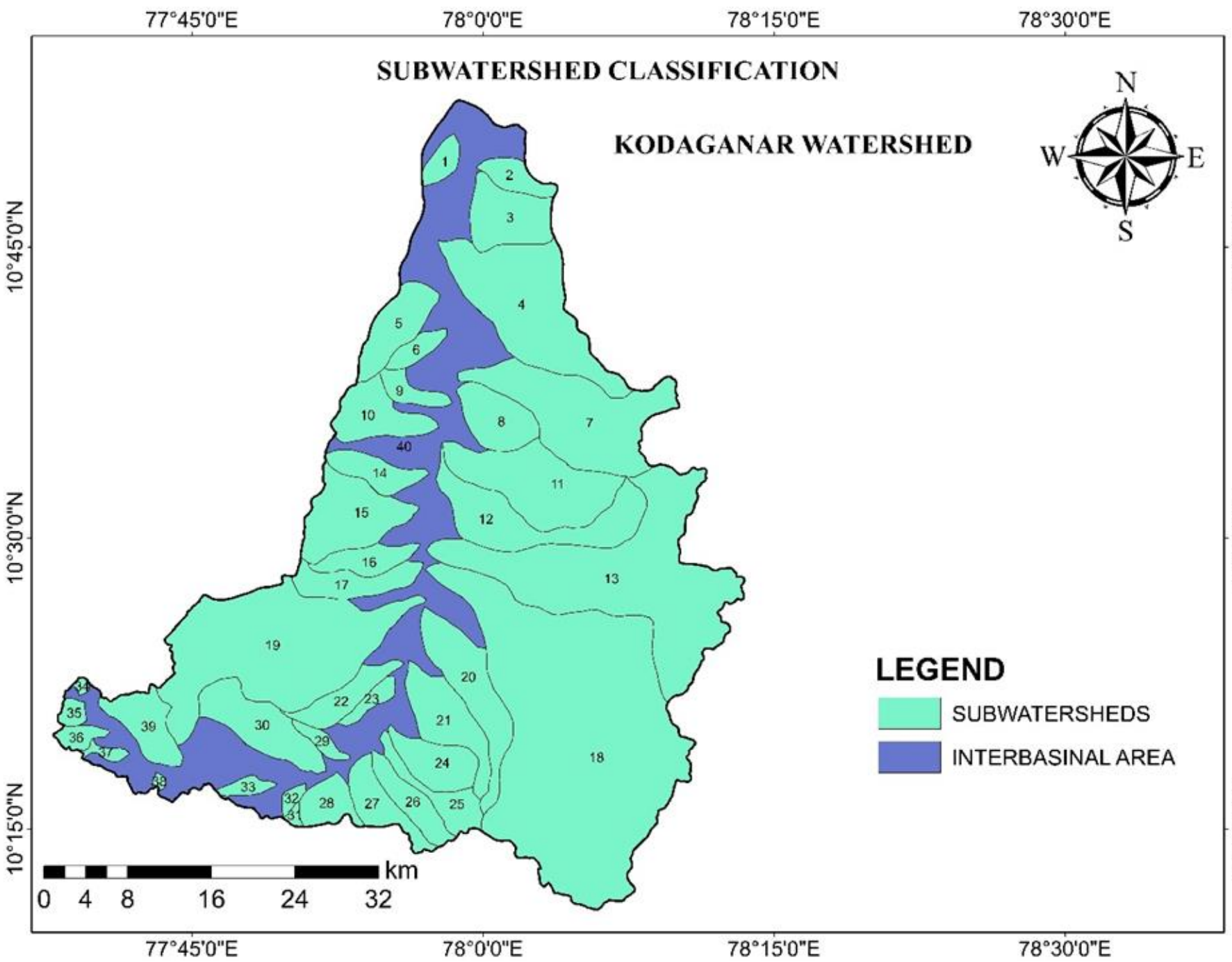
1. Estimation of volume of surface runoff
2. Quantification of volume of water in surface water bodies
3. Quantification of volume of groundwater in the aquifers
4. Calculation of quantum of water need for the major needs of Kodaganar subwatersheds, such as,
    i. Per capita water need
    ii. Agricultural water need and
    iii. Industrial water need.
5. Delineation of water availability versus water need, and classification of sub-watersheds as,
    i. Water excess sub-watersheds,
    ii. Neutral sub-watersheds &
    iii. Water deficit sub-watersheds and
6. Suggest pragmatic geospatial action plans for sustainable water resources management in Kodaganar watershed.

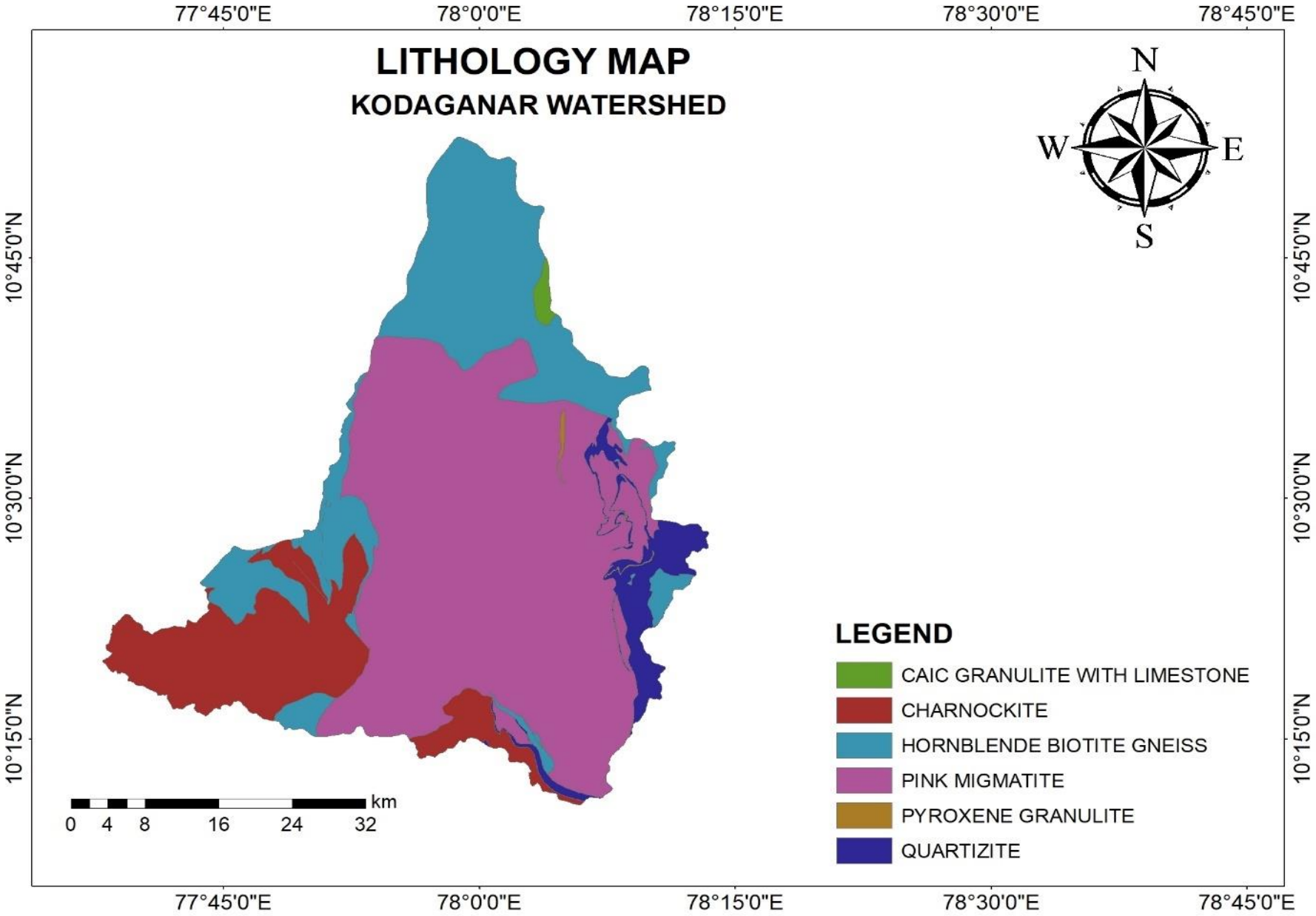

METHODOLOGY
Topographic sheet
Collateral data
Satellite data
Lithology
Soil map
Porosity
Industrial data
Drainages
Base map
Sub surface Lithology
Population data
Stream order
Groundwater level
Water need for industries
LU&LC
Geomorphology
Water spread area X Water Column thickness
Sub-watershed classification
Water need for domestic purposes
Water need for agriculture
Landsat 8
NDWI & SRTM DEM
Run off quantification (curve number based runoff estimation)
Estimation of volume of ground water
Total water need for the three major users
Quantification of water in major lakes
Status of sub watersheds based on Water Resource Budget
Suggestion of sustainable water management plans

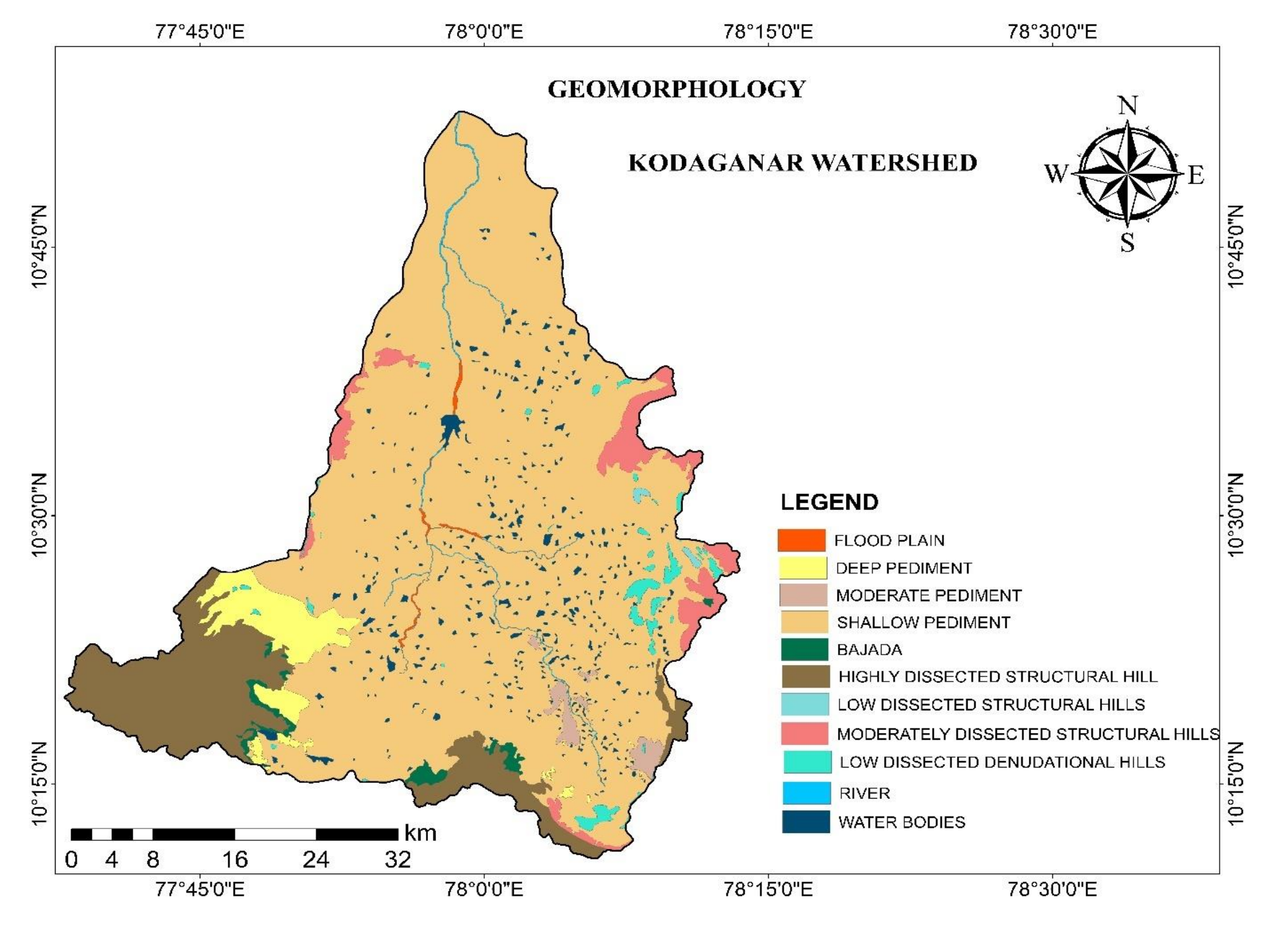

KEY MAP
INDIA
TAMILNADU
KODAGANAR BASIN
Kilometers
0 4 8 16 24 32
77°40'0"E
77°50'0"E
78°0'0"E
78°10'0"E
11°0'0"N
10°50'0"N
10°40'0"N
10°30'0"N
10°20'0"N
10°10'0"N

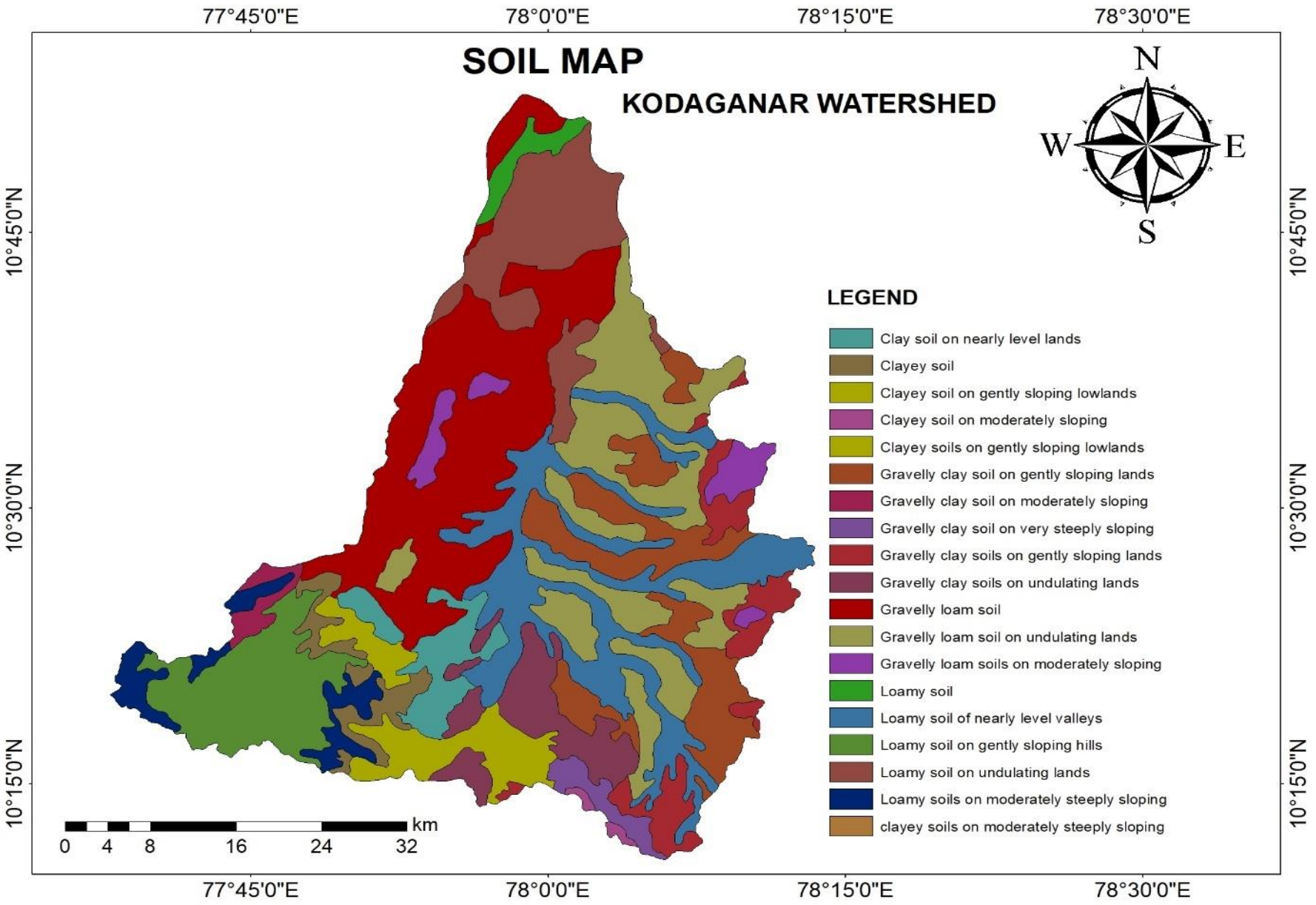

BASE MAP
KODAGANAR WATERSHED
N
W
E
S
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
PUDUCHETTIYUR
ARIYAPETTANPATTI
DINDIGUL
VADAKKU METTUPATTI
AYYAPATTI
LEGEND
AMARAVATHI RIVER
RIVER
ROADWAYS
RAILWAYS
RESERVED FOREST
TANK
SETTLEMENT
km
0 4 8 16 24 32

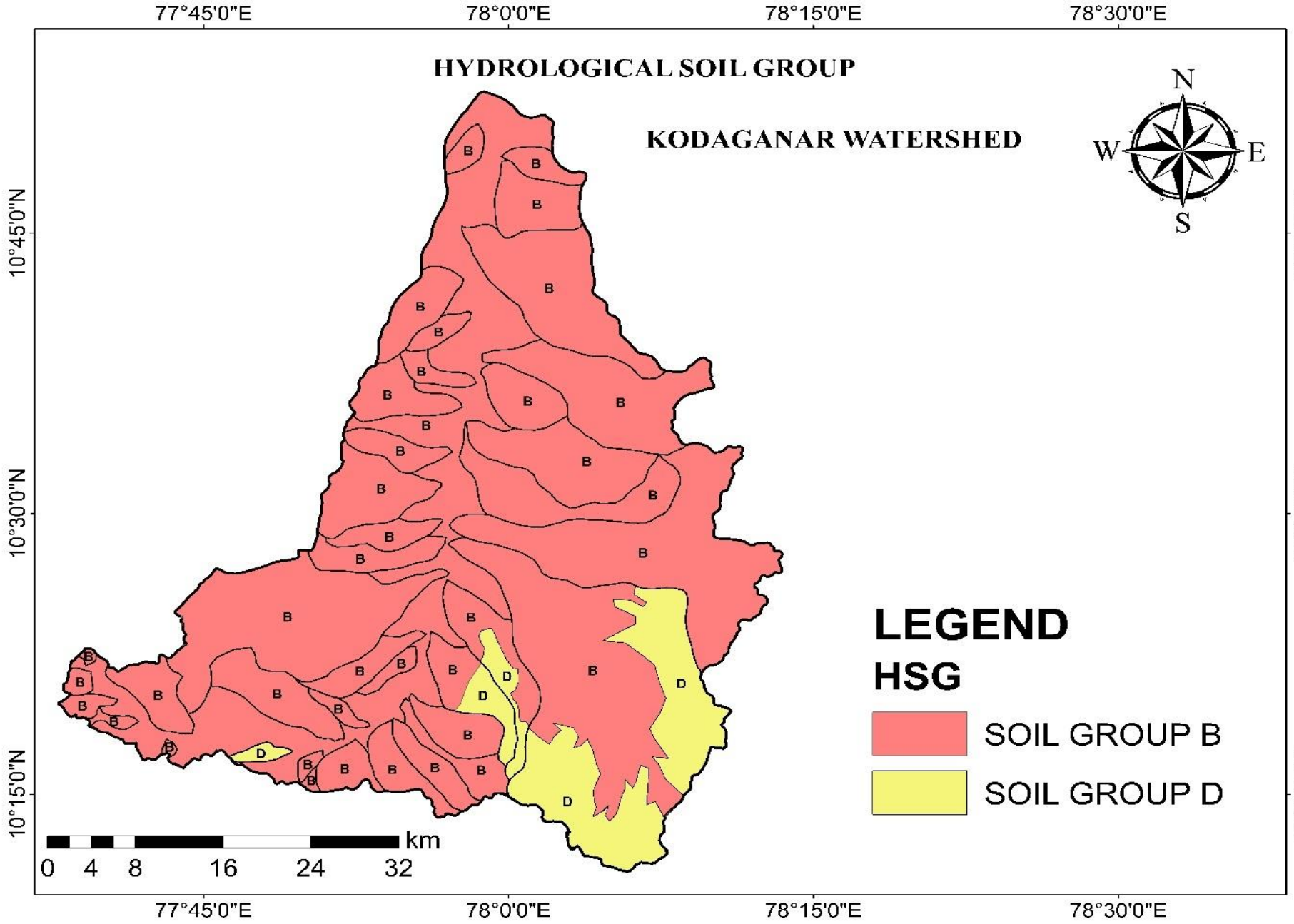

STREAM ORDERS
KODAGANAR WATERSHED
N
W
E
S
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
LEGEND
STREAM ORDERS
1
2
3
4
5
6
km
0 4 8 16 24 32

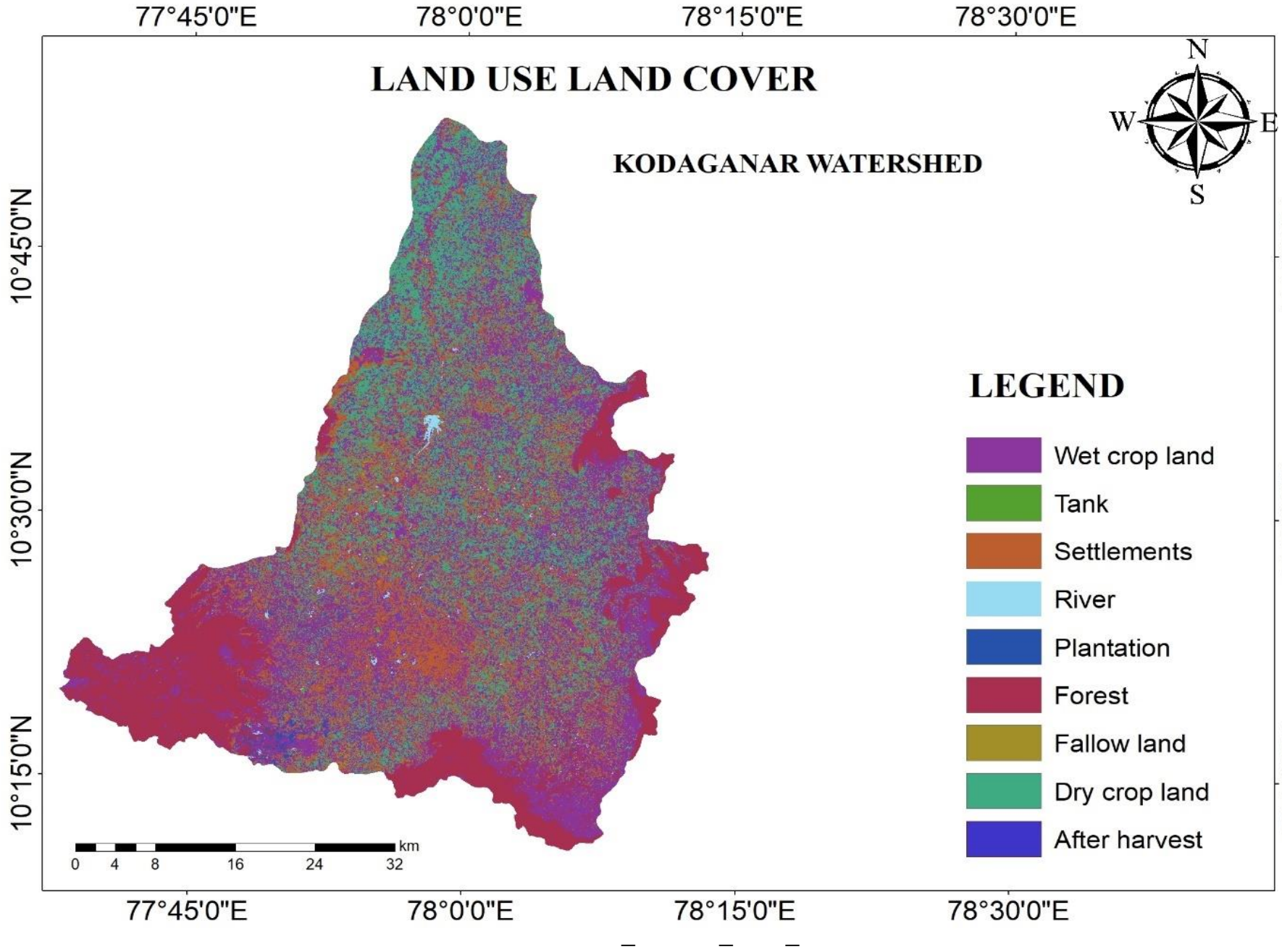

SUBWATERSHED CLASSIFICATION
KODAGANAR WATERSHED
N
W
E
S
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
LEGEND
SUBWATERSHEDS
INTERBASINAL AREA
km
0 4 8 16 24 32


LITHOLOGY MAP
KODAGANAR WATERSHED
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
78°45'0"E
10°45'0"N
10°30'0"N
10°15'0"N
N
W
E
S
km
0 4 8 16 24 32
LEGEND
CAIC GRANULITE WITH LIMESTONE
CHARNOCKITE
HORNBLENDE BIOTITE GNEISS
PINK MIGMATITE
PYROXENE GRANULITE
QUARTIZITE

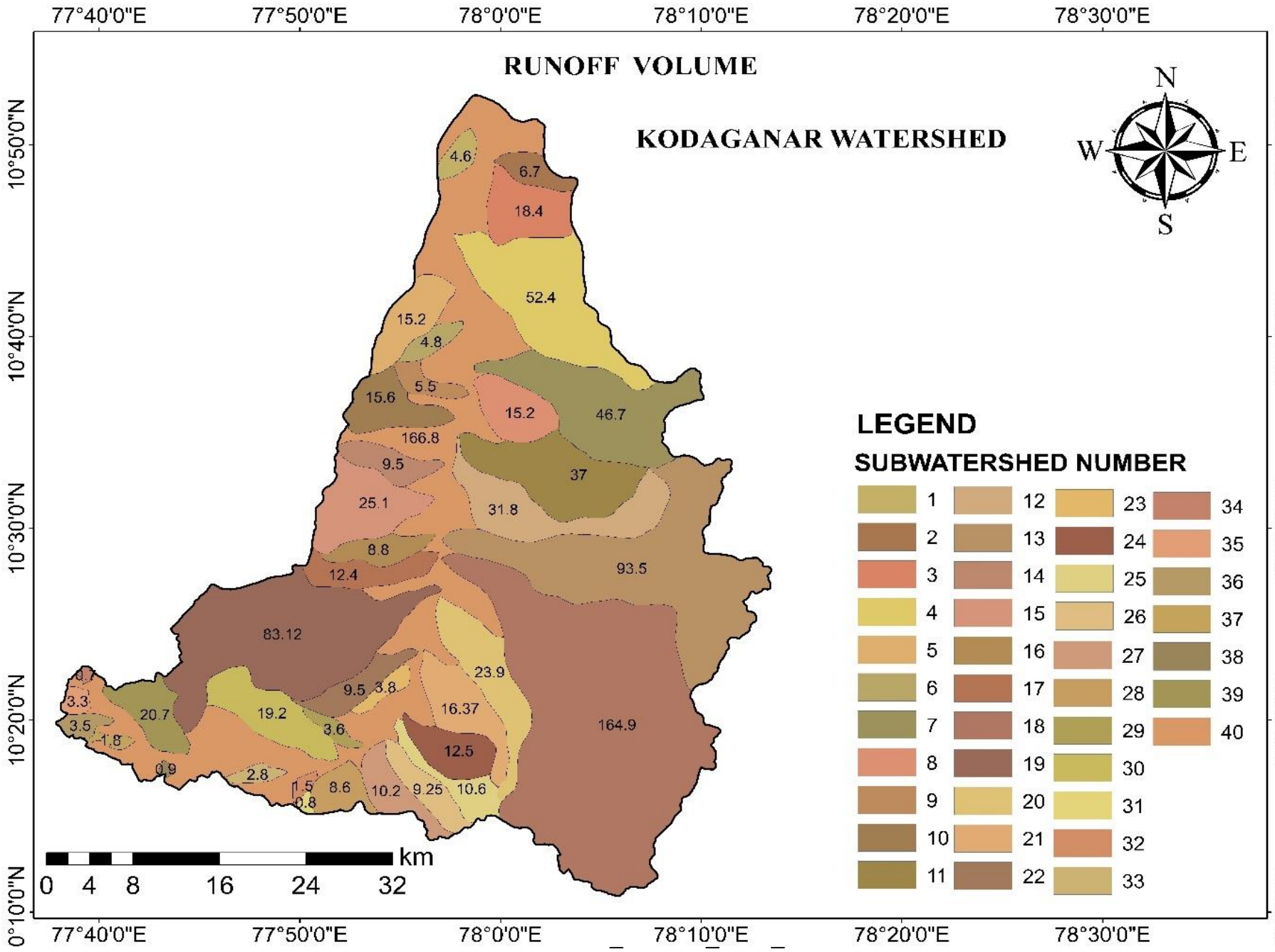

77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
GEOMORPHOLOGY
KODAGANAR WATERSHED
N
W
E
S
10°45'0"N
10°30'0"N
10°15'0"N
LEGEND
FLOOD PLAIN
DEEP PEDIMENT
MODERATE PEDIMENT
SHALLOW PEDIMENT
BAJADA
HIGHLY DISSECTED STRUCTURAL HILL
LOW DISSECTED STRUCTURAL HILLS
MODERATELY DISSECTED STRUCTURAL HILLS
LOW DISSECTED DENUDATIONAL HILLS
RIVER
WATER BODIES
km
0 4 8 16 24 32

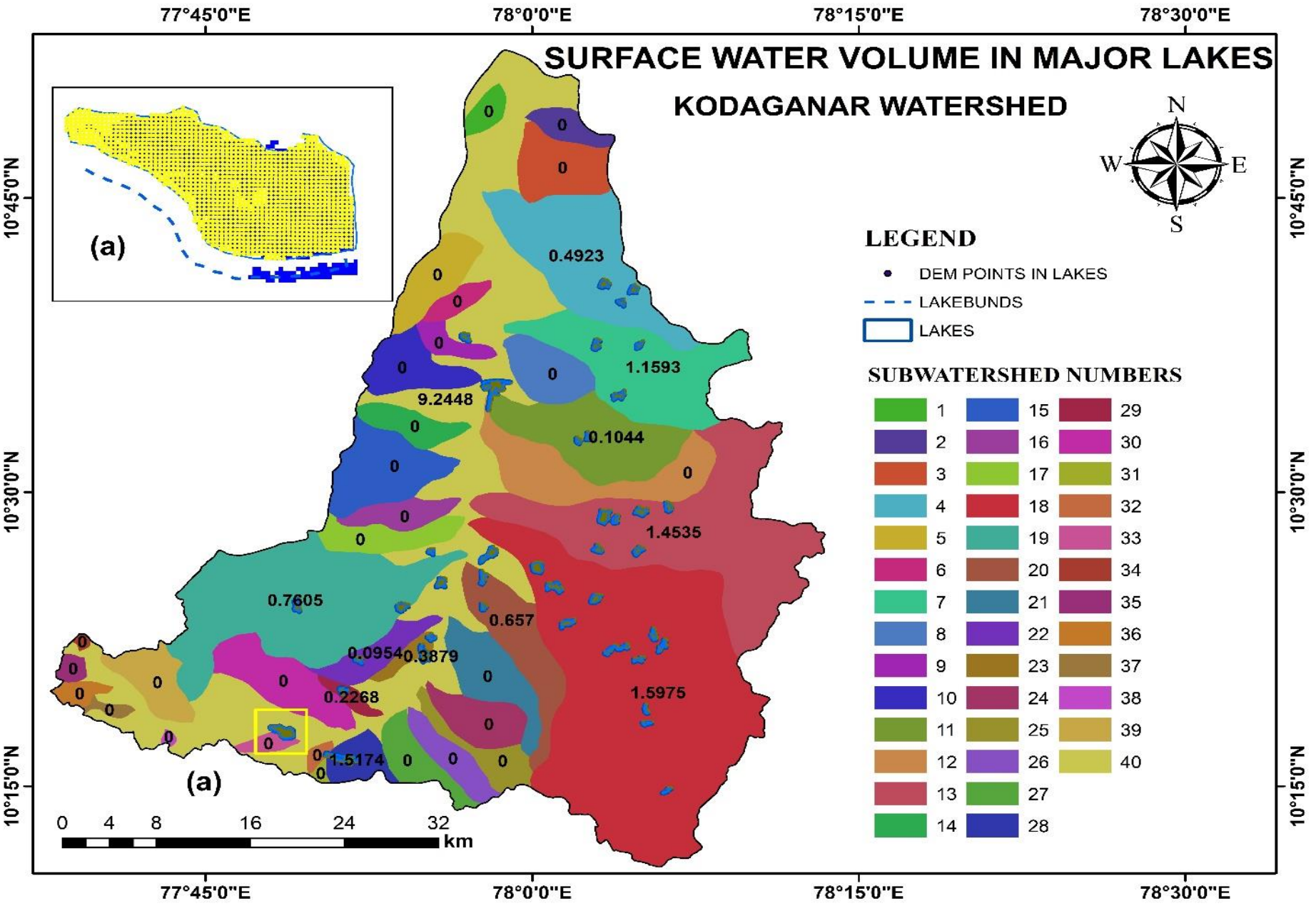

SOIL MAP
KODAGANAR WATERSHED
N
W
E
S
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
LEGEND
Clay soil on nearly level lands
Clayey soil
Clayey soil on gently sloping lowlands
Clayey soil on moderately sloping
Clayey soils on gently sloping lowlands
Gravelly clay soil on gently sloping lands
Gravelly clay soil on moderately sloping
Gravelly clay soil on very steeply sloping
Gravelly clay soils on gently sloping lands
Gravelly clay soils on undulating lands
Gravelly loam soil
Gravelly loam soil on undulating lands
Gravelly loam soils on moderately sloping
Loamy soil
Loamy soil of nearly level valleys
Loamy soil on gently sloping hills
Loamy soil on undulating lands
Loamy soils on moderately steeply sloping
clayey soils on moderately steeply sloping
km
0 4 8 16 24 32


HYDROLOGICAL SOIL GROUP
KODAGANAR WATERSHED
N
W
E
S
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
LEGEND
HSG
SOIL GROUP B
SOIL GROUP D
km
0 4 8 16 24 32

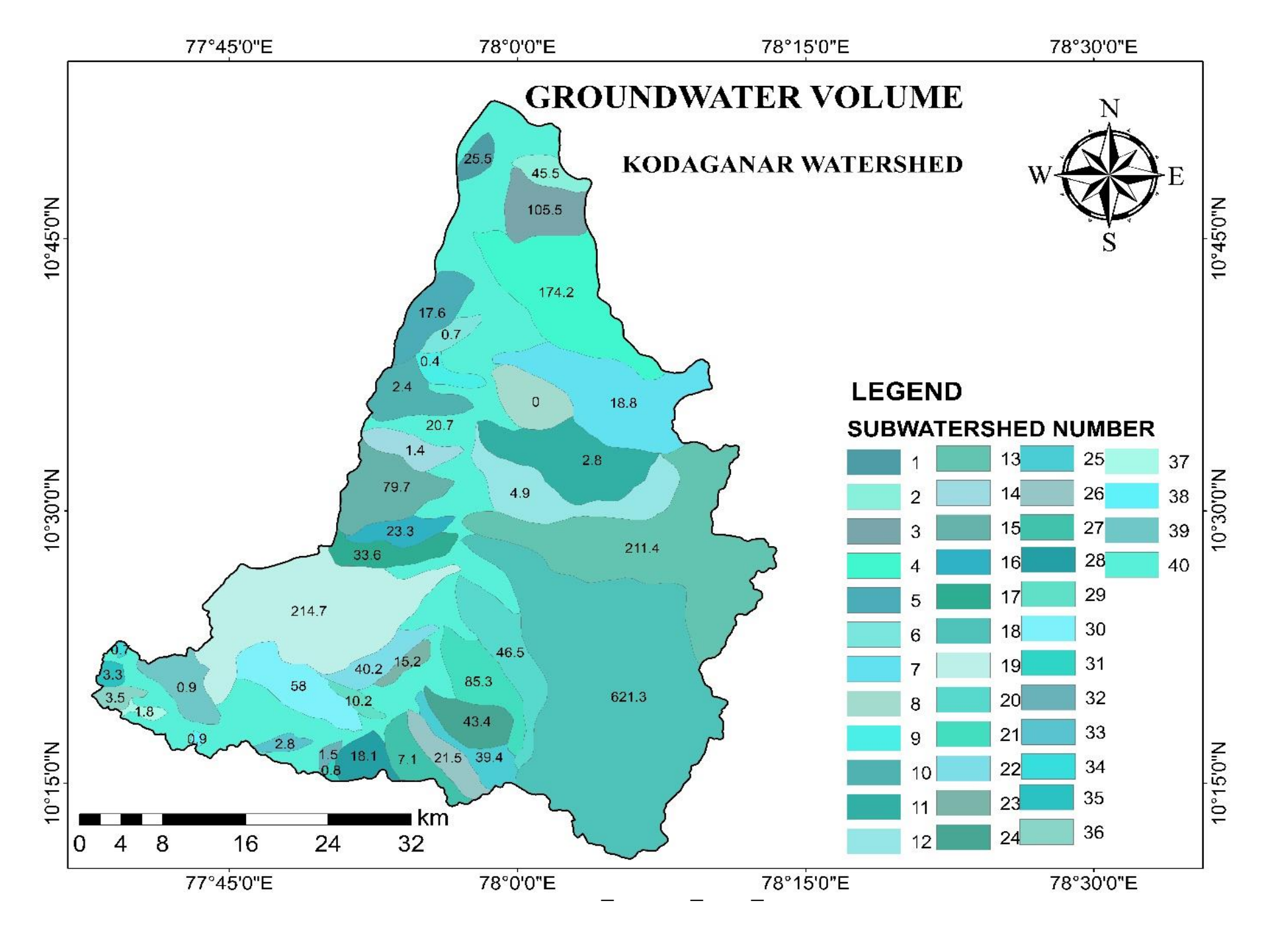

LAND USE LAND COVER
KODAGANAR WATERSHED
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
N
S
E
W
LEGEND
Wet crop land
Tank
Settlements
River
Plantation
Forest
Fallow land
Dry crop land
After harvest
0 4 8 16 24 32
km

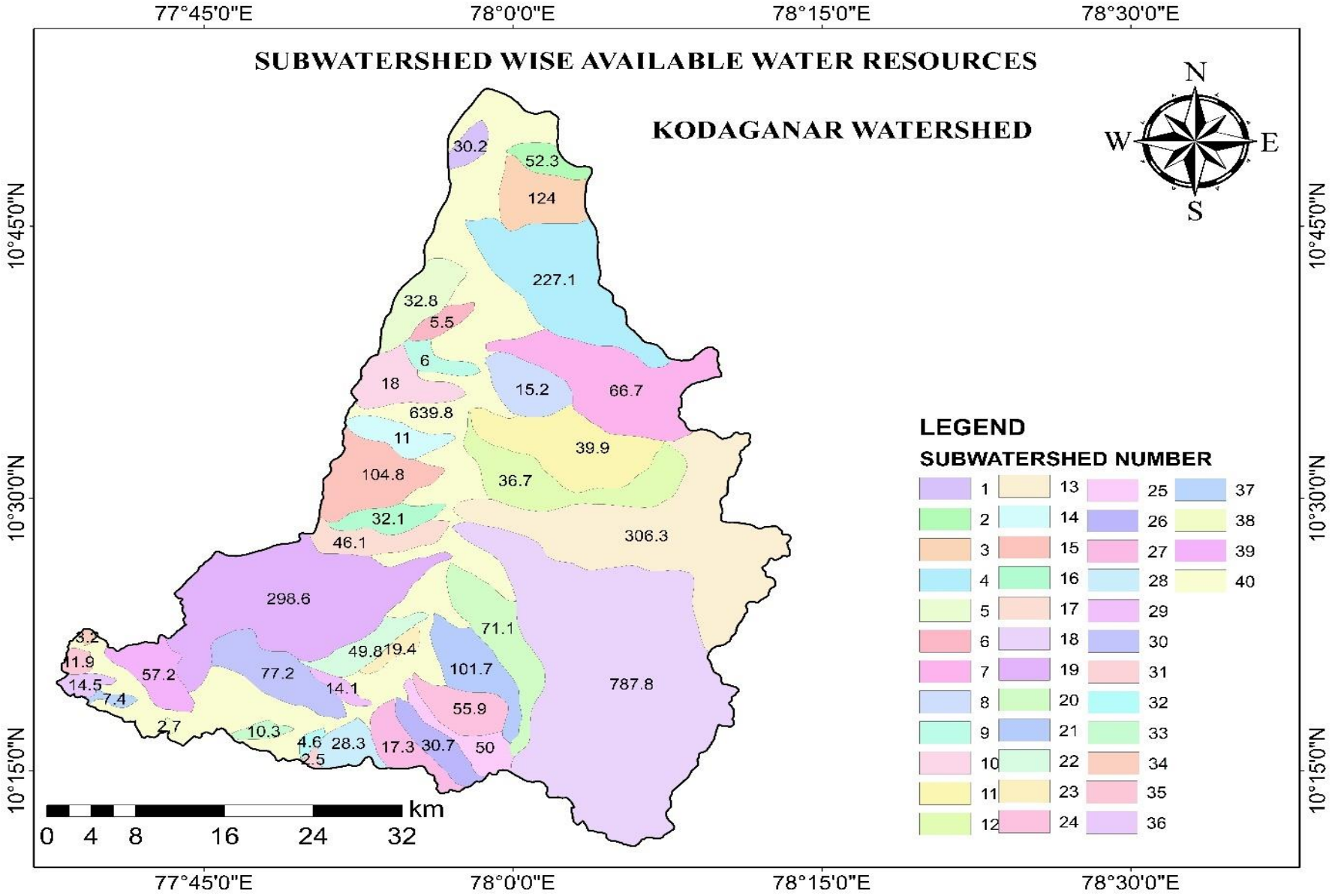
WS_NO.	sheet_runoff	AREA_sq_m	Runoff_n_m	Runoff_vol	RunoffMCM
1	452.855644	10295585.32	0.452856	4662413.927	4.662414
2	452.855644	14963697.8	0.452856	6776395.012	6.776395
3	452.855644	40767367.65	0.452856	18461732.55	18.461733
4	452.855644	115788882	0.452856	52435649.19	52.435649
5	452.855644	33600574.04	0.452856	15216209.61	15.21621
6	452.855644	10700024.72	0.452856	4845566.592	4.845567
7	433.517276	107797055.8	0.433517	46731885.99	46.731886
8	452.855644	33745972.31	0.452856	15282054.04	15.282054
9	452.855644	12313669.95	0.452856	5576314.94	5.576315
10	452.855644	34531988.51	0.452856	15638005.91	15.638006
11	452.855644	81772031.33	0.452856	37030925.95	37.030926
12	452.855644	70324240.69	0.452856	31846729.34	31.846729
13	433.517276	215727116	0.433517	93521431.65	93.521432
14	452.855644	21170573.18	0.452856	9587213.561	9.587214
15	452.855644	55543693.16	0.452856	25153274.96	25.153275
16	452.855644	19594249.34	0.452856	8873366.412	8.873366
17	452.855644	27492260.35	0.452856	12450025.28	12.450025
18	390.136184	422783573.3	0.390136	164943169.9	164.94317
19	433.517276	191735909.2	0.433517	83120829.05	83.120829
20	432.544387	55409934.93	0.432544	23967256.33	23.967256
21	383.048227	42747343.58	0.383048	16374294.17	16.374294
22	406.479849	23442855.76	0.40648	9529048.458	9.529048
23	452.855644	8406430.751	0.452856	3806899.616	3.8069
24	414.709157	30261307.68	0.414709	12549641.39	12.549641
25	473.063442	22521152.12	0.473063	10653933.74	10.653934
26	406.479849	22760923.36	0.40648	9251856.679	9.251857
27	406.479849	25335845.99	0.40648	10298510.84	10.298511
28	452.855644	19185352.73	0.452856	8688195.276	8.688195
29	506.046852	7161882.726	0.506047	3624248.206	3.624248
30	406.479849	47358946.14	0.40648	19250457.25	19.250457
31	406.479849	2082821.673	0.40648	846625.0383	0.846625
32	406.479849	3818910.426	0.40648	1552310.131	1.55231
33	433.517276	6523022.242	0.433517	2827842.833	2.827843
34	452.855644	1572714.117	0.452856	712212.4649	0.712212
35	622.683511	5436001.477	0.622684	3384908.487	3.384908
36	452.855644	7876504.175	0.452856	3566919.374	3.566919
37	433.517276	4215210.922	0.433517	1827366.756	1.827367
38	695.968261	1411332.169	0.695968	982242.3958	0.982242
39	695.968261	29777042.8	0.695968	20723876.71	20.723877


RUNOFF VOLUME
KODAGANAR WATERSHED
N
W
E
S
77°40'0"E
77°50'0"E
78°0'0"E
78°10'0"E
78°20'0"E
78°30'0"E
10°50'0"N
10°40'0"N
10°30'0"N
10°20'0"N
0°10'0"N
4.6
6.7
18.4
52.4
15.2
4.8
5.5
15.6
15.2
46.7
166.8
9.5
37
25.1
31.8
8.8
12.4
93.5
83.12
23.9
9.5
3.8
3.3
20.7
19.2
16.37
3.5
1.8
3.6
164.9
12.5
0.9
2.8
1.5
8.6
10.2
9.25
10.6
0.8
km
0 4 8 16 24 32
LEGEND
SUBWATERSHED NUMBER
1 2 3 4 5 6 7 8 9 10 11
12 13 14 15 16 17 18 19 20 21 22
23 24 25 26 27 28 29 30 31 32 33
34 35 36 37 38 39 40

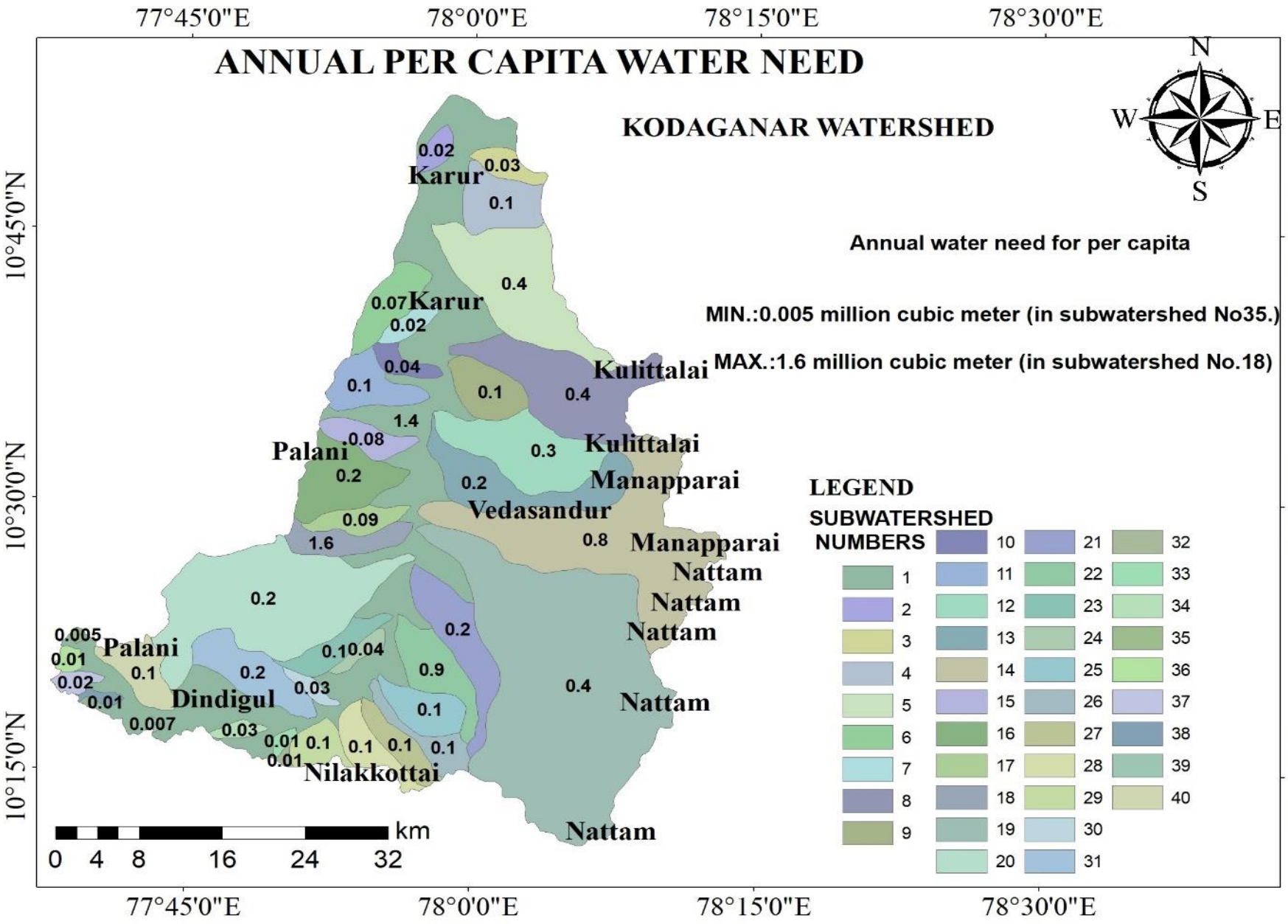

SURFACE WATER VOLUME IN MAJOR LAKES
KODAGANAR WATERSHED
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
N
S
E
W
(a)
LEGEND
DEM POINTS IN LAKES
LAKEBUNDS
LAKES
SUBWATERSHED NUMBERS
1 2 3 4 5 6 7 8 9 10 11 12 13 14
15 16 17 18 19 20 21 22 23 24 25 26 27 28
29 30 31 32 33 34 35 36 37 38 39 40
0.4923
1.1593
9.2448
0.1044
1.4535
0.7605
0.657
0.0954
0.3879
0.2268
1.5975
1.5174
0 4 8 16 24 32
km

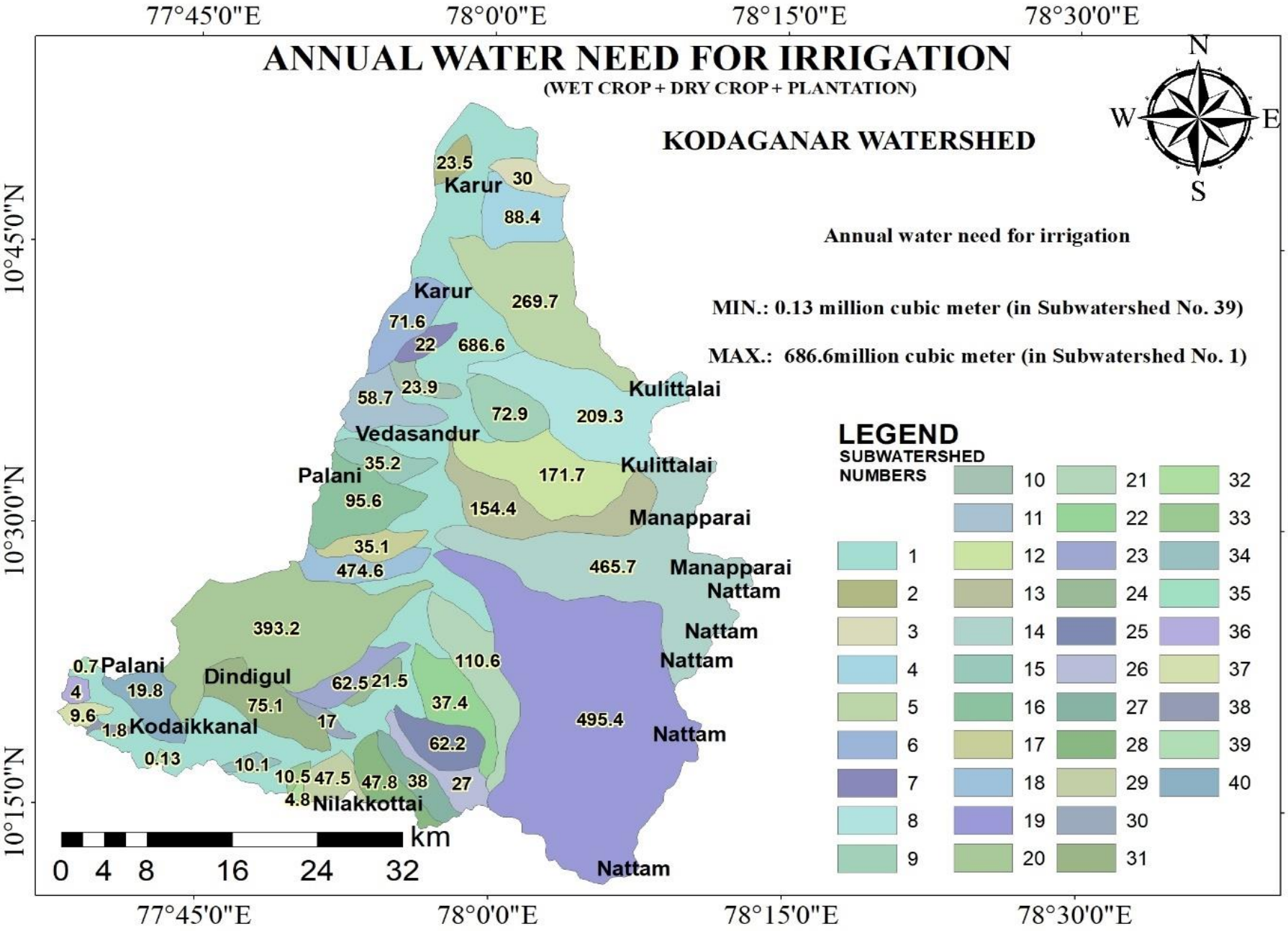
WS_NO	Shape_Area	DBR	GWL	SATU_THICK	GW_VOL	GROUNDWATER PORE VOLUME (CUBIC METER)	GWVOL_MCM
1	10295585.15	49.5	14	35.5	365493272.7	25584529.09	25.584529
2	14963697.83	56	12.5	43.5	650920855.8	45564459.91	45.56446
3	40767367.66	50.5	13.5	37	1508392603	105587482.2	105.587482
4	115788883.1	33.5	12	21.5	2489460987	174262269.1	174.262269
5	33600573.94	24.5	17	7.5	252004304.5	17640301.32	17.640301
6	10700024.64	19	18	1	10700024.64	749001.7245	0.749002
7	107797055.6	16.5	14	2.5	269492639	18864484.73	18.864485
8	33745972.43	15	15	0	0	0	0
9	12313669.82	19.5	19	0.5	6156834.91	430978.4437	0.430978
10	34531988.76	28	27	1	34531988.76	2417239.213	2.417239
11	81772031.41	16	15.5	0.5	40886015.71	2862021.099	2.862021
12	70324240.25	21	20	1	70324240.25	4922696.818	4.922697
13	215727116.8	26	12	14	3020179635	211412574.5	211.412574
14	21170572.93	25	24	1	21170572.93	1481940.105	1.48194
15	55543693.16	38.5	18	20.5	1138645710	79705199.69	79.7052
16	19594249.32	29	12	17	333102238.4	23317156.69	23.317157
17	27492260.38	30	12.5	17.5	481114556.7	33678018.97	33.678019
18	422658232.7	33	12	21	8875822887	621307602.1	621.307602
19	191753407.3	33.5	17.5	16	3068054516	214763816.1	214.763816
20	55387535.53	28	16	12	664650426.4	46525529.85	46.52553
21	42795812.51	42	13.5	28.5	1219680657	85377645.97	85.377646
22	23442855.58	41	16.5	24.5	574349961.7	40204497.32	40.204497
23	8406430.999	43.5	17.5	26	218567206	15299704.42	15.299704
24	30261307.69	40.5	20	20.5	620356807.6	43424976.53	43.424977
25	22521152.07	42.5	17.5	25	563028801.7	39412016.12	39.412016
26	22760923.36	31.5	18	13.5	307272465.4	21509072.58	21.509073
27	25335845.9	31	27	4	101343383.6	7094036.851	7.094037
28	19185352.82	30	16.5	13.5	259002263	18130158.41	18.130158
29	7161882.714	35	14.5	20.5	146818595.6	10277301.69	10.277302
30	47358946.4	34	16.5	17.5	828781562.1	58014709.34	58.014709
31	2082821.59	28.5	17	11.5	23952448.28	1676671.38	1.676671
32	3818910.423	29	17.5	11.5	43917469.87	3074222.891	3.074223
33	6523022.254	30	13.5	16.5	107629867.2	7534090.703	7.534091
34	1572714.114	35	11.5	23.5	36958781.68	2587114.718	2.587115
35	5436001.57	33	10.5	22.5	122310035.3	8561702.473	8.561702
36	7876504.24	31	11	20	157530084.8	11027105.94	11.027106
37	4215211.126	29	10	19	80089011.39	5606230.798	5.606231
38	1411332.151	28.5	10.5	18	25403978.72	1778278.51	1.778279
39	29777042.44	31	13.5	17.5	521098242.7	36476876.99	36.476877

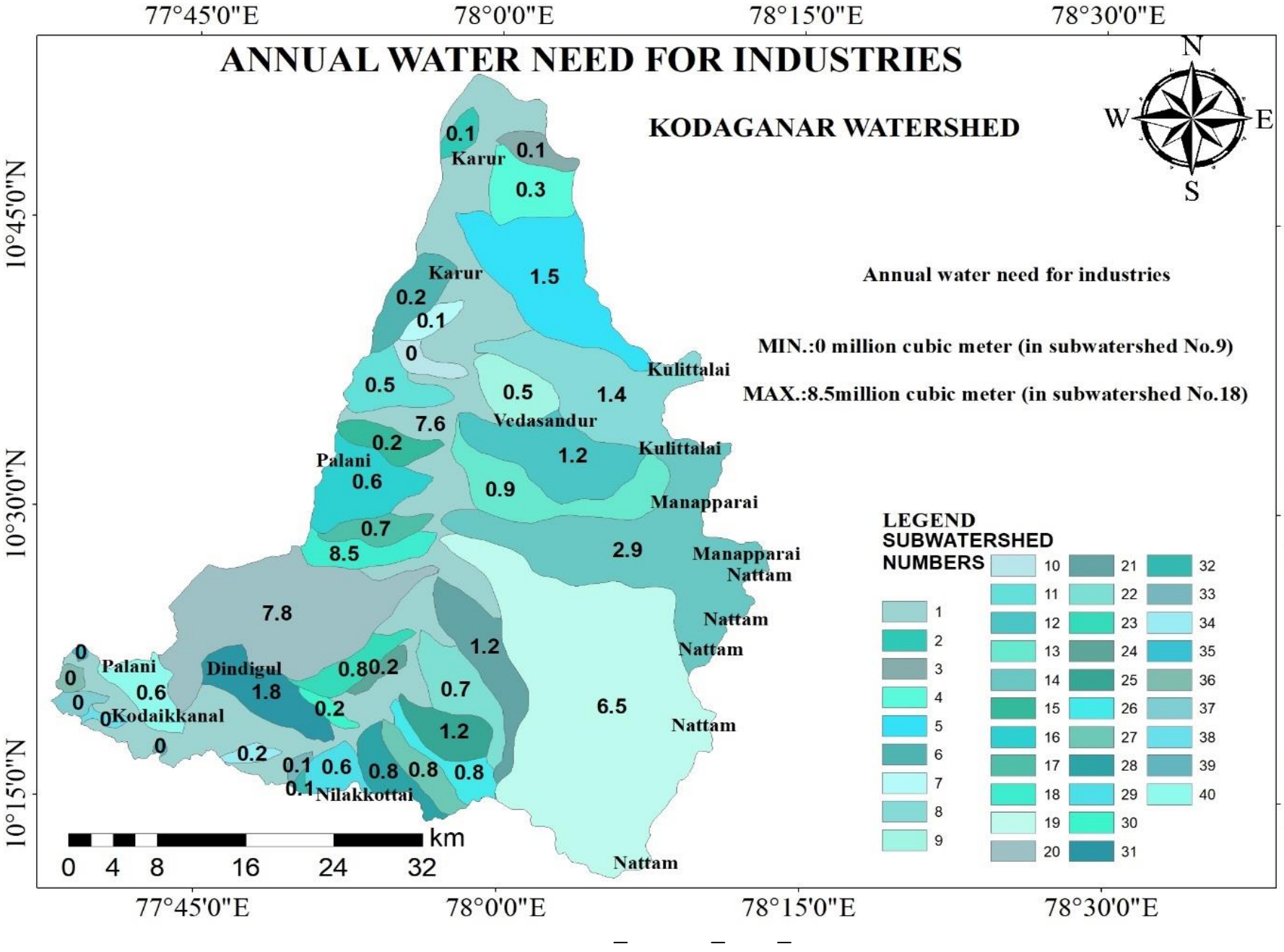

GROUNDWATER VOLUME
KODAGANAR WATERSHED
N
W
E
S
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
25.5
45.5
105.5
174.2
17.6
0.7
0.4
2.4
0
18.8
20.7
1.4
2.8
79.7
4.9
23.3
33.6
211.4
214.7
0.7
3.3
0.9
3.5
1.8
0.9
2.8
1.5
0.8
18.1
7.1
21.5
39.4
58
40.2
15.2
46.5
85.3
10.2
43.4
621.3
km
0 4 8 16 24 32
LEGEND
SUBWATERSHED NUMBER
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36
37 38 39 40

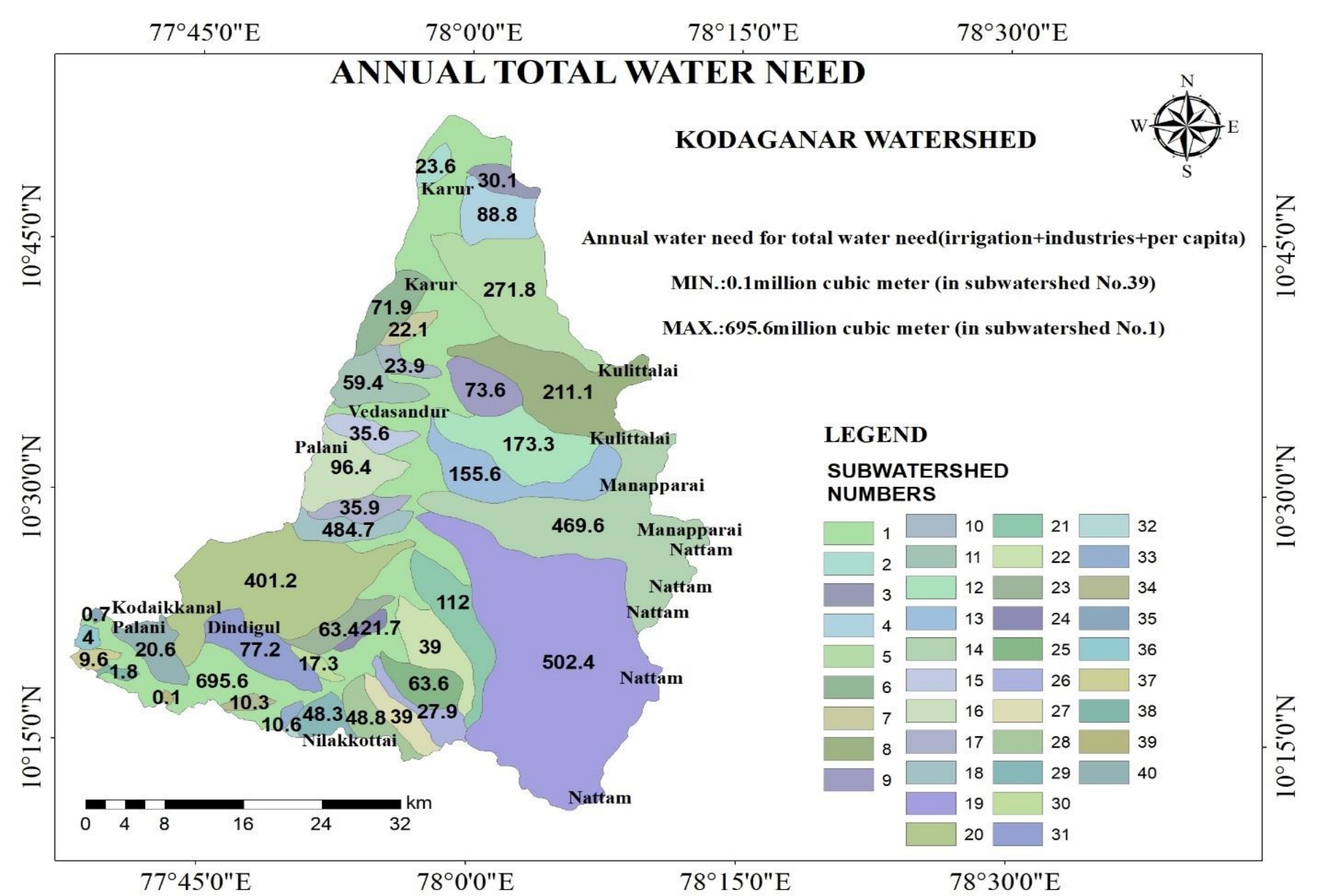

SUBWATERSHED WISE AVAILABLE WATER RESOURCES
KODAGANAR WATERSHED
N
W
E
S
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
30.2
52.3
124
227.1
32.8
5.5
6
18
15.2
66.7
639.8
11
39.9
104.8
36.7
32.1
46.1
306.3
298.6
71.1
3.2
11.9
49.8
19.4
57.2
77.2
101.7
14.5
14.1
787.8
7.4
55.9
2.7
10.3
4.6
28.3
17.3
30.7
50
2.5
km
0 4 8 16 24 32
LEGEND
SUBWATERSHED NUMBER
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36
37 38 39 40

S.No	Subwatershed number	Percapita water need (million cubic meter)	Industrial water need (Million cubic meter)	Irrigation water need (Million cubic meter)	Total water need(Million cubic meter
1	1	1.4	7.6	686.6	695.6
2	2	0.02	0.1	23.5	23.6
3	3	0.03	0.1	30.03	30.1
4	4	0.1	0.3	88.4	88.8
5	5	0.4	1.5	269.7	271.8
6	6	0.07	0.2	71.6	71.9
7	7	0.02	0.1	22.05	22.1
8	8	0.4	1.4	209.3	211.1
9	9	0.1	0.5	72.9	73.6
10	10	0.04	0	23.9	23.9
11	11	0.1	0.5	58.7	59.4
12	12	0.3	1.2	171.7	173.3
13	13	0.2	0.9	154.4	155.6
14	14	0.8	2.9	465.7	469.6
15	15	0.08	0.2	35.2	35.6
16	16	0.2	0.6	95.6	96.4
17	17	0.09	0.7	35.1	35.9
18	18	1.6	8.5	474.6	484.7
19	19	0.4	6.5	495.4	502.4
20	20	0.2	7.8	393.2	401.2
21	21	0.2	1.2	110.6	112.06
22	22	0.9	0.73	37.4	39.0
23	23	0.1	0.8	62.5	63.4
24	24	0.04	0.2	21.5	21.7
25	25	0.1	1.2	62.2	63.6
26	26	0.1	0.8	27.04	27.9
27	27	0.1	0.8	38.0	39.03
28	28	0.1	0.8	47.8	48.8
29	29	0.1	0.6	47.5	48.3
30	30	0.03	0.2	17.06	17.3
31	31	0.2	1.8	75.1	77.2
32	32	0.01	0.1	4.8	4.9
33	33	0.01	0.1	10.5	10.6
34	34	0.03	0.2	10.1	10.3
35	35	0.005	0	0.7	0.7
36	36	0.01	0	4.08	4.09
37	37	0.02	0	9.6	9.6
38	38	0.01	0	1.8	1.8

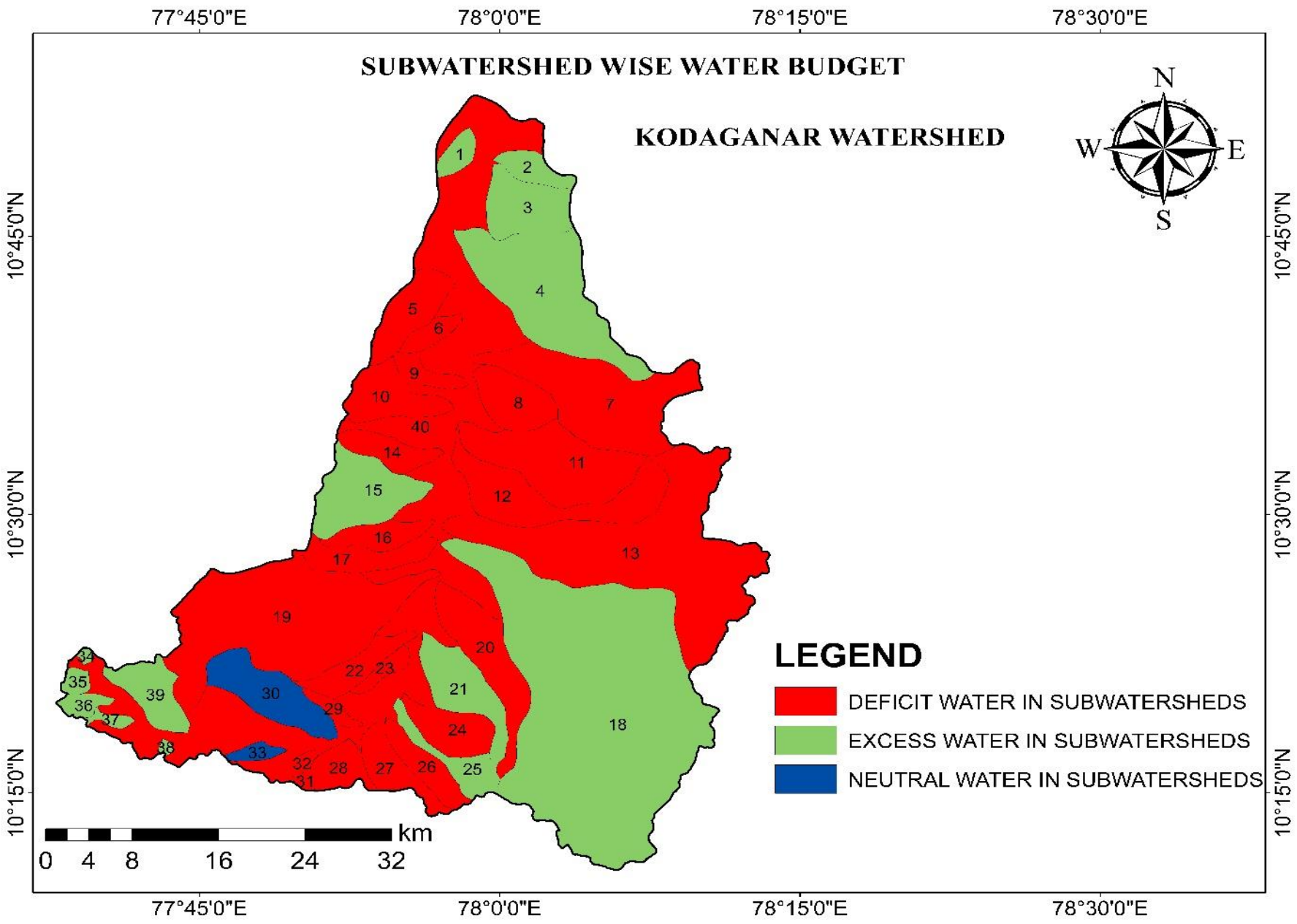

ANNUAL PER CAPITA WATER NEED
KODAGANAR WATERSHED
Annual water need for per capita
MIN.:0.005 million cubic meter (in subwatershed No35.)
MAX.:1.6 million cubic meter (in subwatershed No.18)
LEGEND
SUBWATERSHED NUMBERS
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
N
S
E
W
Karur
Kulittalai
Palani
Manapparai
Vedasandur
Nattam
Dindigul
Nilakkottai
km
0 4 8 16 24 32


77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
ANNUAL WATER NEED FOR IRRIGATION
(WET CROP + DRY CROP + PLANTATION)
KODAGANAR WATERSHED
N
S
E
W
Annual water need for irrigation
MIN.: 0.13 million cubic meter (in Subwatershed No. 39)
MAX.: 686.6million cubic meter (in Subwatershed No. 1)
LEGEND
SUBWATERSHED NUMBERS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
23.5
Karur
30
88.4
Karur
269.7
71.6
22
686.6
58.7
23.9
Kulittalai
72.9
209.3
Vedasandur
35.2
Palani
171.7
Kulittalai
95.6
154.4
Manapparai
35.1
474.6
465.7
Manapparai
Nattam
393.2
Nattam
0.7
Palani
Dindigul
110.6
Nattam
4
19.8
62.5
21.5
75.1
37.4
9.6
1.8
Kodaikkanal
17
495.4
Nattam
62.2
0.13
10.1
10.5
47.5
47.8
38
27
4.8
Nilakkottai
km
0 4 8 16 24 32
Nattam


ANNUAL WATER NEED FOR INDUSTRIES
KODAGANAR WATERSHED
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
N
S
E
W
Annual water need for industries
MIN.:0 million cubic meter (in subwatershed No.9)
MAX.:8.5million cubic meter (in subwatershed No.18)
LEGEND
SUBWATERSHED
NUMBERS
Karur
Kulittalai
Vedasandur
Palani
Manapparai
Nattam
Dindigul
Kodaikkanal
Nilakkottai
km
0 4 8 16 24 32


77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
ANNUAL TOTAL WATER NEED
KODAGANAR WATERSHED
N
W
E
S
Annual water need for total water need(irrigation+industries+per capita)
MIN.:0.1million cubic meter (in subwatershed No.39)
MAX.:695.6million cubic meter (in subwatershed No.1)
LEGEND
SUBWATERSHED NUMBERS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
23.6
Karur
30.1
88.8
Karur
271.8
71.9
22.1
23.9
59.4
73.6
211.1
Kulittalai
Vedasandur
35.6
Palani
96.4
173.3
Kulittalai
155.6
Manapparai
35.9
484.7
469.6
Manapparai
Nattam
401.2
Nattam
112
Nattam
0.7
Kodaikkanal
Palani
Dindigul
4
20.6
9.6
1.8
77.2
63.4
21.7
39
17.3
502.4
Nattam
695.6
63.6
0.1
10.3
10.6
48.3
48.8
39
27.9
Nilakkottai
Nattam
km
0 4 8 16 24 32

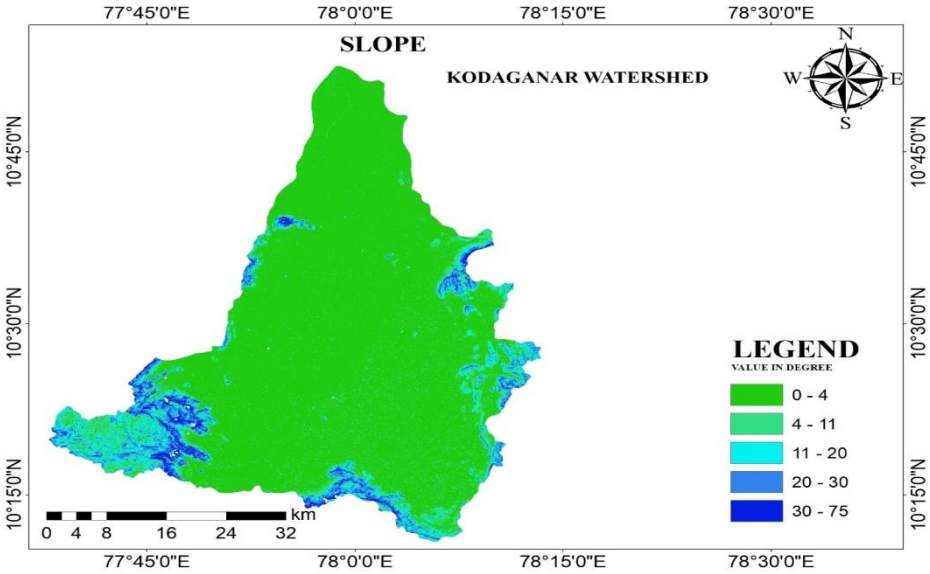
WS_NO	RunoffMCM	GW_Vol_MCM	SW_vol	TOTAL_of_R	Total water need for three major user	Status_of
1	4.662414	25.584529	0	30.246943	23.684	Excess
2	6.776395	45.56446	0	52.340855	30.175	Excess
3	18.461733	105.587482	0	124.049215	88.879	Excess
4	52.435649	174.262269	0.4923	227.190218	271.806	Excess
5	15.21621	17.640301	0	32.856511	71.987	Deficit
6	4.845567	0.749002	0	5.594569	22.185	Deficit
7	46.731886	18.864485	1.1593	66.755671	211.17	Deficit
8	15.282054	0	0	15.282054	73.687	Deficit
9	5.576315	0.430978	0	6.007293	23.985	Deficit
10	15.638006	2.417239	0	18.055245	59.451	Deficit
11	37.030926	2.862021	0.1044	39.997347	173.395	Deficit
12	31.846729	4.922697	0	36.769426	155.691	Deficit
13	93.521432	211.412574	1.4535	306.387506	469.632	Deficit
14	9.587214	1.48194	0	11.069154	35.658	Deficit
15	25.153275	79.7052	0	104.858475	96.46	Excess
16	8.873366	23.317157	0	32.190523	35.938	deficit
17	12.450025	33.678019	0	46.128044	484.764	Deficit
18	164.94317	621.307602	1.5975	787.848272	502.483	Excess
19	83.120829	214.763816	0.7605	298.645145	401.297	Deficit
20	23.967256	46.52553	0.657	71.149786	112.061	Deficit
21	16.374294	85.377646	0	101.75194	39.061	Excess
22	9.529048	40.204497	0.0954	49.828945	63.473	Deficit
23	3.8069	15.299704	0.3879	19.494504	21.771	Deficit
24	12.549641	43.424977	0	55.974618	63.683	Deficit
25	10.653934	39.412016	0	50.06595	27.988	Excess
26	9.251857	21.509073	0	30.76093	39.032	Deficit
27	10.298511	7.094037	0	17.392548	48.839	Deficit
28	8.688195	18.130158	1.5147	28.333053	48.339	Deficit
29	3.624248	10.277302	0.2268	14.12835	17.315	Deficit
30	19.250457	58.014709	0	77.265166	77.221	Neutral
31	0.846625	1.676671	0	2.523296	4.928	Deficit
32	1.55231	3.074223	0	4.626533	10.688	Deficit
33	2.827843	7.534091	0	10.361934	10.355	Neutral
34	0.712212	2.587115	0	3.299327	0.767	Excess
35	3.384908	8.561702	0	11.94661	4.096	Excess
36	3.566919	11.027106	0	14.594025	9.626	Excess
37	1.827367	5.606231	0	7.433598	1.891	Excess
38	0.982242	1.778279	0	2.760521	0.136	Excess
39	20.723877	36.476877	0	57.200754	20.602	Excess
40	166.857072	463.251587	9.2448	639.353459	695.641	Deficit

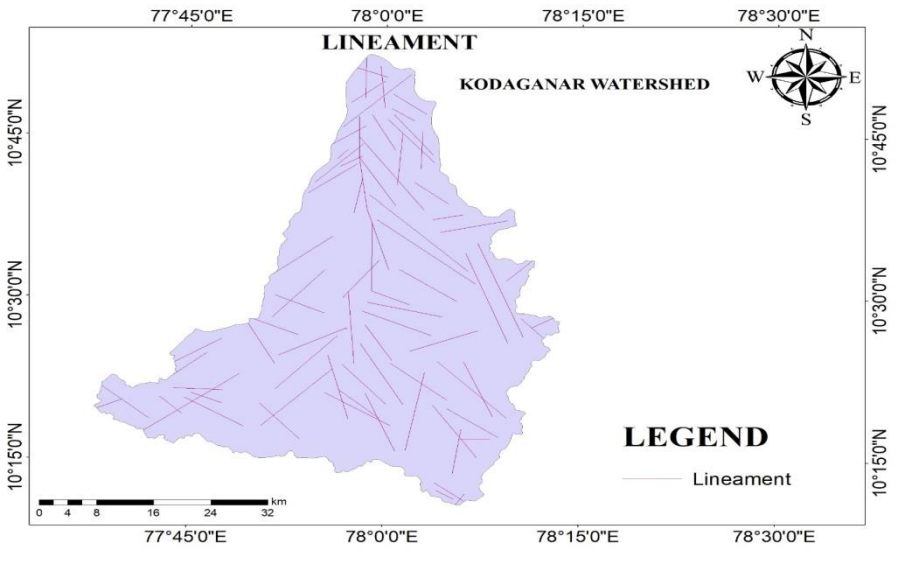

SUBWATERSHED WISE WATER BUDGET
KODAGANAR WATERSHED
N
W
E
S
77°45'0"E
78°0'0"E
78°15'0"E
78°30'0"E
10°45'0"N
10°30'0"N
10°15'0"N
LEGEND
DEFICIT WATER IN SUBWATERSHEDS
EXCESS WATER IN SUBWATERSHEDS
NEUTRAL WATER IN SUBWATERSHEDS
km
0 4 8 16 24 32

SUSTAINABLE WATER MANAGEMENT PLANS for Kodaganar Watershed

The drainages of 1st, 2nd and 3rd orders can be used to share the water available in excess from the Water Excess Subwatersheds numbered as: 1, 2, 3, 15, 18, 35, 36 and 39 to the adjacent Water Deficit Subwatersheds.

In order to identify the supply drainages for water diversion and the upstream side Water Excess Subwatersheds, the Slope & Lineament maps can be considered carefully.





CONCLUSIONS

By incorporating the satellite and collateral data in GIS,

1. Runoff volume is estimated for every subwatershed using Curve Number method
2. Quantum of static water available in major lakes has been estimated and totaled for every subwatershed
3. Volume of groundwater available in the hardrock aquifers in this study area, i.e. Kodaganar watershed has been estimated and converted to every subwatershed
4. By cumulating the surface water volume and groundwater volume in every Subwatershed, the volume of water availability has been tabulated and shown as a map.
5. Then, the Subwatershed wise water requirement for the three major uses such as domestic use, irrigation use and industrial use are estimated for the study area.
6. Finally, the Subwatershed wise water resources budgeting has been done by delineating the water excess, neutral and deficit conditions in subwatersheds of Kodaganar watershed
7. Then, according to the location of excess and deficit subwatersheds, the Water resources management planning method has been suggested.
8. From this study, it is concluded that the remote sensing satellite data, DEM and collateral data from different sources are very much useful for quantification of available water resources and determination of water requirement, so as to make a water resources budget for an area.
9. GIS plays a crucial role in mapping, analyzing, quantification, and management planning for any area.
10. A holistic and newer methodology for water resources budgeting and management is devised for this study area which can be replicated for any other area in our state / country.

WATER RESOURCES INFORMATION SYSTEM (WRIS)

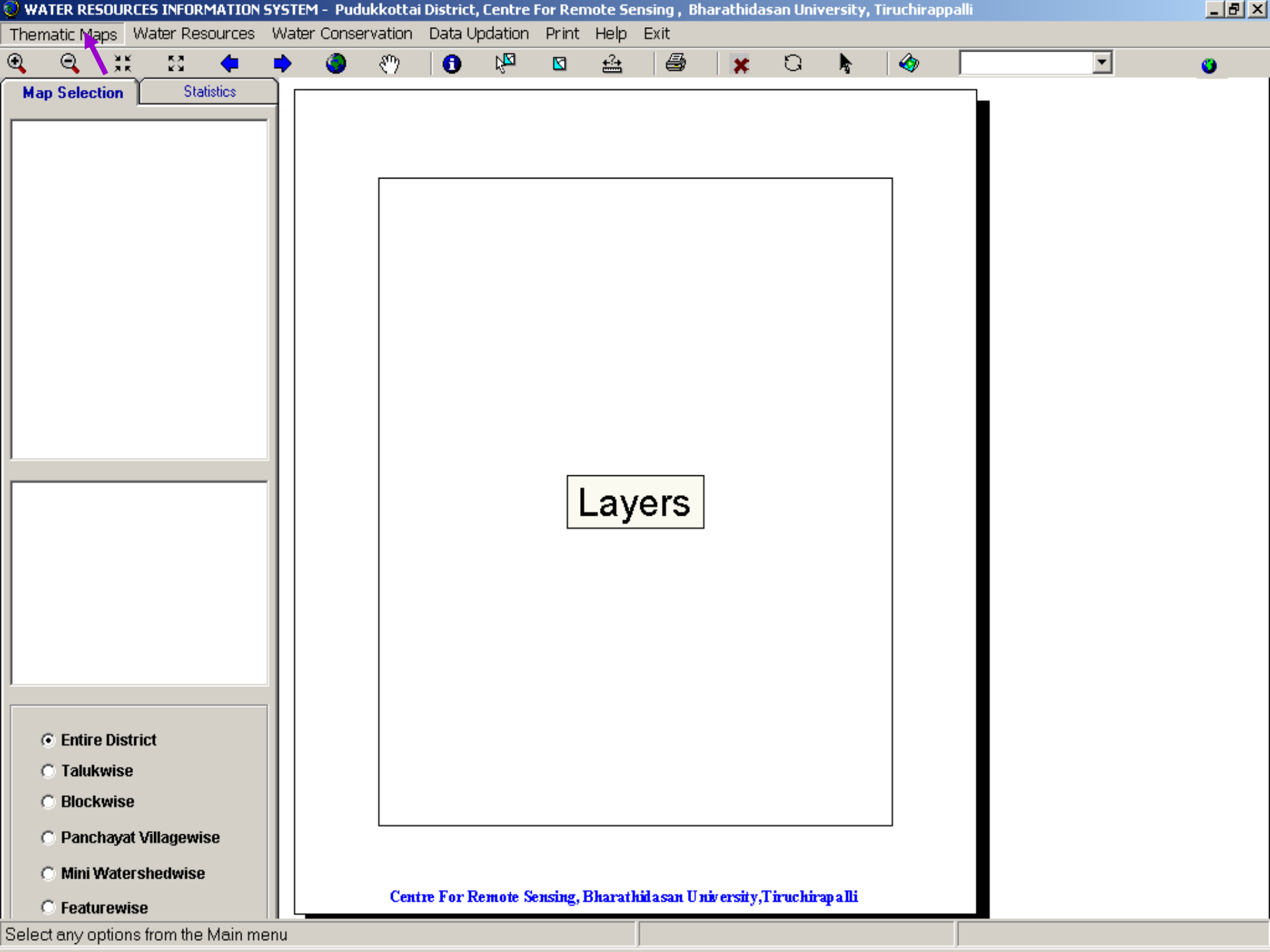
HYDROLOGICAL INFORMATION SYSTEM (HIS)

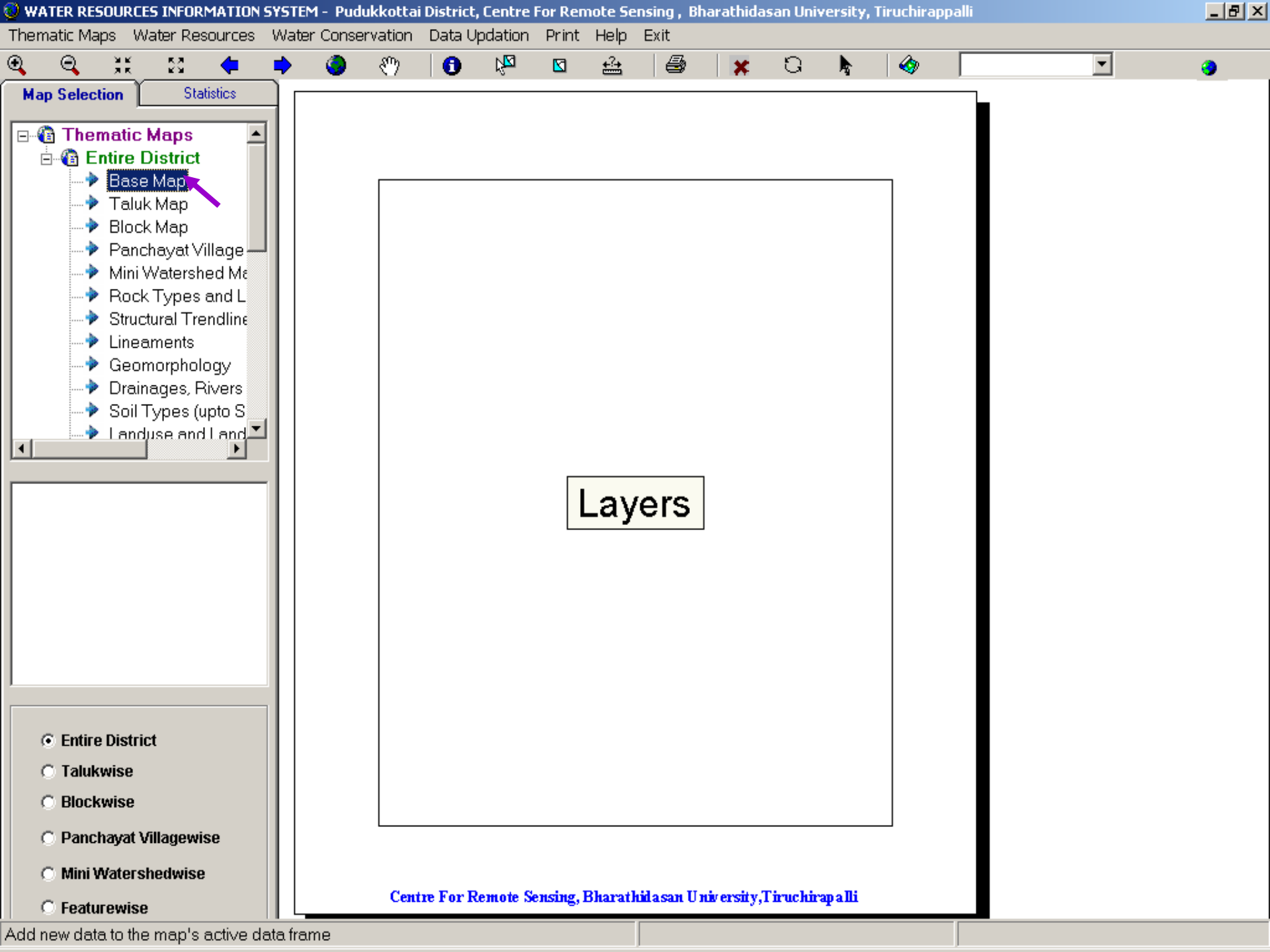
Back

Credibility of WRIS

WRIS

- Easy to access and readily available information in a single mouse click or two.
- More useful for Planners, Administrators and users having no knowledge on GIS.
- Simple to make any type of spatial queries and
- Useful in quick and easy Decision Making spatially.


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
Print
Help
Exit
Map Selection
Statistics
Entire District
Talukwise
Blockwise
Panchayat Villagewise
Mini Watershedwise
Featurewise
Layers
Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli
Select any options from the Main menu


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
Print
Help
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Map Selection
Statistics
Thematic Maps
Entire District
Base Map
Taluk Map
Block Map
Panchayat Village
Mini Watershed Ma
Rock Types and L
Structural Trendline
Lineaments
Geomorphology
Drainages, Rivers
Soil Types (upto S
Landuse and Land
Entire District
Talukwise
Blockwise
Panchayat Villagewise
Mini Watershedwise
Featurewise
Layers
Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli
Add new data to the map's active data frame

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:886312

Map Selection | Statistics

- Thematic Maps
  - Entire District
    - Base Map
    - Taluk Map
    - Block Map
    - Panchayat Village
    - Mini Watershed Ma
    - Rock Types and L
    - Structural Trendline
    - Lineaments
    - Geomorphology
    - Drainages, Rivers
    - Soil Types (upto S
    - Landuse and Land

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

BASE MAP

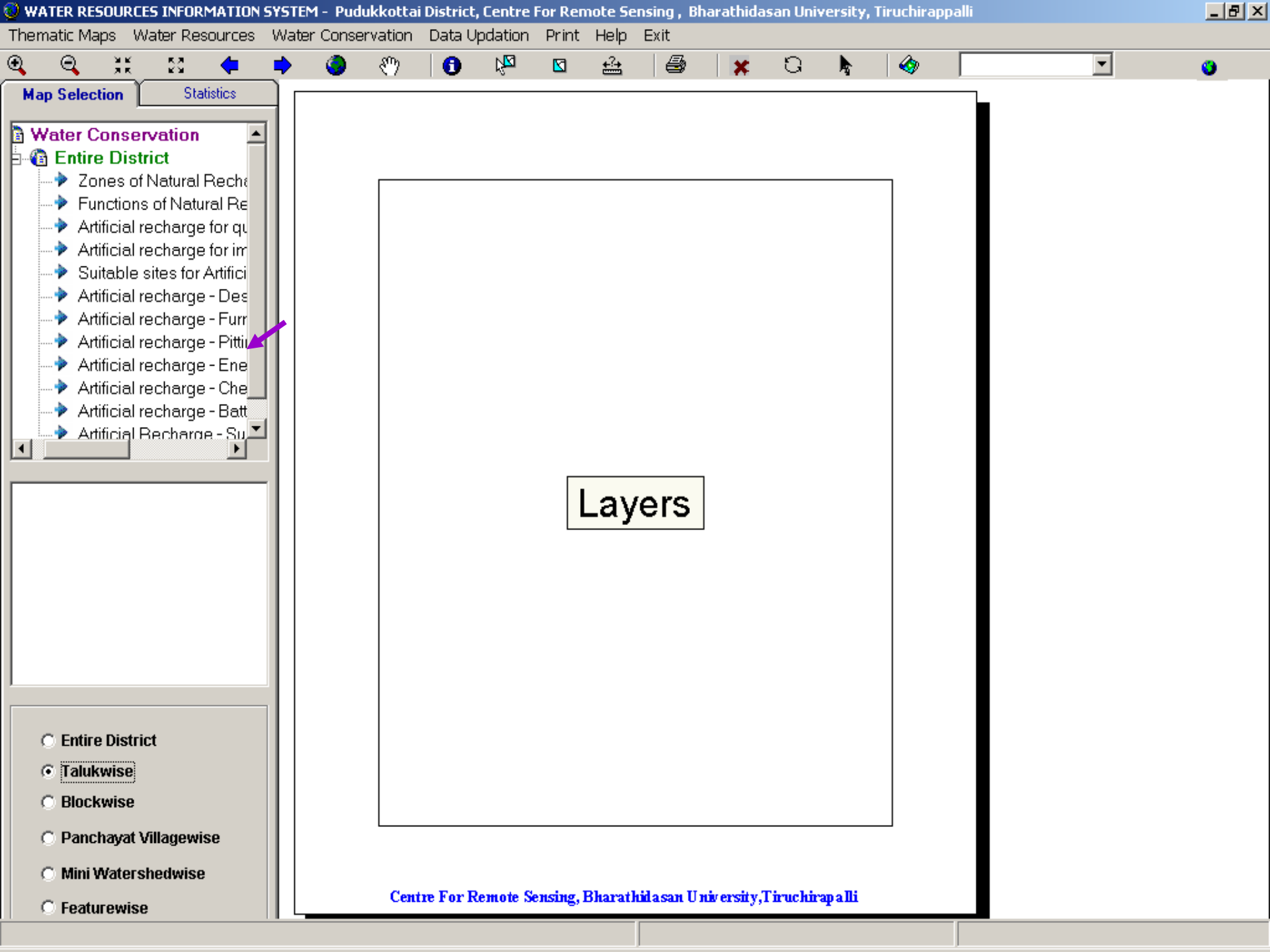
Pudukkottai District , Tamil Nadu

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- Settlement
- River
- Railway line
- Major_Road
- Tanks
- Pudukkottai District

Add new data to the map's active data frame


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
Print
Help
Exit
Map Selection
Statistics
Water Conservation
Entire District
Zones of Natural Recha
Functions of Natural Re
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Artificial recharge - Des
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Artificial recharge - Batt
Artificial Recharge - Su
Entire District
Talukwise
Blockwise
Panchayat Villagewise
Mini Watershedwise
Featurewise
Layers
Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

Map Selection | Statistics

Water Conservation
- Talukwise
  - Zones of Natural Recha
  - Functions of Natural Re
  - Artificial recharge for qu
  - Artificial recharge for im
  - Suitable sites for Artifici
  - Artificial recharge - Des
  - Artificial recharge - Furr
  - Artificial recharge - Pitting
  - Artificial recharge - Ene
  - Artificial recharge - Che
  - Artificial recharge - Batt
  - Artificial Recharge - Su

Taluk Names
- ALANGUDI TALUK
- ARANTANGI TALUK
- AVUDAIYARKOIL TALUK
- GANDARVAKOTTAI TAL
- ILUPPUR TALUK
- KULATHUR TALUK
- MANAMELKUDI TALUK

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

ARTIFICIAL RECHARGE - PITTING

Pudukkottai District , Tamil Nadu

N W E S

Layers

125 0 125 250 km

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

Choose any Resource Map then select the Taluk Names

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:387406

Map Selection | Statistics

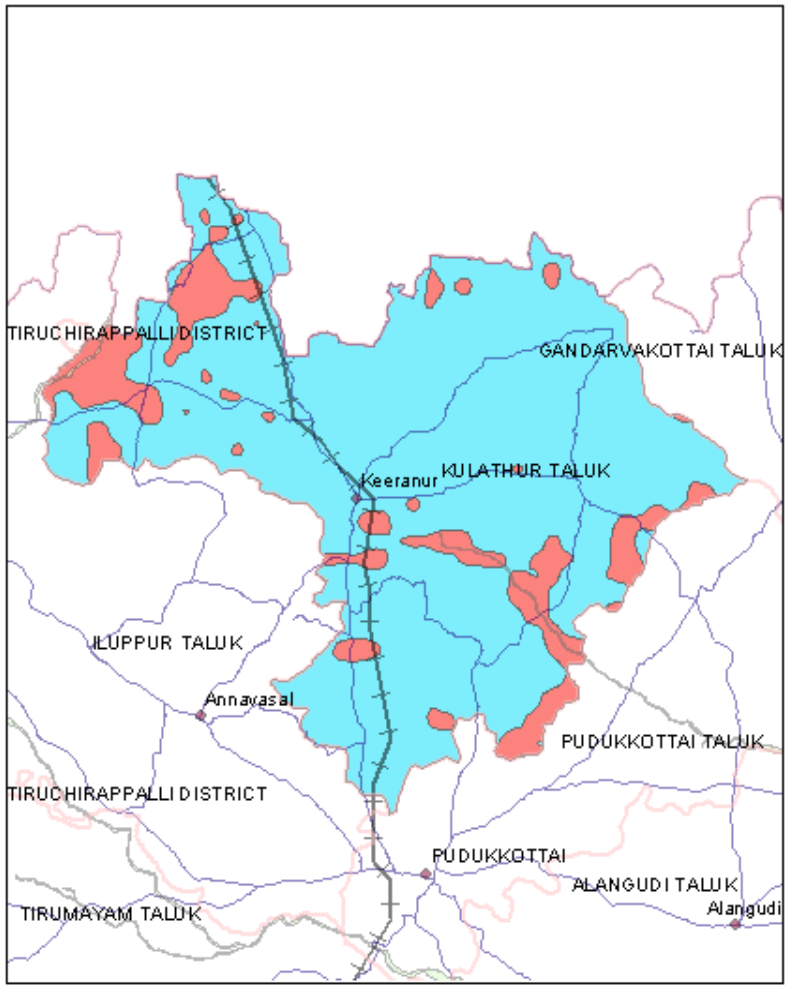
- Talukwise
  - Zones of Natural R
  - Functions of Nature
  - Artificial recharge f
  - Artificial recharge f
  - Suitable sites for A
  - Artificial recharge -
  - Artificial recharge -
  - Artificial recharge -
  - Artificial recharge -
  - Artificial recharge -
  - Artificial recharge -
  - Artificial Recharge

- ARANTANGI TALUK
- AVUDAIYARKOIL TALUK
- GANDARVAKOTTAI TAL
- ILUPPUR TALUK
- KULATHUR TALUK
- MANAMELKUDI TALUK
- PUDUKKOTTAI TALUK
- TIRUMAYAM TALUK

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

ARTIFICIAL RECHARGE - PITTING - KULATHUR TALUK

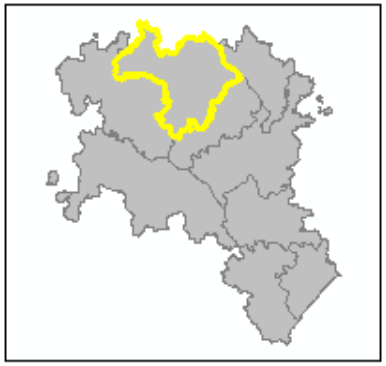
Pudukkottai District , Tamil Nadu



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- Taluk map
- Settlement
- River
- Railway line
- Major_Road
- Other Areas
- Suitable Sites for Pitting



Choose any Resource Map then select the Taluk Names

78°31'25.60"E 10°28'52.64"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

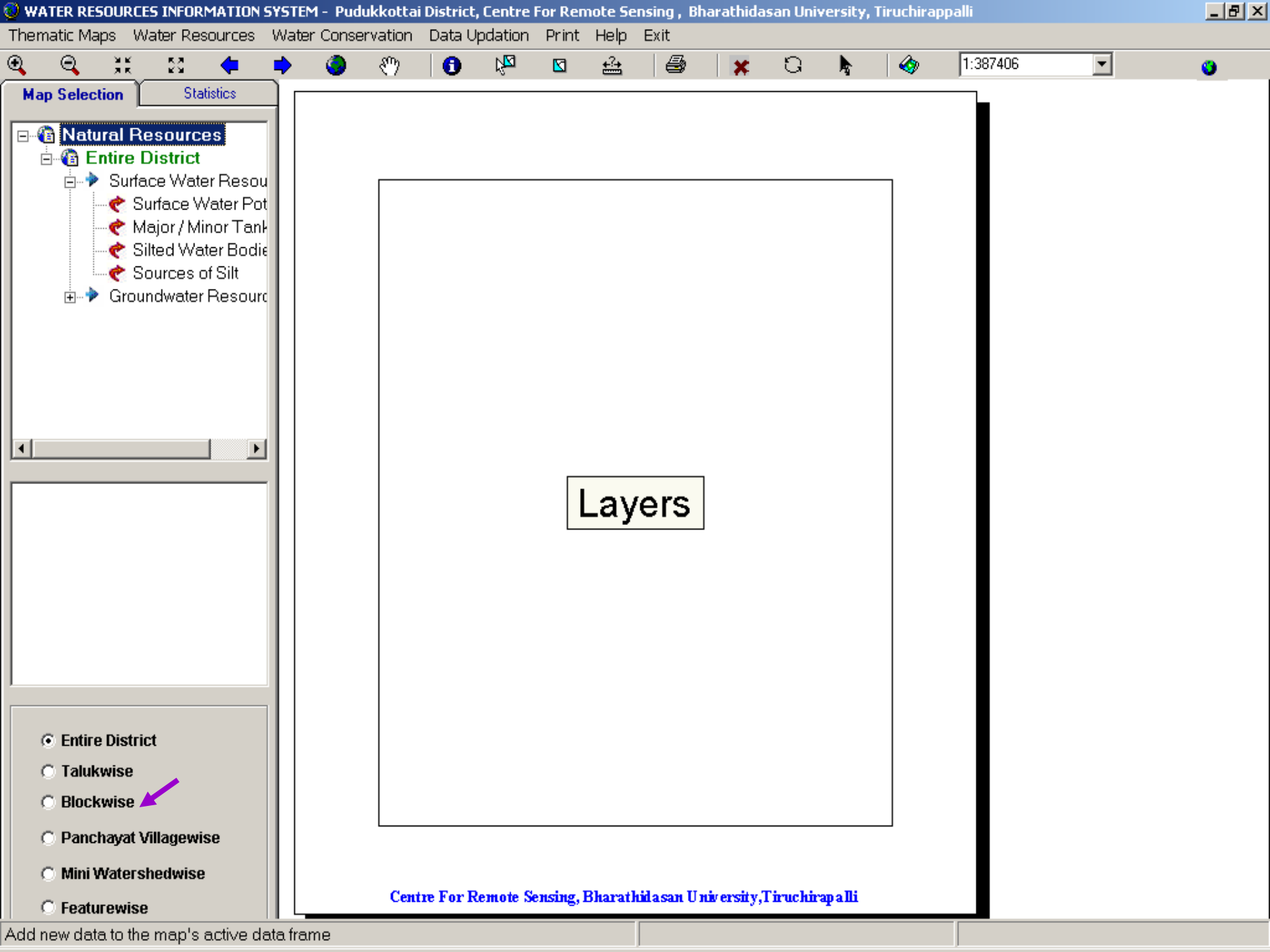
Map Selection | Statistics

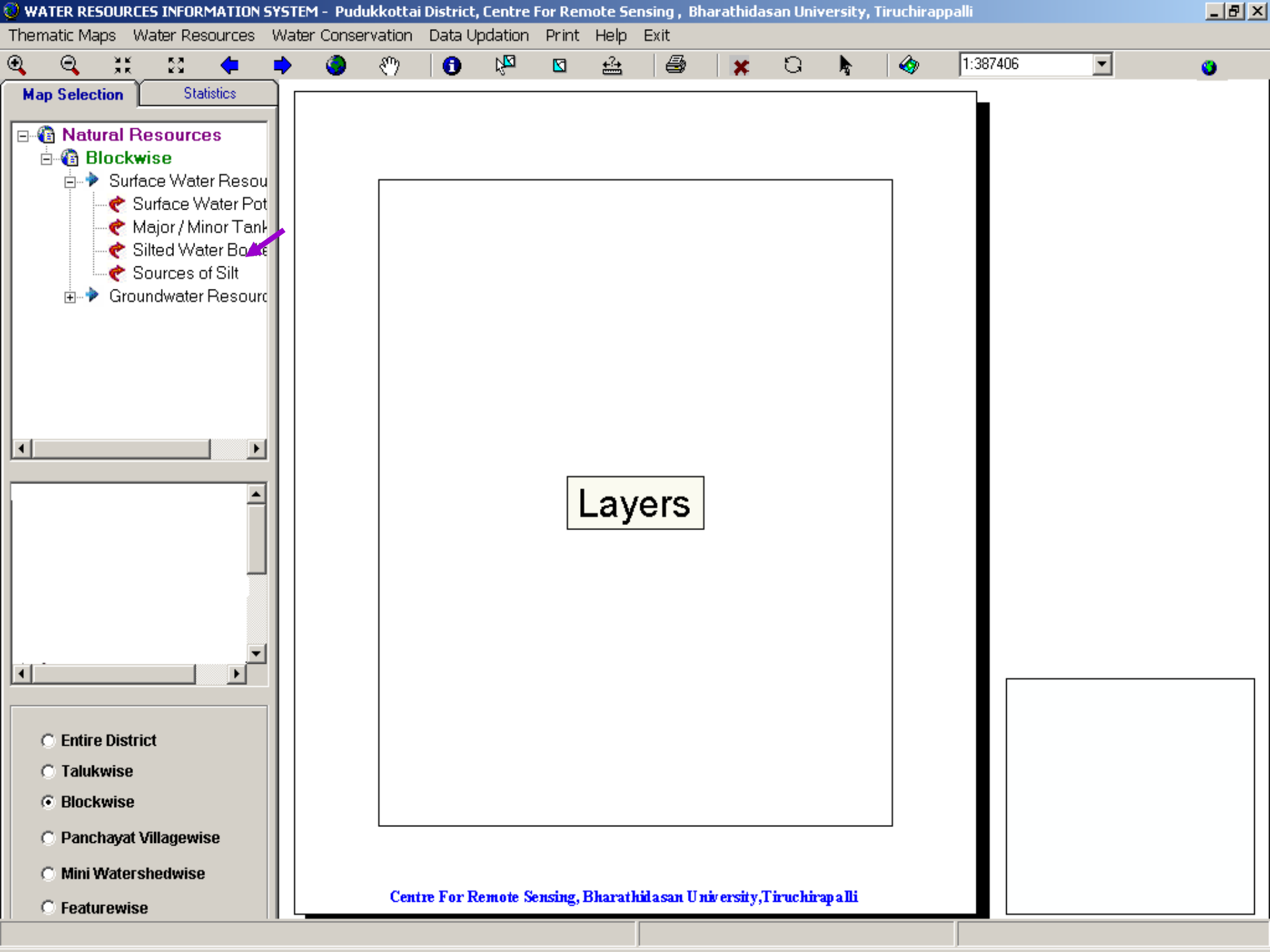
- Natural Resources
  - Entire District
    - Surface Water Resou
    - Groundwater Resourc

Layers

- (•) Entire District
- ( ) Talukwise
- ( ) Blockwise
- ( ) Panchayat Villagewise
- ( ) Mini Watershedwise
- ( ) Featurewise

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
Print
Help
Exit
1:387406
Map Selection
Statistics
Natural Resources
Entire District
Surface Water Resou
Surface Water Pot
Major / Minor Tank
Silted Water Bodie
Sources of Silt
Groundwater Resourc
Layers
Entire District
Talukwise
Blockwise
Panchayat Villagewise
Mini Watershedwise
Featurewise
Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli
Add new data to the map's active data frame


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
Print
Help
Exit
1:387406
Map Selection
Statistics
Natural Resources
Blockwise
Surface Water Resou
Surface Water Pot
Major / Minor Tank
Silted Water Bo
Sources of Silt
Groundwater Resourc
Layers
Entire District
Talukwise
Blockwise
Panchayat Villagewise
Mini Watershedwise
Featurewise
Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:886313

Map Selection | Statistics

- Natural Resources
  - Blockwise
    - Surface Water Resou
      - Surface Water Pot
      - Major / Minor Tank
      - Silted Water Bodies
      - Sources of Silt
    - Groundwater Resourc

- ARANTANGI BLOCK
- ARIMALAM BLOCK
- AVUDAIYARKOIL BLOCK
- GANDARVAKOTTAI BLC
- KARAMBAKUDI BLOCK
- KUNNANDARKOIL BLOC
- MANAMELKUDI BLOCK
- PONNAMARAVATHI BLC

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

SURFACE WATER RESOURCES - SILTED WATER BODIES

Pudukkottai District , Tamil Nadu

N W E S

Layers

125 0 125 250 km

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

Choose any Resource Map then select the Block Names

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:188044

Map Selection | Statistics

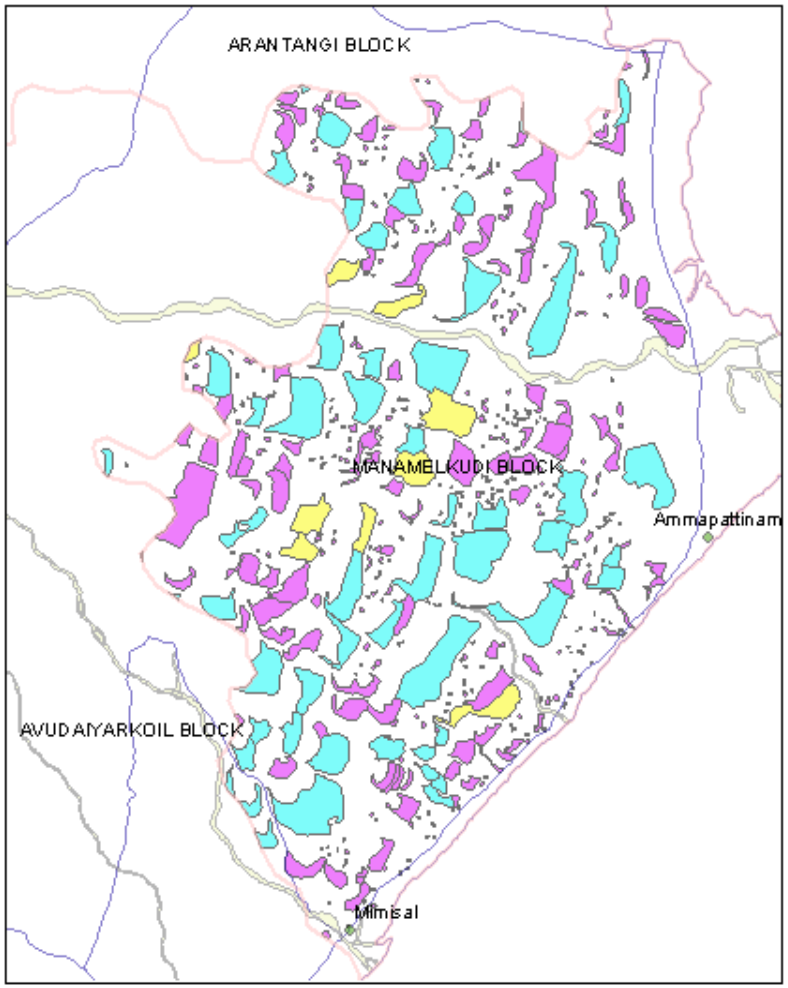
- Natural Resources
  - Blockwise
    - Surface Water Resou
      - Surface Water Pot
      - Major / Minor Tank
      - Silted Water Bodie
      - Sources of Silt
    - Groundwater Resourc

- KARAMBAKUDI BLOCK
- KUNNANDARKOIL BLOC
- MANAMELKUDI BLOCK
- PONNAMARAVATHI BL
- PUDUKKOTTAI BLOCK
- THIRUVARANGULAM B
- TIRUMAYAM BLOCK
- VIRALIMALAI BLOCK

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

SILTED WATER BODIES - MANAMELKUDI BLOCK

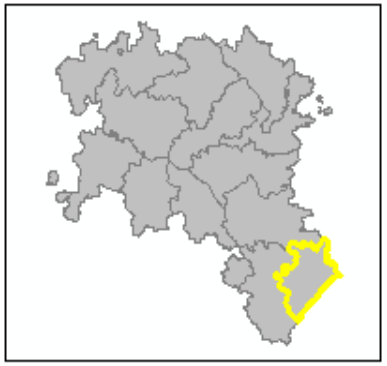
Pudukkottai District , Tamil Nadu



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- block map
- Settlement
- River
- Railway line
- Major_Road
- <30% SILTED TANKS
- 60 - 30% SILTED TANKS
- >60% SILTED TANKS



Choose any Resource Map then select the Block Names

78°29'50.79"E 10°32'36.58"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:188044

Map Selection | Statistics

- Mini Watershed Ma
- Rock Types and L
- Structural Trendline
- Lineaments
- Geomorphology
- Drainages, Rivers
- Soil Types (upto S
- Landuse and Land
- Slope Map (in %)
- Lineament Density
- Drainage Density (
- Observation Wells
- Rainfall (in mm)
- Water Level (in me

Village Names

- 9A-NATHAMPANNAI
- 9B-NATHAMPANNAI
- ADHANOOR
- AGARAPATTI
- AKKACHIPATTI
- ALAMPATTI
- ALANGUDI - VIRALIMAL

- (o) Entire District
- ( ) Talukwise
- ( ) Blockwise
- (•) Panchayat Villagewise
- ( ) Mini Watershedwise
- ( ) Featurewise

Layers

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Choose any Resource Map then select the Village Names

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:886313

Map Selection | Statistics

- Drainages, Rivers
- Soil Types (upto S
- Landuse and Land
- Slope Map (in %)
- Lineament Density
- Drainage Density (
- Observation Wells
- Rainfall (in mm)
- Water Level (in me
- Thickness of Top S
- Thickness of Weat
- Depth to Bed rock
- Transmissivity (in g
- Permeability (in g/c

Village Names

- 9A-NATHAMPANNAI
- 9B-NATHAMPANNAI
- ADHANOOR
- AGARAPATTI
- AKKACHIPATTI
- ALAMPATTI
- ALANGUDI - VIRALIMAL

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

DRAINAGE DENSITY (IN M/1 SQ.KM)

Pudukkottai District , Tamil Nadu

N W E S

Layers

125 0 125 250 km

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

Choose any Resource Map then select the Village Names

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:47285

Map Selection | Statistics

- Lineaments
- Geomorphology
- Drainages, Rivers
- Soil Types (upto S
- Landuse and Land
- Slope Map (in %)
- Lineament Density
- Drainage Density (
- Observation Wells
- Rainfall (in mm)
- Water Level (in me
- Thickness of Top S
- Thickness of Weat
- Depth to Bed rock

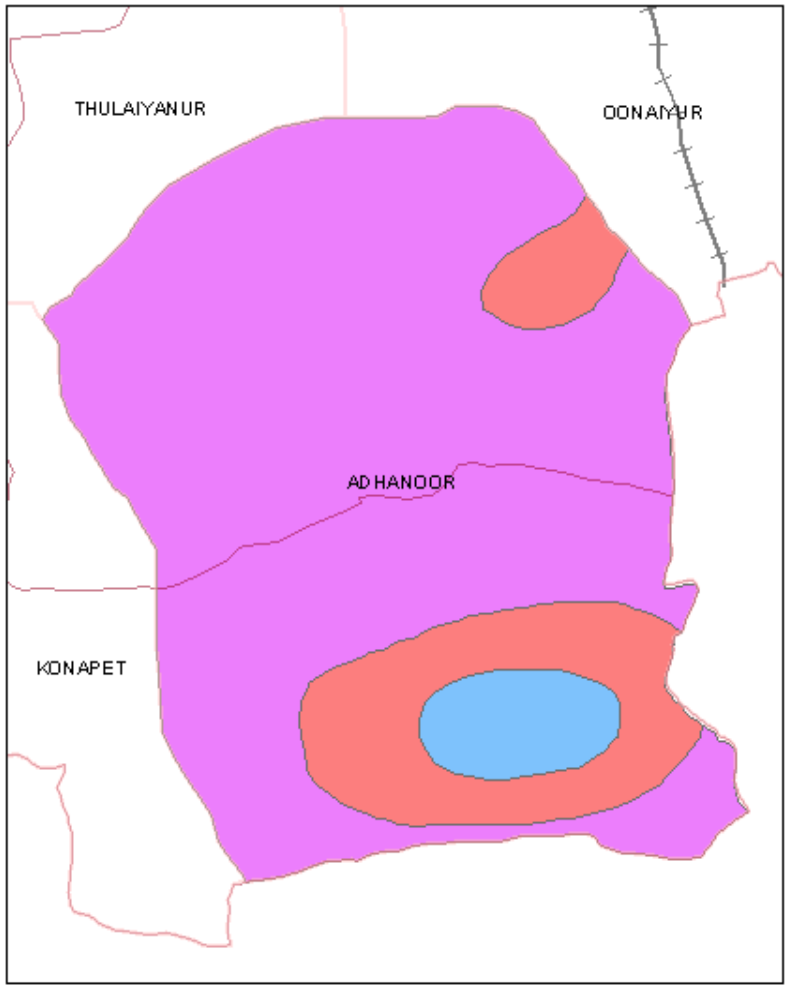
Village Names

- 9A-NATHAMPANNAI
- 9B-NATHAMPANNAI
- ADHANOOR
- AGARAPATTI
- AKKACHIPATTI
- ALAMPATTI
- ALANGUDI - VIRALIMAL

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

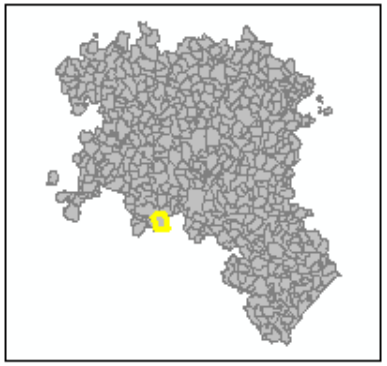
DRAINAGE DENSITY (IN M/1 SQ.KM) - ADHANOOR

Pudukkottai District , Tamil Nadu



Legend

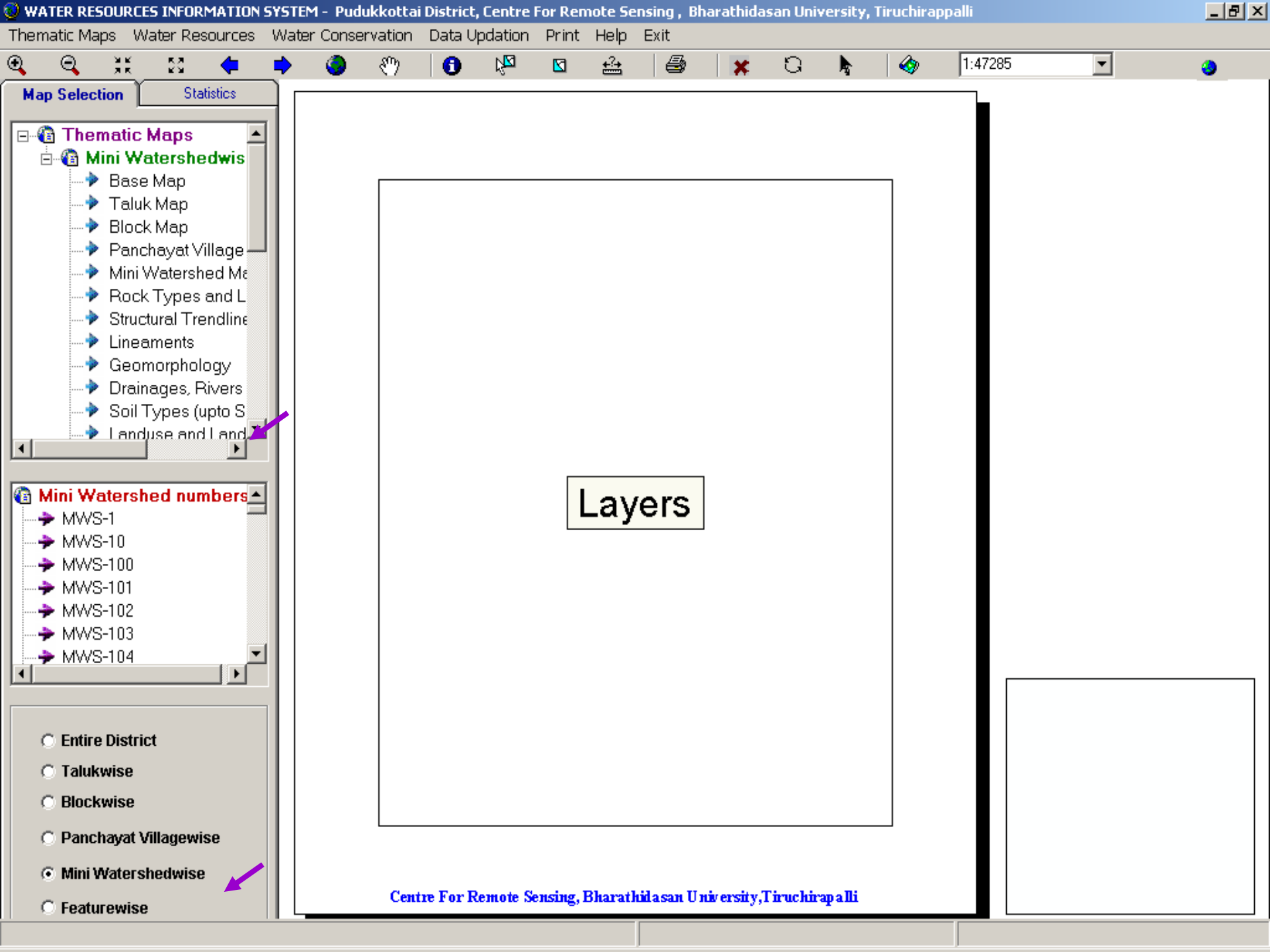
- village
- Settlement
- River
- Railway line
- Major_Road
- HIGH (m/1 sq.km)
- MEDIUM (m/1 sq.km)
- LOW (m/1 sq.km)



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Choose any Resource Map then select the Village Names

78°42'56.25"E 10°9'55.57"N


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
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Exit
1:47285
Map Selection
Statistics
Thematic Maps
Mini Watershedwis
Base Map
Taluk Map
Block Map
Panchayat Village
Mini Watershed Ma
Rock Types and L
Structural Trendline
Lineaments
Geomorphology
Drainages, Rivers
Soil Types (upto S
Landuse and Land
Mini Watershed numbers
MWS-1
MWS-10
MWS-100
MWS-101
MWS-102
MWS-103
MWS-104
Entire District
Talukwise
Blockwise
Panchayat Villagewise
Mini Watershedwise
Featurewise
Layers
Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:886313

Map Selection | Statistics

- Drainage Density (
- Observation Wells
- Rainfall (in mm)
- Water Level (in me
- Thickness of Top S
- Thickness of Weat
- Depth to Bed rock
- Transmissivity (in g
- Permeability (in g/c
- Storage Co-efficier
- Specific Yield (in l
- Total Dissolved Sc
- Electrical Conducti
- Ground Water Qua

- MWS-84
- MWS-85
- MWS-86
- MWS-87
- MWS-88
- MWS-89
- MWS-9
- MWS-90

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

SPECIFIC YIELD (IN LPS)

Pudukkottai District , Tamil Nadu

N W E S

Layers

125 0 125 250 km

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

Choose any Resource Map then select the Mini Watershed numbers

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:100972

Map Selection | Statistics

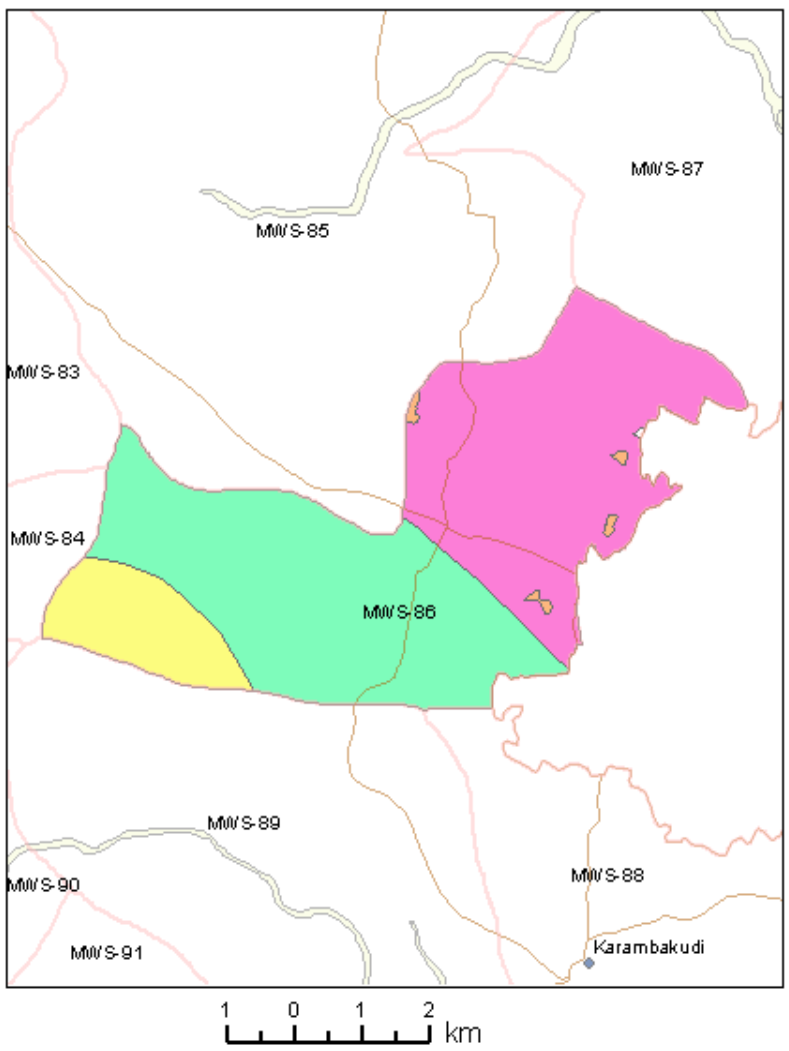
- Lineament Density
- Drainage Density (
- Observation Wells
- Rainfall (in mm)
- Water Level (in me
- Thickness of Top S
- Thickness of Weat
- Depth to Bed rock
- Transmissivity (in g
- Permeability (in g/c
- Storage Co-efficier
- Specific Yield (in lp
- Total Dissolved So
- Electrical Conducti

- MWS-84
- MWS-85
- MWS-86
- MWS-87
- MWS-88
- MWS-89
- MWS-9
- MWS-90

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

STORAGE CO-EFFICIENT (IN METERS) - MWS-86

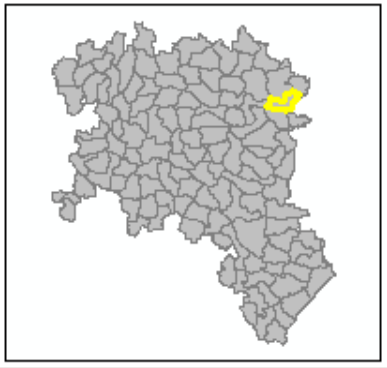
Pudukkottai District , Tamil Nadu



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- Mini Watershed Map
- Settlement
- River
- Railway line
- Major_Road
- Other Areas
- 0.15 - 1 m
- 1 - 2 m
- 2 - 3 m



Choose any Resource Map then select the Mini Watershed numbers

79°8'5.69"E 10°30'19.26"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:100972

Map Selection | Statistics

- Natural Resources
  - Featurewise
    - Surface Water Resou
    - Groundwater Resourc
      - Potential Groundw
      - Groundwater Suita
      - Groundwater Suita
      - Groundwater Suita
      - Zones of Poor Gro
      - Poor Groundwater
      - Poor Groundwater

Layers

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:886313

Map Selection | Statistics

- Natural Resources
  - Featurewise
    - Surface Water Resou
    - Groundwater Resourc
      - Potential Groundw
      - Groundwater Suita
      - Groundwater Suita
      - Groundwater Suita
      - Zones of Poor Gro
      - Poor Groundwater
      - Poor Groundwater

Features

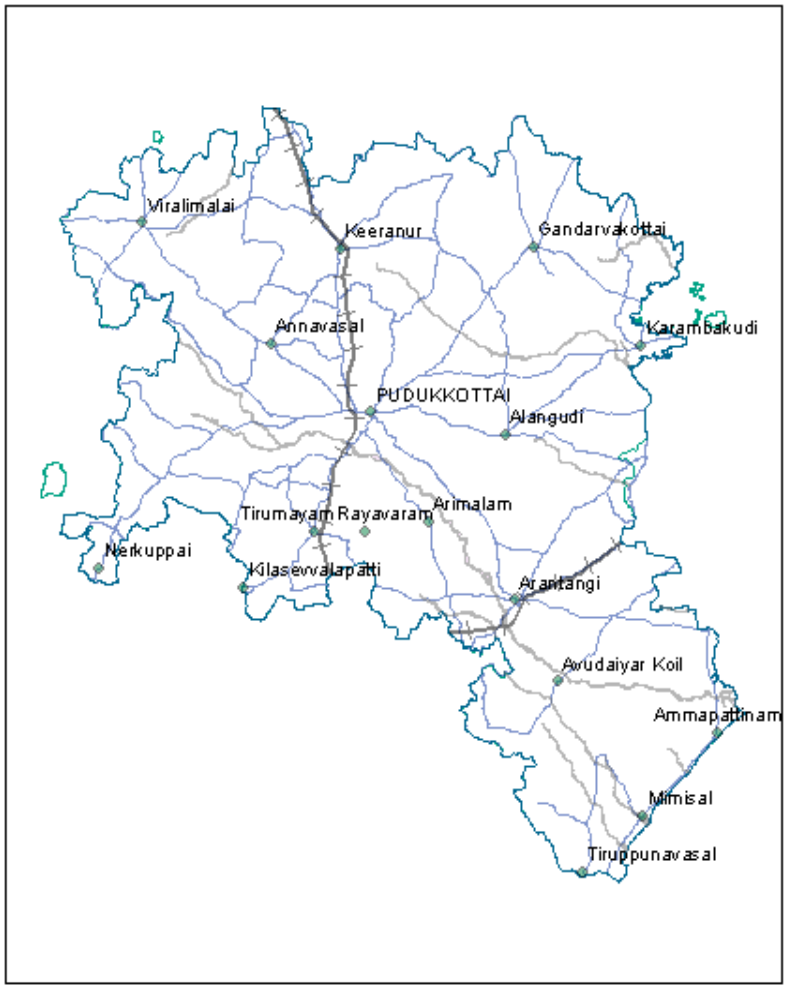
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Choose any Resource Map then select the Features

78°13'1.89"E 10°42'0.35"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:886313

Map Selection | Statistics

- Natural Resources
  - Featurewise
    - Surface Water Resou
    - Groundwater Resourc
      - Potential Groundw
      - Groundwater Suita
      - Groundwater Suita
      - Groundwater Suita
      - Zones of Poor Gro
      - Poor Groundwater
      - Poor Groundwater

Features

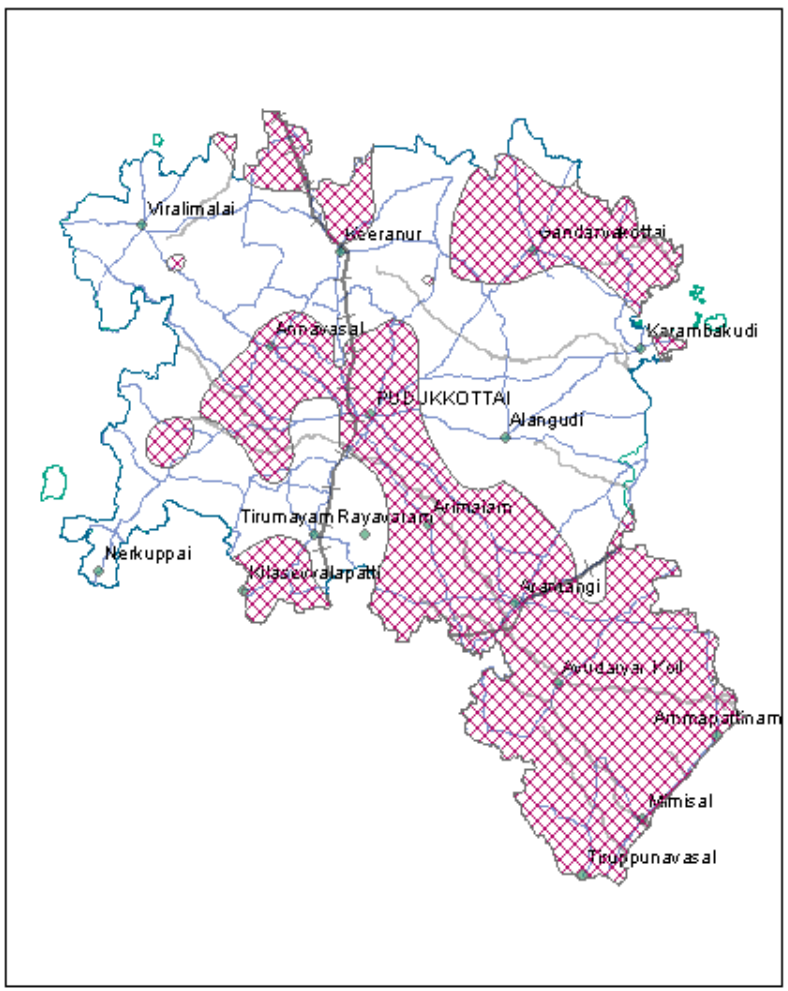
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

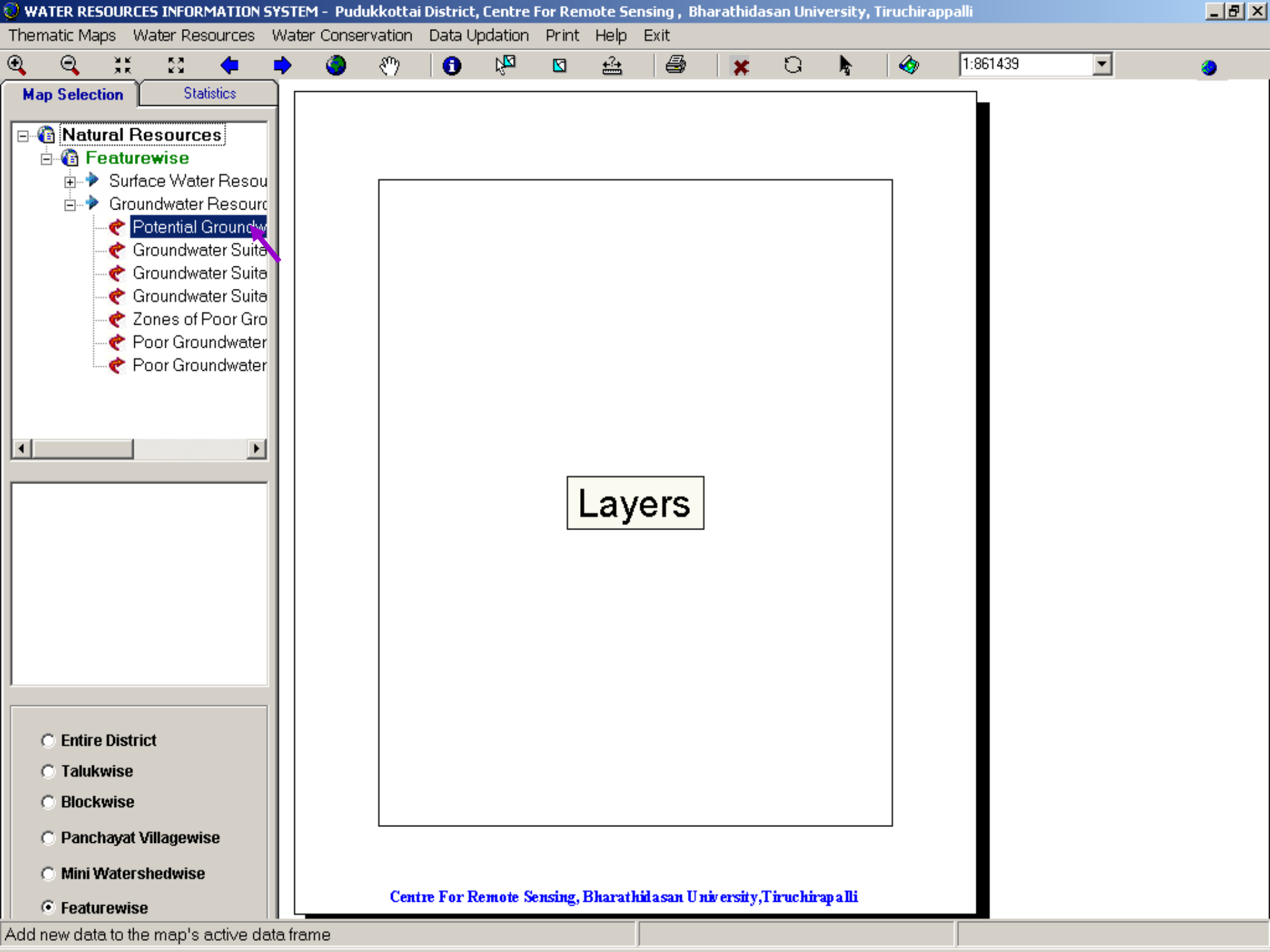
- Settlement
- River
- Railway line
- Major_Road

Legend

PRIORITY AREA - I

Choose any Resource Map then select the Features

78°14'9.82"E 9°56'7.40"N


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
Print
Help
Exit
1:861439
Map Selection
Statistics
Natural Resources
Featurewise
Surface Water Resou
Groundwater Resourc
Potential Groundw
Groundwater Suita
Groundwater Suita
Groundwater Suita
Zones of Poor Gro
Poor Groundwater
Poor Groundwater
Entire District
Talukwise
Blockwise
Panchayat Villagewise
Mini Watershedwise
Featurewise
Layers
Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli
Add new data to the map's active data frame

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:861506

Map Selection | Statistics

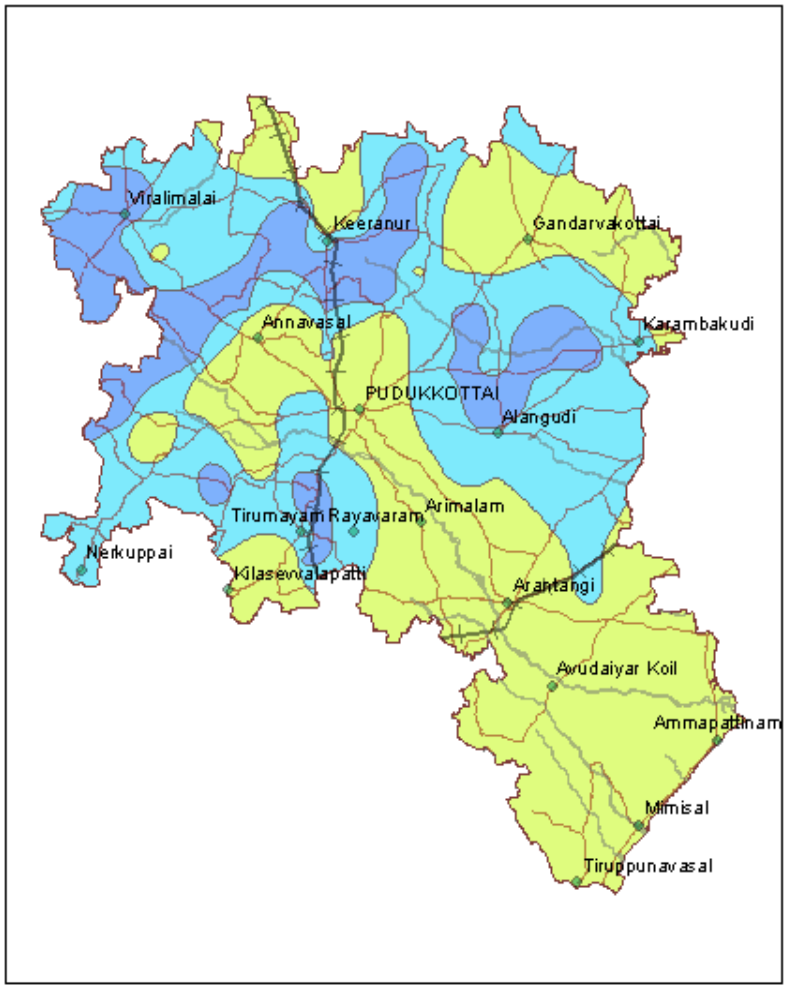
- Natural Resources
  - Entire District
    - Surface Water Resou
    - Groundwater Resourc
      - Potential Groundw
      - Groundwater Suita
      - Groundwater Suita
      - Groundwater Suita
      - Zones of Poor Gro
      - Poor Groundwater
      - Poor Groundwater

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°43'27.74"E 10°31'45.61"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:861506

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

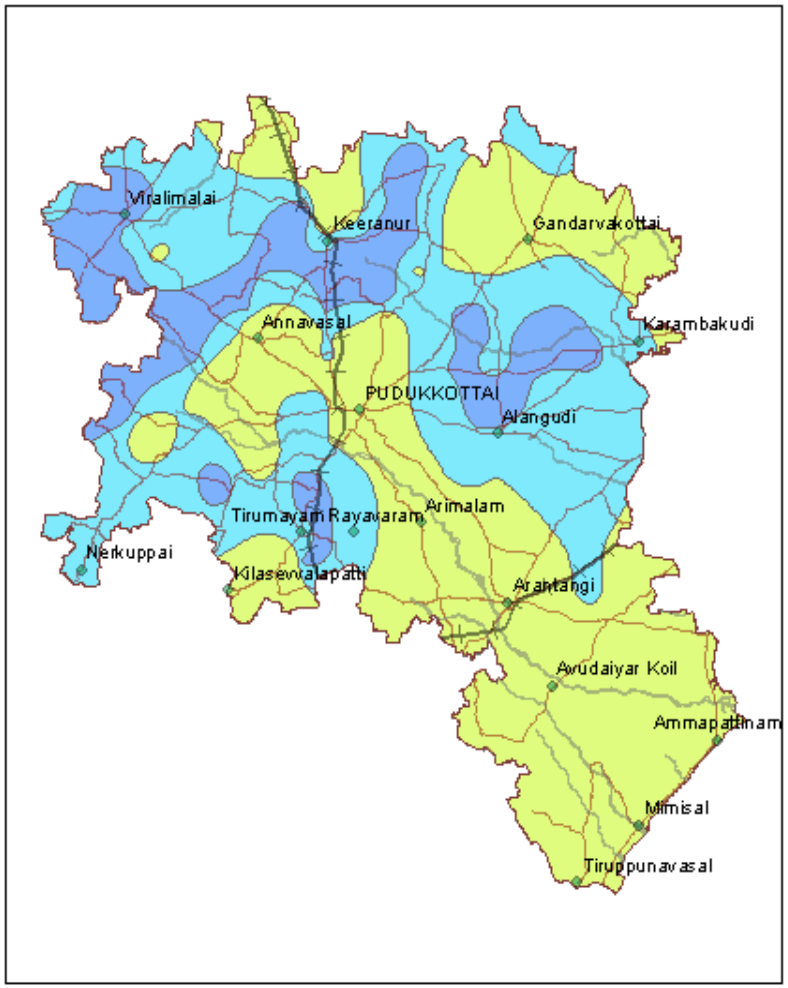
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Select the Layers to wrap over the displayed map(s)

78°14'55.95"E 10°38'20.67"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:861506

Map Selection | Statistics

Layers for Wrapping

- Lineament Density (in m/1 s
- Lineaments
- Major / Minor Tanks
- MAJOR ROAD
- Metallic Minerals
- Mini Watershed Map
- Minor Settlements
- Non-metallic Minerals

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

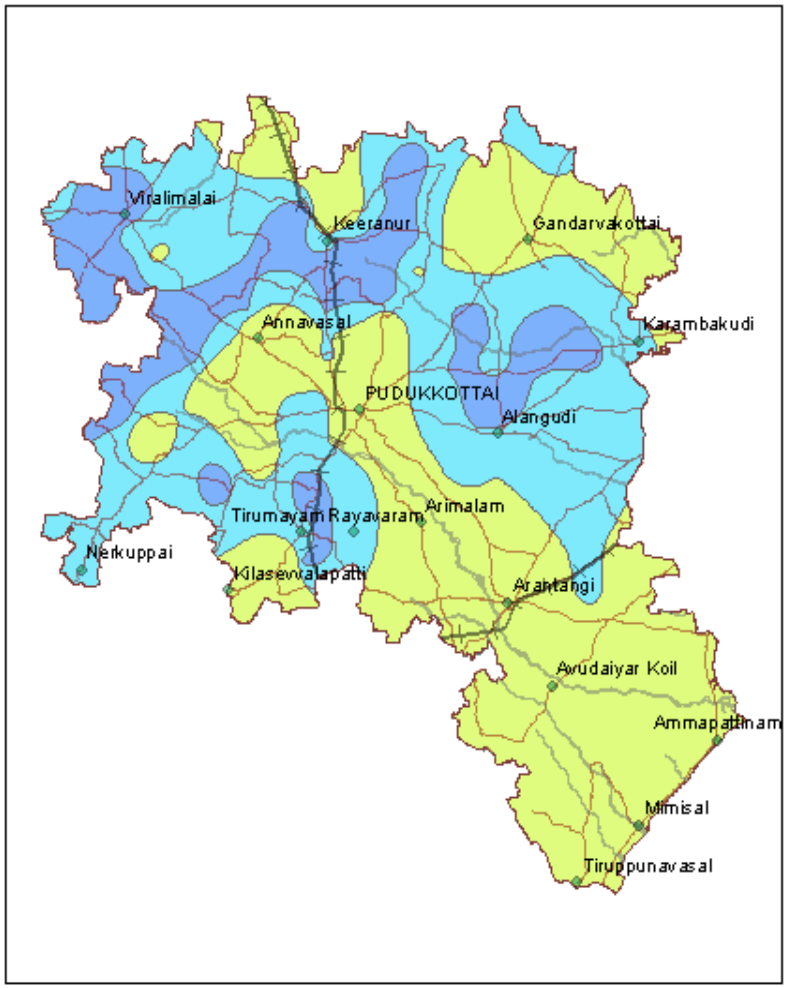
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Select the Layers to wrap over the displayed map(s)

78°14'17.25"E 10°31'37.29"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:861506

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

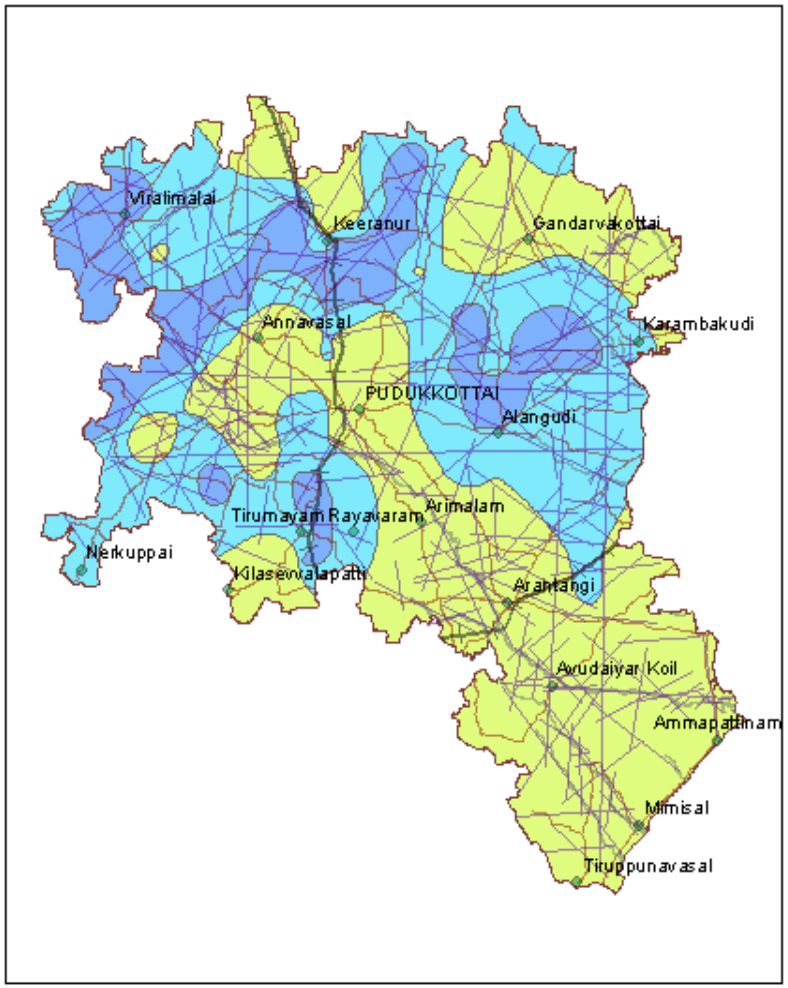
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Select the Layers to wrap over the displayed map(s)

78°15'4.36"E 10°30'35.29"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:861506

Zoom In the Focus Map

Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

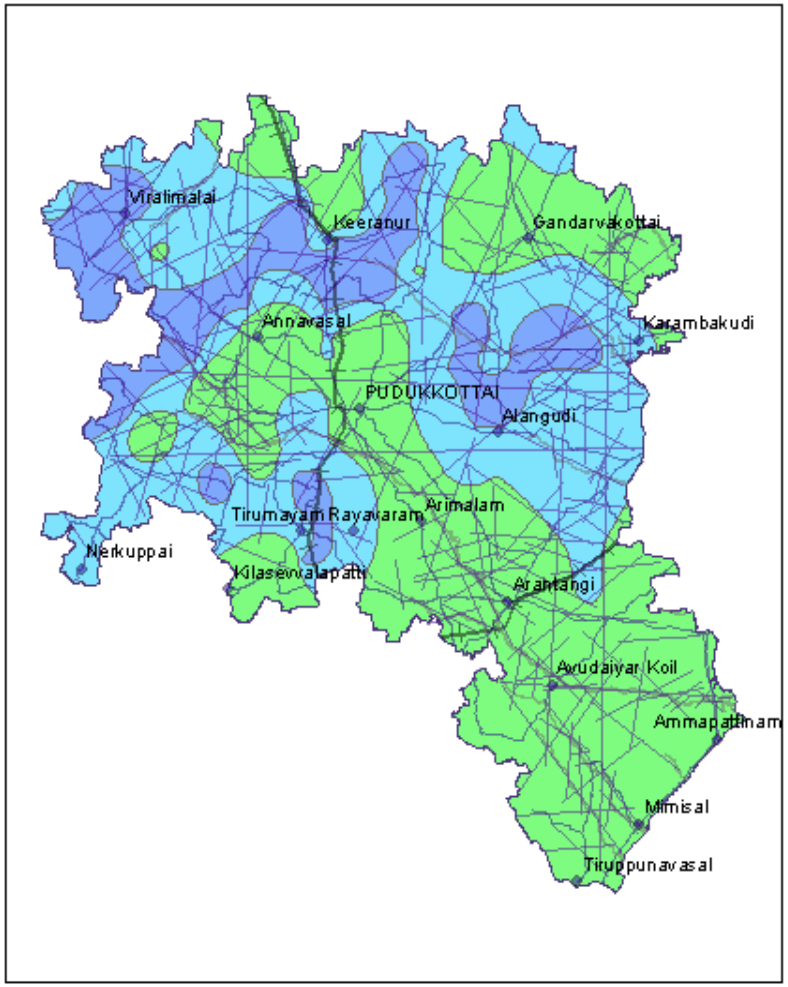
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°14'1.56"E 10°31'52.78"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:861506

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

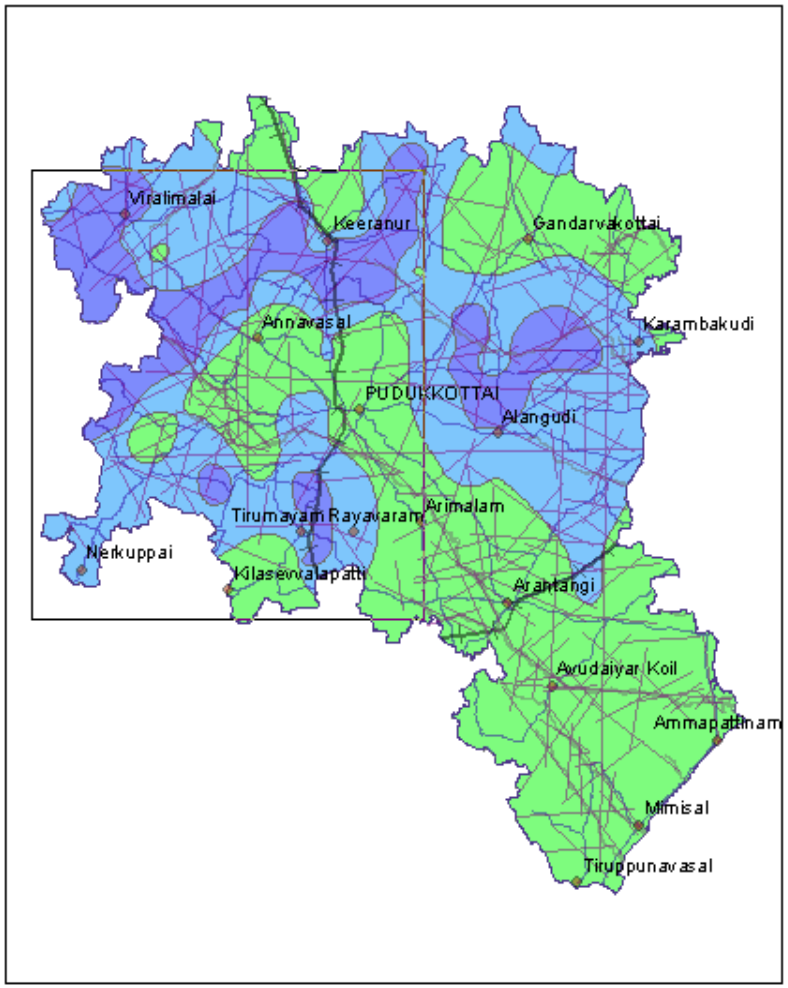
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Select the Layers to wrap over the displayed map(s)

78°26'18.10"E 10°39'0.06"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:434915

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

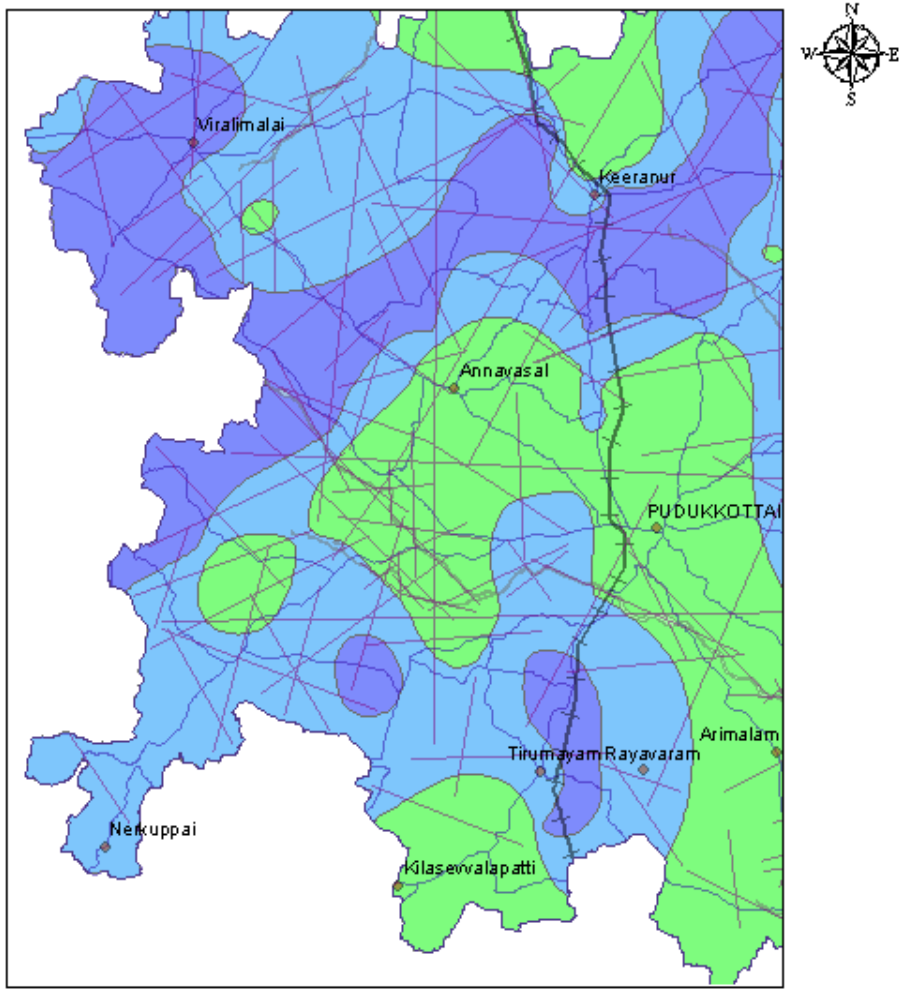
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°38'42.20"E 10°8'10.92"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:434915

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

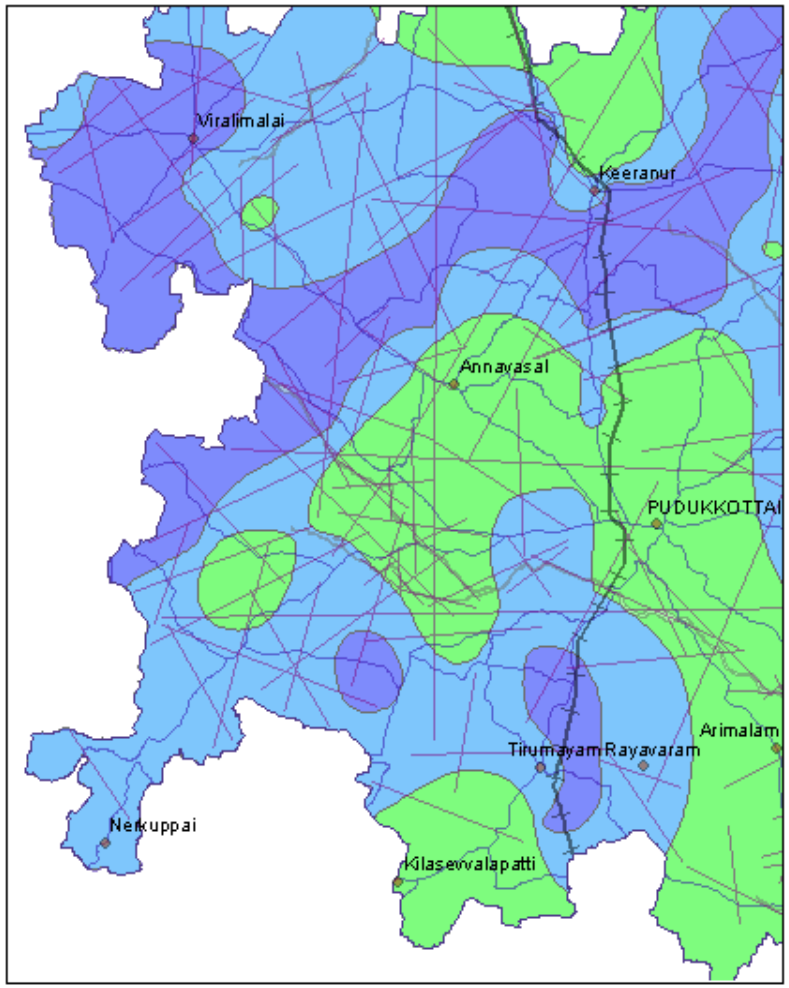
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°29'27.99"E 10°43'44.90"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:434915

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

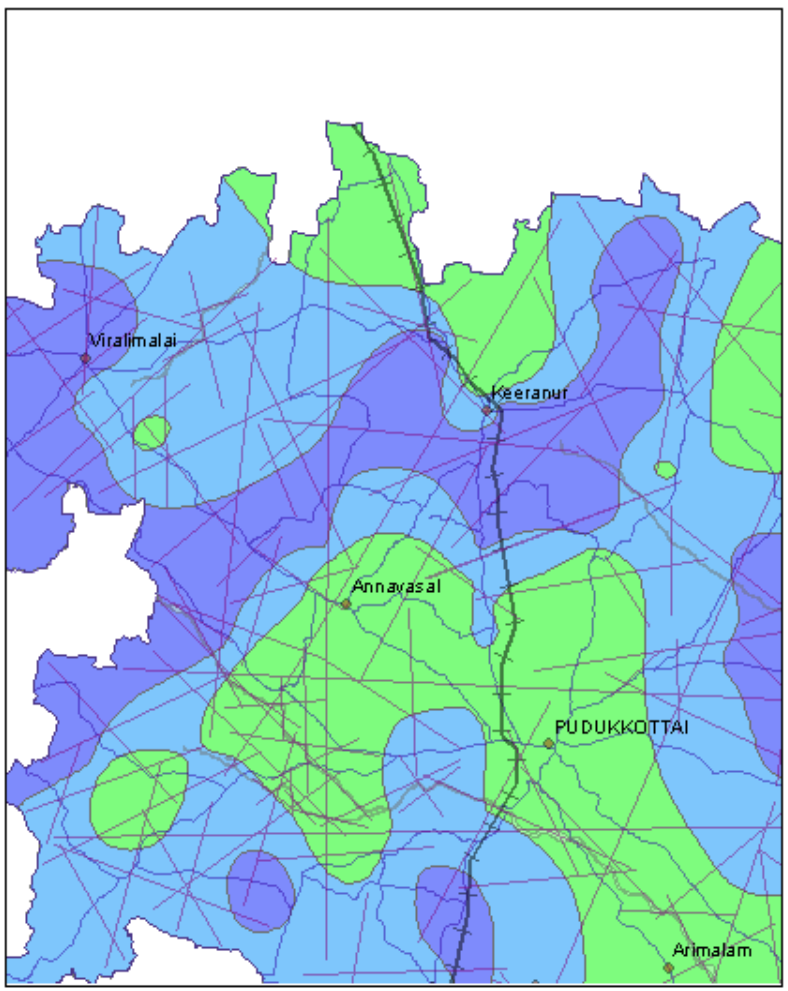
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

79°14'20.66"E 10°44'57.22"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:479369

Displays the details of a particular feature

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

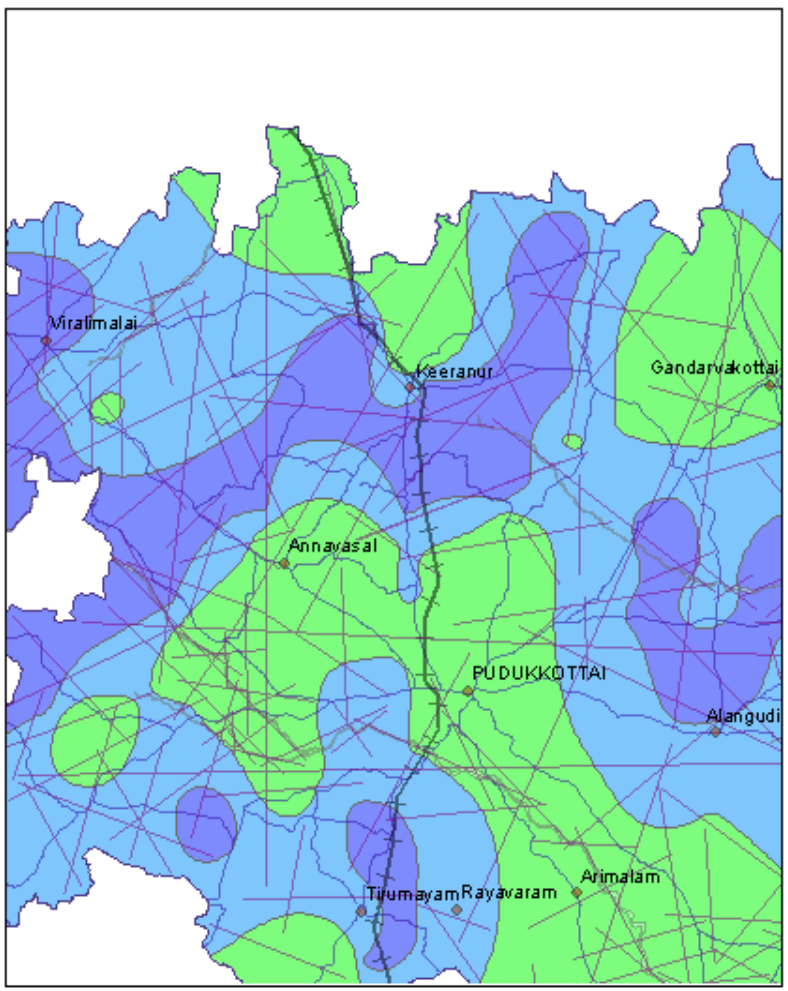
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°37'4.78"E 10°53'44.02"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:479369

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

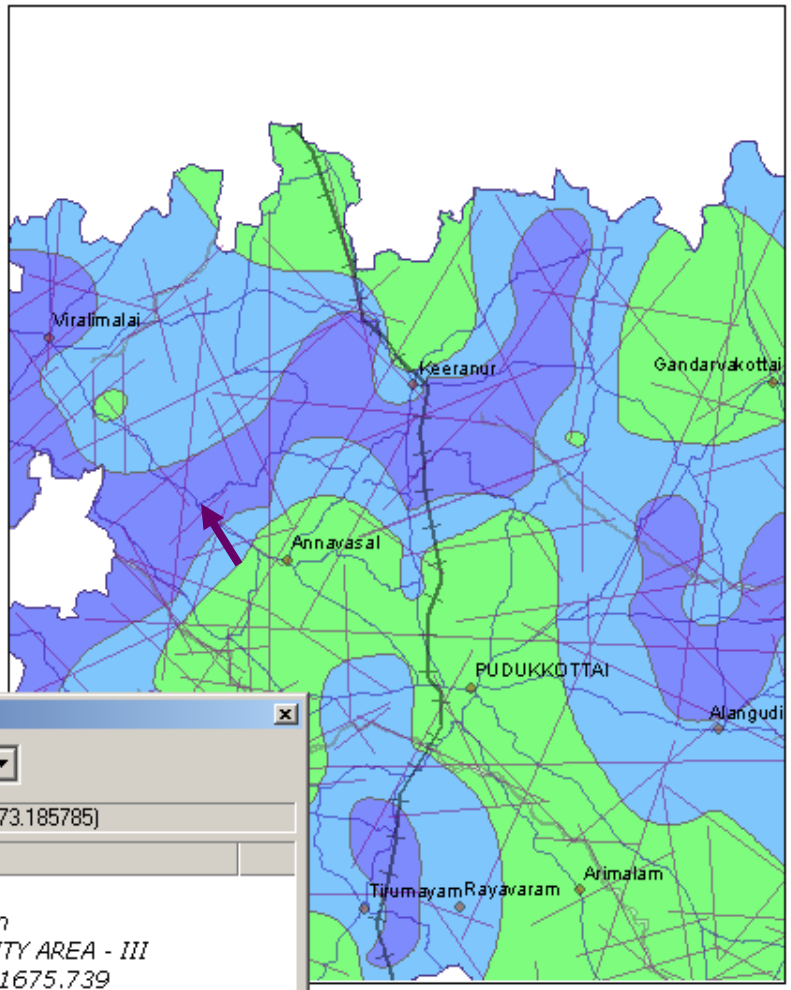
Select by Attributes

Query Builder

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

, Bharathidasan University,Tiruchirapalli

Identify Results

Layers: <Top-most layer>

gw_pot

PRIORITY AREA -

Location: (2814.438482 84673.185785)

Field	Value
FID	11
Shape	Polygon
LEGEND_TEX	PRIORITY AREA - III
AREA	339241675.739
PERIMETER	159120.333648

78°36'34.30"E 10°22'52.48"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:434915

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

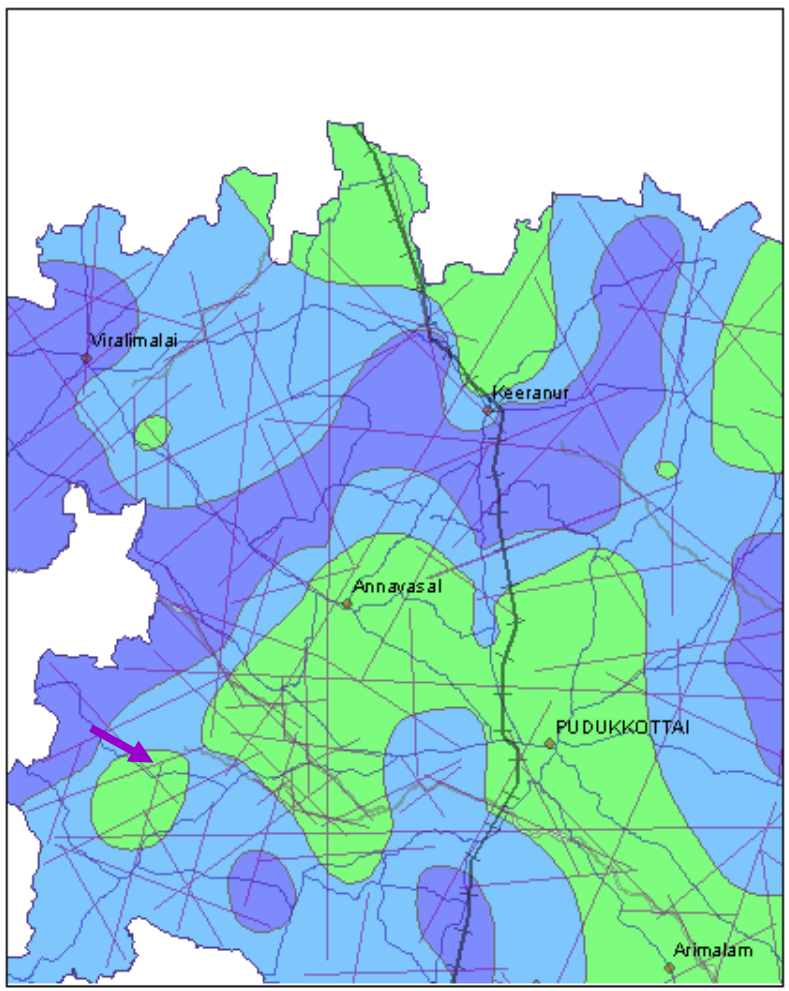
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°38'34.45"E 10°52'49.28"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:54611

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

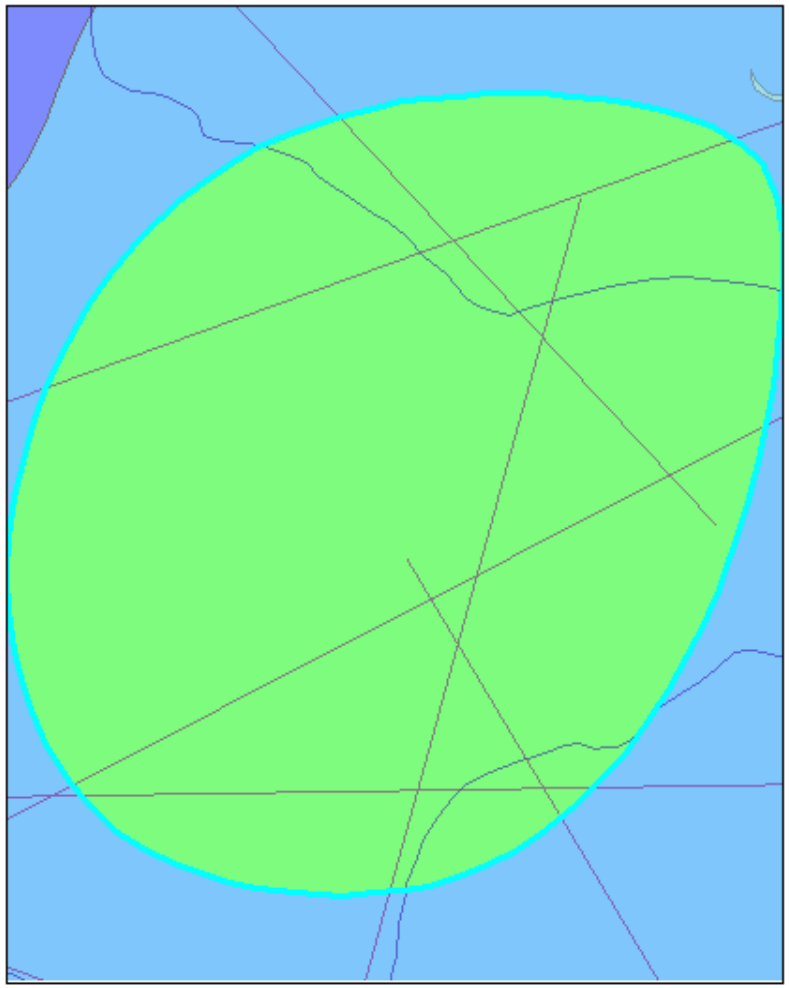
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

78°32'25.77"E 10°19'7.67"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:54611

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

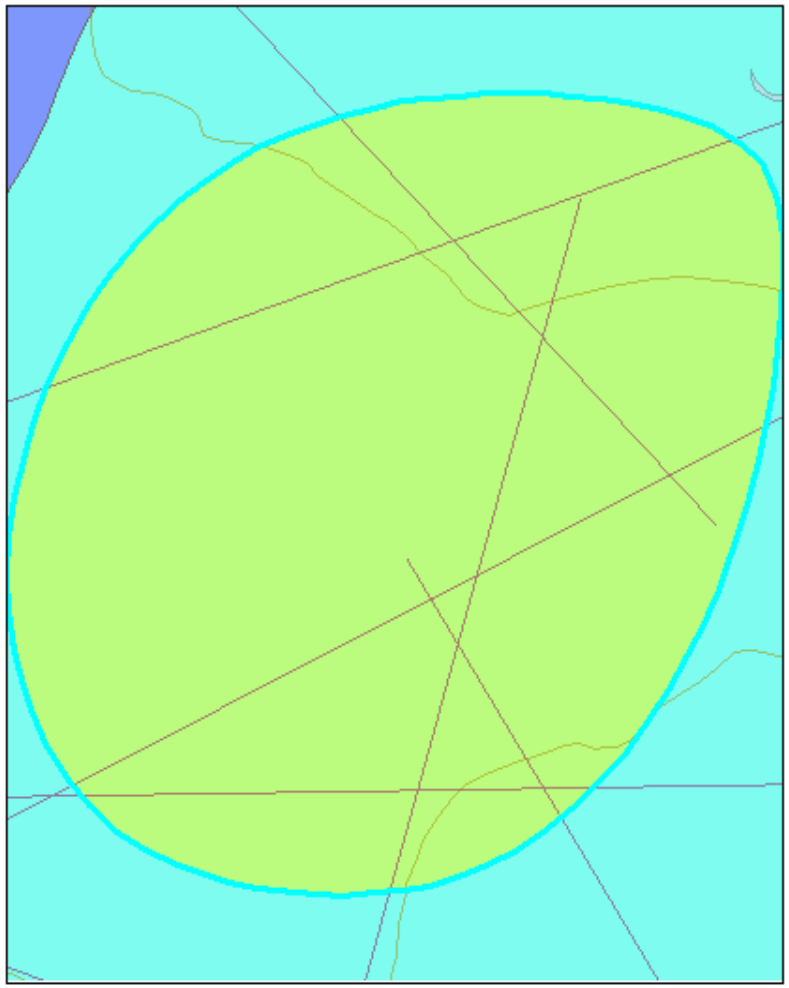
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

78°34'33.33"E 10°23'50.42"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:54611

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

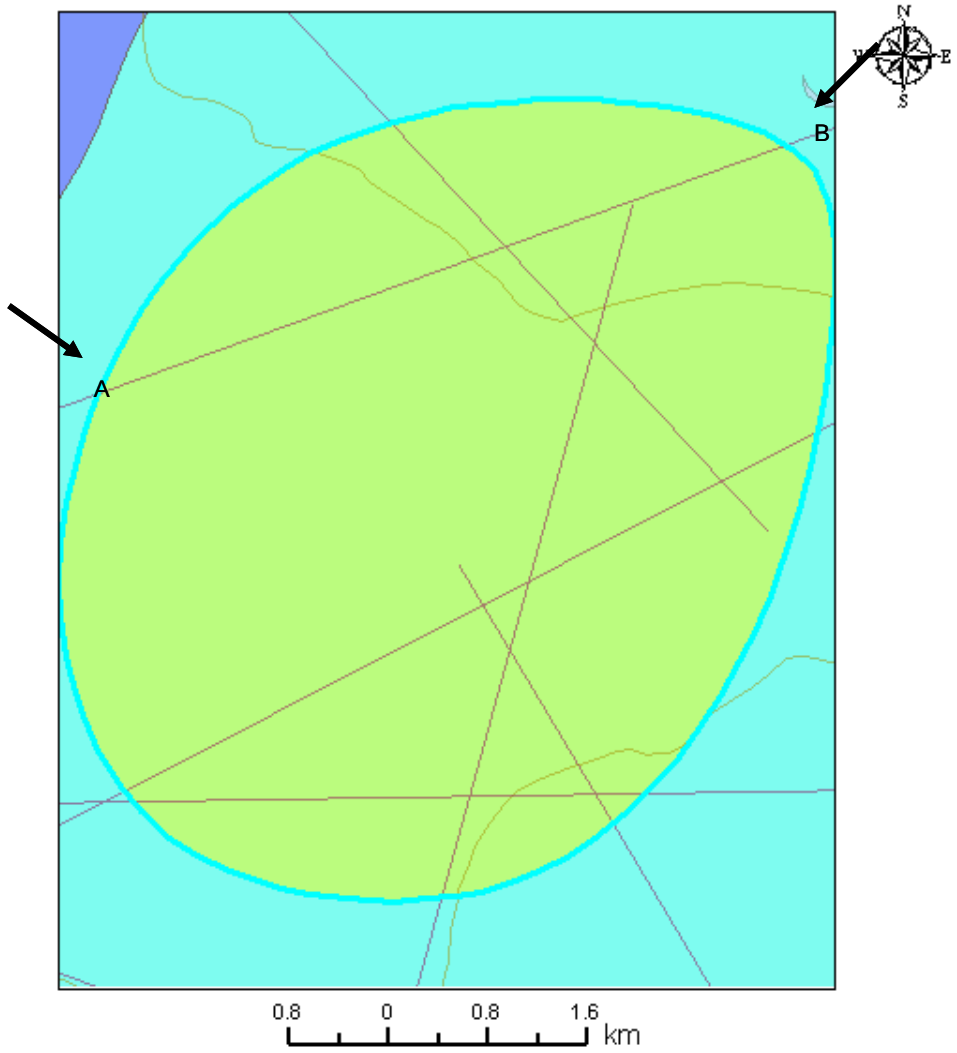
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

78°34'33.33"E 10°23'50.42"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:54611

Map Selection | Statistics

Layers for Wrapping

Lineaments

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

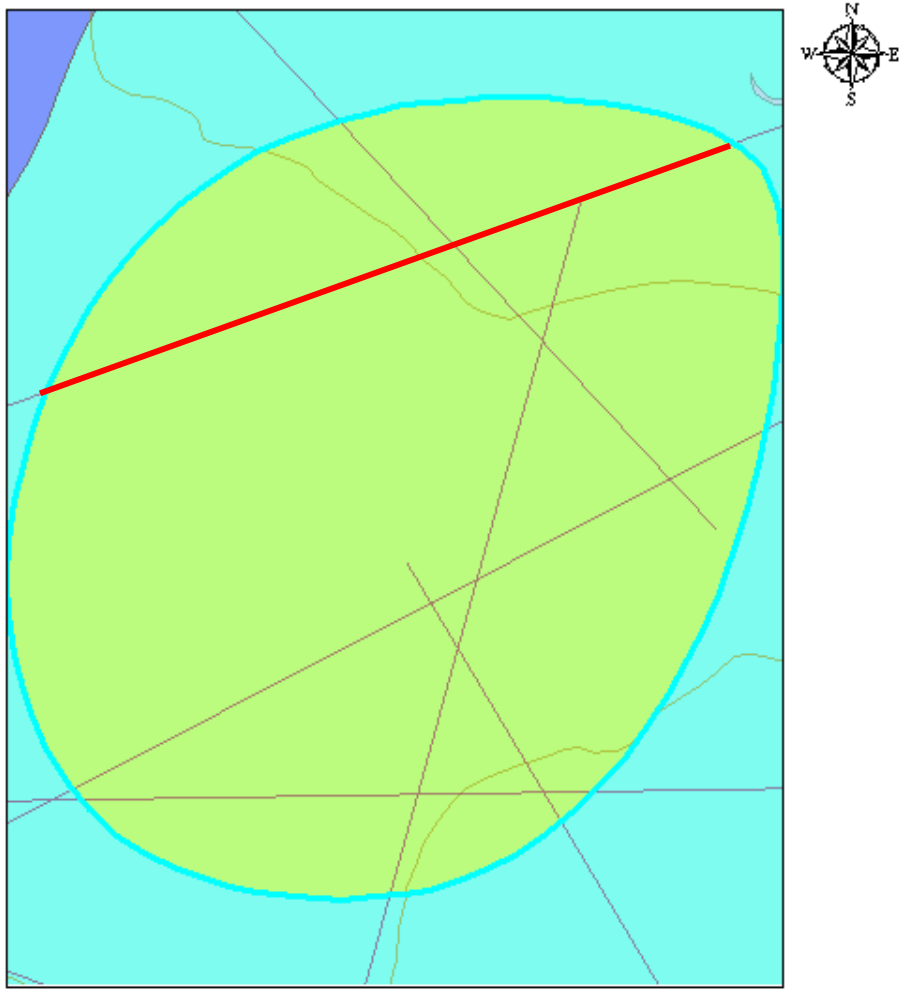
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Segment: 30.214542 ,Total: 5916.392052 Meters

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:479369

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

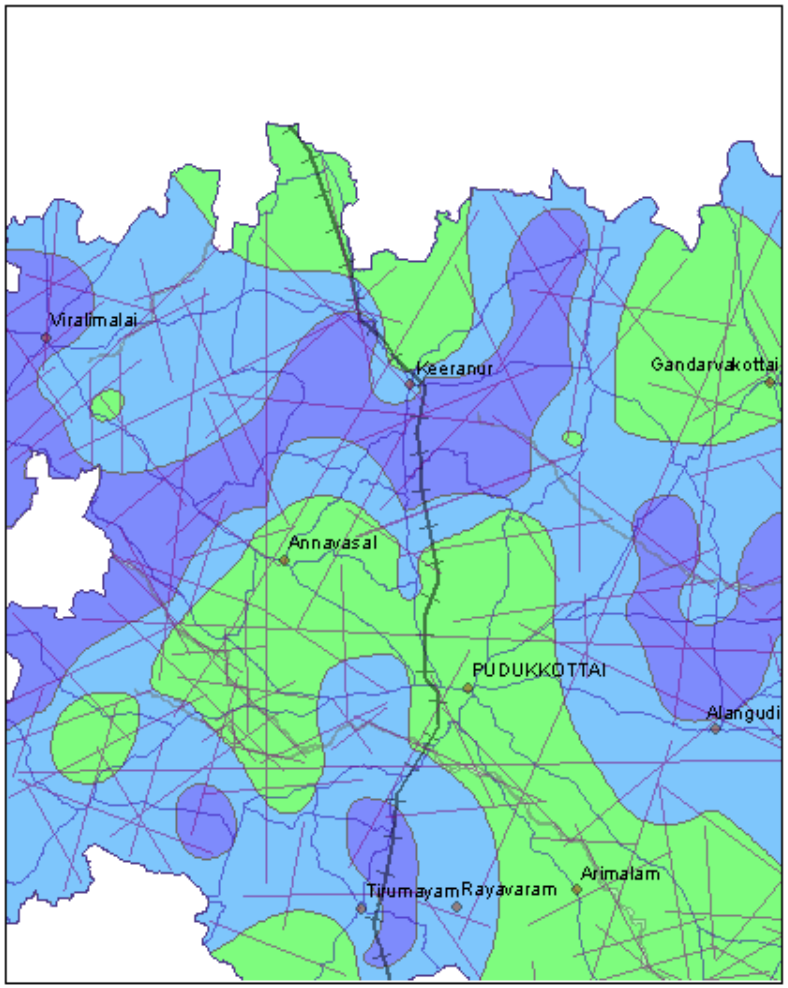
Selectable

Visible

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Click the button to view the non spatial information of the displayed spatial data

78°26'10.90"E 10°23'9.55"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

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Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

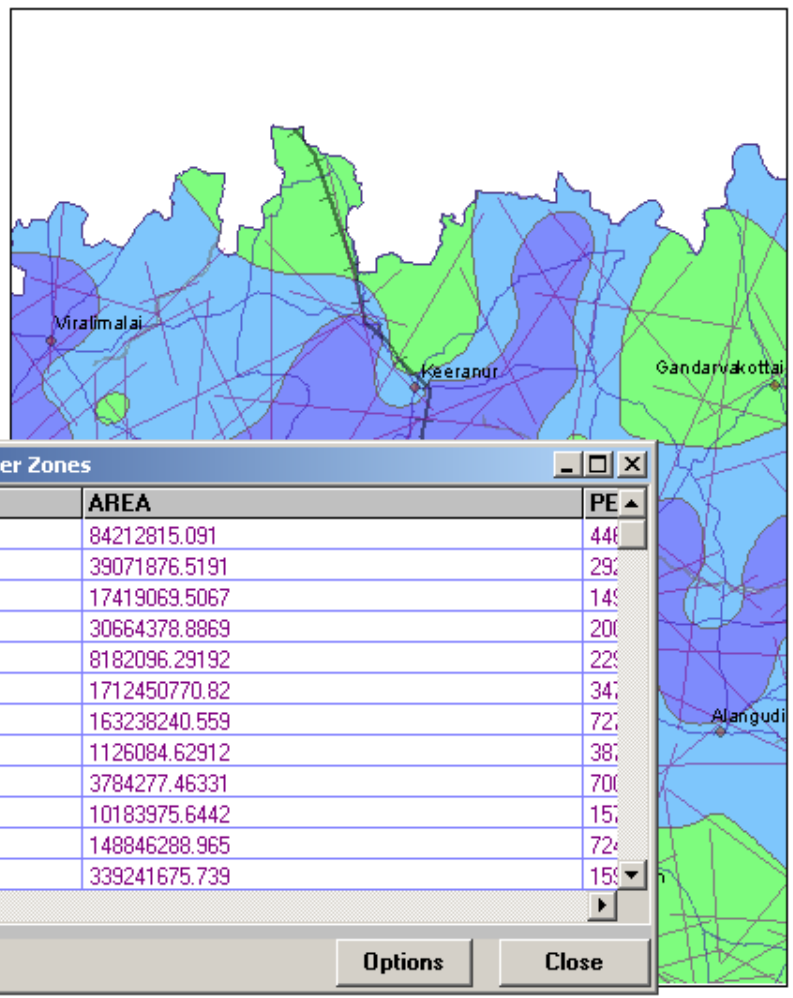
Spatial / Non - Spatial Data

List Data

GROUNDWATER RESOURCES

Potential Groundwater Zones

Pudukkottai District , Tamil Nadu



Spatial / Non-Spatial data - Potential Groundwater Zones

OID	LEGEND_TEX	AREA	PE
0	PRIORITY AREA - I	84212815.091	446
1	PRIORITY AREA - III	39071876.5191	29
2	PRIORITY AREA - III	17419069.5067	14
3	PRIORITY AREA - I	30664378.8869	20
4	PRIORITY AREA - I	8182096.29192	22
5	PRIORITY AREA - I	1712450770.82	34
6	PRIORITY AREA - III	163238240.559	72
7	PRIORITY AREA - I	1126084.62912	38
8	PRIORITY AREA - I	3784277.46331	70
9	PRIORITY AREA - II	10183975.6442	15
10	PRIORITY AREA - III	148846288.965	72
11	PRIORITY AREA - III	339241675.739	15

Field Description

Options | Close

7 0 7 14 km

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Legend

- Settlement
- River
- Railway line
- Major_Road
- PRIORITY AREA - I
- PRIORITY AREA - III
- PRIORITY AREA - II
- Lineament

Click the button to view the non spatial information of the displayed spatial data

78°26'10.90"E 10°23'9.55"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:861439

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

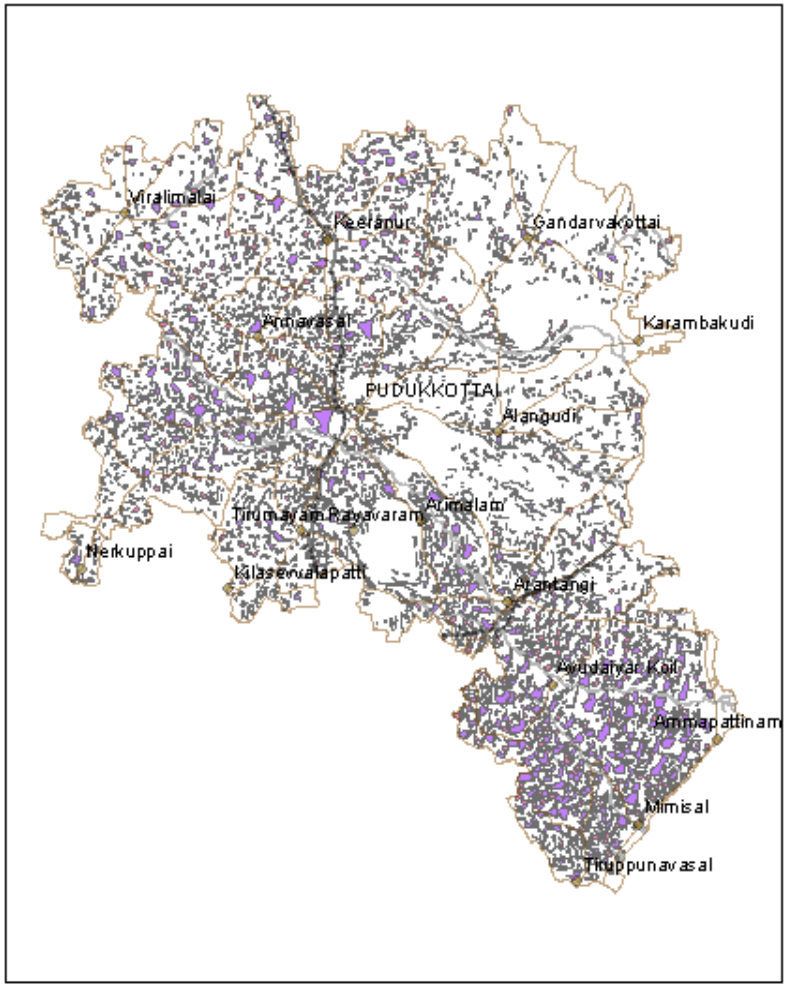
Label Features

Selectable

Visible

SURFACE WATER RESOURCES - MAJOR / MINOR TANKS

Pudukkottai District , Tamil Nadu



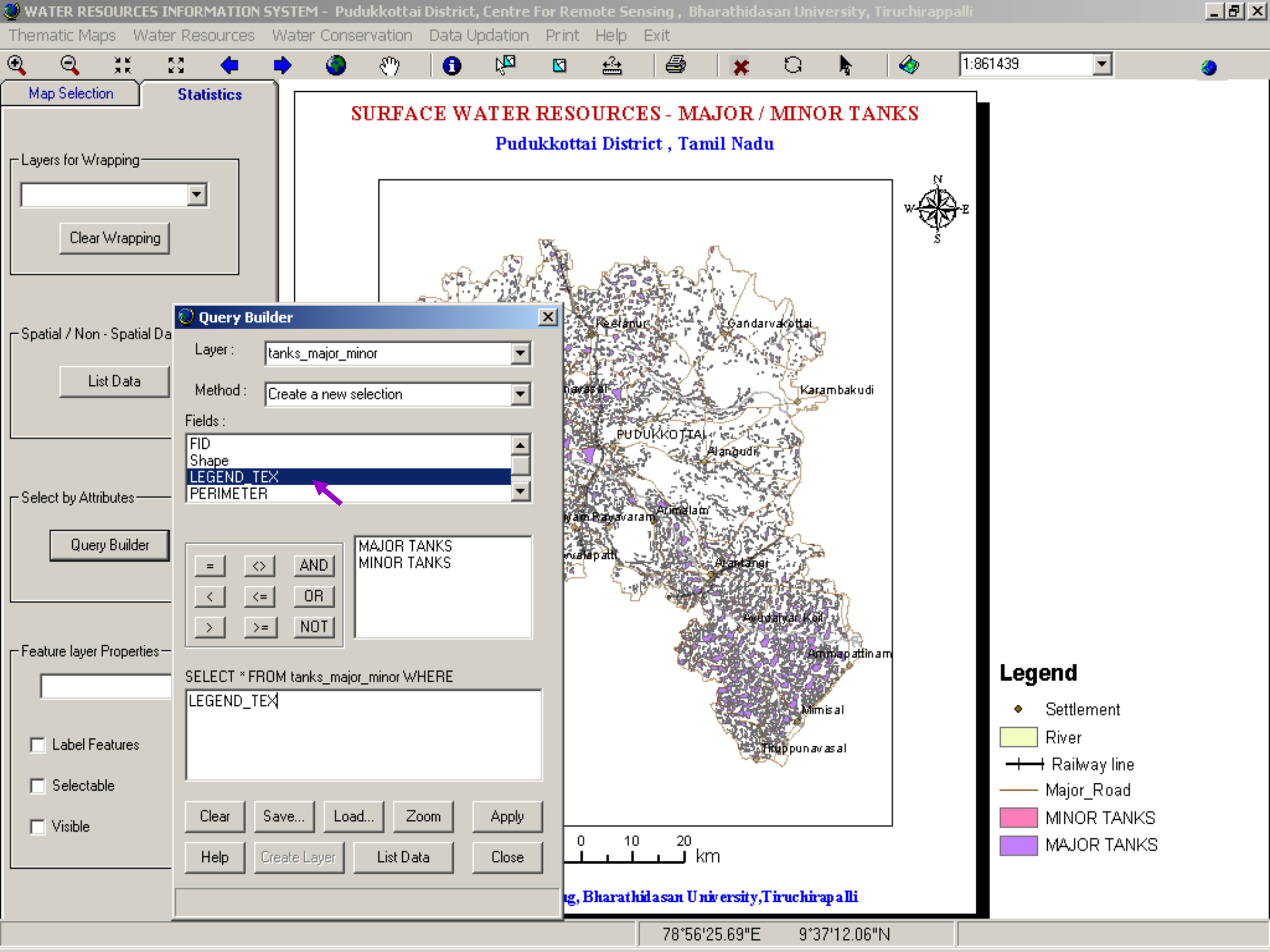
Legend

- Settlement
- River
- Railway line
- Major_Road
- MINOR TANKS
- MAJOR TANKS

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Click the button to build various queries of your own

78°25'48.63"E 10°35'31.88"N


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
Print
Help
Exit
1:861439
Map Selection
Statistics
Layers for Wrapping
Clear Wrapping
Spatial / Non - Spatial Da
List Data
Select by Attributes
Query Builder
Feature layer Properties
Label Features
Selectable
Visible
SURFACE WATER RESOURCES - MAJOR / MINOR TANKS
Pudukkottai District , Tamil Nadu
N
S
E
W
Keeranur
Gandarvakottai
Karambakudi
PUDUKKOTTAI
Alangudi
Arimalam
Aranthangi
Avudaiyar Koil
Ammapattinam
Mimisal
Tiruppunavasal
0
10
20
km
Legend
Settlement
River
Railway line
Major_Road
MINOR TANKS
MAJOR TANKS
g, Bharathidasan University,Tiruchirapalli
Query Builder
Layer :
tanks_major_minor
Method :
Create a new selection
Fields :
FID
Shape
LEGEND_TEX
PERIMETER
=
<>
AND
<
<=
OR
>
>=
NOT
MAJOR TANKS
MINOR TANKS
SELECT * FROM tanks_major_minor WHERE
LEGEND_TEX
Clear
Save...
Load...
Zoom
Apply
Help
Create Layer
List Data
Close
78°56'25.69"E
9°37'12.06"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:861439

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Da

List Data

Select by Attributes

Query Builder

Feature layer Properties

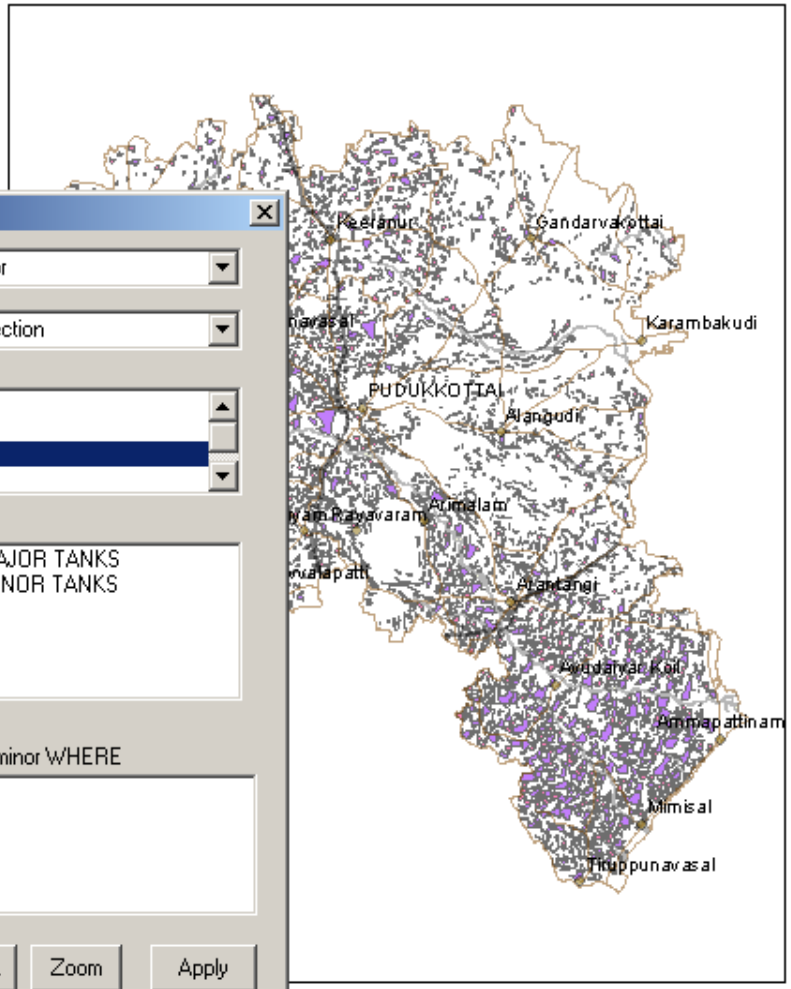
Label Features

Selectable

Visible

SURFACE WATER RESOURCES - MAJOR / MINOR TANKS

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- MINOR TANKS
- MAJOR TANKS

g, Bharathidasan University,Tiruchirapalli

Query Builder

Layer : tanks_major_minor

Method : Create a new selection

Fields :

FID
Shape
LEGEND_TEX
PERIMETER

= | <> | AND
< | <= | OR
> | >= | NOT

MAJOR TANKS
MINOR TANKS

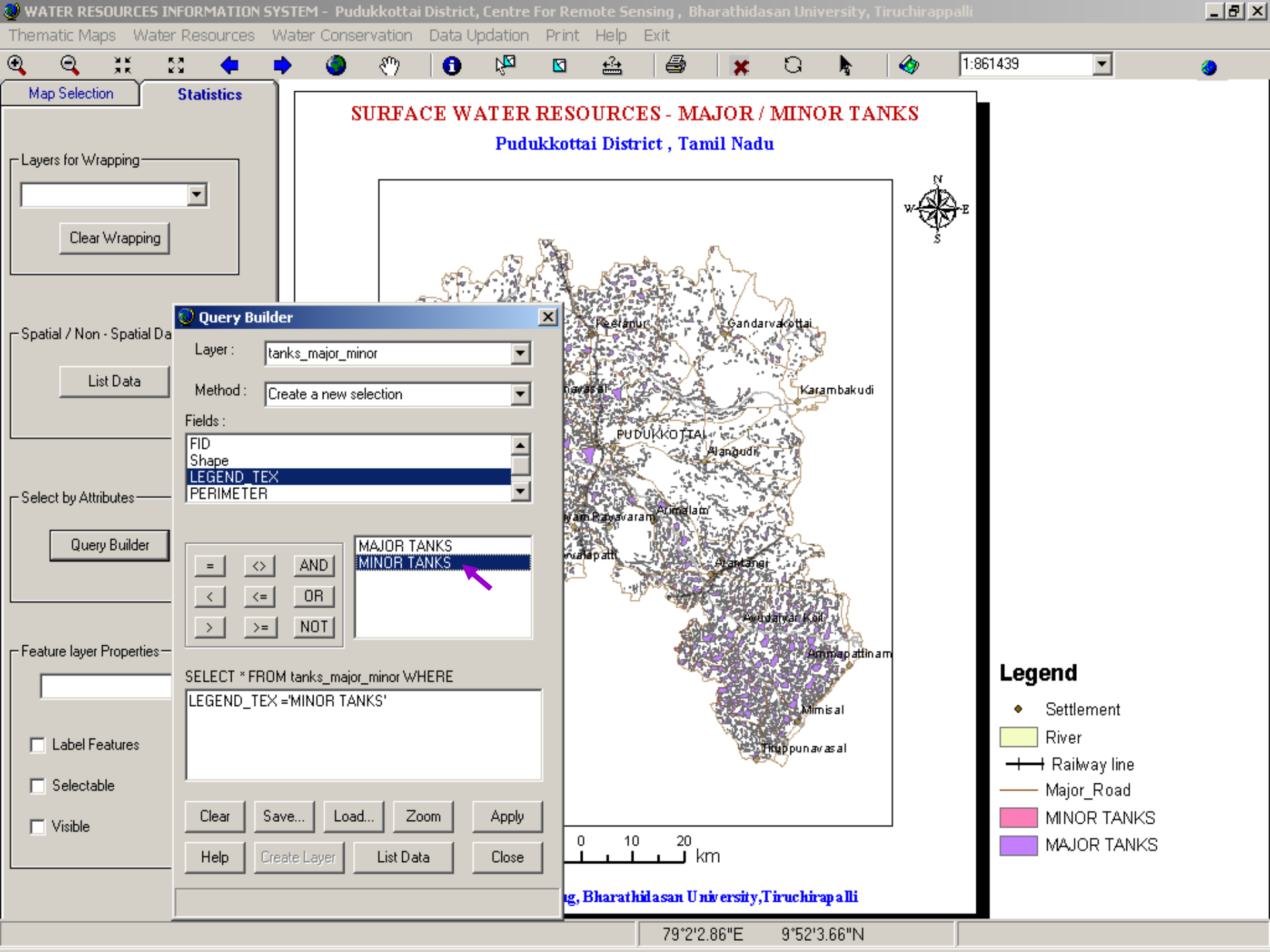
SELECT * FROM tanks_major_minor WHERE

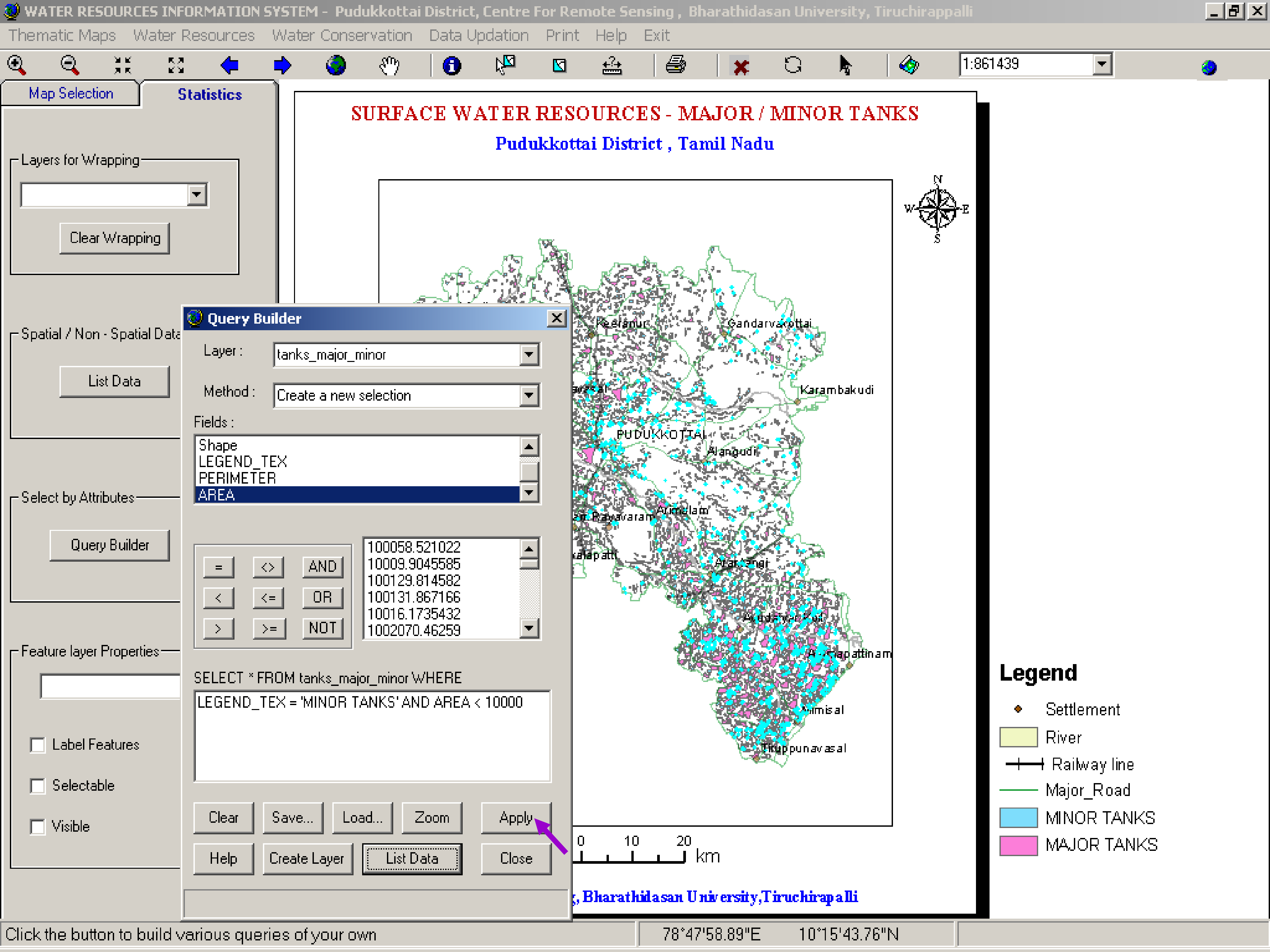
LEGEND_TEX

Clear | Save... | Load... | Zoom | Apply

Help | Create Layer | List Data | Close

78°59'42.01"E 9°51'9.53"N


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps
Water Resources
Water Conservation
Data Updation
Print
Help
Exit
1:861439
Map Selection
Statistics
Layers for Wrapping
Clear Wrapping
Spatial / Non - Spatial Da
List Data
Select by Attributes
Query Builder
Feature layer Properties
Label Features
Selectable
Visible
SURFACE WATER RESOURCES - MAJOR / MINOR TANKS
Pudukkottai District , Tamil Nadu
Query Builder
Layer :
tanks_major_minor
Method :
Create a new selection
Fields :
FID
Shape
LEGEND_TEX
PERIMETER
=
<>
AND
<
<=
OR
>
>=
NOT
MAJOR TANKS
MINOR TANKS
SELECT * FROM tanks_major_minor WHERE
LEGEND_TEX ='MINOR TANKS'
Clear
Save...
Load...
Zoom
Apply
Help
Create Layer
List Data
Close
Keeranur
Gandarvakottai
Karambakudi
PUDUKKOTTAI
Alangudi
Arimalam
Aranthangi
Ammapattinam
Mimisal
Tiruppunavasal
N
S
E
W
0
10
20
km
Legend
Settlement
River
Railway line
Major_Road
MINOR TANKS
MAJOR TANKS
g, Bharathidasan University,Tiruchirapalli
79°2'2.86"E
9°52'3.66"N


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
Thematic Maps Water Resources Water Conservation Data Updation Print Help Exit
1:861439
Map Selection
Statistics
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Clear Wrapping
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List Data
Select by Attributes
Query Builder
Feature layer Properties
Label Features
Selectable
Visible
Query Builder
Layer : tanks_major_minor
Method : Create a new selection
Fields :
Shape
LEGEND_TEX
PERIMETER
AREA
= <> AND
< <= OR
> >= NOT
100058.521022
10009.9045585
100129.814582
100131.867166
10016.1735432
1002070.46259
SELECT * FROM tanks_major_minor WHERE
LEGEND_TEX = 'MINOR TANKS' AND AREA < 10000
Clear Save... Load... Zoom Apply
Help Create Layer List Data Close
SURFACE WATER RESOURCES - MAJOR / MINOR TANKS
Pudukkottai District , Tamil Nadu
Keeranur
Gandarvakottai
Karambakudi
PUDUKKOTTAI
Alangudi
Arimalam
Aranthangi
Tiruppunavasal
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0 10 20 km
, Bharathidasan University,Tiruchirapalli
Legend
Settlement
River
Railway line
Major_Road
MINOR TANKS
MAJOR TANKS
Click the button to build various queries of your own
78°47'58.89"E 10°15'43.76"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:31635

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

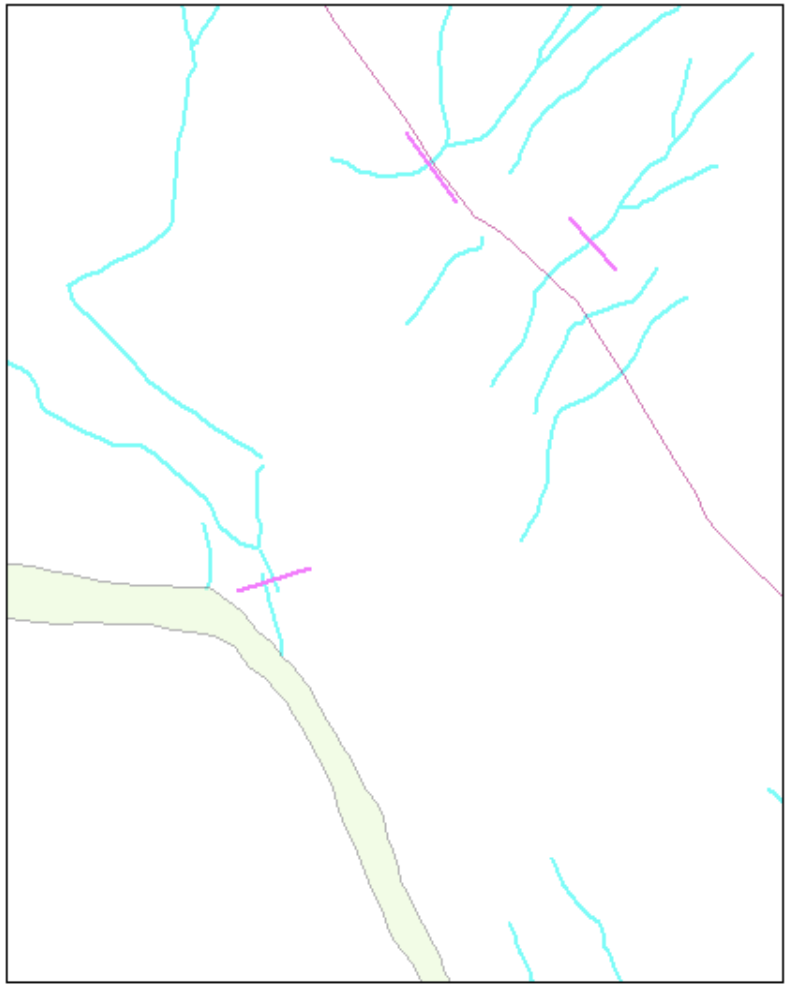
Label Features

Selectable

Visible

ARTIFICIAL RECHARGE - CHECK DAM

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- Suitable sites for Check Dams

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Select any layer then use the check boxes to change the layer's properties

78°51'51.83"E 10°19'7.92"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:31635

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

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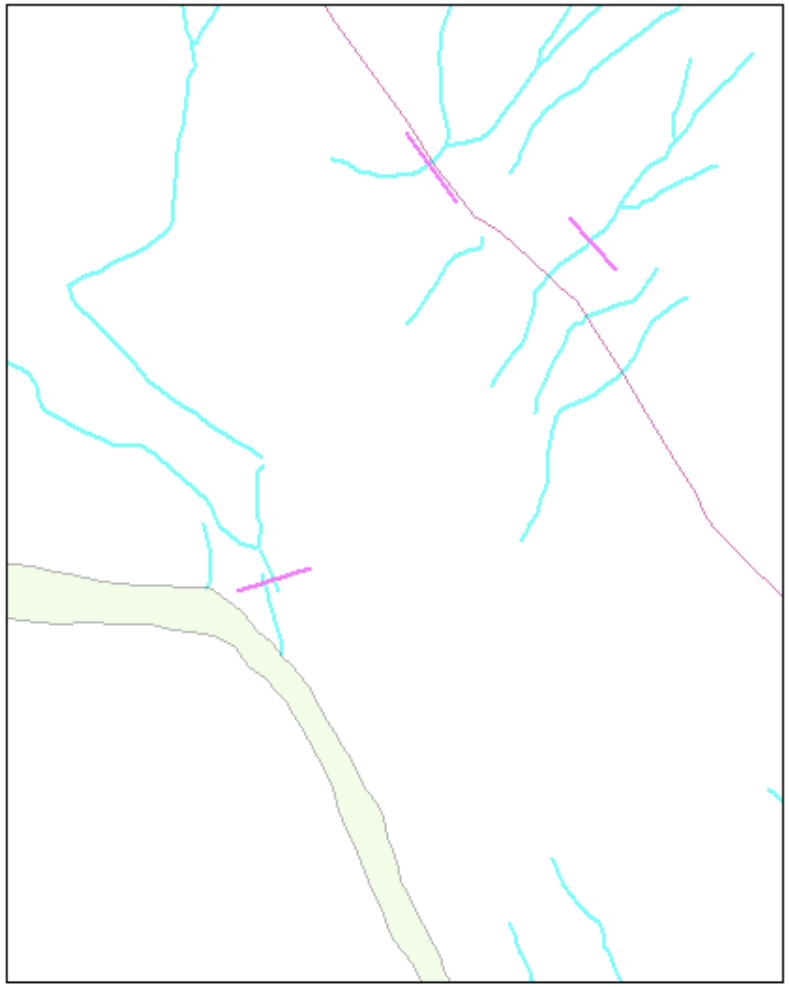
River
Railway line
Major_Road
ar_cdam

Visible

ARTIFICIAL RECHARGE - CHECK DAM

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- Suitable sites for Check Dams

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Select any layer then use the check boxes to change the layer's properties

78°52'32.80"E 10°16'49.80"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:25625

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

ar_cdam

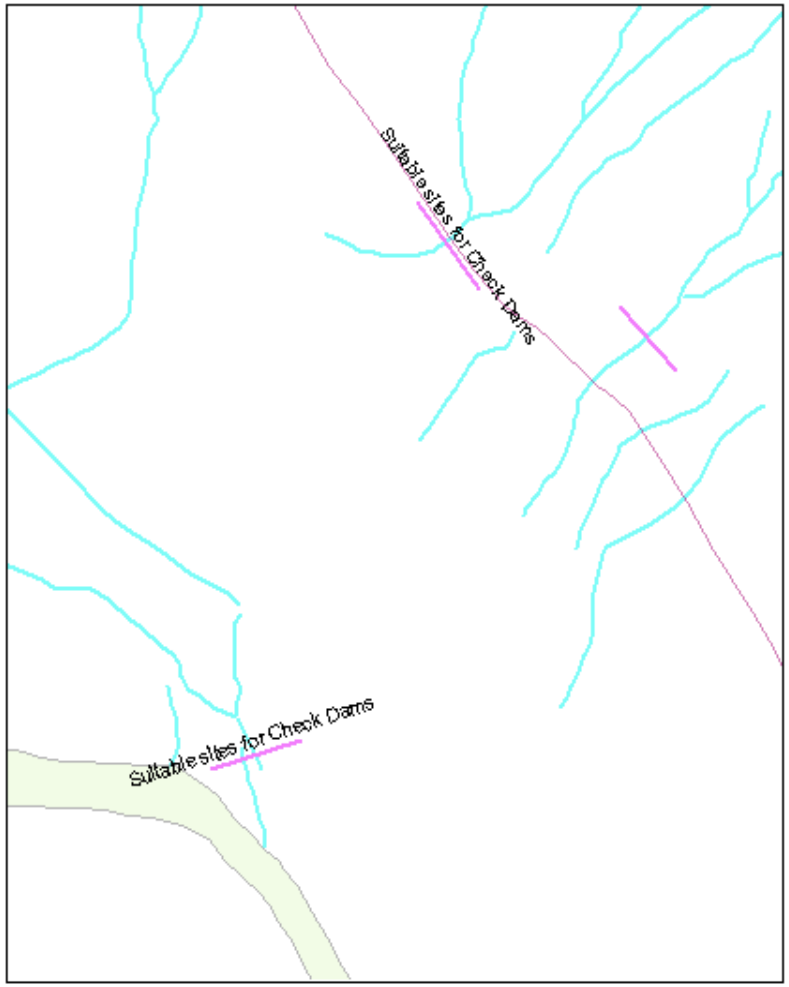
Label Features

Selectable

Visible

ARTIFICIAL RECHARGE - CHECK DAM

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- Suitable sites for Check Dams

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Select any layer then use the check boxes to change the layer's properties

78°52'52.70"E 10°17'30.58"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

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Map Selection | Statistics

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Feature layer Properties

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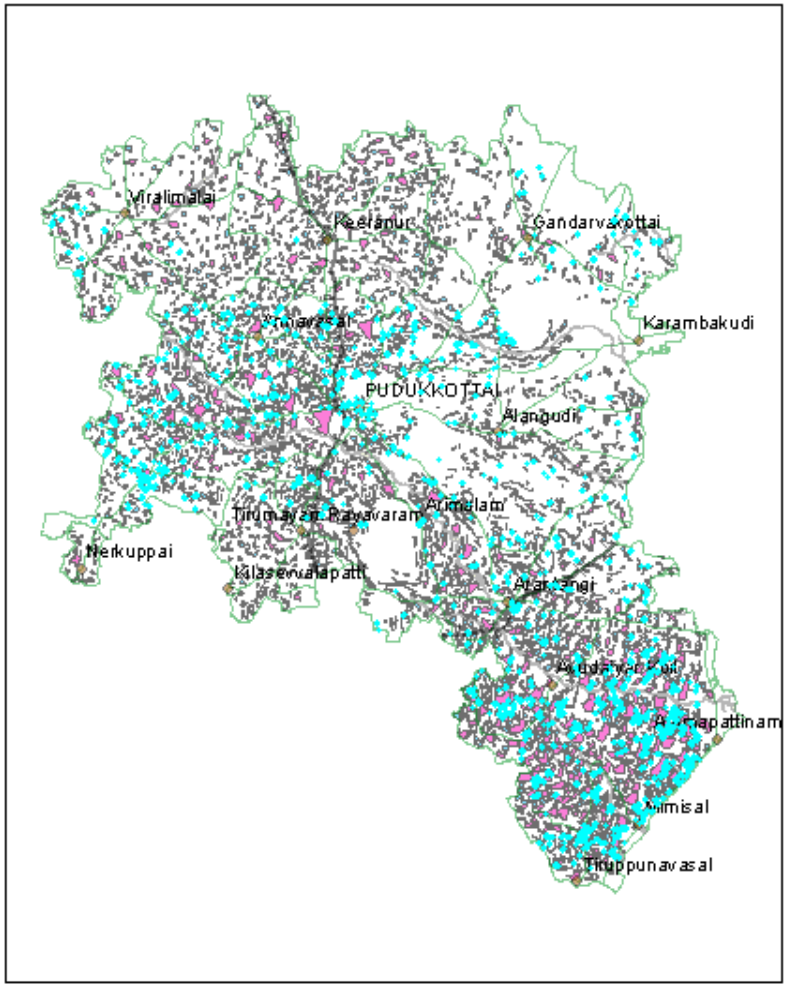
SURFACE WATER RESOURCES - MAJOR / MINOR TANKS

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- MINOR TANKS
- MAJOR TANKS

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°37'48.11"E 10°59'56.43"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

Insert Maps...

Update Map data

1:861439

Map Selection | Statistics

Layers for Wrapping

Clear Wrapping

Spatial / Non - Spatial Data

List Data

Select by Attributes

Query Builder

Feature layer Properties

Label Features

Selectable

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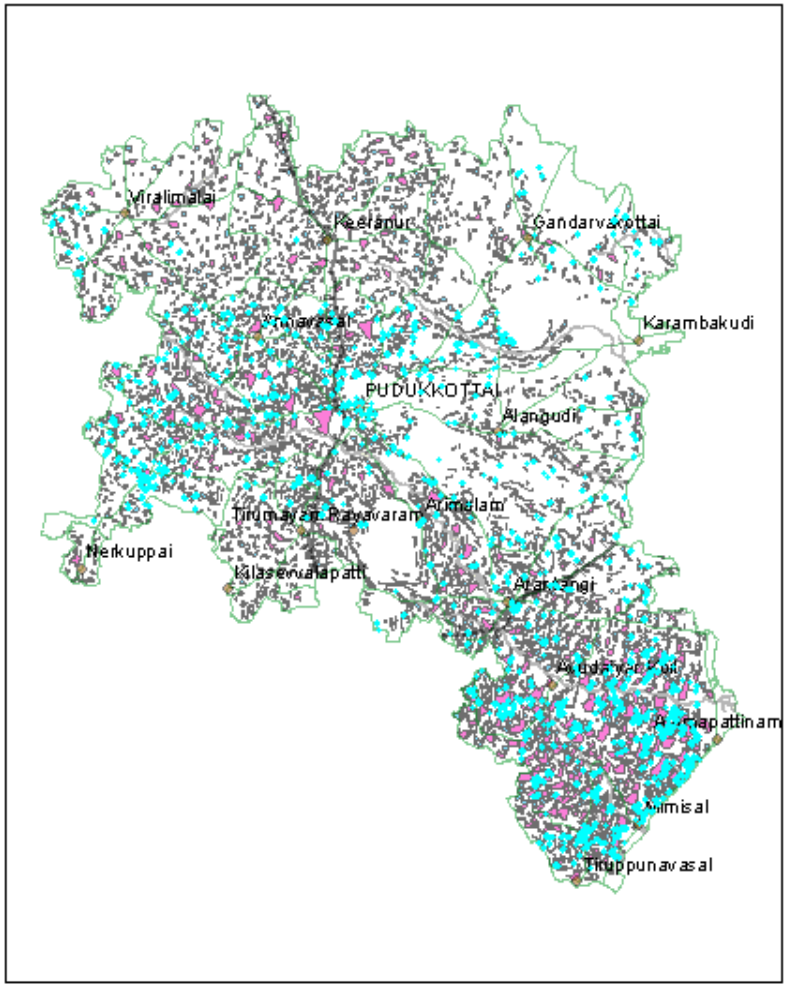
SURFACE WATER RESOURCES - MAJOR / MINOR TANKS

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- MINOR TANKS
- MAJOR TANKS

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°38'35.21"E 10°59'2.14"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

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Map Selection | Statistics

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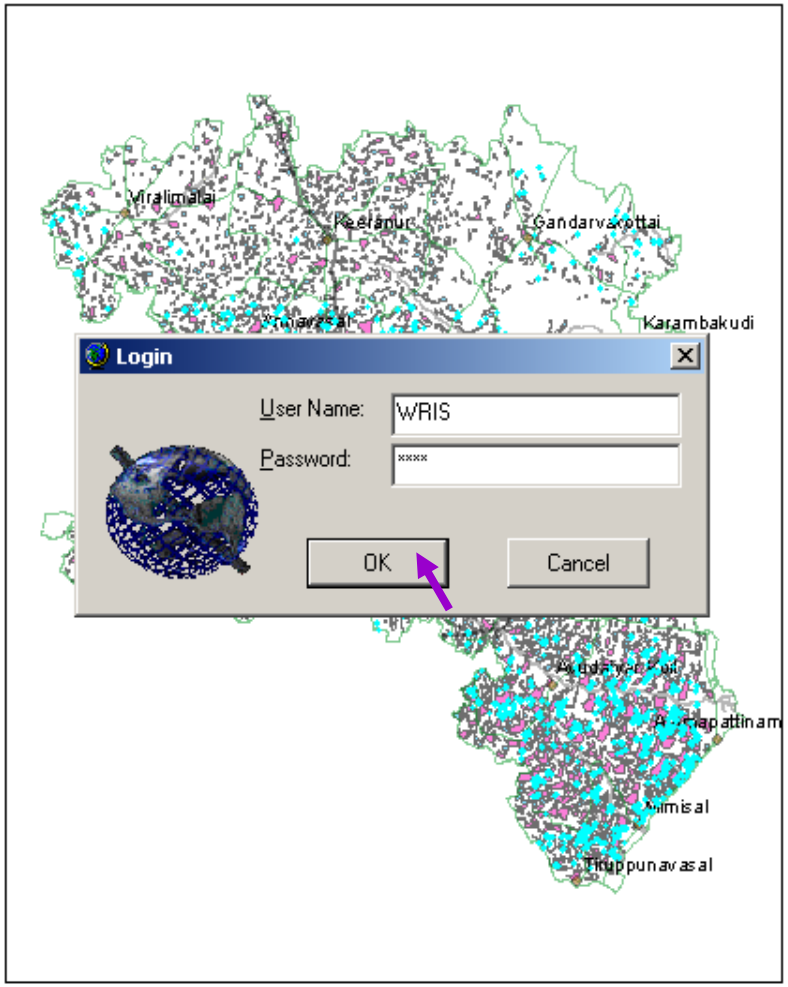
SURFACE WATER RESOURCES - MAJOR / MINOR TANKS

Pudukkottai District , Tamil Nadu



Legend

- Settlement
- River
- Railway line
- Major_Road
- MINOR TANKS
- MAJOR TANKS

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

78°44'4.29"E 10°31'37.84"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

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Map Selection | Statistics

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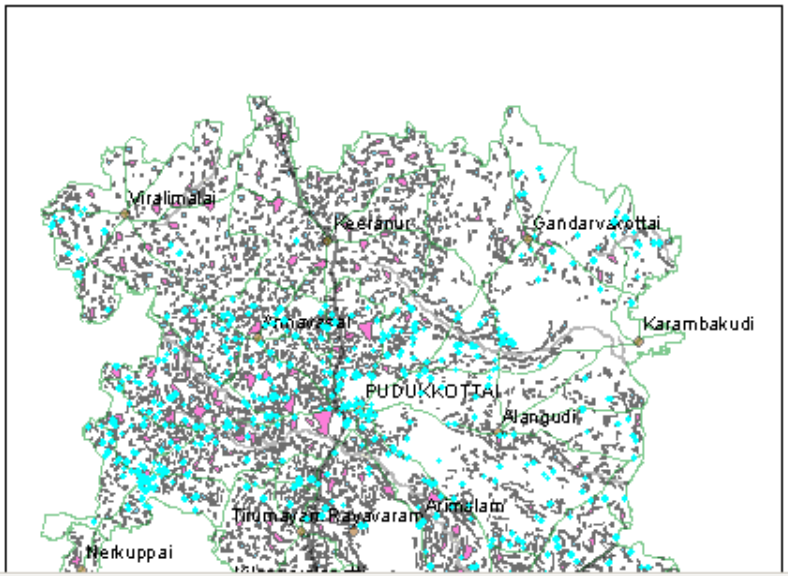
SURFACE WATER RESOURCES - MAJOR / MINOR TANKS

Pudukkottai District , Tamil Nadu



Updation-Spatial Data - Major / Minor Tanks

FID	LEGEND_TEX	AREA	PERIMETER
0	MINOR TANKS	274639.313884	3116.21261668
1	MINOR TANKS	41801.70871	835.866324789
2	MINOR TANKS	304245.283178	2815.50602394
3	MINOR TANKS	72609.5777607	1248.10595433
4	MINOR TANKS	403253.0301	2617.52916359
5	MINOR TANKS	184591.238741	1853.60898287
6	MINOR TANKS	33941.6074766	907.214411142
7	MINOR TANKS	42341.9227942	933.68562442
8	MINOR TANKS	5906.96558869	299.902358254
9	MINOR TANKS	31915.0130902	968.657543144
10	MINOR TANKS	9790.93435453	365.407962851
11	MINOR TANKS	20066.8652357	608.05528782

Options | Close

nd
Settlement
River
Railway line
Major_Road
MINOR TANKS
MAJOR TANKS

78°44'28.46"E 11°0'4.11"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

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Map Selection | Statistics

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Select by Attributes

Query Builder

Feature layer Properties

Label Features

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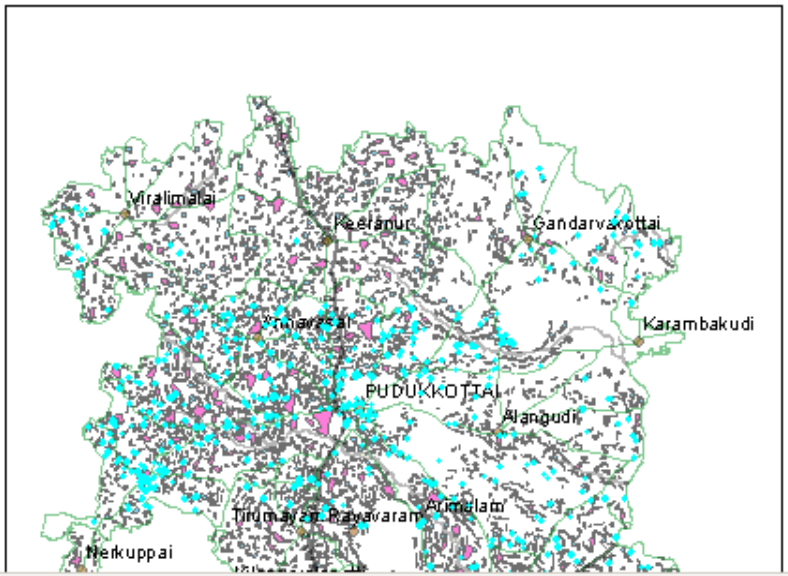
SURFACE WATER RESOURCES - MAJOR / MINOR TANKS

Pudukkottai District , Tamil Nadu



Updation-Spatial Data - Major / Minor Tanks

FID	LEGEND_TEX	AREA	PERIMETER
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1	MINOR TANKS	41801.70871	835.866324789
2	DESILTED	304245.283178	2815.50602394
3	MINOR TANKS	72609.5777607	1248.10595433
4	MINOR TANKS	403253.0301	2617.52916359
5	MINOR TANKS	184591.238741	1853.60898287
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10	MINOR TANKS	9790.93435453	365.407962851
11	MINOR TANKS	20066.8652357	608.05528782

Options | Close

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Settlement

River

Railway line

Major_Road

MINOR TANKS

MAJOR TANKS

78°44'28.46"E 11°0'4.11"N

WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli

Thematic Maps | Water Resources | Water Conservation | Data Updation | Print | Help | Exit

1:886316

Map Selection | Statistics

- Drainage Density (
- Observation Wells
- Rainfall (in mm)
- Water Level (in me
- Thickness of Top S
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- Depth to Bed rock
- Transmissivity (in g
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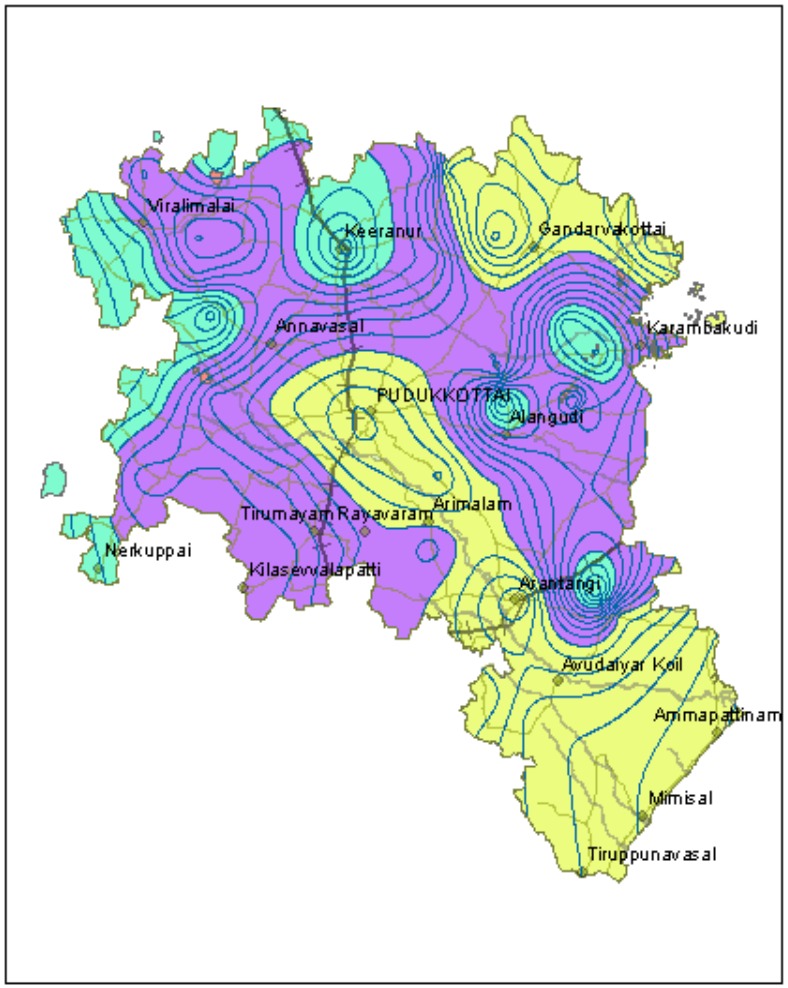
- Total Dissolved So
- Electrical Conducti
- Ground Water Qua

- Entire District
- Talukwise
- Blockwise
- Panchayat Villagewise
- Mini Watershedwise
- Featurewise

WATER LEVEL (IN METERS)

Pudukkottai District , Tamil Nadu



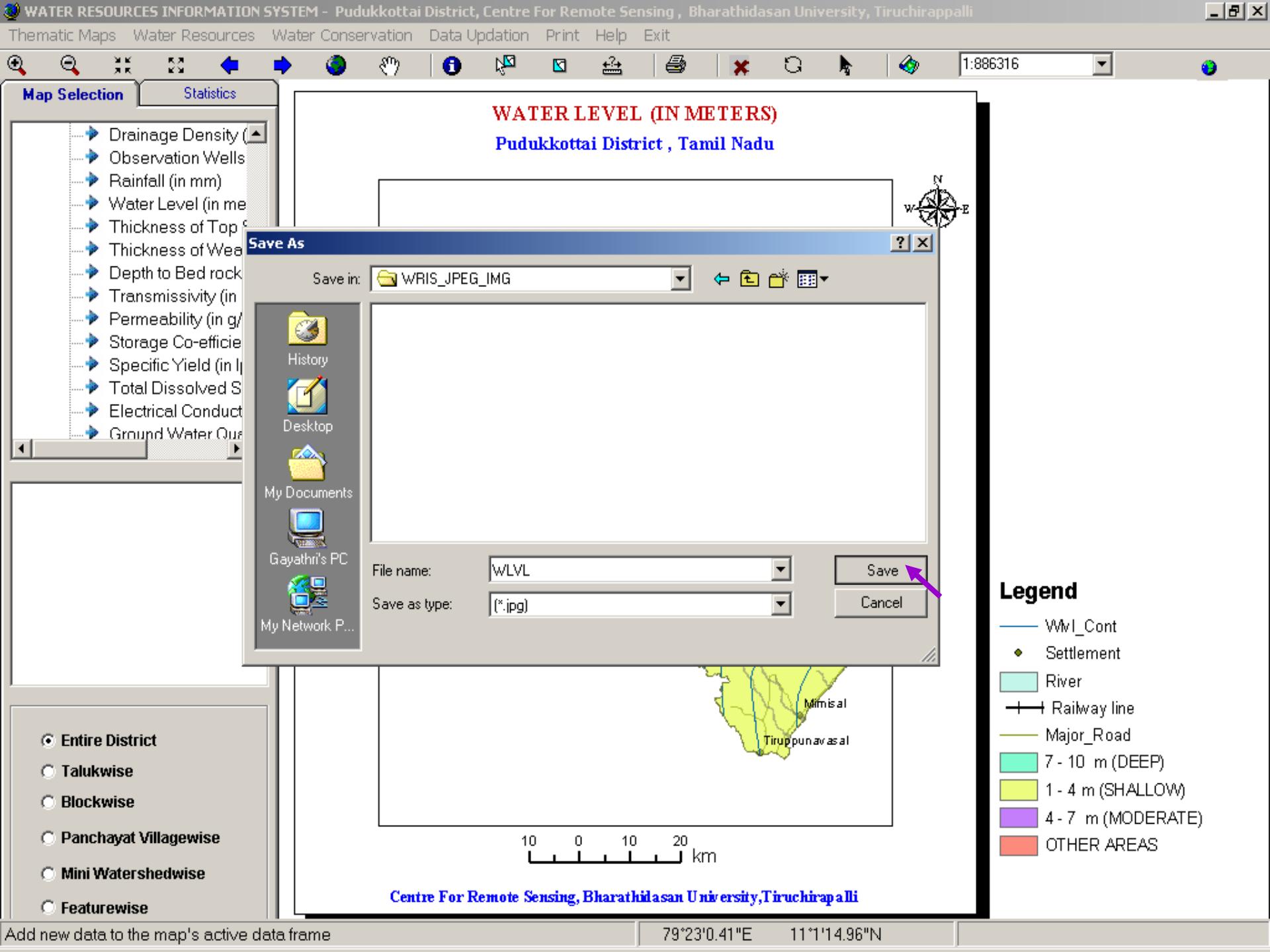
Legend

- Wwl_Cont
- Settlement
- River
- Railway line
- Major_Road
- 7 - 10 m (DEEP)
- 1 - 4 m (SHALLOW)
- 4 - 7 m (MODERATE)
- OTHER AREAS

Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli

Add new data to the map's active data frame

79°23'0.41"E 11°1'14.96"N


WATER RESOURCES INFORMATION SYSTEM - Pudukkottai District, Centre For Remote Sensing , Bharathidasan University, Tiruchirappalli
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Water Conservation
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Exit
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Talukwise
Blockwise
Panchayat Villagewise
Mini Watershedwise
Featurewise
WATER LEVEL (IN METERS)
Pudukkottai District , Tamil Nadu
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Cancel
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Tiruppunavasal
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Centre For Remote Sensing, Bharathidasan University,Tiruchirapalli
Legend
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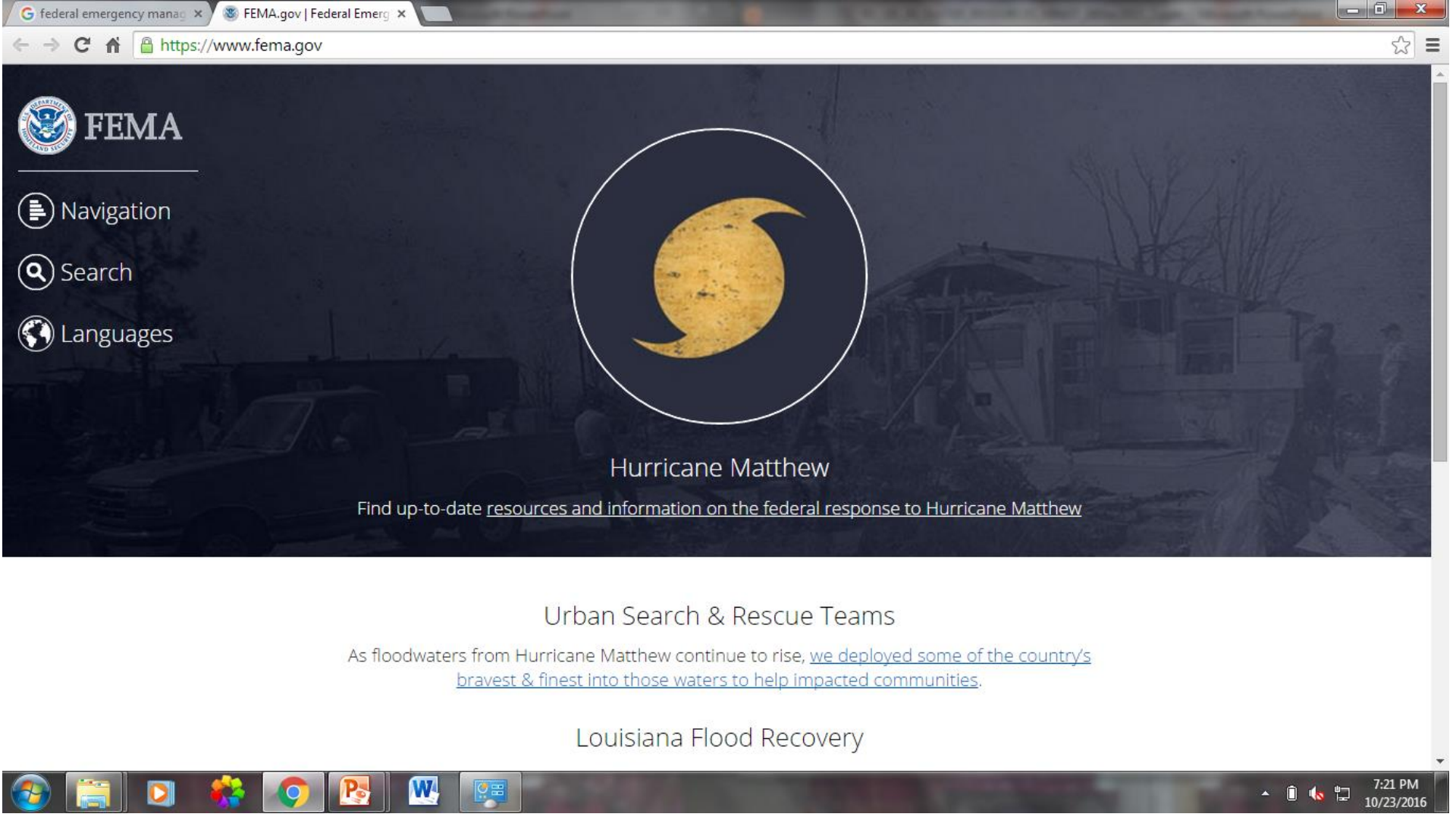
Railway line
Major_Road
7 - 10 m (DEEP)
1 - 4 m (SHALLOW)
4 - 7 m (MODERATE)
OTHER AREAS
Add new data to the map's active data frame
79°23'0.41"E
11°1'14.96"N


federal emergency manag
FEMA.gov | Federal Emerg
https://www.fema.gov
FEMA
Navigation
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Hurricane Matthew
Find up-to-date resources and information on the federal response to Hurricane Matthew
Urban Search & Rescue Teams
As floodwaters from Hurricane Matthew continue to rise, we deployed some of the country's bravest & finest into those waters to help impacted communities.
Louisiana Flood Recovery
7:21 PM
10/23/2016

federal emergency manag | FEMA Flood Map Service

https://msc.fema.gov/portal/

FEMA

FEMA Flood Map Service Center : Welcome!

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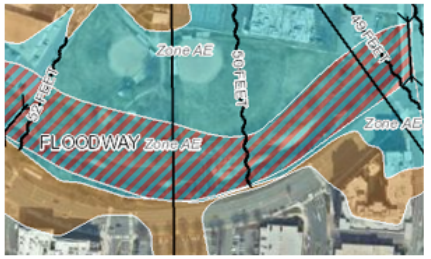
- MSC Email Subscriptions
- Contact MSC Help

Looking for a Flood Map?

Enter an address, a place, or longitude/latitude coordinates:

Enter an address, a place, or longitude/latitude coordin | Search



Looking for more than just a current flood map?

Visit **Search All Products** to access the full range of flood risk products for your community.

About Flood Map Service Center

The FEMA Flood Map Service Center (MSC) is the official public source for flood hazard information produced in support of the National Flood Insurance Program (NFIP). Use the MSC to find your official flood map, access a range of other flood hazard products, and take advantage of tools for better understanding flood risk.

FEMA flood maps are continually updated through a variety of processes. Effective information that you download or print from this site may change or become superseded by new maps over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet

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10/23/2016

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CONCLUSIONS:

Geoinformatics technology is a very efficient and cost effective one for,

- **Groundwater resources prospecting & accurate targetting for setting up bore holes for immediate exploitation,**
- **Runoff and Aquifer Volume estimation,**
- **Aquifer function modelling**
- **Groundwater Pollution mapping and monitoring and**
- **Planning for conservation and management.**

Many more applications have also been tried and succeeded such as, Modelling of Groundwater level modifications, Harvesting of Flood water for GW recharge, Water Resources Information System, etc., using Geoinformatics Technology.

GIT is also being effectively used for implementation and monitoring phases too.

THANK YOU