Eventstudy of economic spillover effect of constrution of thermal power plants(TPP) using NTL

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Content

- Problem statement
- Chosen TPP & geographical spread
- Summary statistics of TPP
- Annular ring

Problem Statement

- Capturing the economic spillover effect of construction and completion of a thermal power plant as seen through nighttimlights.

Chosen TPP

TPP chosen and distance(Kms) from CAPEX provided locations I

Project Name	Distance(Km)
Godda Coal Based Thermal Power SEZ Project	16.58
Meramandali CFBC Coal Based Thermal Power Expansion Project	0
Deen Bandhu Chhotu Ram Unit 3 Supercritical Thermal Power Project	6.012
Panipat Thermal Power Station-1 (PTPS-1) Expansion Project	0
Durg Thermal Power Project	14.47
Jawaharpur Coal Based Super Thermal Power Project	4.874
Tuticorin Supercritical Coal Based Thermal Power Project	23.22
Sundergarh Super Critical Thermal Power Project	19.51
Neyveli (New) Thermal Power Station-III Project	0
Neyveli Thermal Power Station- II Second Expansion (Phase 1) Project	0

TPP chosen and distance(Kms) from CAPEX provided locations II

Kahalgaon Stage 1 Thermal Power Station Renovation & Modernization Project	0
Ramagundam Stage 4 (Telangana Phase 1) Thermal Power Expansion Project	0
Ramagundam Super Thermal Power Station Stage 1 R&M Project	0
Telangana (Phase 2) Thermal Power Project	NA
Patratu Thermal Power Phase 1 Project	0
Kota Renovation & Modernization Thermal Power Project	0
Ennore SEZ Supercritical Thermal Power Project	10.71
Kadaladi Ultra Mega Thermal Power Project	2.676
North Chennai Stage 3 Thermal Power Project	0
Uppur Thermal Power Project	NA
Meramandali CFBC Coal Based Thermal Power Expansion Project	0
Bhadradri (Manuguru) Thermal Power Station Project	14.75

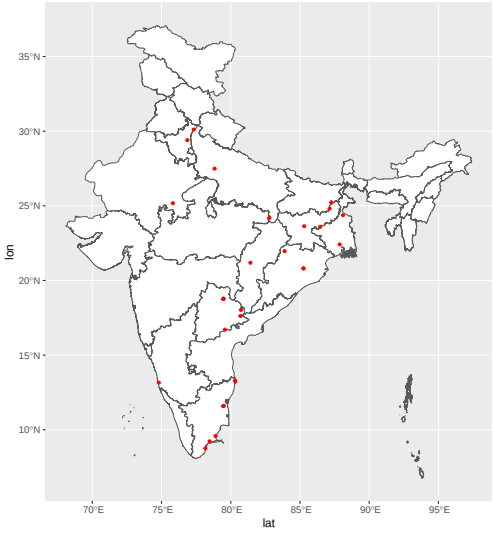
TPP chosen and distance(Kms) from CAPEX provided locations III

Kothagudem Stage 7 Supercritical Thermal Power Expansion Project	9.688
Yadadri Thermal Power Project	NA
Udupi (Padubidri) Phase 2 Coal Based Thermal Power Expansion Project	0
Anpara E Thermal Power Project	5.311
Kolaghat Thermal Power Refurbishment Project	2.059
Sagardighi Stage 3 Supercritical Coal Based Thermal Power Project	0
Santaldih Thermal Power Expansion Phase 3 Project	0

TPP chosen and distance(Kms) from CAPEX provided locations IV

Geographical Spread

Geographical spread of 29 TPP



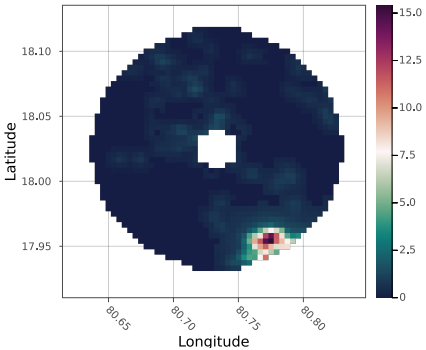
Summary Statistic of 29 TPP

Summary of cost(Rs. Billions) and output(MW) of 29 TPP

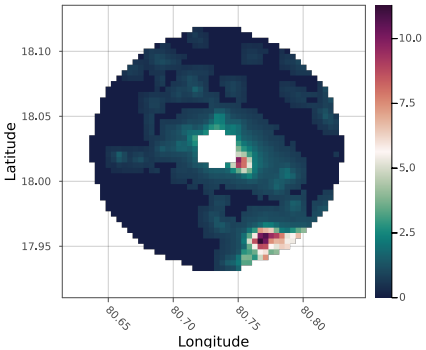
Statistic	Cost (Rs. Billions)	Output (MW)
Minimum	1.20	20
1st Quartile	44.93	800
Median	98.00	1320
Mean	95.07	1416
3rd Quartile	121.39	1600
Maximum	299.65	4000
NAs	2	0

Annular ring (inner radius - 1.5 Km , outer radius - 10 km Bhadradri (Manuguru) Thermal Power Station Project

Annular Ring Comparison 2014-2018 : Bhadradri (Manuguru) Thermal Power Station Project



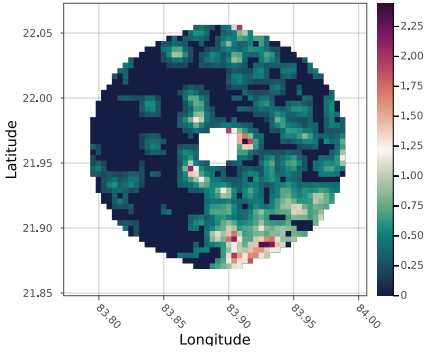
2014



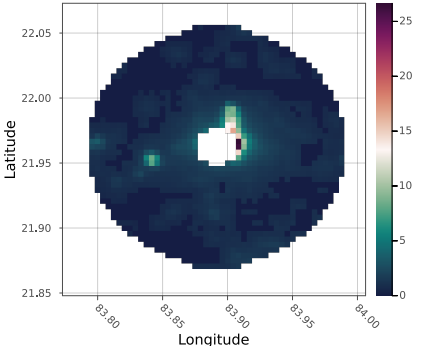
2018

Annular ring (inner radius - 1.5 Km , outer radius - 10 km Sundergarh Super Critical Thermal Power Project

Annular Ring Comparison 2014-2018 : Sundergarh Super Critical Thermal Power Project



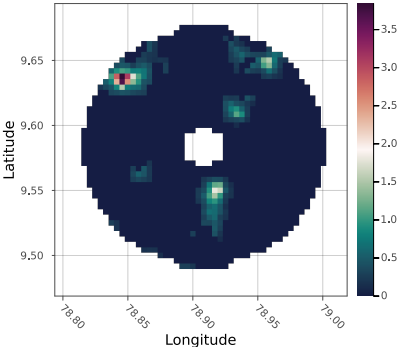
2014



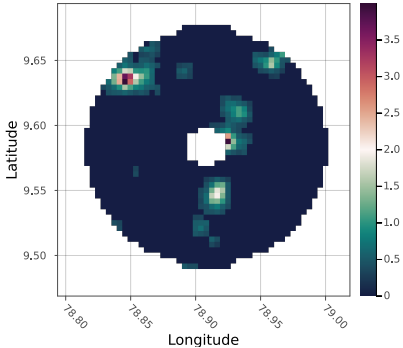
2018

Annular ring (inner radius - 1.5 Km , outer radius - 10 km Uppur Thermal Power Project

Annular Ring Comparison 2014-2018 : Uppur Thermal Power Project



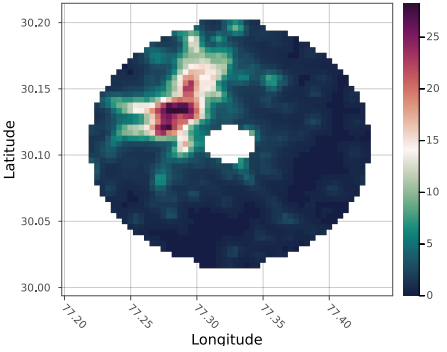
2014



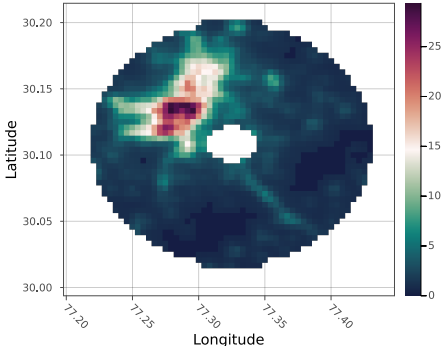
2018

Annular ring (inner radius - 1.5 Km , outer radius - 10 km Deen Bandhu Chhotu Ram Unit 3 Supercritical Thermal Power Project

Annular Ring Comparison 2014-2018 : Deen Bandhu Chhotu Ram Unit 3 Supercritical Thermal Power Project



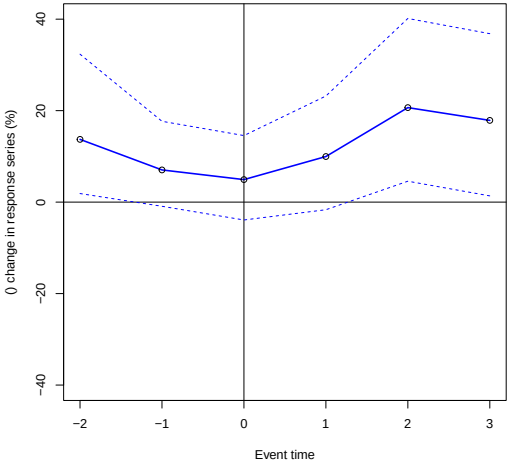
2014



2018

Eventstudy with construction dates as the event(Outer radius - 10Km,Inner radius - 1Km)

Event - Construction Date(Outer radius - 8Km,Inner radius - 1Km), Response series - Radiance as captured by VIIRS satellite



Thank you.

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