

## **Results:**

The following results are gathered doing experiments on an area-based pruning. Whenever the program has parsed more than T area, then the computation for that query is complete.

Value of k: 100

Dataset	Grid Size	Area Threshold	Pruning Rate (%)	Recall (%)
Sports cluster 0	25*25	2.5	5.83	96.91 8.6/6.9
Sports cluster 0	25*25	5	5.83	96.22
Sports cluster 0	25*25	10	5.11	97.96
Sports cluster 0	25*25	20	5.1	97.35
Sports cluster 0	25*25	30	3.89	99.1
Sports cluster 0	50*50	10	17.09	91.66
Sports cluster 0	50*50	20	11.76	96.06
Sports cluster 0	50*50	30	6.83	98.87
Sports cluster 0	50*50	40	5.17	99.12
Sports cluster 0	50*50	50	5.12	99.14
Sports cluster 0	50*50	60	3.7	99.31
Sports cluster 1	25*25	2.5		
Sports cluster 1	25*25	5	56.79	89.99 72/131
Sports cluster 1	25*25	10	51.69	96
Sports cluster 1	25*25	20	43.55	98.68
Sports cluster 1	25*25	30	35.96	99.2
Sports cluster 1	50*50	10	55.21	96.37
Sports cluster 1	50*50	20	45.12	97.82
Sports cluster 1	50*50	30	38.67	98.88
Sports cluster 1	50*50	40	31.79	99.48
Sports cluster 1	50*50	50	24.34	99.79
Sports cluster 1	50*50	60	16.31	99.92
Sports cluster 2	25*25	2.5		
Sports cluster 2	25*25	5	29.73	91.67 126/172
Sports cluster 2	25*25	10	26.04	95.71
Sports cluster 2	25*25	20	19.92	98.5
Sports cluster 2	25*25	30	15.89	99.3
Sports cluster 2	50*50	10	24.16	
Sports cluster 2	50*50	20	16.95	
Sports cluster 2	50*50	30	12.7	99.47

Sports cluster 2	50*50	40	9.12	99.66
Sports cluster 2	50*50	50	5.75	99.82
Sports cluster 3	25*25	5	45.05	94.9 170/270
Sports cluster 3	25*25	10	38.08	
Sports cluster 3	25*25	20	25.58	99.23
Sports cluster 3	25*25	30	17.26	99.53
Sports cluster 3	50*50	10	45.38	98.83
Sports cluster 3	50*50	20	34.2	99.1
Sports cluster 3	50*50	30	25.64	99.43
Sports cluster 3	50*50	40	18.59	99.66
Sports cluster 3	50*50	50	12.08	99.79
Cemetery	25*25	1	50.71	87.11
Cemetery	25*25	2.5	49.85	90.03
Cemetery	25*25	5	48.3	93.63
Cemetery	25*25	10	35.25	97.81
Cemetery	25*25	20	28.55	99.67
Cemetery	25*25	30	21.51	99.99
Cemetery	50*50	10	40.49	98.04
Cemetery	50*50	20	32.21	99.34
Cemetery	50*50	30	25.53	99.94
Cemetery	50*50	40	20.18	99.98
Cemetery	50*50	50	15.69	99.99
Cemetery	50*50	60	11.34	100
Parks	50*50	10	24.05	97.55
Parks	50*50	20	16.87	99.6
Parks	50*50	30	10.09	99.9

Sports cluster 0	25*25	1	5.83	96.21	8.5
Sports cluster 0	25*25	2.5	5.83	96.91	8.5/6.9
Sports cluster 0	25*25	5	5.83	96.22	8.5
Sports cluster 1	25*25	1	60.49	80.69	66/132
Sports cluster 1	25*25	2.5	59.26	84.47	69/132
Sports cluster 1	25*25	5	56.79	89.99	72
Sports cluster 2	25*25	1	33.11	86.44	121
Sports cluster 2	25*25	2.5	31.89	88.62	122
Sports cluster 2	25*25	5	29.73	91.67	126/172
Sports cluster 3	25*25	1	51.38		
Sports cluster 3	25*25	2.5	49.24	90.81	157
Sports cluster 3	25*25	5	45.05	94.9	170/270

#### Aggregated Sports

Dataset		Area threshold	Pruning	Recall	Runtime (GPF / BF)
Sports	25*25	1	46%	87.26	346
Sports	25*25	2.5	45%	88.52	356
Sports	25*25	5	42%	92.64	376/580
Cemetery	25*25	1	50.71	87.11	126/242
Cemetery	25*25	2.5	49.85	90.03	130
Cemetery	25*25	5	48.3	93.63	135

#### Results from processing certain percentage of vectors

Dataset	Grid Size	Vector Processed (%)	Recall (%)	Runtime (s)	Runtime BF (s)
Sports cluster 0	50*50	60	65.15	12.94	6.65
Sports cluster 0	50*50	70	74.06	7	13.5
Sports cluster 1	50*50	60	91.5	112.94	134.442
Sports cluster 1	50*50	70	94.5	126.133	132.631

Sports cluster 2	50*50	60	74.4	134.734	170.176
Sports cluster 2	50*50	70	80	156.362	170.241
Sports cluster 3	50*50	60	93.2	216.503	267.186
Sports cluster 3	50*50	70	98	244.137	276.21

## **Detailed Results Summary**

Grid = 50 Area = 10 k=100 Runs for sports datasets

Sports cluster 0

total time for sketch creation input after trimming: 19.2442 seconds

Maximum Query Processing in Spatial Prefix Filter: 7.63326 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 9.39761 seconds

Average Recall: 0.943816

Average Recall by BF neighbors: 0.935263

MSE: 0

Total Matched Neighbors: 12439

Total Neighbors (including duplicates): 13175

Total BF Neighbors (including duplicates): 13300

Total False Positives rate: 0.0558634

Sports cluster 1

total time for sketch creation input after trimming: 18.2059 seconds

Maximum Query Processing in Spatial Prefix Filter: 46.2418 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 67.481 seconds

Average Recall: 0.926563

Average Recall by BF neighbors: 0.921981

MSE: 0

Total Matched Neighbors: 87957

Total Neighbors (including duplicates): 94757

Total BF Neighbors (including duplicates): 95400

Total False Positives rate: 0.0717625

Sports cluster 2

total time for sketch creation input after trimming: 24.9009 seconds

Maximum Query Processing in Spatial Prefix Filter: 75.9062 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 86.6386 seconds

Average Recall: 0.972154

Average Recall by BF neighbors: 0.971298

MSE: 0

Total Matched Neighbors: 68865

Total Neighbors (including duplicates): 70684

Total BF Neighbors (including duplicates): 70900

Total False Positives rate: 0.0257343

Sports cluster 3

total time for sketch creation input after trimming: 25.9496 seconds

Maximum Query Processing in Spatial Prefix Filter: 97.1332 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 139.336 seconds

Average Recall: 0.973416

Average Recall by BF neighbors: 0.971977

MSE: 0

Total Matched Neighbors: 118484

Total Neighbors (including duplicates): 121504

Total BF Neighbors (including duplicates): 121900

Total False Positives rate: 0.0248551

Grid = 50 Area = 20 k=100 Runs for sports datasets

Sports cluster 0

total time for sketch creation input after trimming: 6.01974 seconds

Maximum Query Processing in Spatial Prefix Filter: 6.40619 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.55154 seconds

Average Recall: 0.96782

Average Recall by BF neighbors: 0.960677

MSE: 0

Total Matched Neighbors: 12777

Total Neighbors (including duplicates): 13205

Total BF Neighbors (including duplicates): 13300

Total False Positives rate: 0.032412

#### Sports cluster 1

total time for sketch creation input after trimming: 18.6555 seconds

Maximum Query Processing in Spatial Prefix Filter: 54.8232 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 67.9484 seconds

Average Recall: 0.980118

Average Recall by BF neighbors: 0.97826

MSE: 0

Total Matched Neighbors: 93326

Total Neighbors (including duplicates): 95037

Total BF Neighbors (including duplicates): 95400

Total False Positives rate: 0.0180035

#### Sports cluster 2

total time for sketch creation input after trimming: 24.7254 seconds

Maximum Query Processing in Spatial Prefix Filter: 85.6486 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 88.2203 seconds

Average Recall: 0.991577

Average Recall by BF neighbors: 0.991171

MSE: 0

Total Matched Neighbors: 70274

Total Neighbors (including duplicates): 70793

Total BF Neighbors (including duplicates): 70900

Total False Positives rate: 0.00733123

Sports cluster 3

total time for sketch creation input after trimming: 26.0797 seconds

Maximum Query Processing in Spatial Prefix Filter: 112.435 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 138.413 seconds

Average Recall: 0.99182

Average Recall by BF neighbors: 0.991091

MSE: 0

Total Matched Neighbors: 120814

Total Neighbors (including duplicates): 121634

Total BF Neighbors (including duplicates): 121900

Total False Positives rate: 0.00674154

Grid = 50 Area = 30 k=100 Runs for sports datasets

Sports cluster 0

total time for sketch creation input after trimming: 5.99815 seconds

Maximum Query Processing in Spatial Prefix Filter: 6.63463 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.57154 seconds

Average Recall: 0.995865

Average Recall by BF neighbors: 0.988722

MSE: 0

Total Matched Neighbors: 13150

Total Neighbors (including duplicates): 13205



Total BF Neighbors (including duplicates): 13300

Total False Positives rate: 0.00416509

Sports cluster 1

total time for sketch creation input after trimming: 18.2253 seconds

Maximum Query Processing in Spatial Prefix Filter: 58.4789 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 66.6842 seconds

Average Recall: 0.989941

Average Recall by BF neighbors: 0.988805

MSE: 0

Total Matched Neighbors: 94332

Total Neighbors (including duplicates): 95137

Total BF Neighbors (including duplicates): 95400

Total False Positives rate: 0.00846148

Sports Cluster 2

total time for sketch creation input after trimming: 25.3405 seconds

Maximum Query Processing in Spatial Prefix Filter: 86.2829 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 87.3287 seconds

Average Recall: 0.994904

Average Recall by BF neighbors: 0.994753

MSE: 0

Total Matched Neighbors: 70528

Total Neighbors (including duplicates): 70836

Total BF Neighbors (including duplicates): 70900

Total False Positives rate: 0.00434807

Sports cluster 3

total time for sketch creation input after trimming: 25.909 seconds

Maximum Query Processing in Spatial Prefix Filter: 124.658 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 138.23 seconds

Average Recall: 0.99463

Average Recall by BF neighbors: 0.99434

MSE: 0

Total Matched Neighbors: 121210

Total Neighbors (including duplicates): 121773

Total BF Neighbors (including duplicates): 121900

Total False Positives rate: 0.00462336

Grid = 25 Area = 10 k=100 Runs for sports datasets

Sports cluster 0

Maximum Query Processing in Spatial Prefix Filter: 4.18405 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.5555 seconds

Average Recall: 0.979699

Average Recall by BF neighbors: 0.972406

MSE: 0

Total Matched Neighbors: 12933

Total Neighbors (including duplicates): 13203

Total BF Neighbors (including duplicates): 13300

Total False Positives rate: 0.0204499

Sports cluster 1

total time for sketch creation input after trimming: 4.73896 seconds

Maximum Query Processing in Spatial Prefix Filter: 41.346 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 66.7427 seconds

Average Recall: 0.960903

Average Recall by BF neighbors: 0.959172

MSE: 0

Total Matched Neighbors: 91505

Total Neighbors (including duplicates): 94984

Total BF Neighbors (including duplicates): 95400

Total False Positives rate: 0.0366272

Sports cluster 2

total time for sketch creation input after trimming: 6.61709 seconds

Maximum Query Processing in Spatial Prefix Filter: 69.9018 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 88.5581 seconds

Average Recall: 0.957432

Average Recall by BF neighbors: 0.957151

MSE: 0

Total Matched Neighbors: 67862

Total Neighbors (including duplicates): 70755

Total BF Neighbors (including duplicates): 70900

Total False Positives rate: 0.0408876

Sports cluster 3

total time for sketch creation input after trimming: 6.79942 seconds

Maximum Query Processing in Spatial Prefix Filter: 97.4148 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 138.141 seconds

Average Recall: 0.978492

Average Recall by BF neighbors: 0.977752

MSE: 0

Total Matched Neighbors: 119188

Total Neighbors (including duplicates): 121602

Total BF Neighbors (including duplicates): 121900

Total False Positives rate: 0.0198516

Grid = 25 Area = 20 k=100 Runs for sports datasets

Sports cluster 0

Maximum Query Processing in Spatial Prefix Filter: 4.19432 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.60938 seconds

Average Recall: 0.980677

Average Recall by BF neighbors: 0.973534

MSE: 0

Total Matched Neighbors: 12948

Total Neighbors (including duplicates): 13205

Total BF Neighbors (including duplicates): 13300

Total False Positives rate: 0.0194623

Sports cluster 1

total time for sketch creation input after trimming: 4.74096 seconds

Maximum Query Processing in Spatial Prefix Filter: 48.9333 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 68.4815 seconds

Average Recall: 0.987578

Average Recall by BF neighbors: 0.986834

MSE: 0

Total Matched Neighbors: 94144

Total Neighbors (including duplicates): 95136

Total BF Neighbors (including duplicates): 95400

Total False Positives rate: 0.0104272

Sports cluster 2

total time for sketch creation input after trimming: 6.94593 seconds

Maximum Query Processing in Spatial Prefix Filter: 73.7766 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 86.5133 seconds

Average Recall: 0.985993

Average Recall by BF neighbors: 0.985867

MSE: 0

Total Matched Neighbors: 69898

Total Neighbors (including duplicates): 70831

Total BF Neighbors (including duplicates): 70900

Total False Positives rate: 0.0131722

Sports cluster 3

total time for sketch creation input after trimming: 7.0434 seconds

Maximum Query Processing in Spatial Prefix Filter: 117.3 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 140.55 seconds

Average Recall: 0.992636

Average Recall by BF neighbors: 0.992322

MSE: 0

Total Matched Neighbors: 120964

Total Neighbors (including duplicates): 121766

Total BF Neighbors (including duplicates): 121900

Total False Positives rate: 0.0065864

Grid = 25 Area = 30 k=100 Runs for sports datasets

Sports cluster 0

Maximum Query Processing in Spatial Prefix Filter: 4.31159 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.58224 seconds

Average Recall: 0.998496

Average Recall by BF neighbors: 0.991353

MSE: 0

Total Matched Neighbors: 13185

Total Neighbors (including duplicates): 13205

Total BF Neighbors (including duplicates): 13300

Total False Positives rate: 0.00151458

#### Sports cluster 1

total time for sketch creation input after trimming: 4.69913 seconds

Maximum Query Processing in Spatial Prefix Filter: 54.2259 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 68.3154 seconds

Average Recall: 0.992413

Average Recall by BF neighbors: 0.992065

MSE: 0

Total Matched Neighbors: 94643

Total Neighbors (including duplicates): 95273

Total BF Neighbors (including duplicates): 95400

Total False Positives rate: 0.00661258

#### Sports cluster 2

total time for sketch creation input after trimming: 6.77243 seconds

Maximum Query Processing in Spatial Prefix Filter: 79.0869 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 87.2714 seconds

Average Recall: 0.993606

Average Recall by BF neighbors: 0.993554

MSE: 0

Total Matched Neighbors: 70443

Total Neighbors (including duplicates): 70871

Total BF Neighbors (including duplicates): 70900

Total False Positives rate: 0.00603914

Sports cluster 3

total time for sketch creation input after trimming: 7.23117 seconds

Maximum Query Processing in Spatial Prefix Filter: 129.063 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 141.249 seconds

Average Recall: 0.995473

Average Recall by BF neighbors: 0.99539

MSE: 0

Total Matched Neighbors: 121338

Total Neighbors (including duplicates): 121833

Total BF Neighbors (including duplicates): 121900

Total False Positives rate: 0.00406294

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Grid = 50 Area = 10 k=10 Runs for sports datasets

Sports cluster 0

total time for sketch creation input after trimming: 5.60264 seconds

Maximum Query Processing in Spatial Prefix Filter: 6.1048 seconds



PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.60857 seconds

Average Recall: 0.93609

Average Recall by BF neighbors: 0.933083

MSE: 0

Total Matched Neighbors: 1241

Total Neighbors (including duplicates): 1322

Total BF Neighbors (including duplicates): 1330

Total False Positives rate: 0.0612708

Sports cluster 1

total time for sketch creation input after trimming: 18.4543 seconds

Maximum Query Processing in Spatial Prefix Filter: 46.5751 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 67.4729 seconds

Average Recall: 0.936583

Average Recall by BF neighbors: 0.93501

MSE: 0

Total Matched Neighbors: 8920

Total Neighbors (including duplicates): 9516

Total BF Neighbors (including duplicates): 9540

Total False Positives rate: 0.0626314

Sports cluster 2

total time for sketch creation input after trimming: 26.1807 seconds

Maximum Query Processing in Spatial Prefix Filter: 77.8773 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 87.7453 seconds

Average Recall: 0.985472

Average Recall by BF neighbors: 0.985472

MSE: 0

Total Matched Neighbors: 6987

Total Neighbors (including duplicates): 7084

Total BF Neighbors (including duplicates): 7090

Total False Positives rate: 0.0136928

Sports cluster 3

total time for sketch creation input after trimming: 26.5591 seconds

Maximum Query Processing in Spatial Prefix Filter: 98.4322 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 140.069 seconds

Average Recall: 0.987977

Average Recall by BF neighbors: 0.987941

MSE: 0

Total Matched Neighbors: 12043

Total Neighbors (including duplicates): 12183

Total BF Neighbors (including duplicates): 12190

Total False Positives rate: 0.0114914

Grid = 50 Area = 20 k=10 Runs for sports datasets

Sports cluster 0

total time for sketch creation input after trimming: 6.42767 seconds

Maximum Query Processing in Spatial Prefix Filter: 6.68282 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.57507 seconds

Average Recall: 0.977444

Average Recall by BF neighbors: 0.974436

MSE: 0

Total Matched Neighbors: 1296

Total Neighbors (including duplicates): 1325

Total BF Neighbors (including duplicates): 1330

Total False Positives rate: 0.0218868

Sports cluster 1

total time for sketch creation input after trimming: 18.6555 seconds

Maximum Query Processing in Spatial Prefix Filter: 54.8232 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 67.9484 seconds

Average Recall: 0.980118

Average Recall by BF neighbors: 0.97826

MSE: 0

Total Matched Neighbors: 93326

Total Neighbors (including duplicates): 95037

Total BF Neighbors (including duplicates): 95400

Total False Positives rate: 0.0180035

Sports cluster 2

total time for sketch creation input after trimming: 25.7909 seconds

Maximum Query Processing in Spatial Prefix Filter: 83.5514 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 87.3964 seconds

Average Recall: 0.993089

Average Recall by BF neighbors: 0.993089

MSE: 0

Total Matched Neighbors: 7041

Total Neighbors (including duplicates): 7090

Total BF Neighbors (including duplicates): 7090

Total False Positives rate: 0.00691114

Sports cluster 3

Maximum Query Processing in Spatial Prefix Filter: 115.851 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 140.303 seconds

Average Recall: 0.996564

Average Recall by BF neighbors: 0.996555

MSE: 0

Total Matched Neighbors: 12148

Total Neighbors (including duplicates): 12189

Total BF Neighbors (including duplicates): 12190

Total False Positives rate: 0.00336369

Grid = 50 Area = 30 k=10 Runs for sports datasets

#### Sports cluster 0

total time for sketch creation input after trimming: 5.63902 seconds

Maximum Query Processing in Spatial Prefix Filter: 6.6688 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.62362 seconds

Average Recall: 0.997744

Average Recall by BF neighbors: 0.994737

MSE: 0

Total Matched Neighbors: 1323

Total Neighbors (including duplicates): 1325

Total BF Neighbors (including duplicates): 1330

Total False Positives rate: 0.00150943

#### Sports cluster 1

total time for sketch creation input after trimming: 18.7793 seconds

Maximum Query Processing in Spatial Prefix Filter: 59.8888 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 68.9069 seconds

Average Recall: 0.996646

Average Recall by BF neighbors: 0.996646

MSE: 0

Total Matched Neighbors: 9508

Total Neighbors (including duplicates): 9540

Total BF Neighbors (including duplicates): 9540

Total False Positives rate: 0.0033543

### Sports cluster 2

total time for sketch creation input after trimming: 25.6802 seconds

Maximum Query Processing in Spatial Prefix Filter: 88.1371 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 87.8797 seconds

Average Recall: 0.996474

Average Recall by BF neighbors: 0.996474

MSE: 0

Total Matched Neighbors: 7065

Total Neighbors (including duplicates): 7090

Total BF Neighbors (including duplicates): 7090

Total False Positives rate: 0.00352609

### Sports cluster 3

total time for sketch creation input after trimming: 26.9046 seconds

Maximum Query Processing in Spatial Prefix Filter: 128.292 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 140.856 seconds

Average Recall: 0.997785

Average Recall by BF neighbors: 0.997785

MSE: 0

Total Matched Neighbors: 12163

Total Neighbors (including duplicates): 12190

Total BF Neighbors (including duplicates): 12190

Total False Positives rate: 0.00221493

Grid = 25 Area = 10 k=10 Runs for sports datasets

Sports cluster 0

Maximum Query Processing in Spatial Prefix Filter: 4.23091 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 3.6092 seconds

Average Recall: 0.982456

Average Recall by BF neighbors: 0.978947

MSE: 0

Total Matched Neighbors: 1302

Total Neighbors (including duplicates): 1323

Total BF Neighbors (including duplicates): 1330

Total False Positives rate: 0.015873

Sports cluster 1

total time for sketch creation input after trimming: 4.81768 seconds

Maximum Query Processing in Spatial Prefix Filter: 42.9436 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 68.4849 seconds

Average Recall: 0.969741

Average Recall by BF neighbors: 0.969602

MSE: 0

Total Matched Neighbors: 9250

Total Neighbors (including duplicates): 9536

Total BF Neighbors (including duplicates): 9540

Total False Positives rate: 0.0299916

### Sports cluster 2

total time for sketch creation input after trimming: 6.68422 seconds

Maximum Query Processing in Spatial Prefix Filter: 69.4881 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 88.8625 seconds

Average Recall: 0.97433

Average Recall by BF neighbors: 0.97433

MSE: 0

Total Matched Neighbors: 6908

Total Neighbors (including duplicates): 7090

Total BF Neighbors (including duplicates): 7090

Total False Positives rate: 0.02567

### Sports cluster 3

total time for sketch creation input after trimming: 8.60543 seconds

Maximum Query Processing in Spatial Prefix Filter: 100.265 seconds

PrefixFilterFunction completed.

Maximum BF query time from all processes : 140.546 seconds

Average Recall: 0.99032

Average Recall by BF neighbors: 0.99032

MSE: 0

Total Matched Neighbors: 12072

Total Neighbors (including duplicates): 12186

Total BF Neighbors (including duplicates): 12190

Total False Positives rate: 0.009355