

Content

	Page
บทคัดย่อ	iii
Abstract	iv
Acknowledgements	v
Contents	vi
List of tables	viii
List of figures	ix
Chapter 1: Introduction	1
1.1 Background and rationale	1
1.2 Objectives	7
1.3 Expected advantages	7
1.4 Literature review	7
Chapter 2: Methodology	10
2.1 The format of input file	10
2.2 Theory related	14
2.3 Methodology of each function	18
Chapter 3: Result of function	38
Chapter 4: Conclusion and suggestions	50
4.1 Conclusion	50
4.2 An example of application of functions	51
4.3 Suggestion	56
4.4 Ongoing work	58

	Page
References	59
Appendix	61
Vitae	73

*Prince of Songkla University
Pattani Campus*

List of tables

Table	Page
2.1 The data input of <i>create.map()</i> function	19
2.2 The data input of <i>setcol.map()</i> function	21
2.3 The data input of <i>setcol.cmap()</i> function	22
2.4 The data input of <i>setnme.map()</i> function	24
2.5 The data input of <i>combine.map()</i> function	27
2.6 The data input of <i>colstat.map()</i> function	28
2.7 The data input of <i>piestat.map()</i> function	31
2.8 The data input of <i>area.map()</i> function	33
2.9 The data input of <i>perimeter.map()</i> function	35
2.10 The data input of <i>center.map()</i> function	36

List of figures

Figure	Page
1.1 The example shows the combining of regions	2
1.2 The example shows selection of regions	3
1.3 Show RGui	6
2.1 An example of a spatial data file	11
2.2 Simple regions	11
2.3 Text file containing <i>x</i> - and <i>y</i> - coordinates of simple regions	12
2.4 Complex regions	13
2.5 Text file containing <i>x</i> - and <i>y</i> - coordinates of complex regions	13
2.6 Example of an attribute data file	14
2.7 A line between two points	15
2.8 The Pythagorean theorem	15
2.9 A polygon	16
2.10 A triangle	16
2.11 A square	17
2.12 The functions are created	18
2.13 The result from <i>create.map()</i> function	20
2.14 The result from <i>setcol.map()</i> function	22
2.15 The result from <i>setcol.cmap()</i> function	23
2.16 The result from <i>setnme.map()</i> function	26
2.17 The result from <i>combine.map()</i> function	28
2.18 The result from <i>colstat.map()</i> function	30

Figure	Page
2.19 The result from <i>piestat.map()</i> function	33
2.20 The result from <i>area.map()</i> function	34
2.21 The result from <i>perimeter.map()</i> function	36
2.22 The result from <i>center.map()</i> function	37
3.1 The results of <i>create.map()</i> function for a simple region	38
3.2 The green map display for a simple region	39
3.3 The results of <i>create.map()</i> function for a complex region	39
3.4 The results of <i>setcol.map()</i> function	40
3.5 The results of <i>setcol.cmap()</i> function	40
3.6 Map display of name of each region without a frame	41
3.7 A map displays of name of each region with yellow frame	41
3.8 Map display name for complex region	42
3.9 Example of combined regions with dotted line	42
3.10 Example of combined regions with removed line	43
3.11 Example of combined regions with solid line	43
3.12 Categorical variable not specifying color	44
3.13 Categorical variable specifying color for each group and use of dotted line	45
3.14 Continuous variable not specifying group	45
3.15 Continuous variable specifying group and color	45
3.16 Example of a categorical variable	46
3.17 Example of a continuous variable	46
3.18 The area of a simple region	47

Figure	Page
3.19 The area of a complex region	47
3.20 The perimeter of each region for simple regions	48
3.21 The perimeter of each region for a complex region	48
3.22 The result on R Console shows the center of each region	49
4.1 Map showing terrorist events in Pattani province	51
4.2 A map having a simple region and a complex region	53
4.3 A map with different color specified for each region	54
4.4 Specified color for a complex region	55
4.5 The results from <i>area.map()</i> function	56
4.6 A map is from a Cartesian coordinate system	57
4.7 A map is from a longitude and latitude system	58
4.8 The result from <i>area.map()</i> function on R Console	58