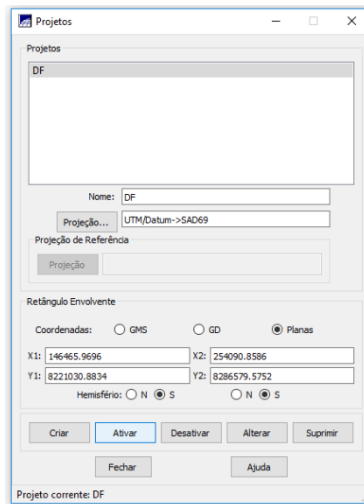
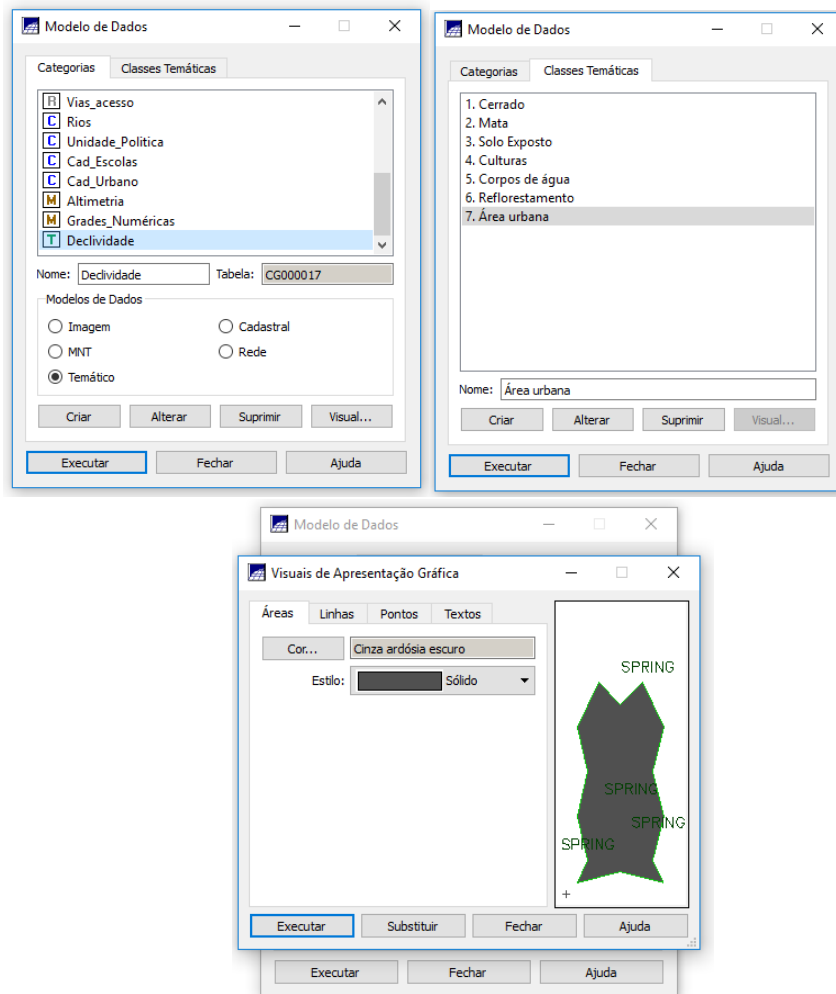


2. Criando o projeto:



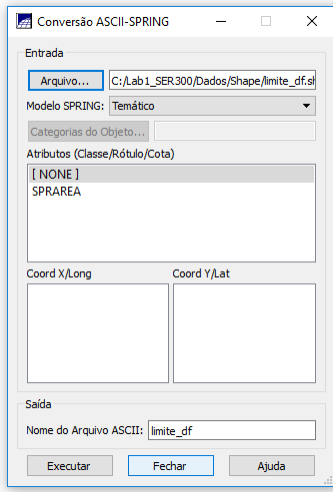
3. Criar categorias, classes e visuais:



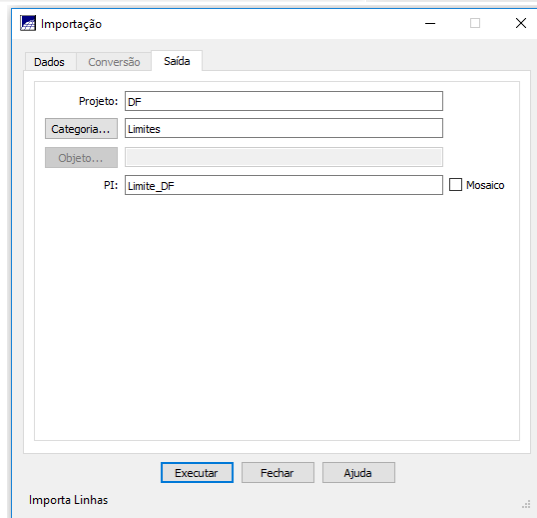
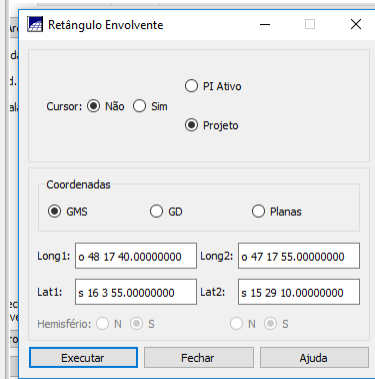
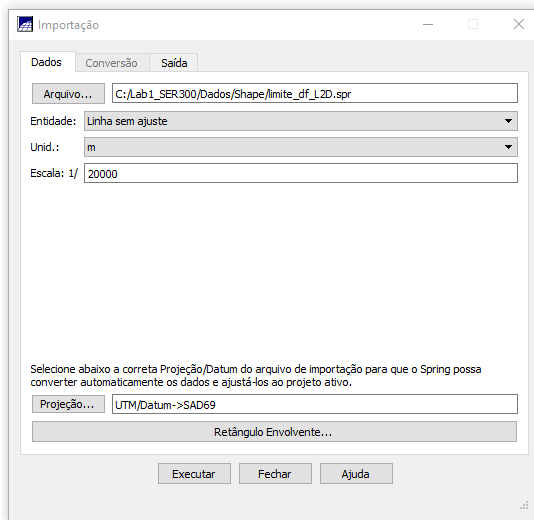
Exercício 2: Importando Limite do Distrito Federal

1. Converter o arquivo Shape para ASCII-SPRING

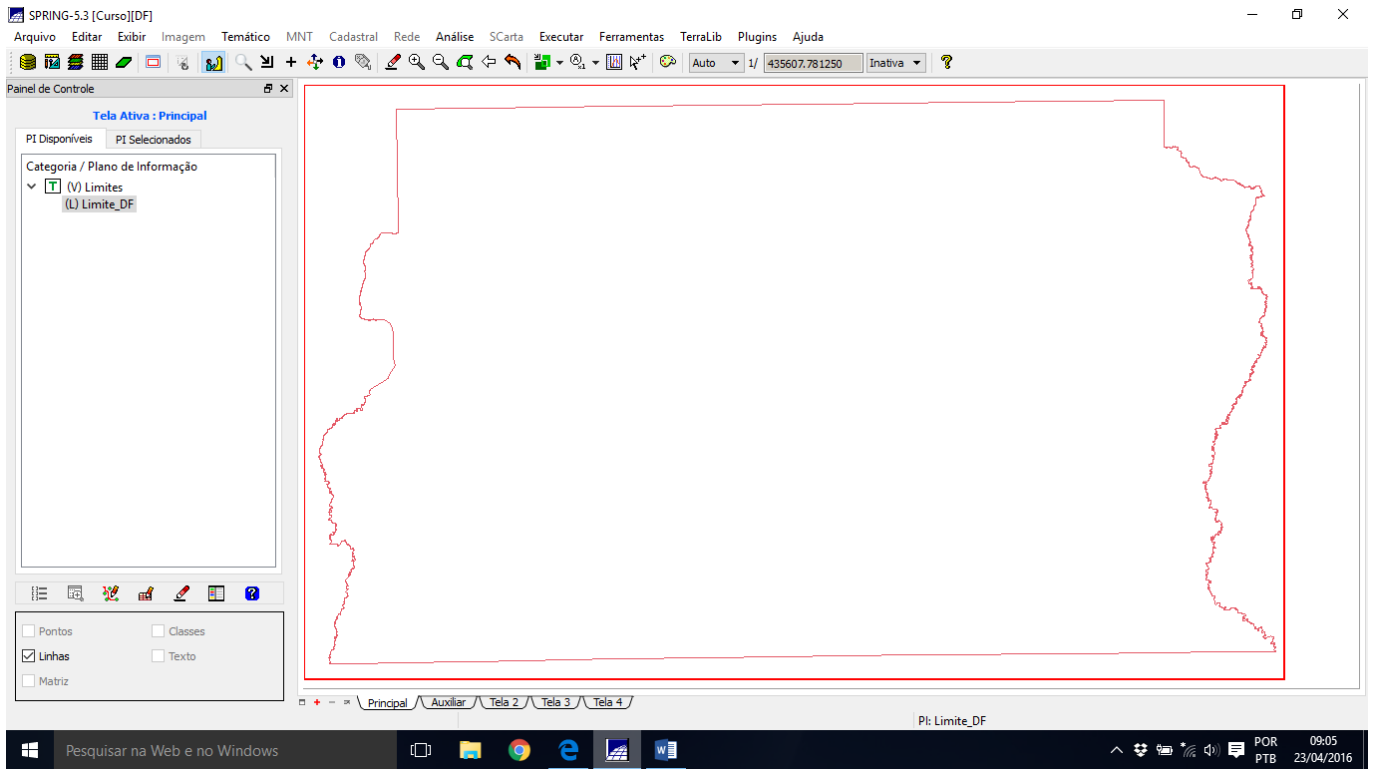
Conversão shapefile para ASCII-Spring:



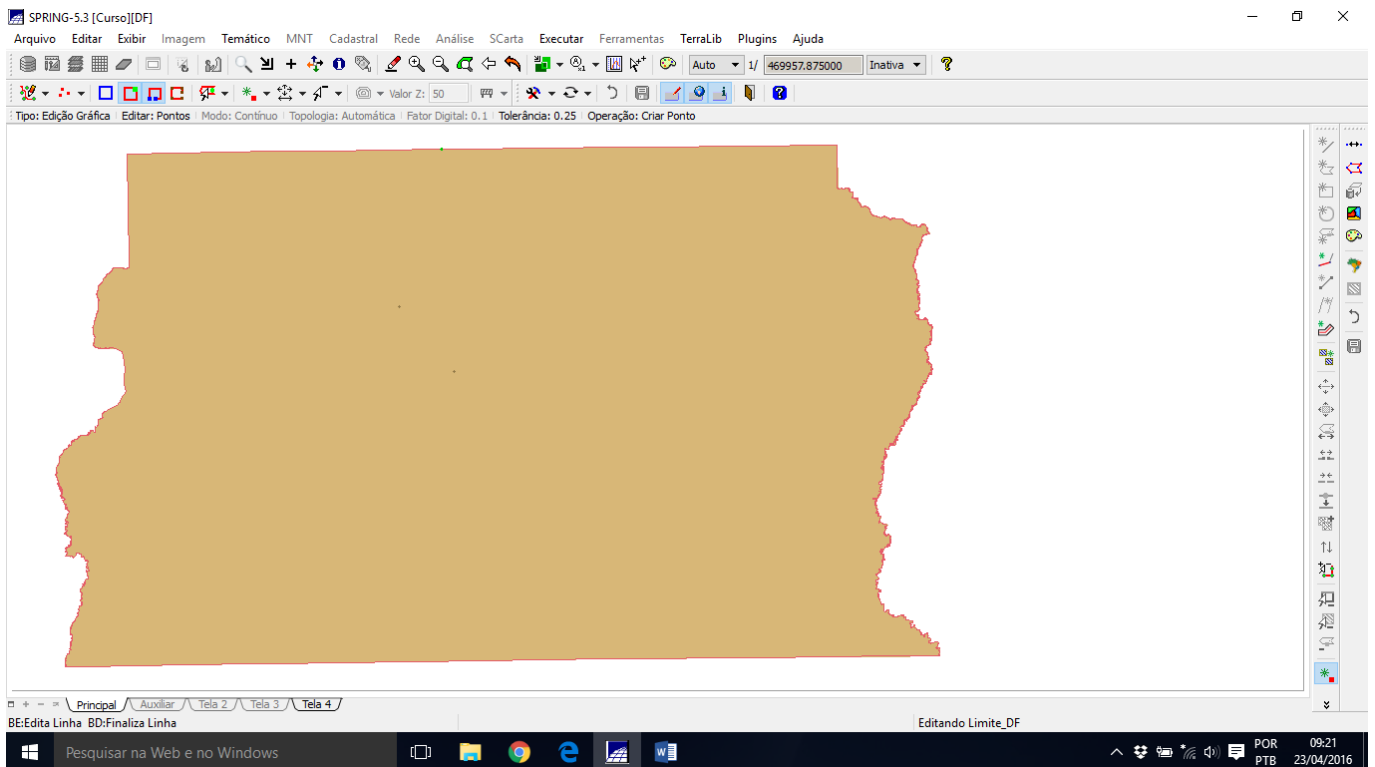
Importando para o formato do Spring:



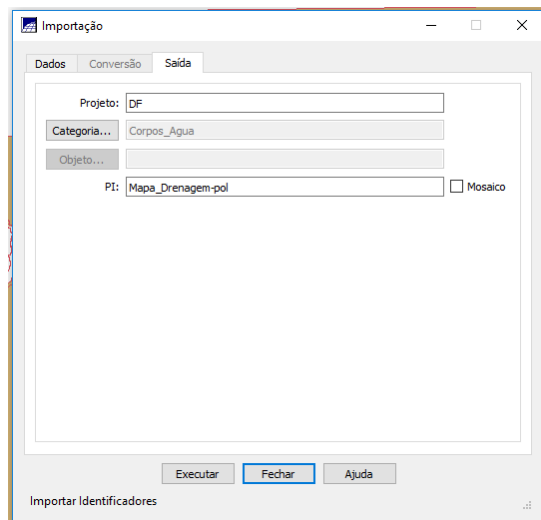
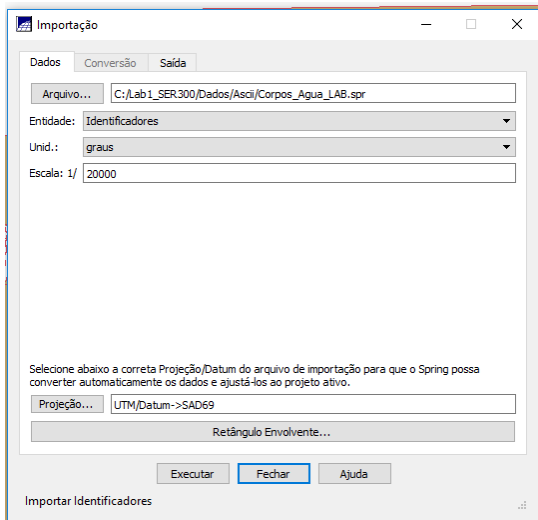
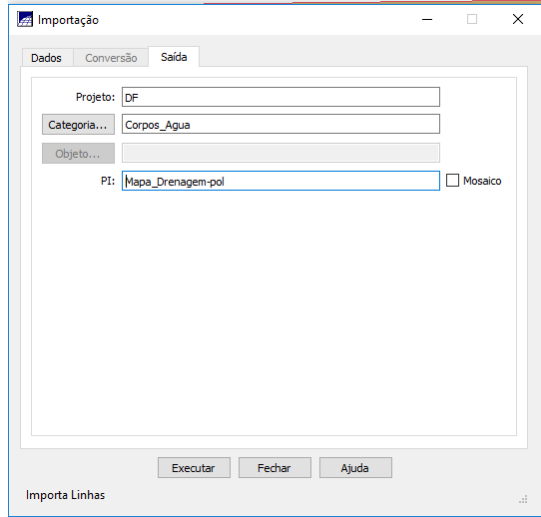
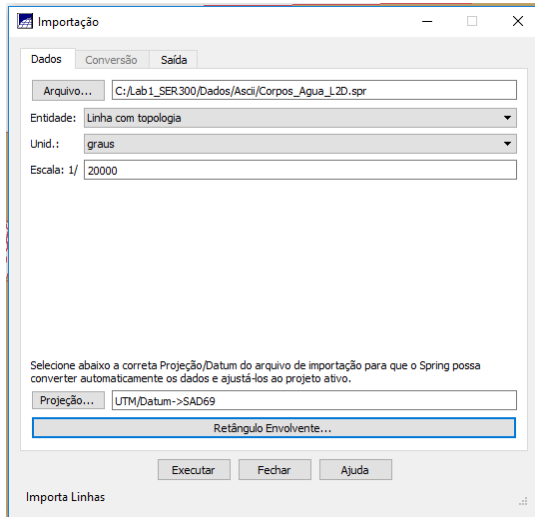
Resultado final:



2. Ajustar, Poligonalizar e Associar a classe temática

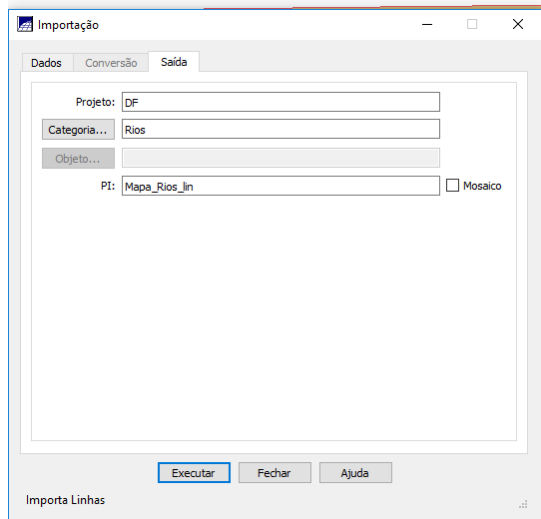
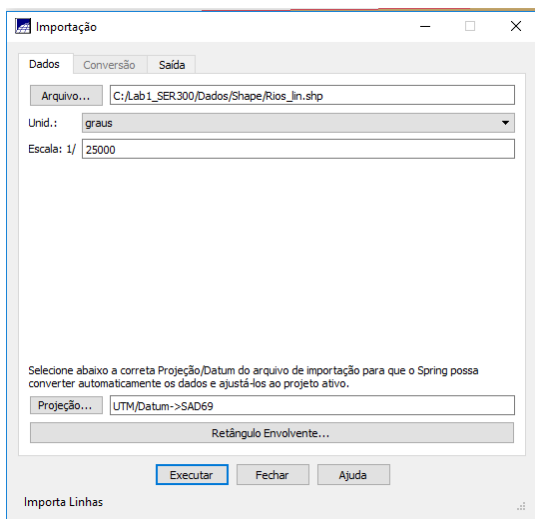


Exercício 3 – Importando Corpos de Água

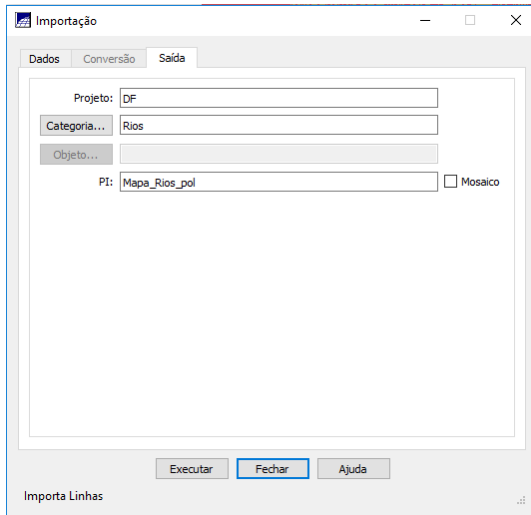
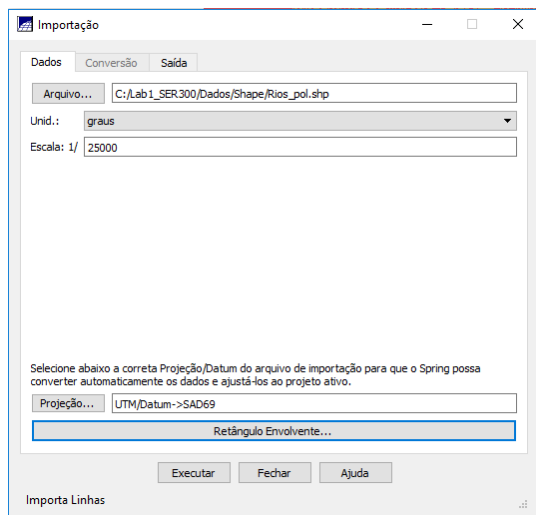


Exercício 4 – Importando Rios de arquivo Shape

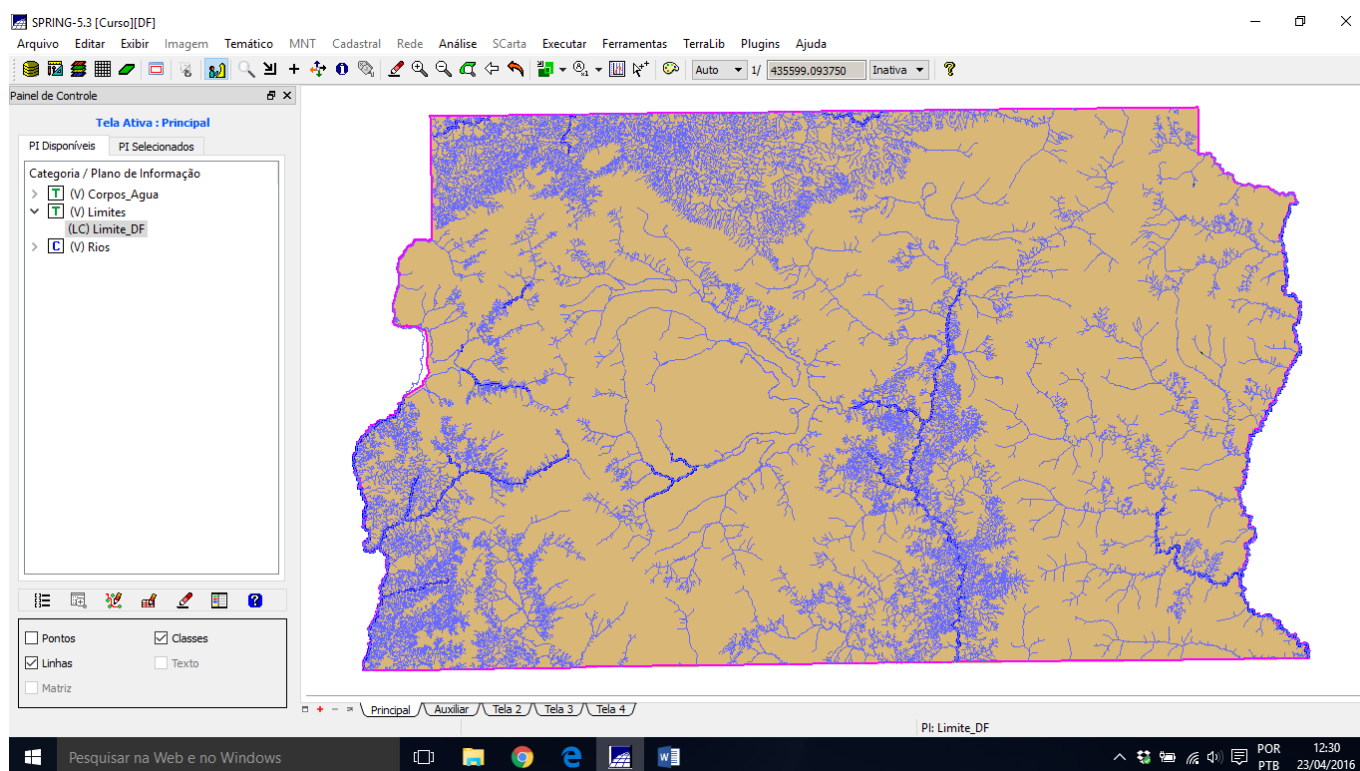
Rios linhas:



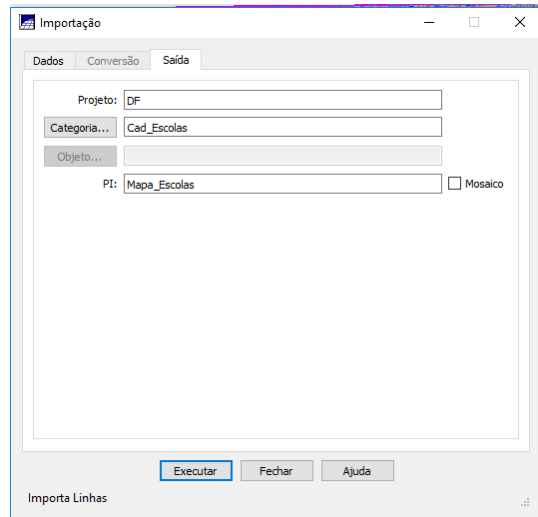
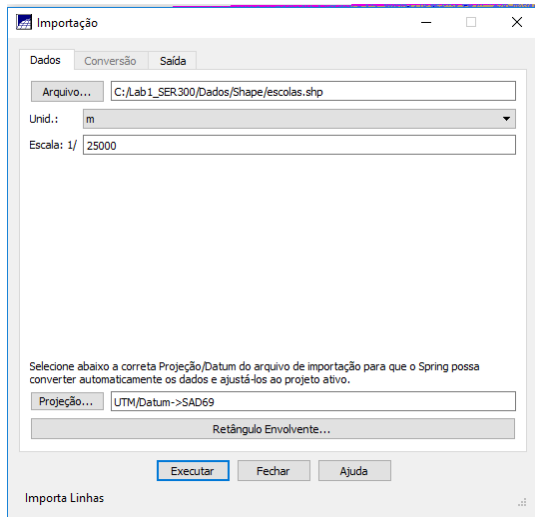
Rios polígonos:



Resultado final

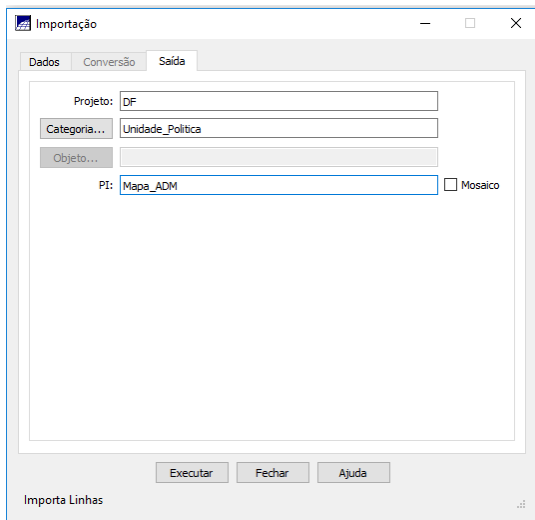
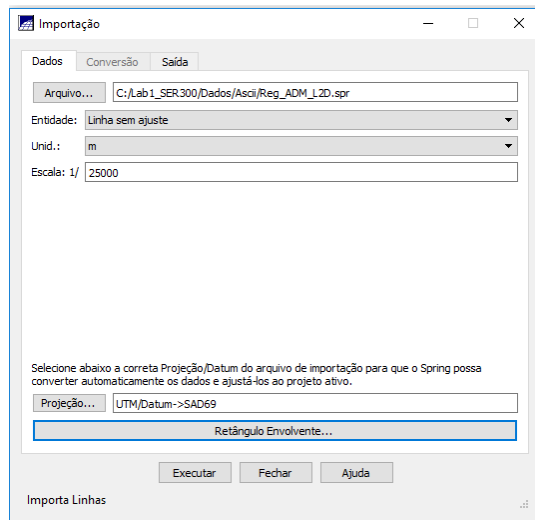


Exercício 5 – Importando Escolas de arquivo Shape

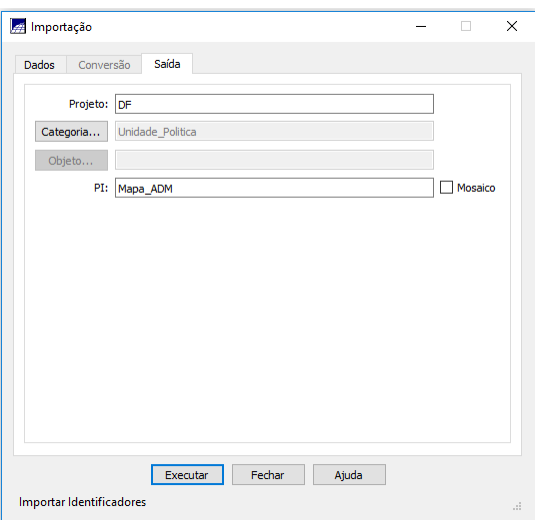
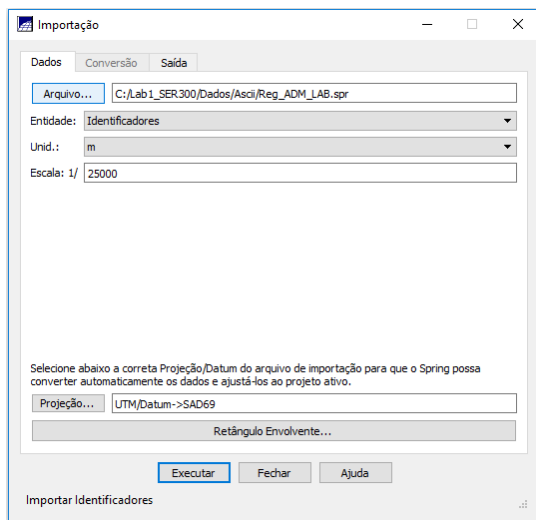


Exercício 6 – Importando Regiões Administrativas de arquivos ASCII-SPRING

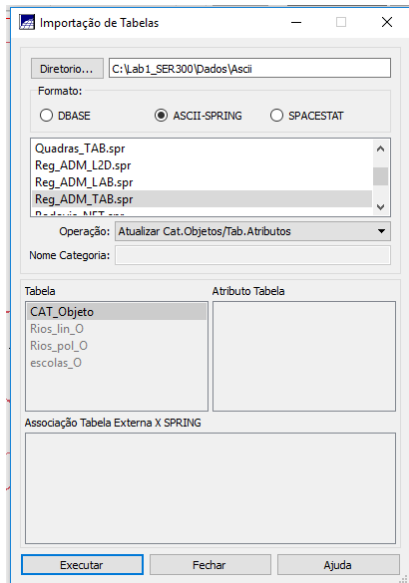
Linhas regiões administrativas



Rótulos regiões administrativas

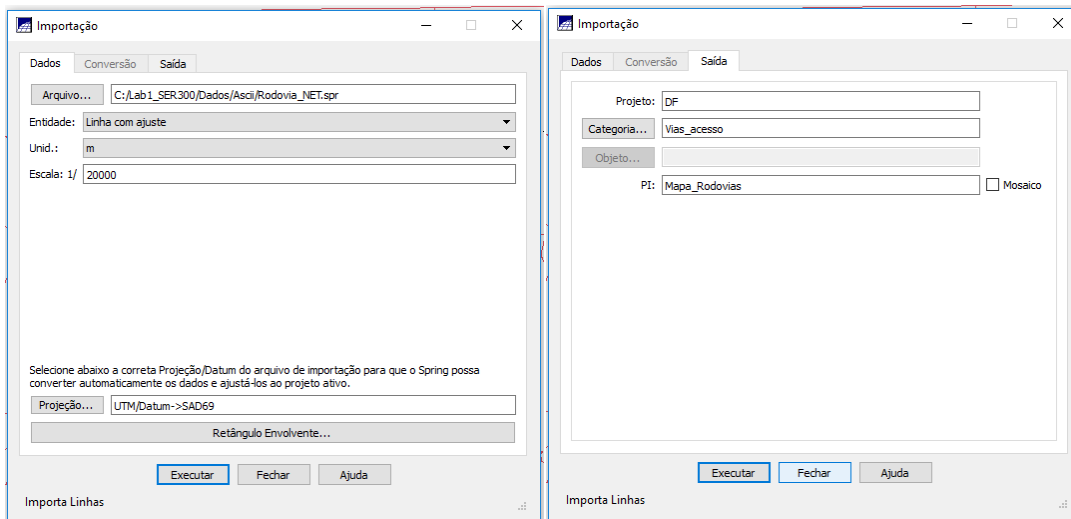


Importar tabela

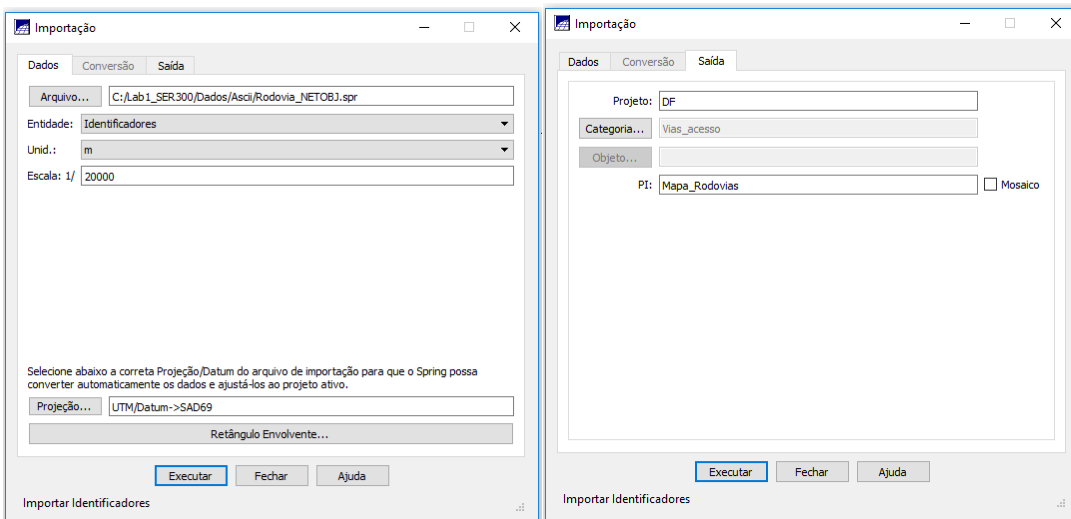


Exercício 7 – Importando Rodovias de arquivos ASCII-SPRING

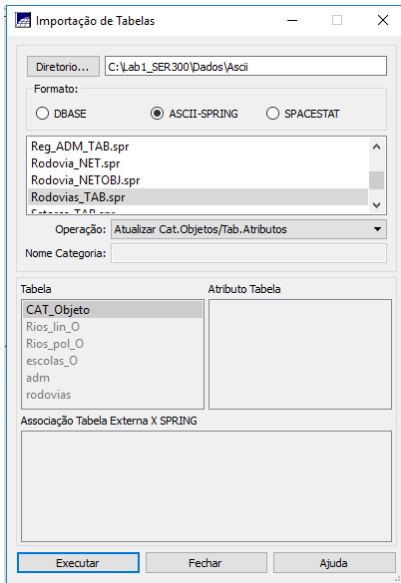
Rodovia_NET.spr



Rodovia_NETOBJ.spr



Rodovias_TAB.spr



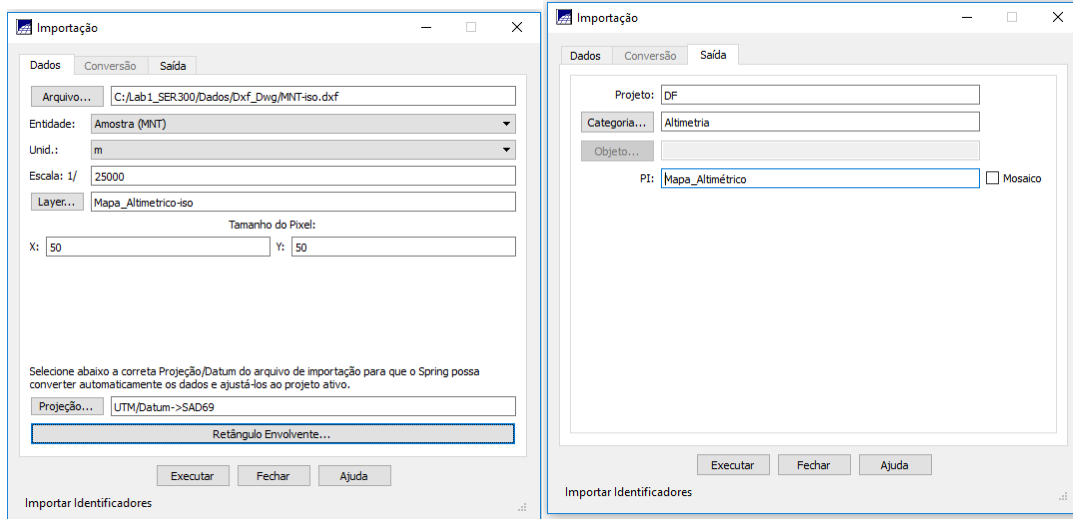
Visualizando o PI Mapa_Rodovias

```
Coord.X: 190202.200489   Coord.Y: 8257433.597749  
Long: -47:53:26.86   Lat: -15:44:32.55
```

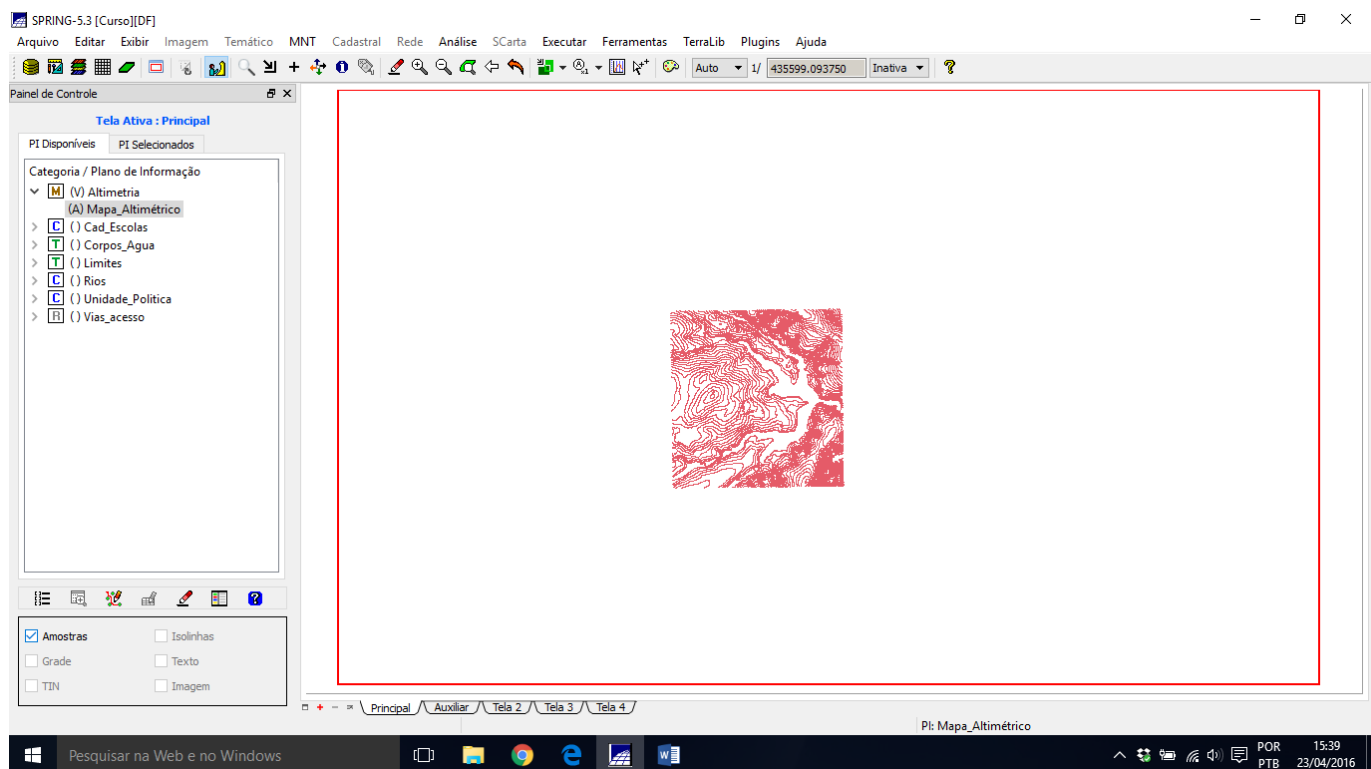
```
PI: Mapa_Rodovias   Categoria: Vias_acesso  
Objeto rodovias  
ID: 61157  
NOME: 612  
ROTULO: 612  
AREA: 0.000000  
PERIMETRO: 353.436000  
LENGTH: 40.000000  
SISVIA_ : 38  
SISVIA_ID: 4094  
CODIGO:  
CODIGO1:  
CODIGO2:  
FX_DOMINIO:  
COMPR_KM: 7.850000  
NOME_ROD: EIXO RODOVIARIO NORTE  
JURISDICA0: ESTADUAL  
CATEGOR1: RODOVIA ESTADUAL PAVIMENTADA  
PISTA: DUPLA  
CLASSE: 1  
FONTE: DER - 1994 - ESCALA: 1:150.000
```

Exercício 8 – Importando Altimetria de arquivos DXF

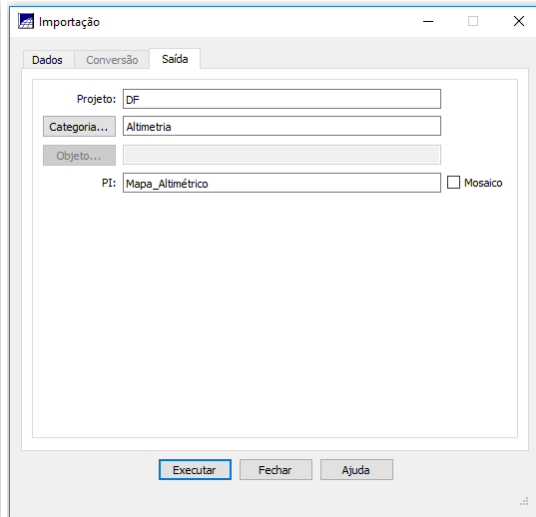
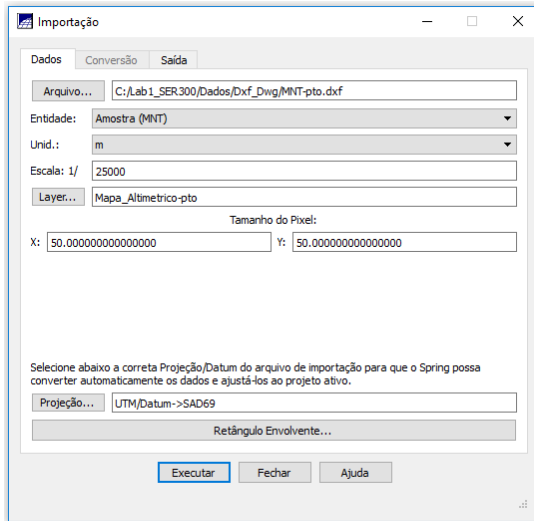
1. Importar arquivo DXF com isolinhas num PI numérico



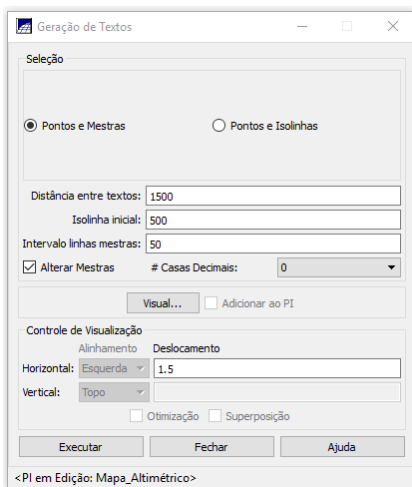
Resultado:



2. Importar arquivo DXF com pontos cotados no mesmo PI das isolinhas

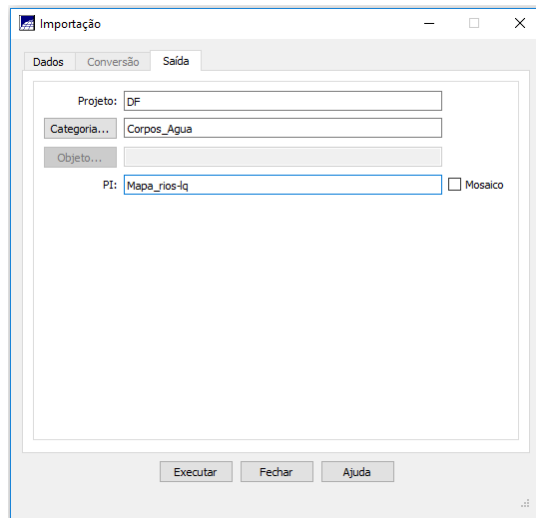
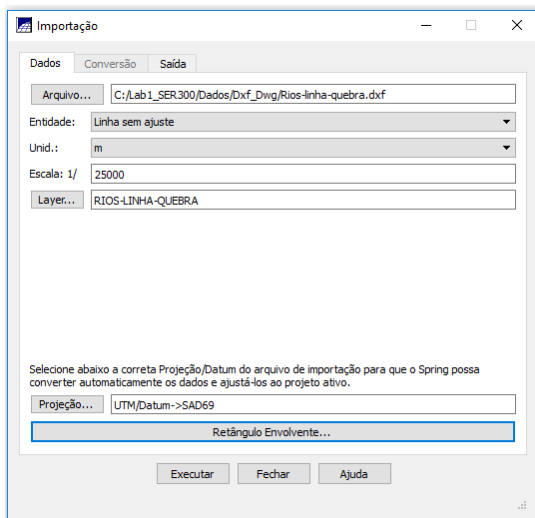


3. Gerar toponímia para amostras

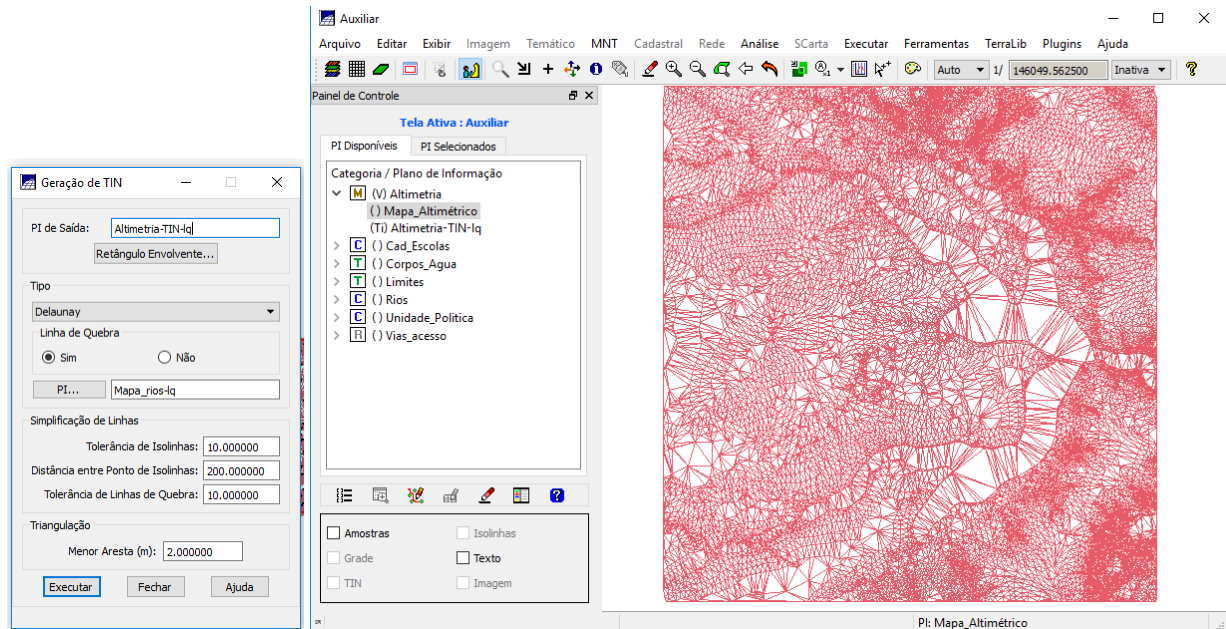


Exercício 9 - Gerar grade triangular- TIN

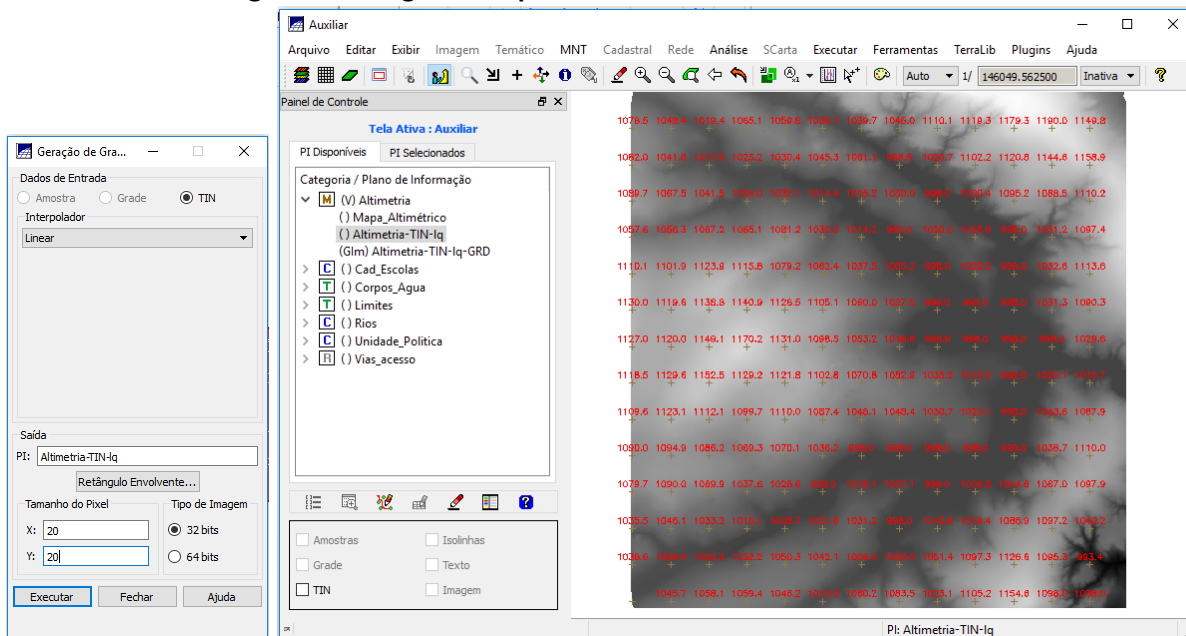
1. Importar a drenagem de arquivo DXF para PI temático



2. Gerar grade triangular utilizando o PI drenagem como linha de quebra

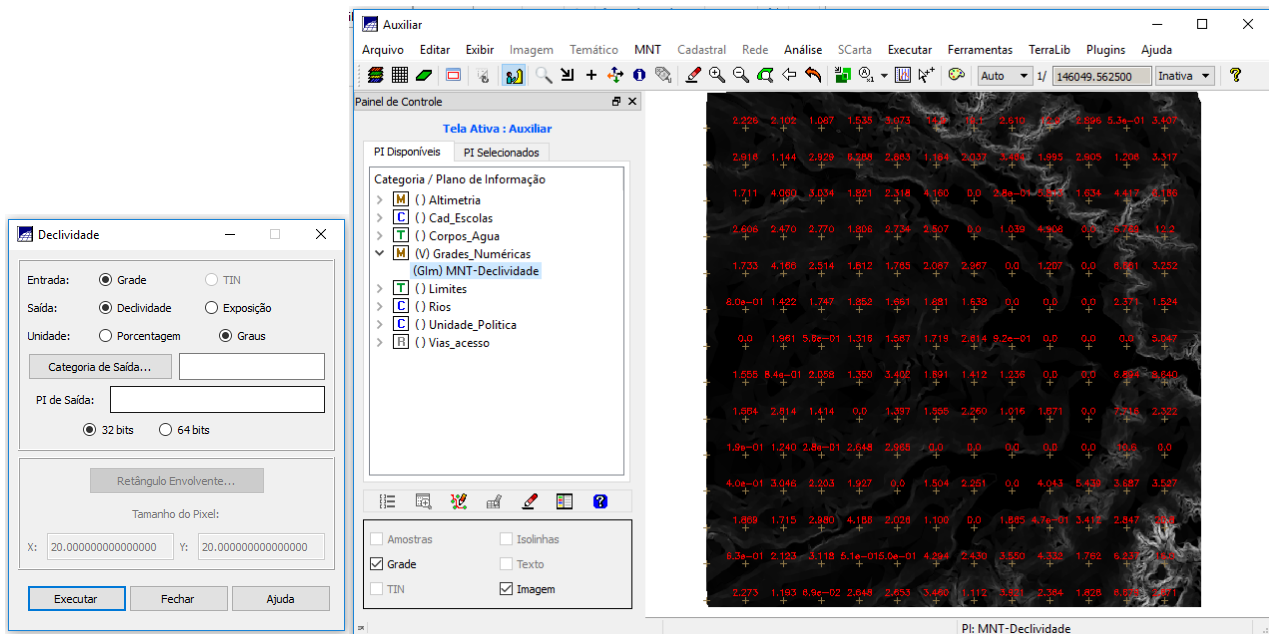


Exercício 10 - Gerar grades retangulares a partir do TIN

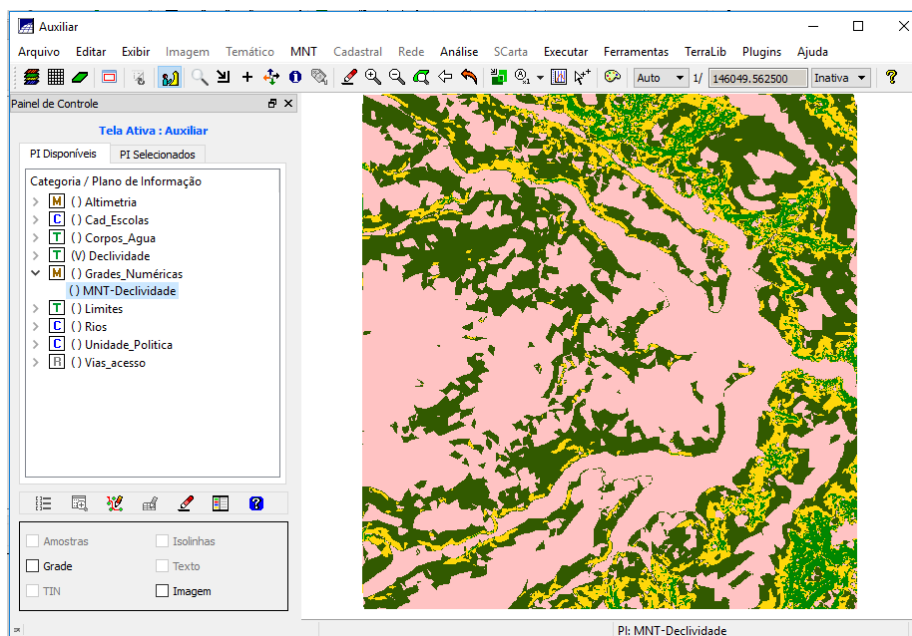
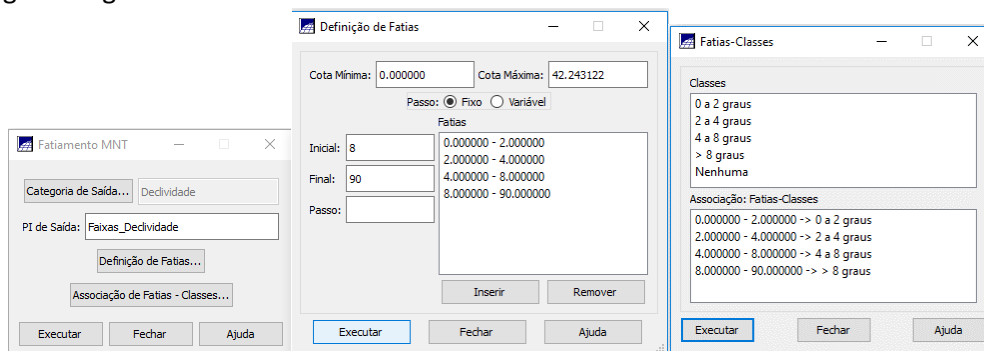


Exercício 11 - Geração de Grade de Declividade e Fatiamento

Geração da Grade de Declividade:

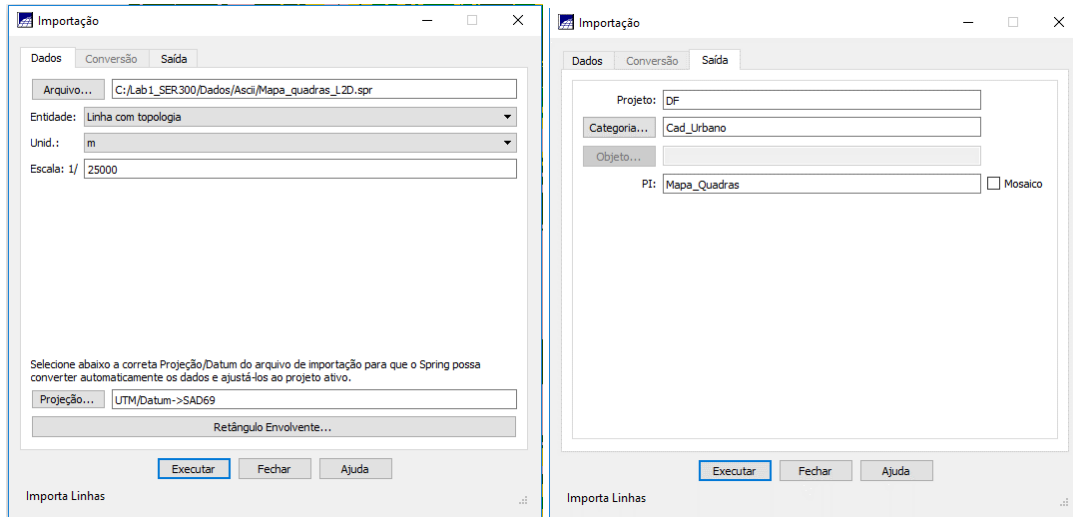


Fatiamento de grade regular em classes de declividade:

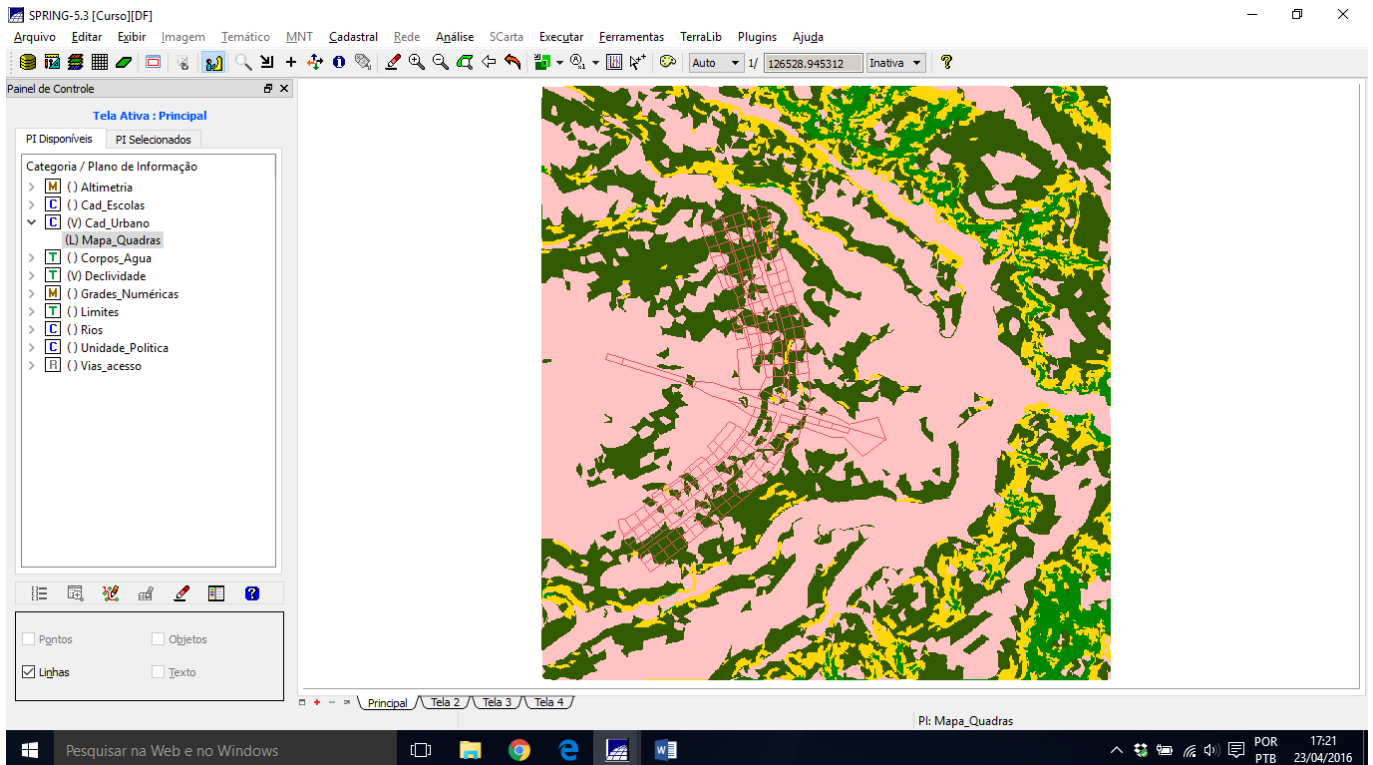


Exercício 12 - Criar Mapa Quadras de Brasília

1. Importar arquivo de linhas para criar mapa cadastral

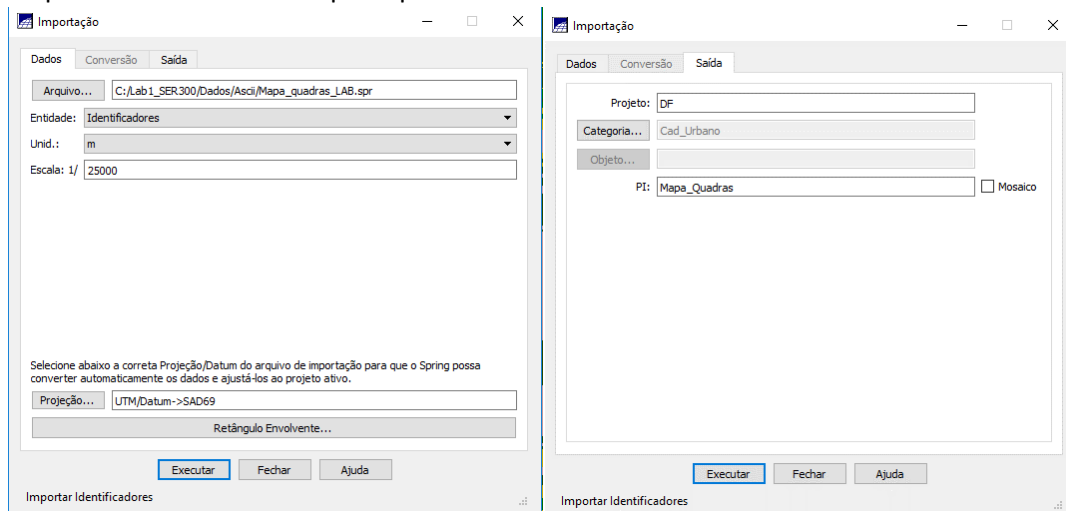


Visualizando o plano de informação Mapa_Quadras:

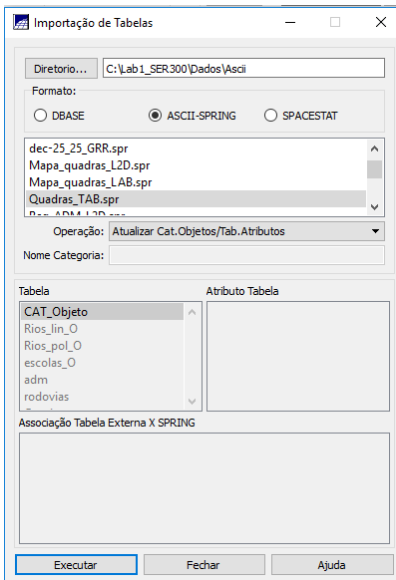


2. Associação automática de objetos e importação de tabela ASCII

Importando arquivo de identificadores para quadras:



Importando arquivo com atributos das quadras:



Verificando atributos das quadras:

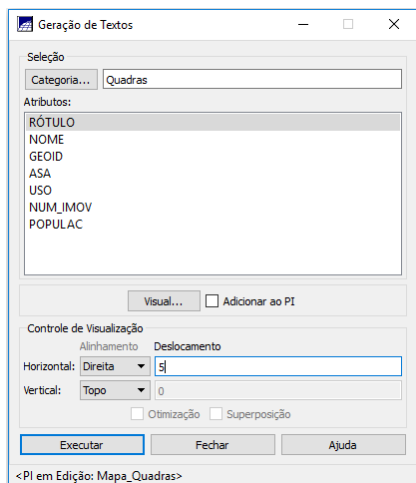
```
Coord.X: 190202.200489 Coord.Y: 8257433.597749  
Long: -47:53:26.86 Lat: -15:44:32.55
```

```
PI: Mapa_Rodovias Categoria: Vias_acesso  
Objeto rodovias  
ID: 61157  
NOME: 612  
ROTULO: 612  
AREA: 0.000000  
PERIMETRO: 353.436000  
LENGTH: 40.000000  
SISVIA_: 38  
SISVIA_ID: 4094  
CODIGO:  
CODIGO1:  
CODIGO2:  
FX_DOMINIO:  
COMPR_KM: 7.850000  
NOME_ROD: EIXO RODOVIARIO NORTE  
JURISDICA0: ESTADUAL  
CATEGOR1: RODOVIA ESTADUAL PAVIMENTADA  
PISTA: DUPLA  
CLASSE: 1  
FONTE: DER - 1994 - ESCALA: 1:150.000
```

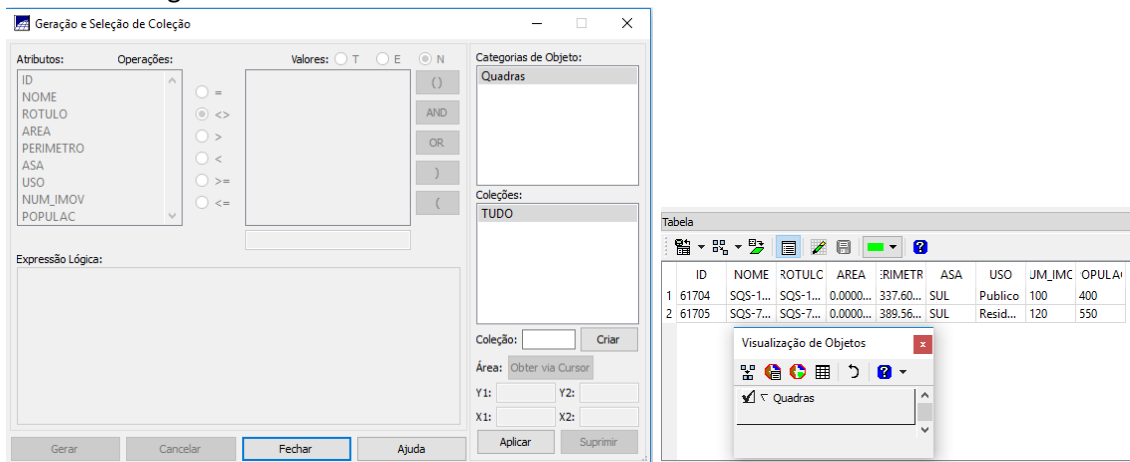
```
Coord.X: 191371.033845 Coord.Y: 8253972.650265  
Long: -47:52:49.22 Lat: -15:46:25.57
```

```
PI: Mapa_Quadras Categoria: Cad_Urbano
```

3. Geração de toponímia dentro de cada polígono



4. Carregar módulo de consulta e verificar tabela



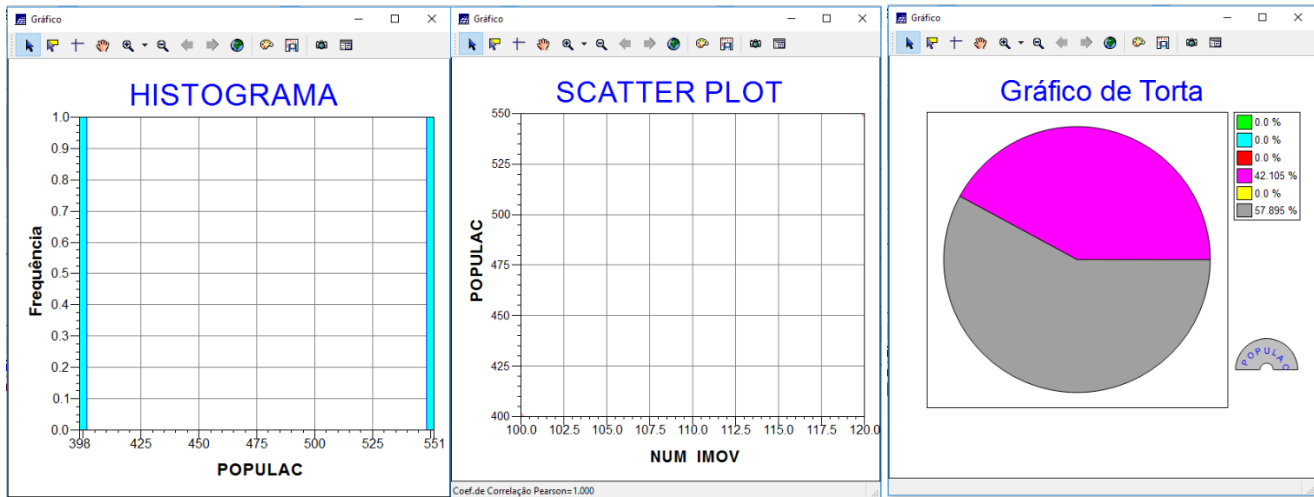
5. Carregar módulo de consulta e verificar tabela

ID	NOME	ROTULC	AREA	RIMETR	ASA	USO	JM_JMC	OPULA
1 61704	SQS-1...	SQS-1...	0.0000...	337.60...	SUL	Publico	100	400
2 61705	SQS-7...	SQS-7...	0.0000...	389.56...	SUL	Resid...	120	550

Exibindo estatísticas básicas para atributos numéricos

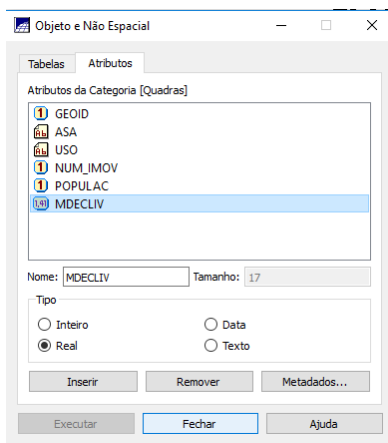
POPULAC :	
N. AMOSTRAS	2
N. AUSENTES	0
MINIMO	400
MEDIANA	475.00000000
MAXIMO	550
SOMA TOTAL	950.00000000
MEDIA	475.00000000
D. PADRAO	75.00000000
C. VARIACAO	0.15789474

Exibindo gráficos

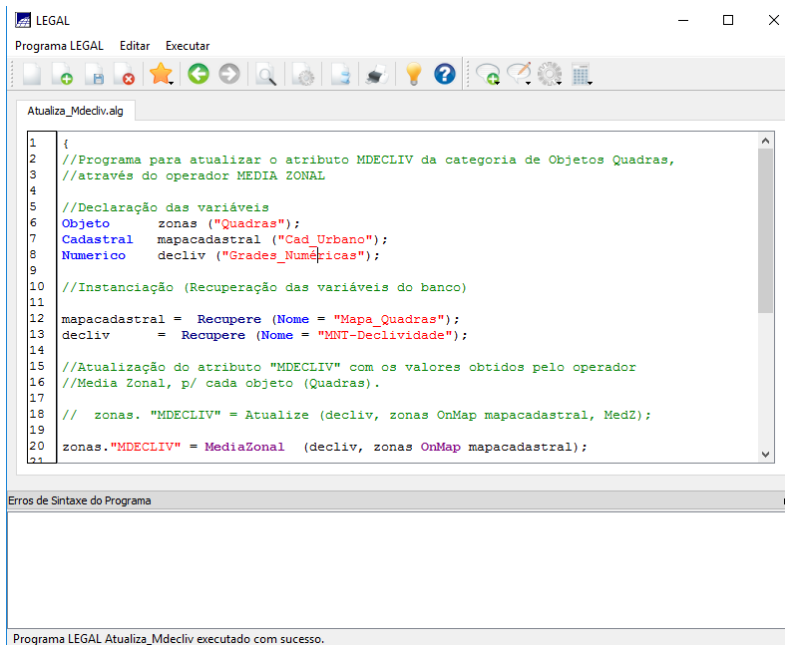


Exercício 13 – Atualização de Atributos utilizando o LEGAL

Criar um novo atributo para o objeto Quadras



Atualizar atributo pelo operador de média zonal



Exercício 14 – Importação de Imagem Landsat e Quick-Bird

Importando as bandas de uma cena Landsat ETM como referência:

Não havia neste ponto o arquivo chamado *L71221071_07120060531_B10.TIF* conforme o tutorial (pg 54). Foi chamado no lugar o arquivo *L71221071_07120060531_B30.TIF*.

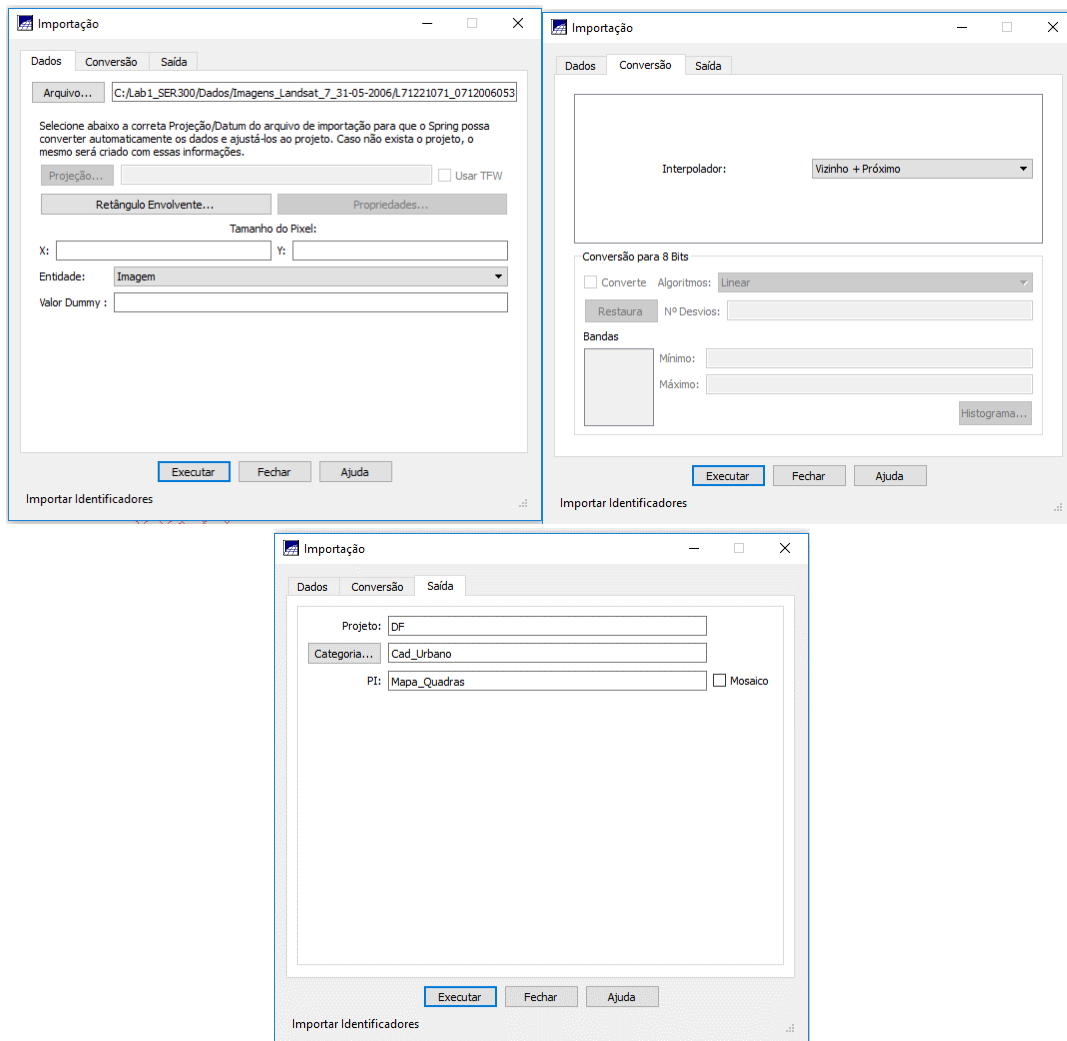
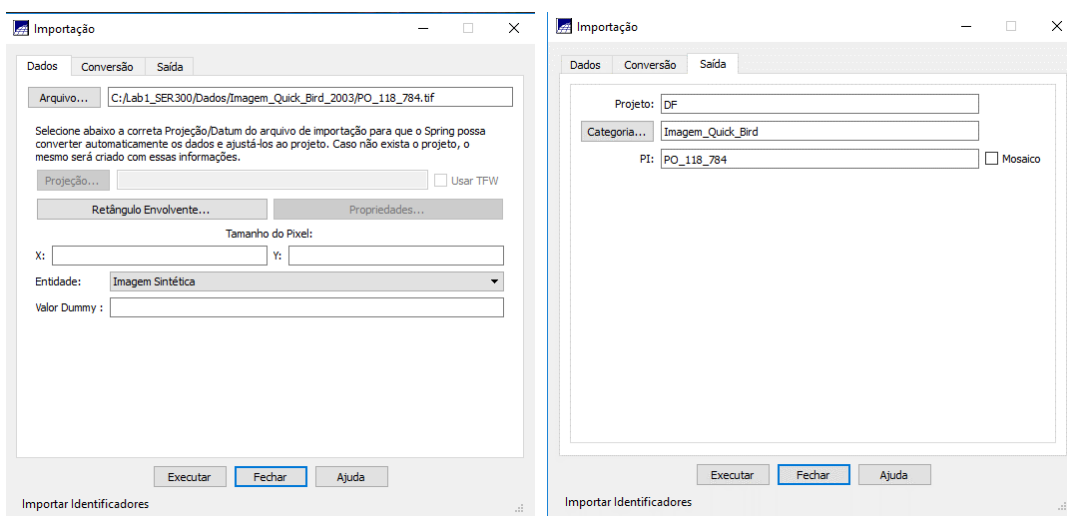
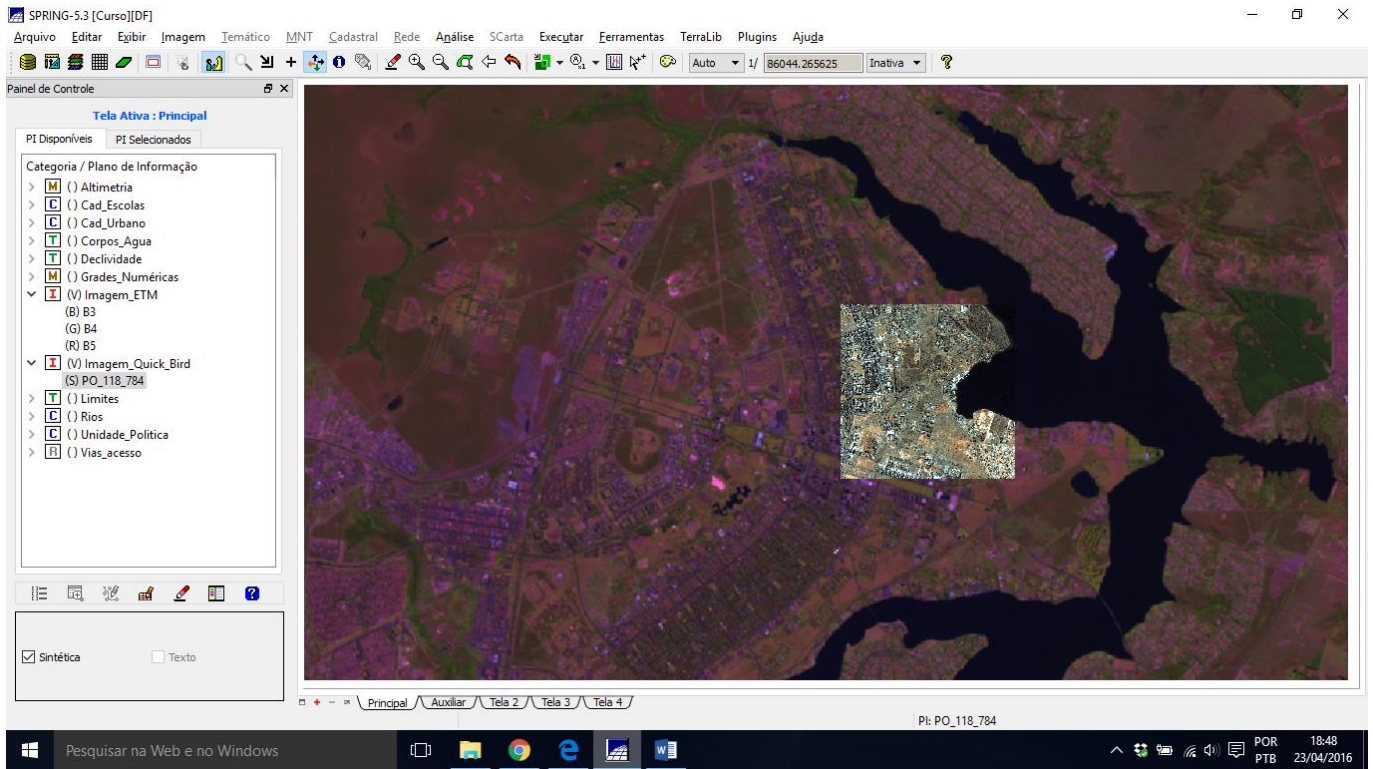


Imagem Quick-bird

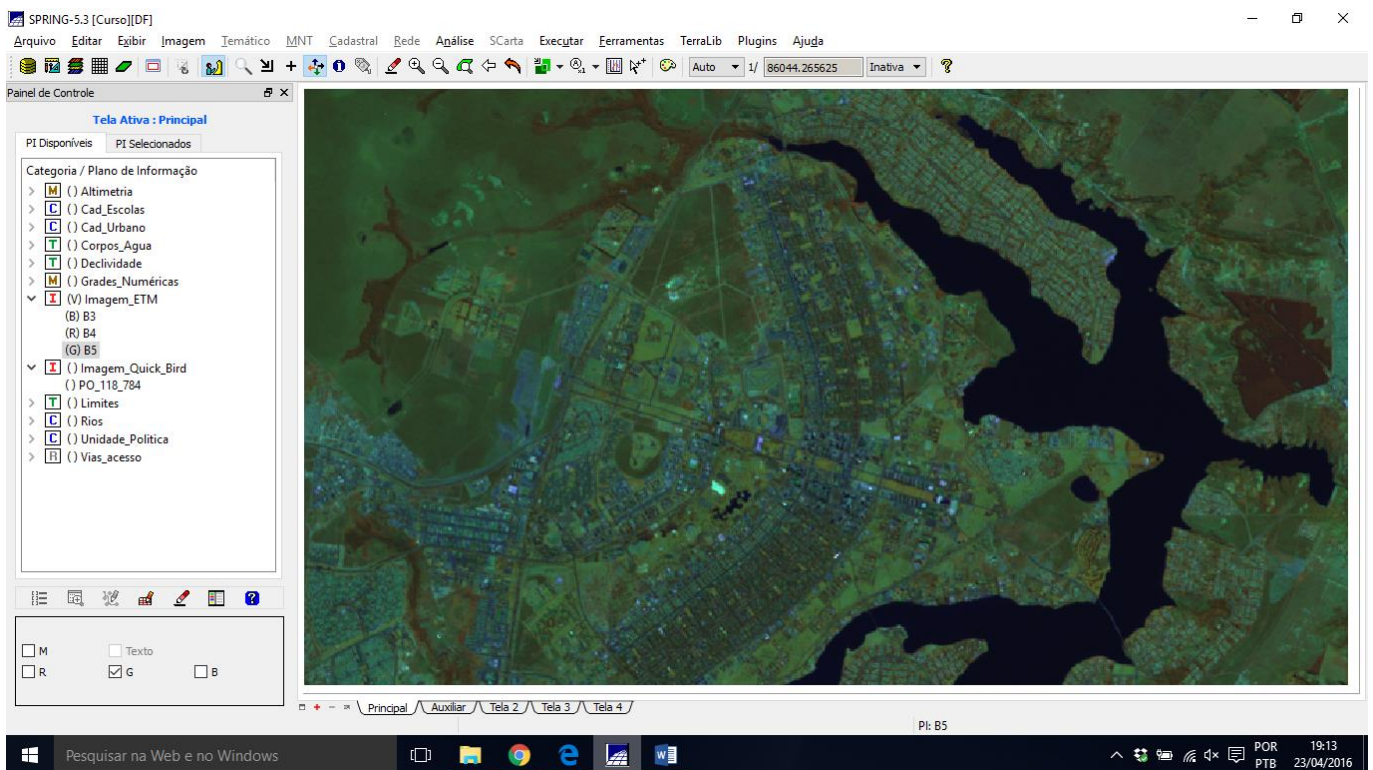


Visão geral

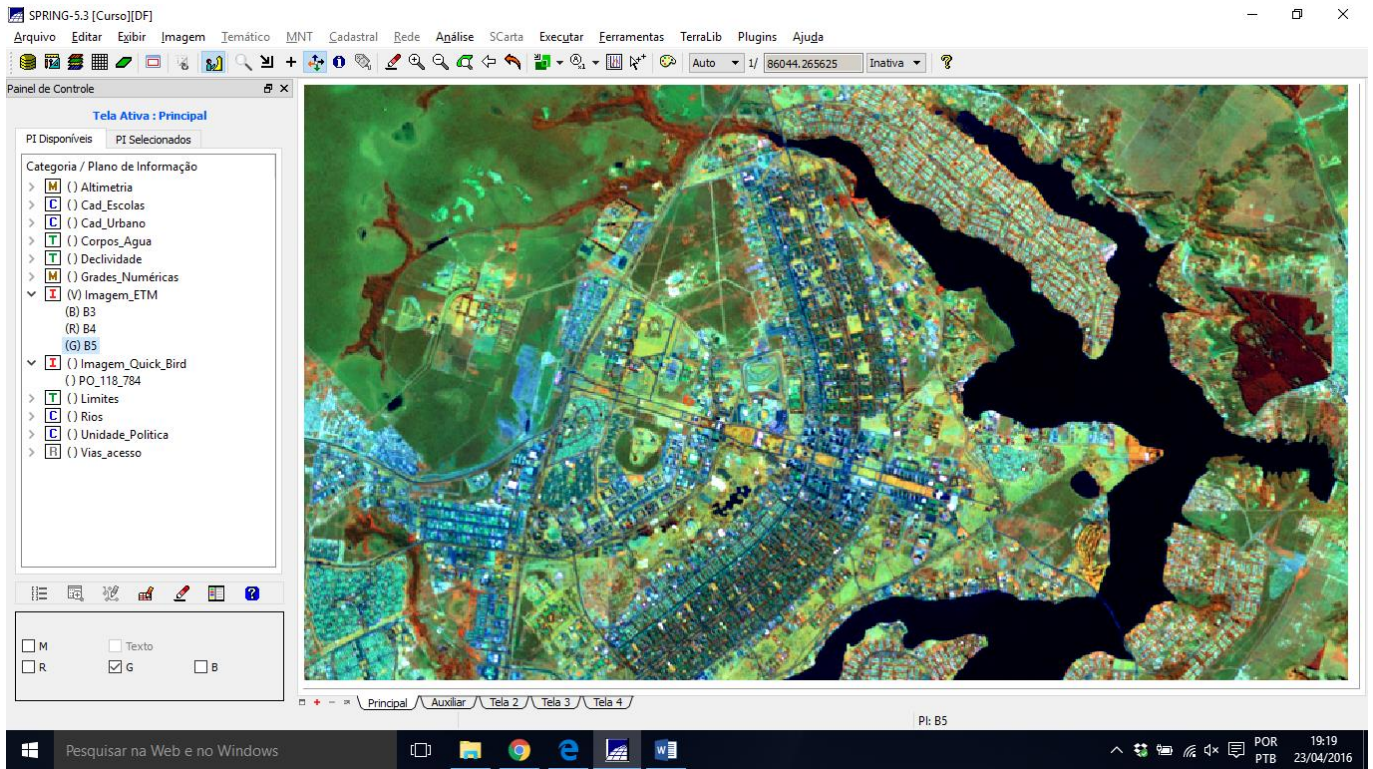


Exercício 15 - Classificação supervisionada por pixel

1. Criar uma imagem sintética de fundo

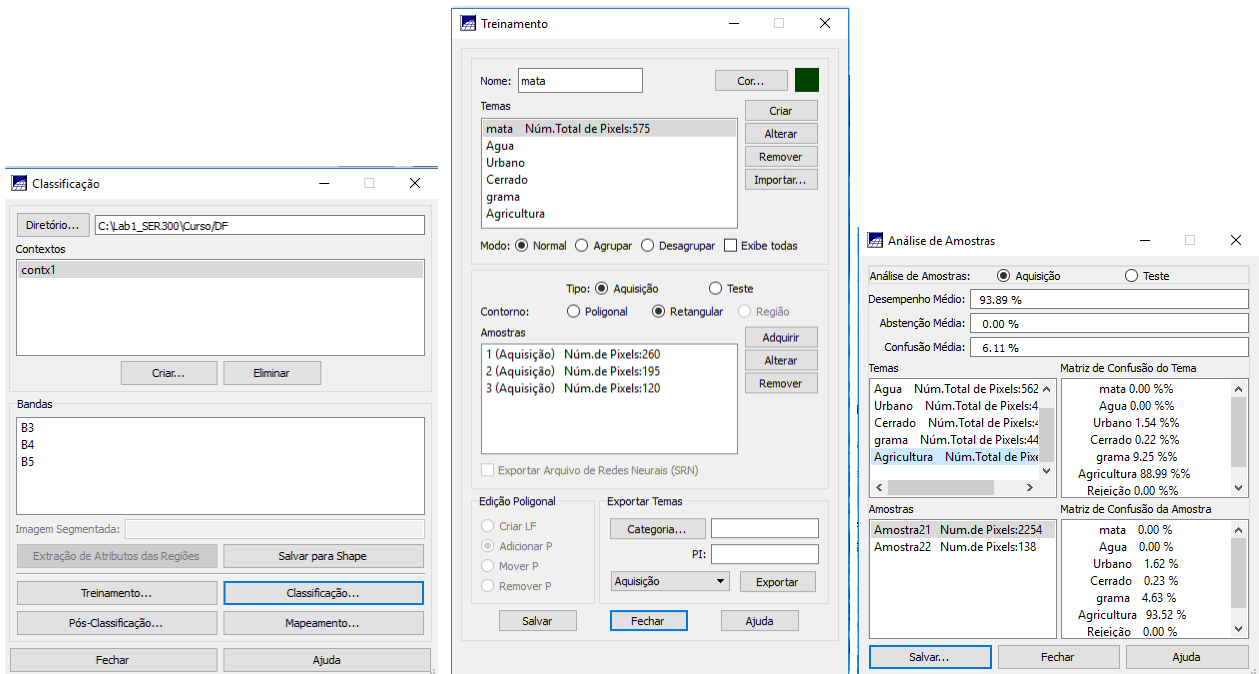


Aplicação de contraste:

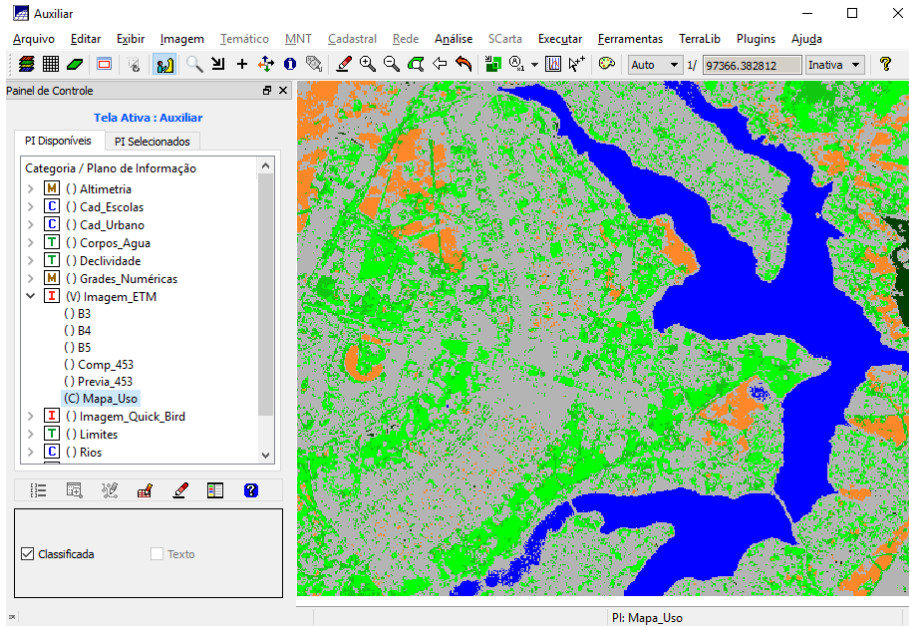


2. Criação de um arquivo de contexto e análise da amostra

Como não haviam os arquivos do CBERS, o procedimento foi realizado com os dados do sensor ETM do Landsat 7.



3. Classificação da imagem



4. Pós-classificação com antes e depois

