



MINISTÉRIO DA CIÊNCIA E TECNOLOGIA
INSTITUTO NACIONAL DE PESQUISAS ESPACIAIS

Disciplina: SER-300 - Introdução ao Geoprocessamento

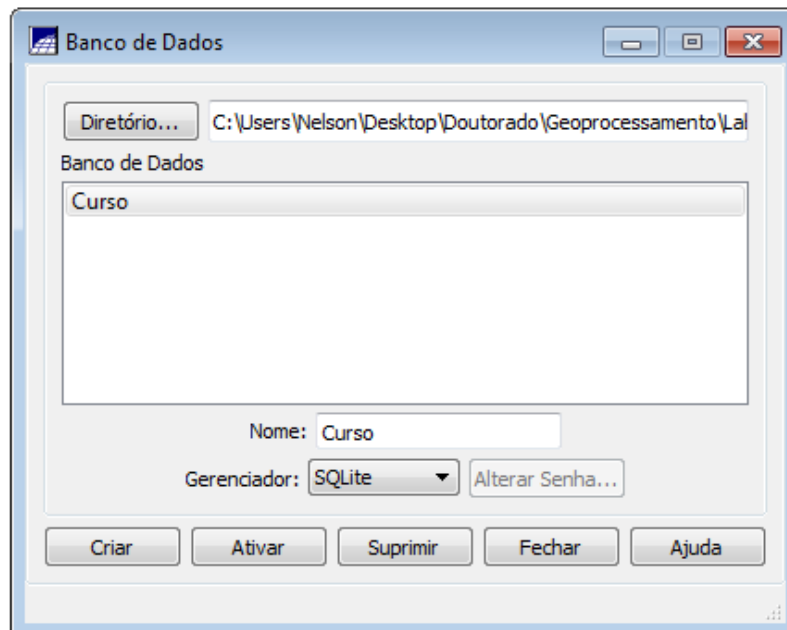
Laboratório 1: Modelagem da Base de Dados

*Base de Dados Georeferenciados para Estudos Urbanos no Plano
Piloto de Brasília.*

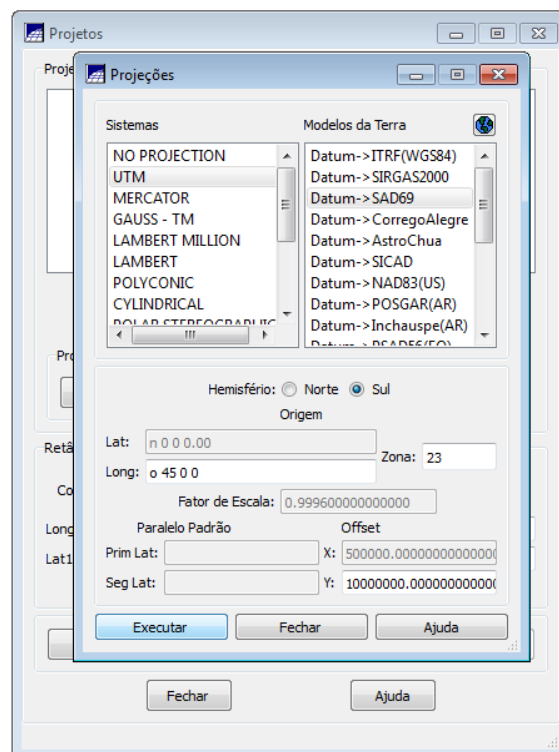
Nelson de Almeida Gouveia

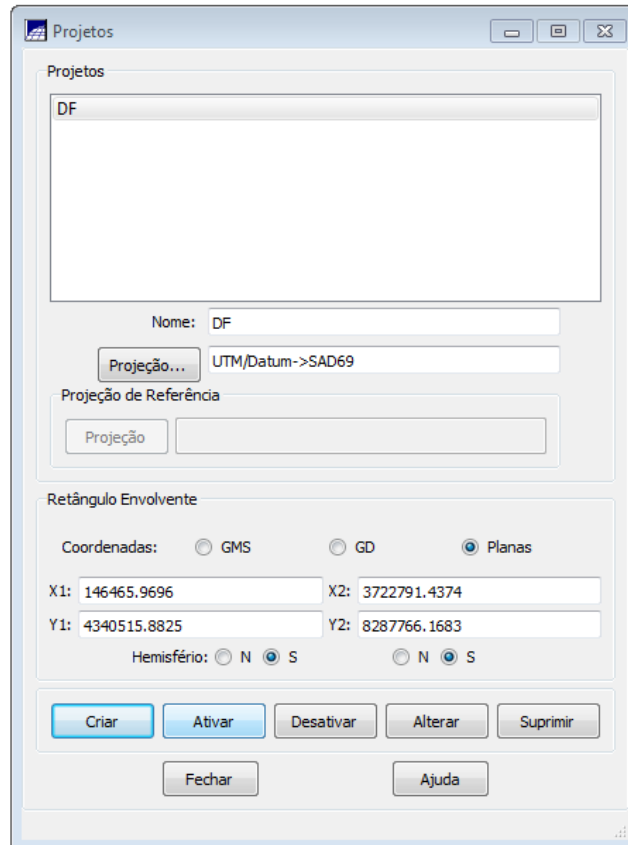
Exercício 1 – Modelagem do Banco – OMT-G p/ SPRING

Passo 1 – Criar o Banco de Dados

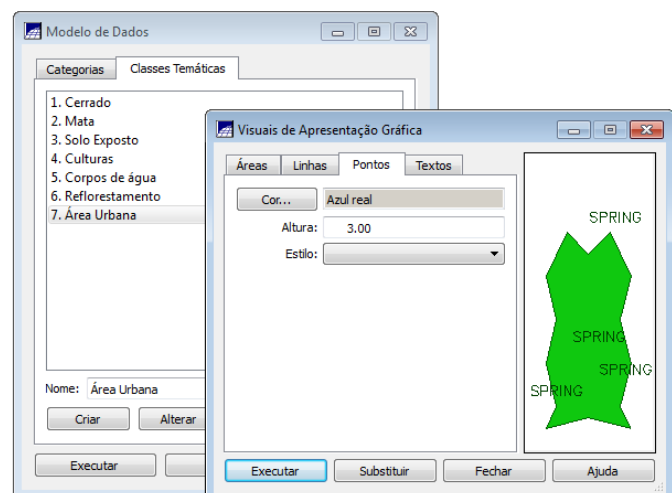
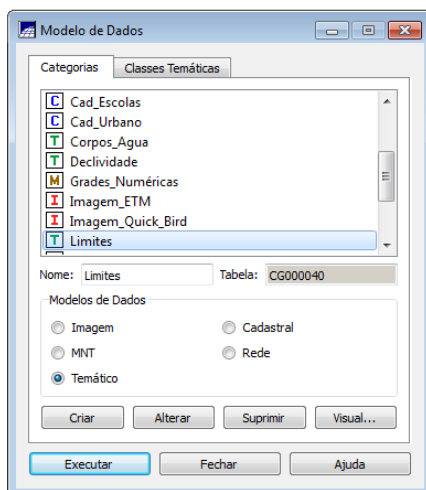


Criar o Projeto



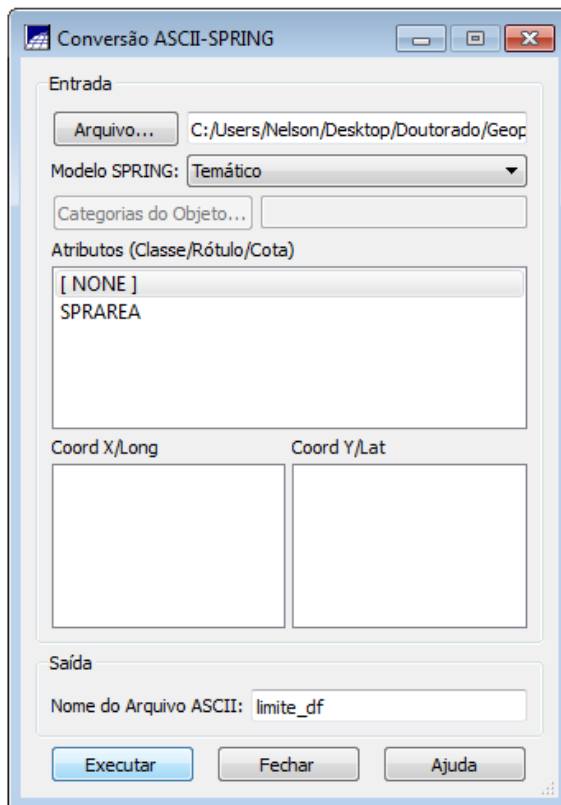
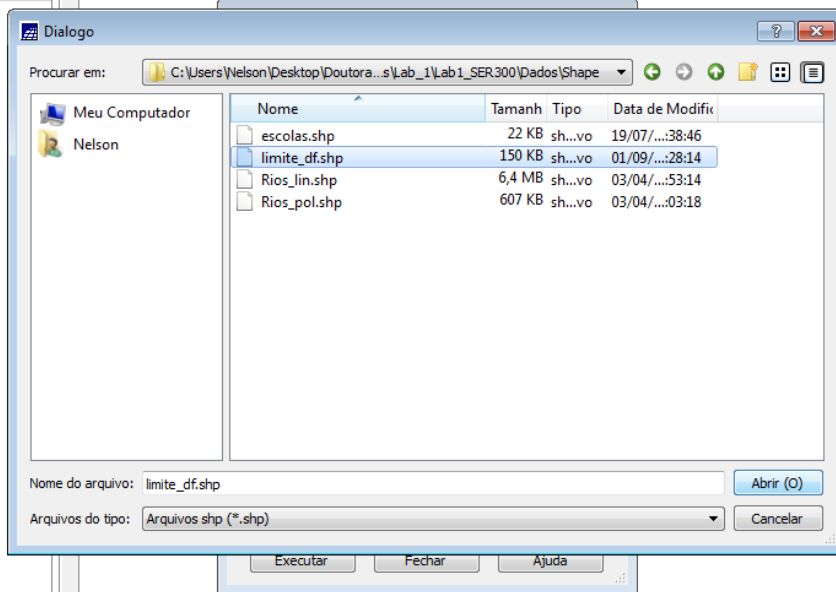


Passo 2 - Criar categorias e classes. Alterar o visual das classes temáticas se desejar

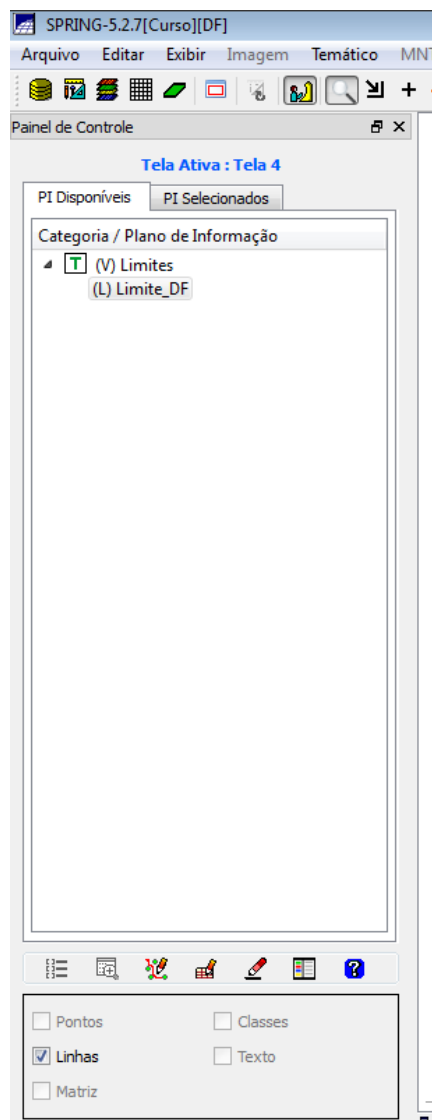


Exercício 2 – Importando Limite do Distrito Federal

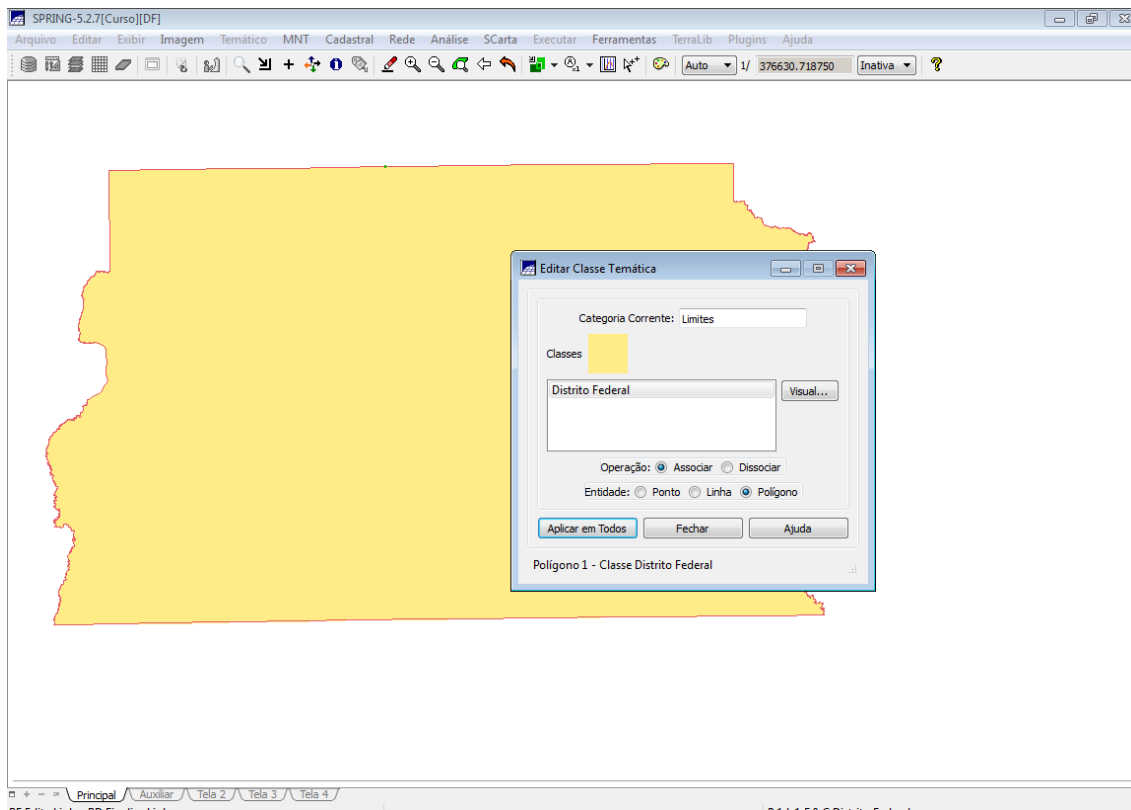
Passo 1 - Converter o arquivo Shape para ASCII-SPRING



Passo 2 - Importar os arquivos ASCII

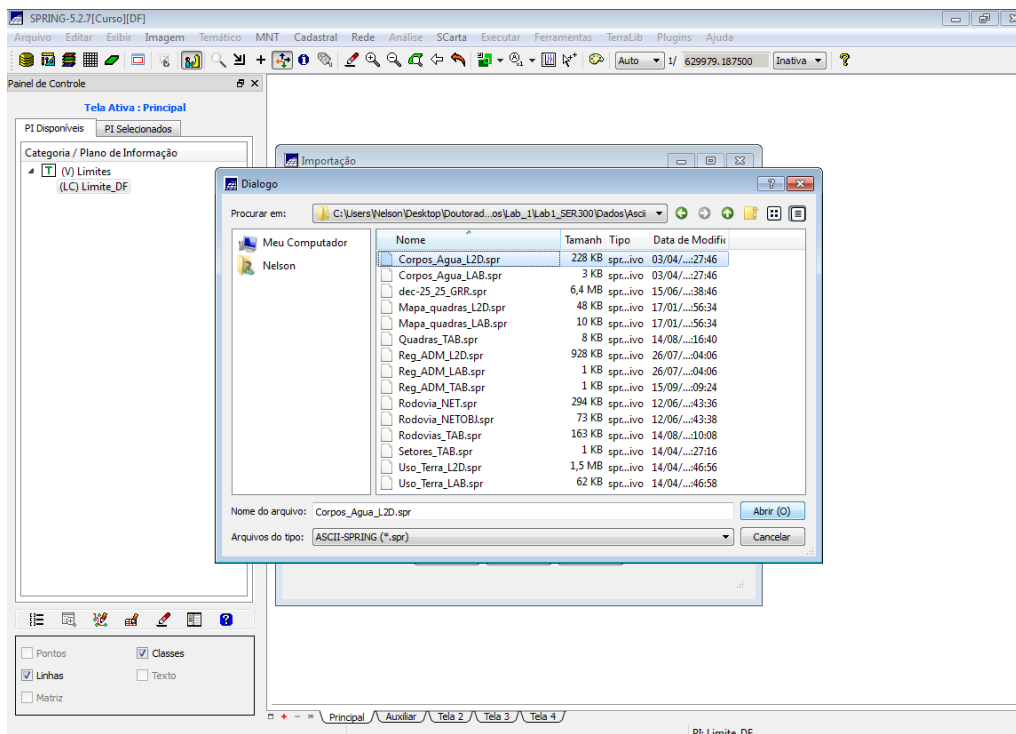


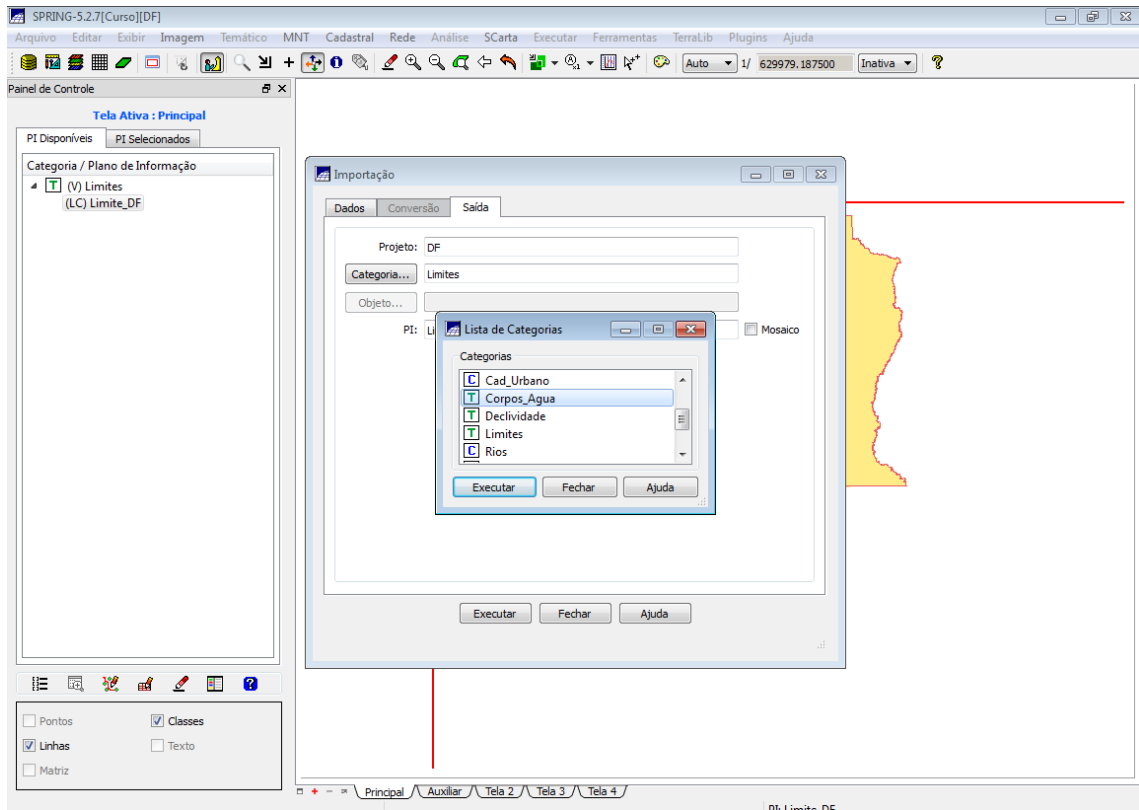
Passo 3 - Ajustar, Poligonalizar e Associar a classe temática



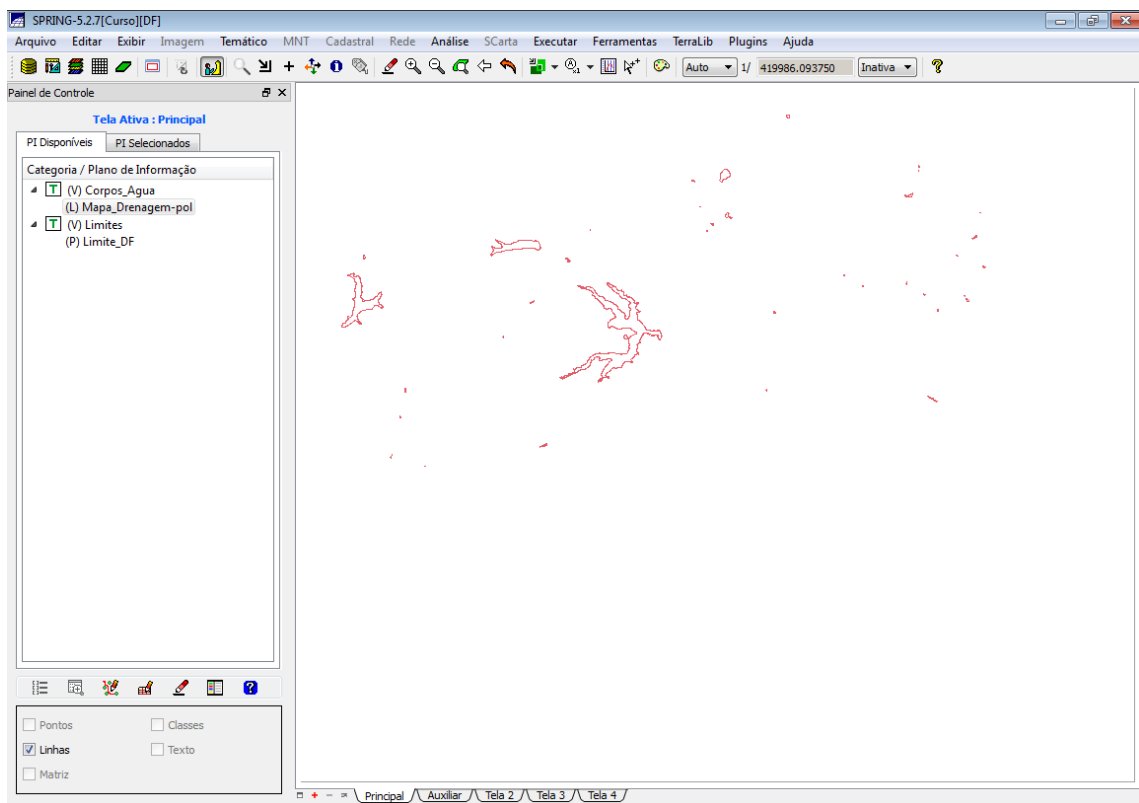
Exercício 3 – Importando Corpos de Água

Importando linhas de polígonos do mapa de drenagem:



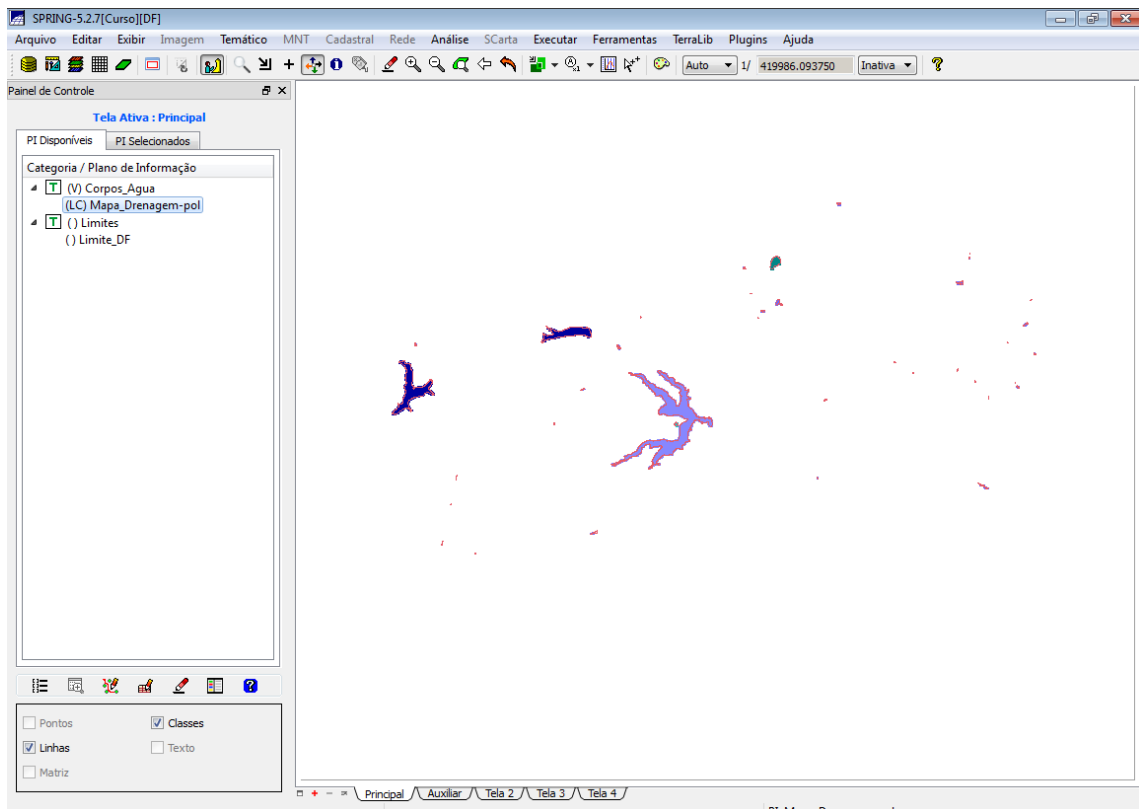


Visualizando linhas do PI Mapa_Drenagem-pol

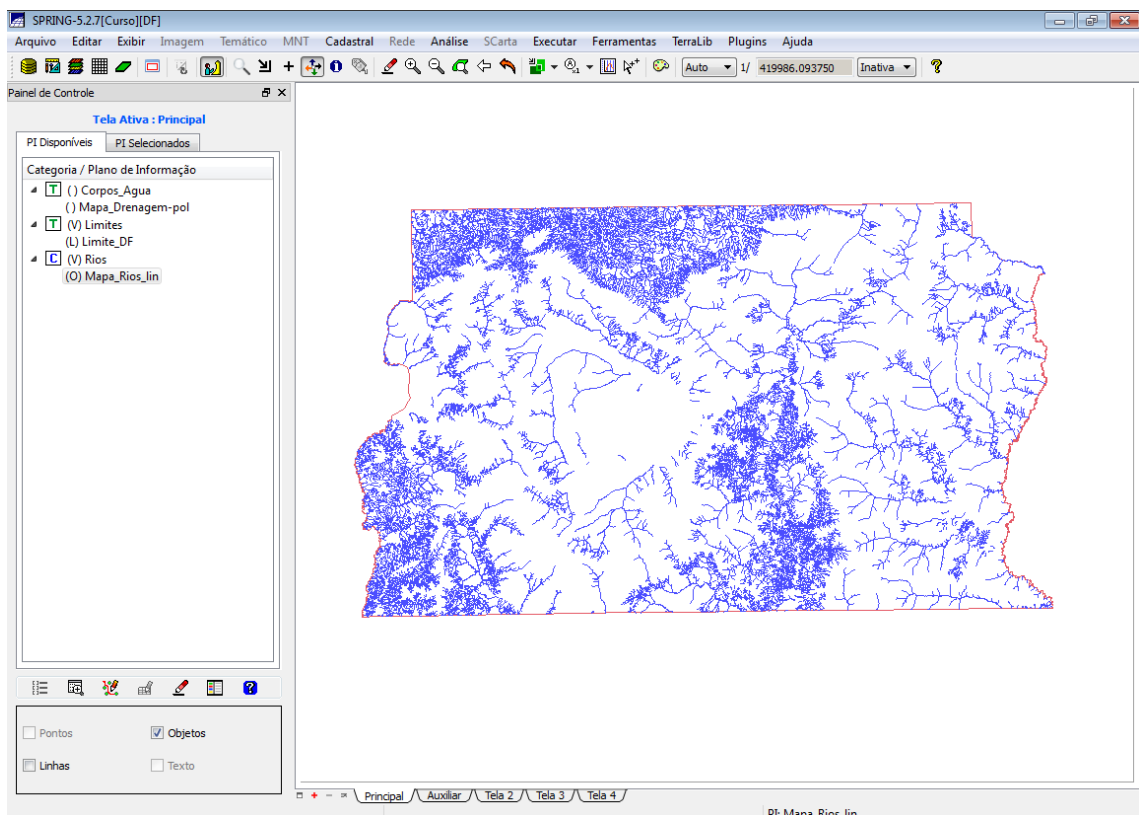


Importando identificadores de polígonos do mapa de drenagem:

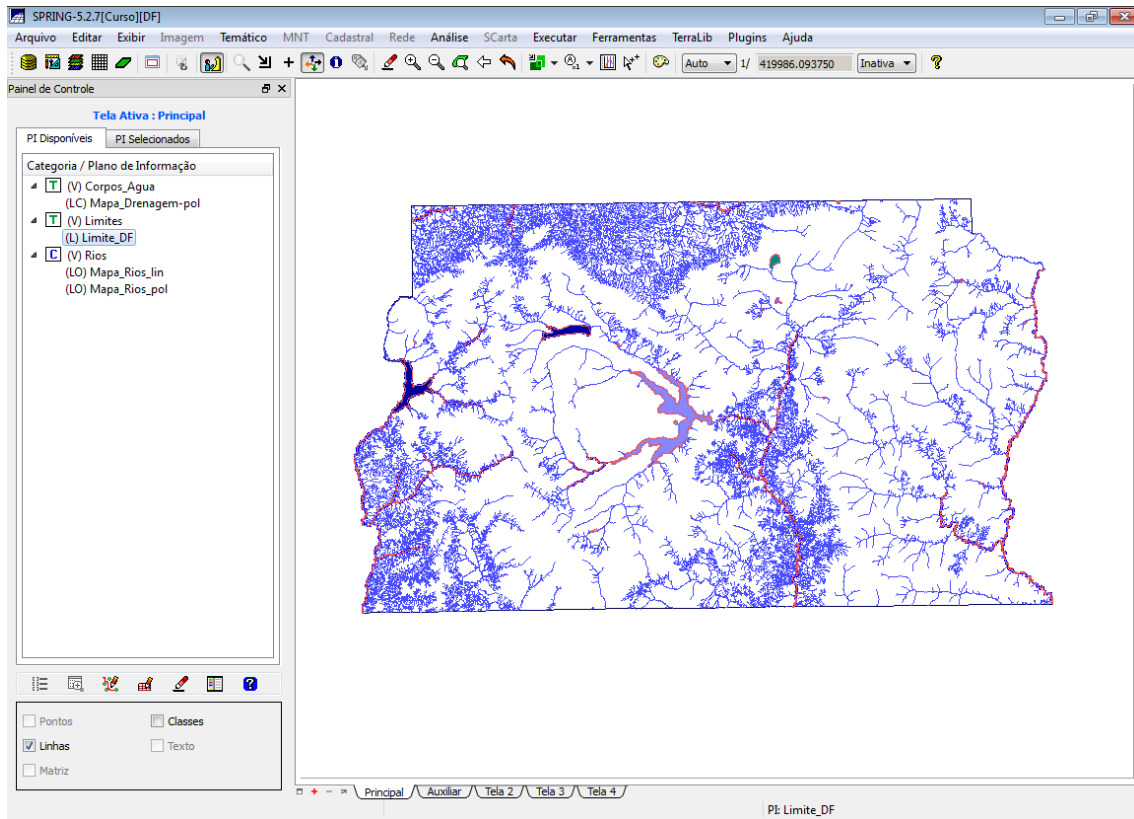
Visualizando linhas e classes do PI Mapa_Drenagem-pol:



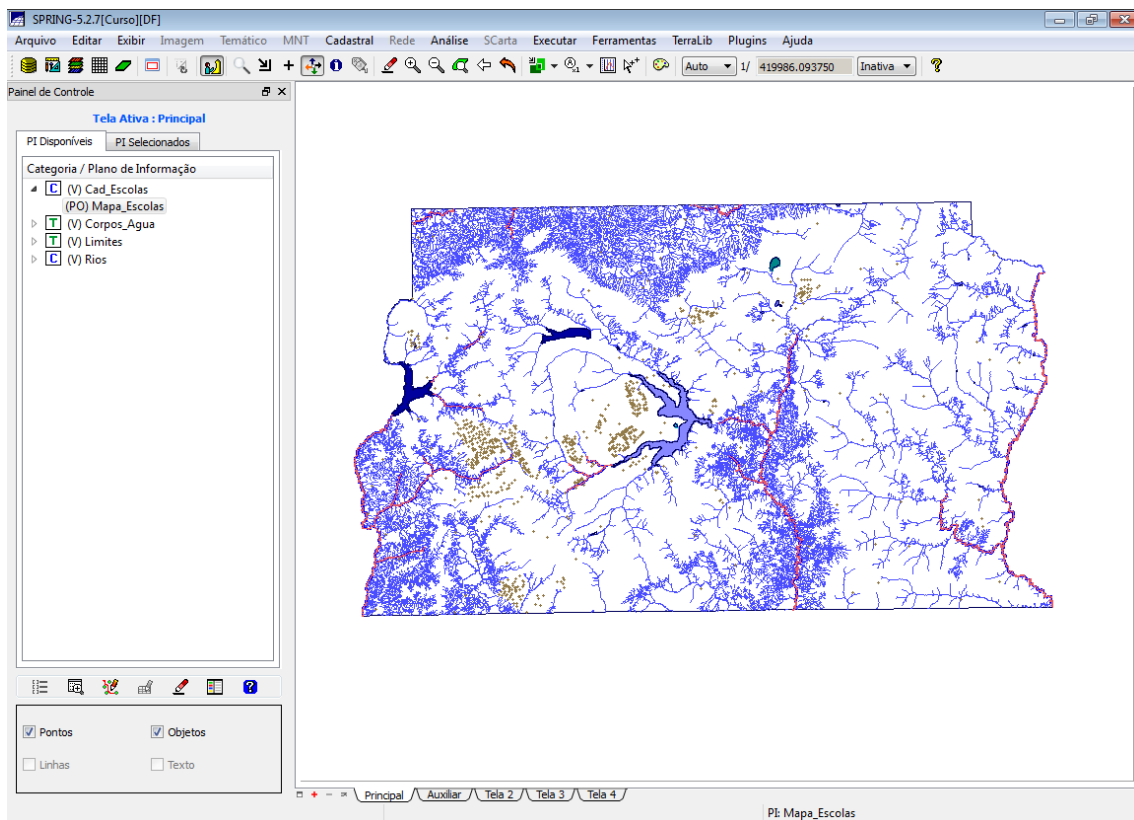
Exercício 4 – Importando Rios de arquivo Shape



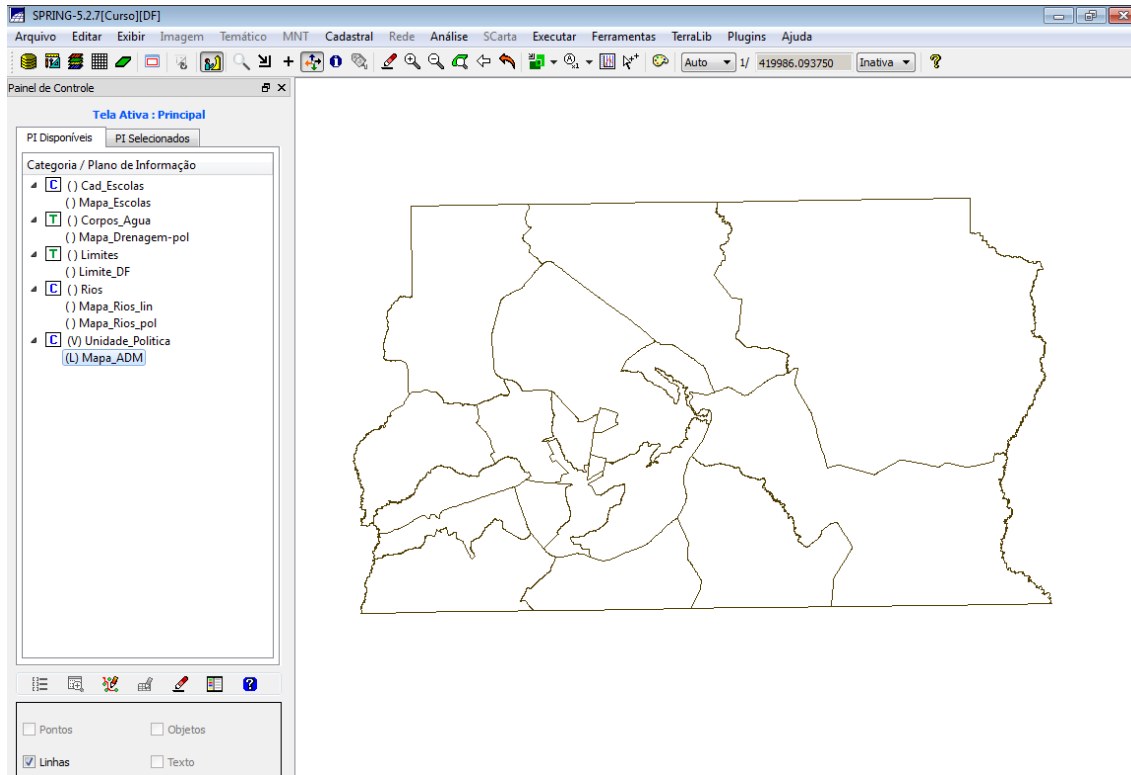
Executando a importação Shape para PI – Polígonos de Rios:



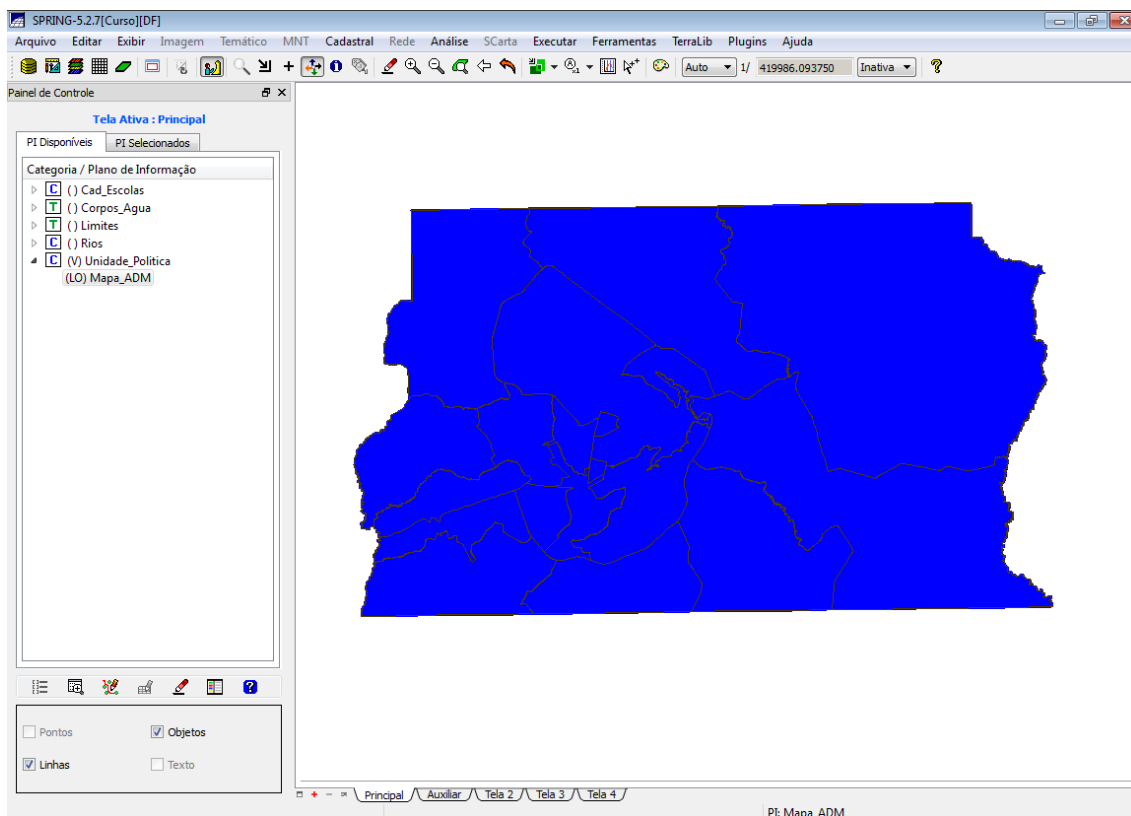
Exercício 5 – Importando Escolas de arquivo Shape



Exercício 6 – Importando Regiões Administrativas de arquivos ASCII-SPRING

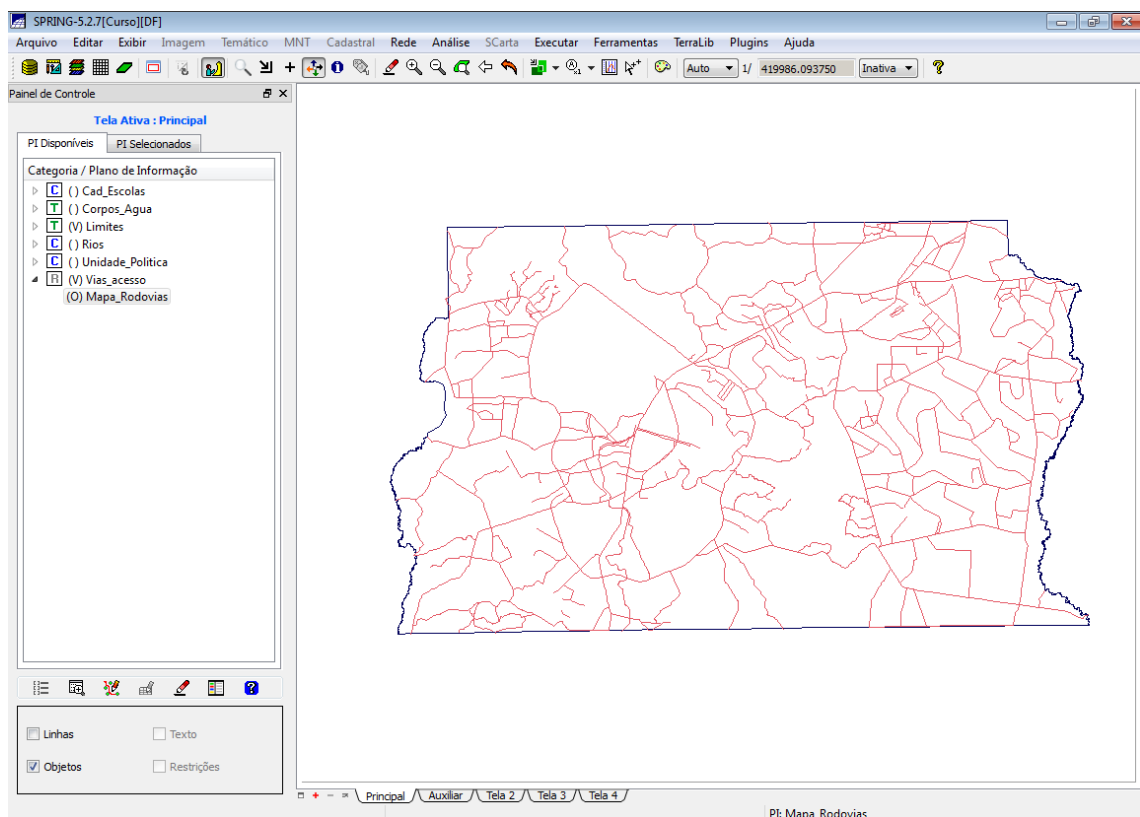
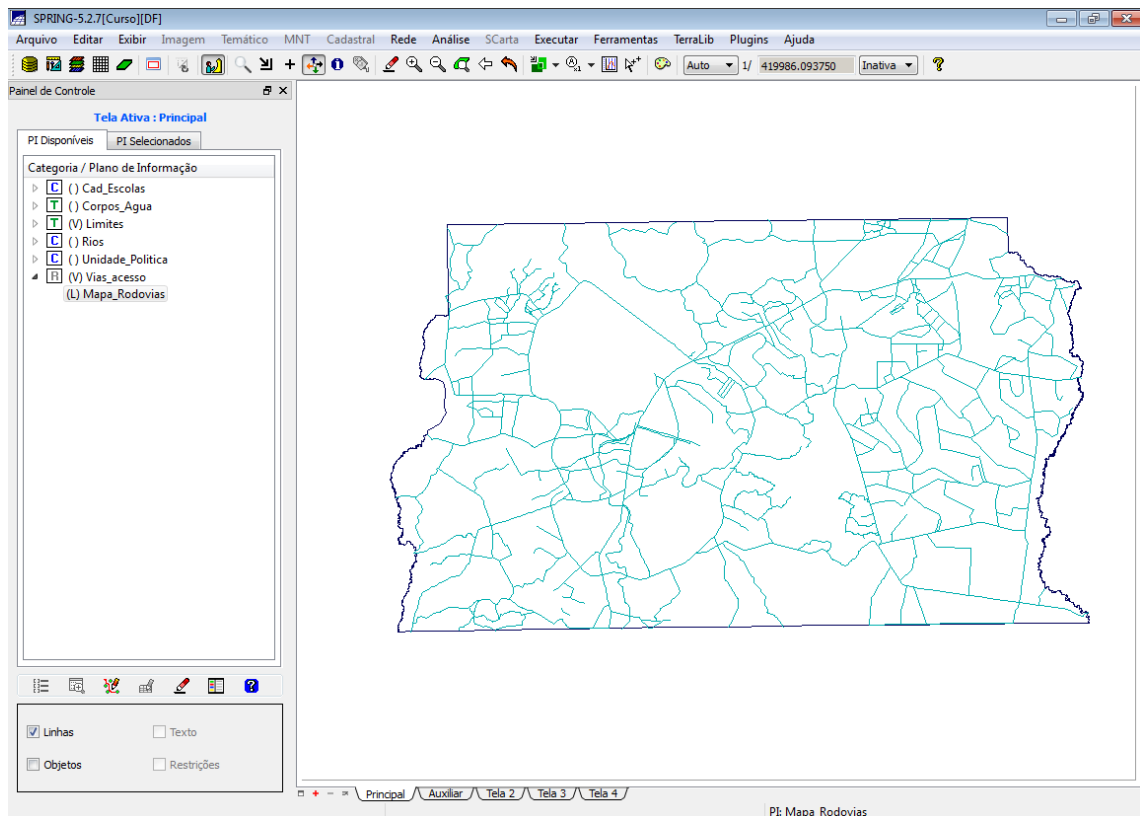


Importando identificadores dos polígonos:



Importando os atributos para a tabela de objetos criada acima:

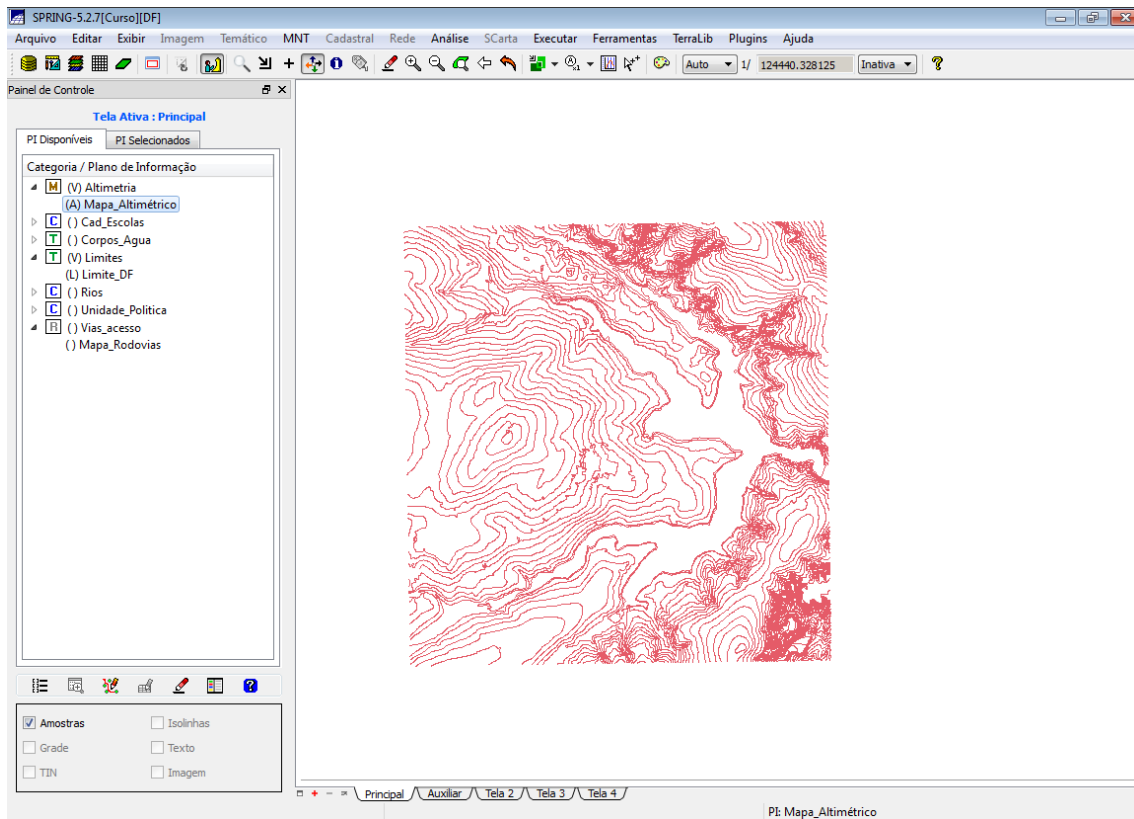
Exercício 7 – Importando Rodovias de arquivos ASCII-SPRING



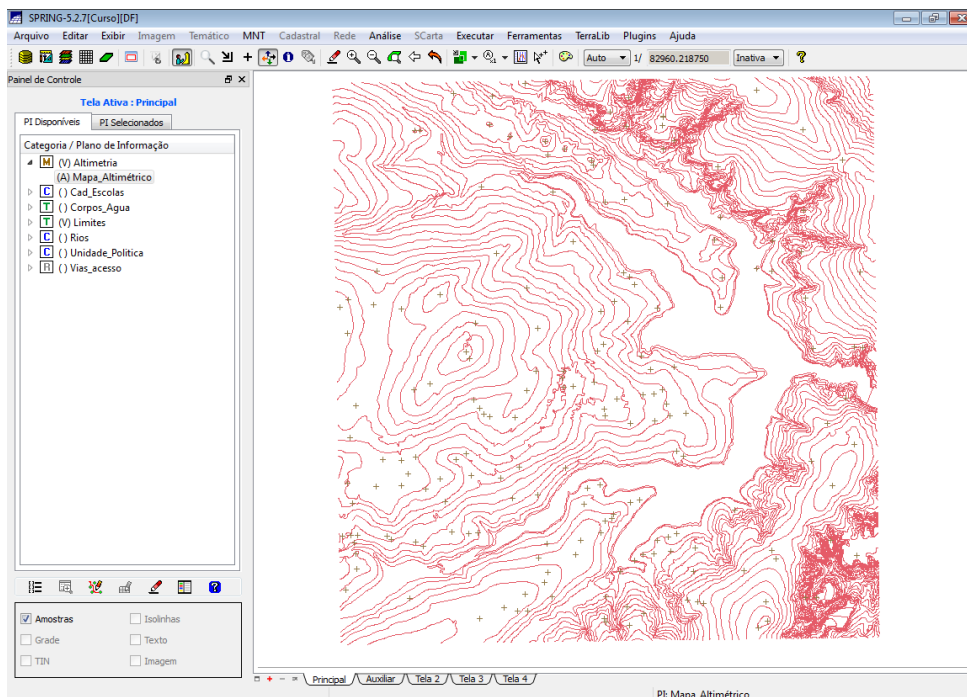
Importando os atributos para a tabela de objetos rodovias:

Exercício 8 – Importando Altimetria de arquivos DXF

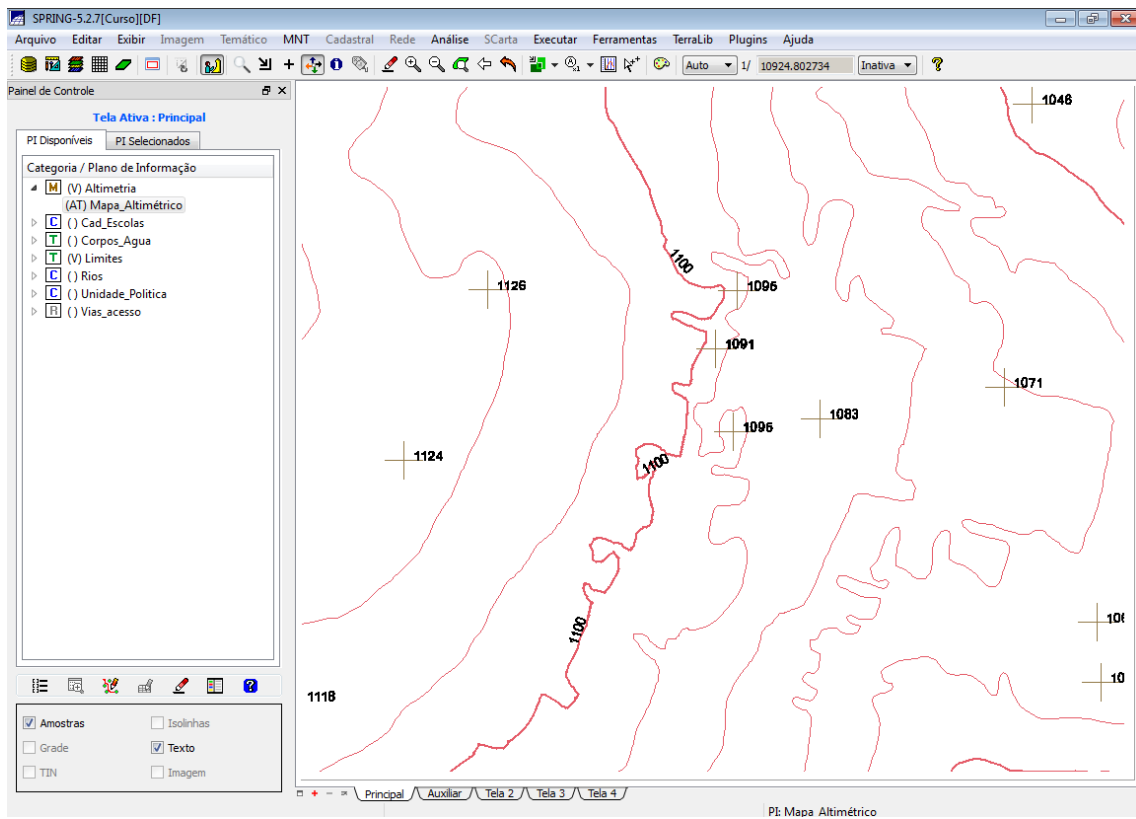
Passo 1 - Importar arquivo DXF com isolinhas num PI numérico



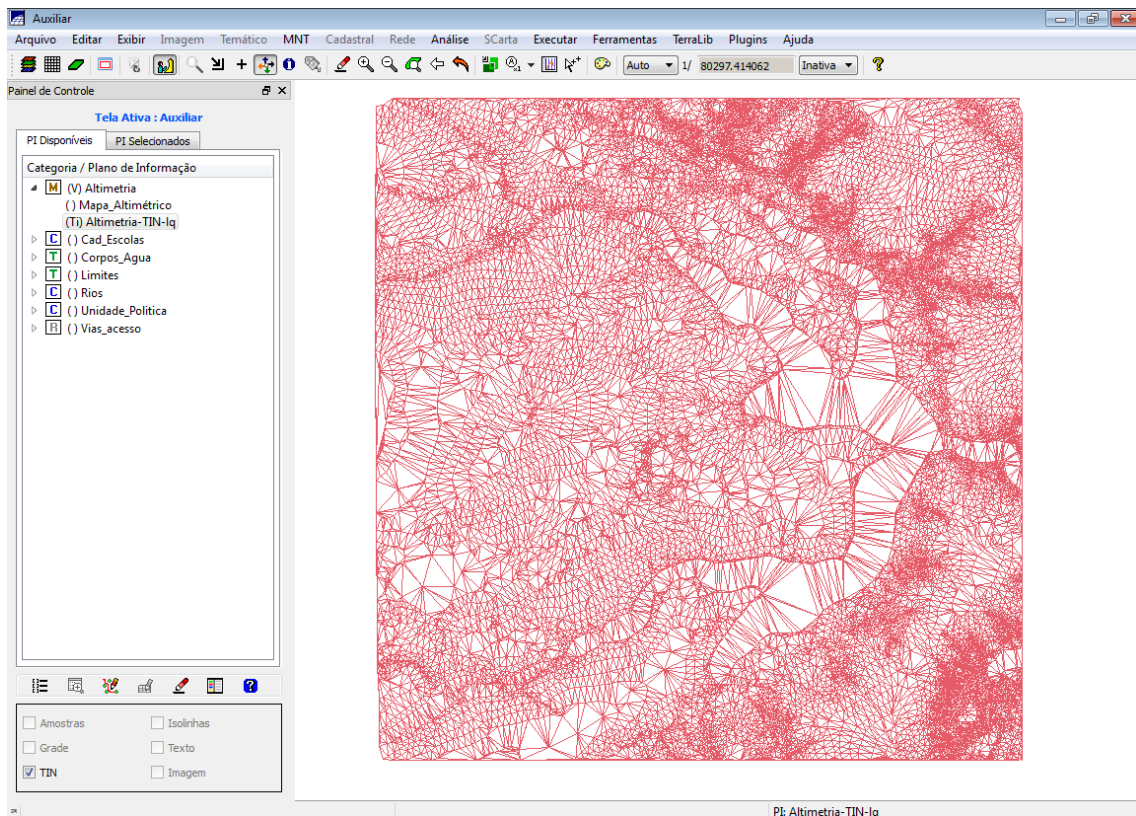
Passo 2 - Importar arquivo DXF com pontos cotados no mesmo PI das isolinhas



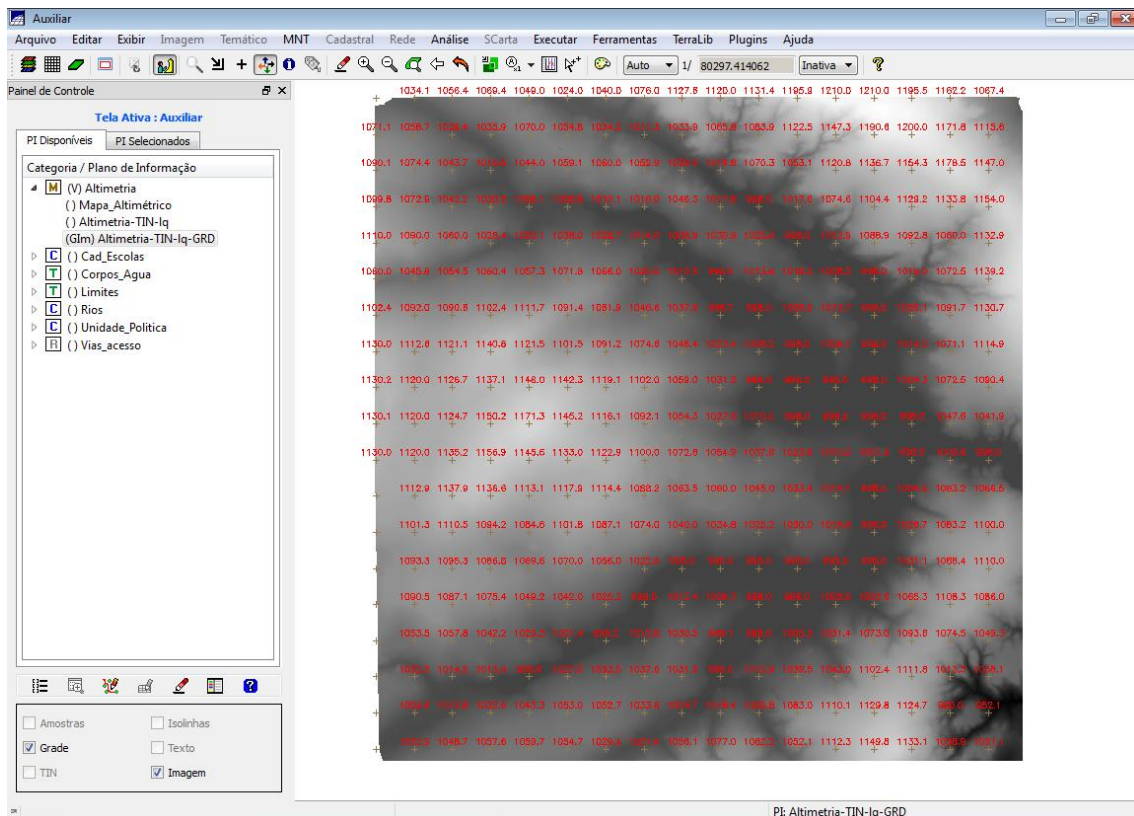
Passo 3 - Gerar toponímia para amostras



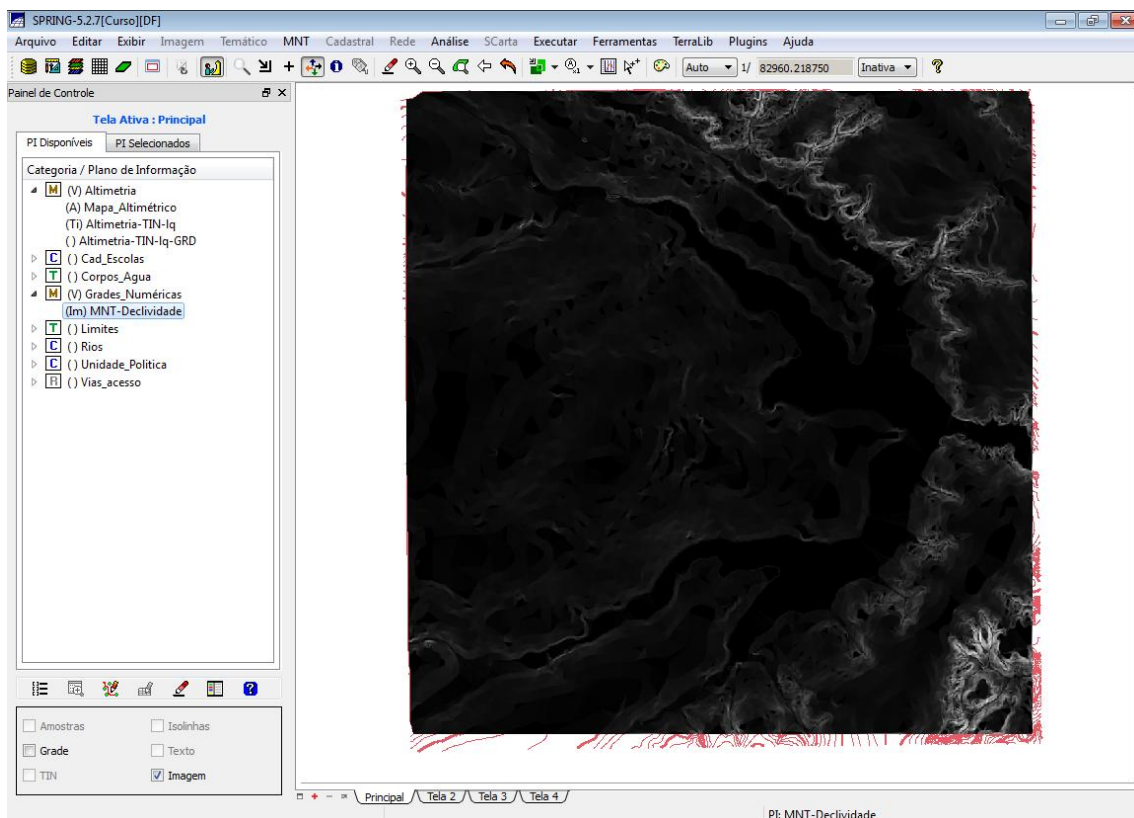
Exercício 9 - Gerar grade triangular- TIN

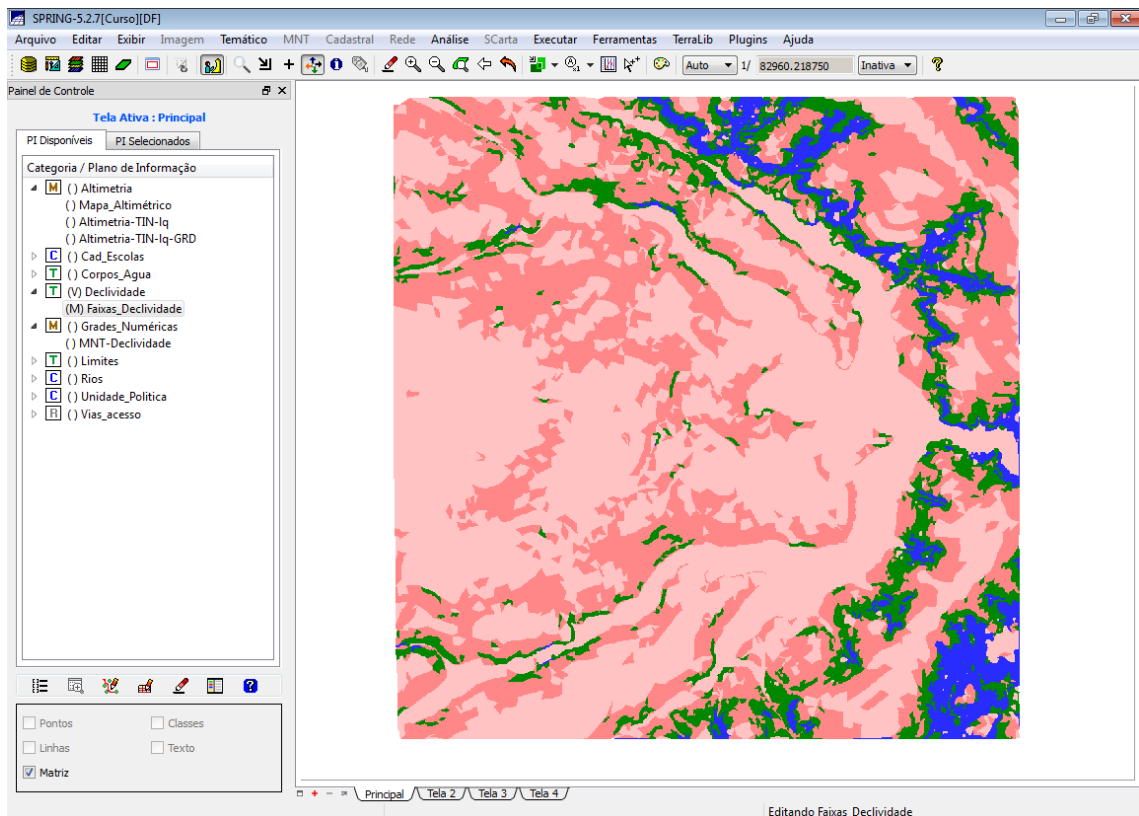


Exercício 10 - Gerar grades retangulares a partir do TIN

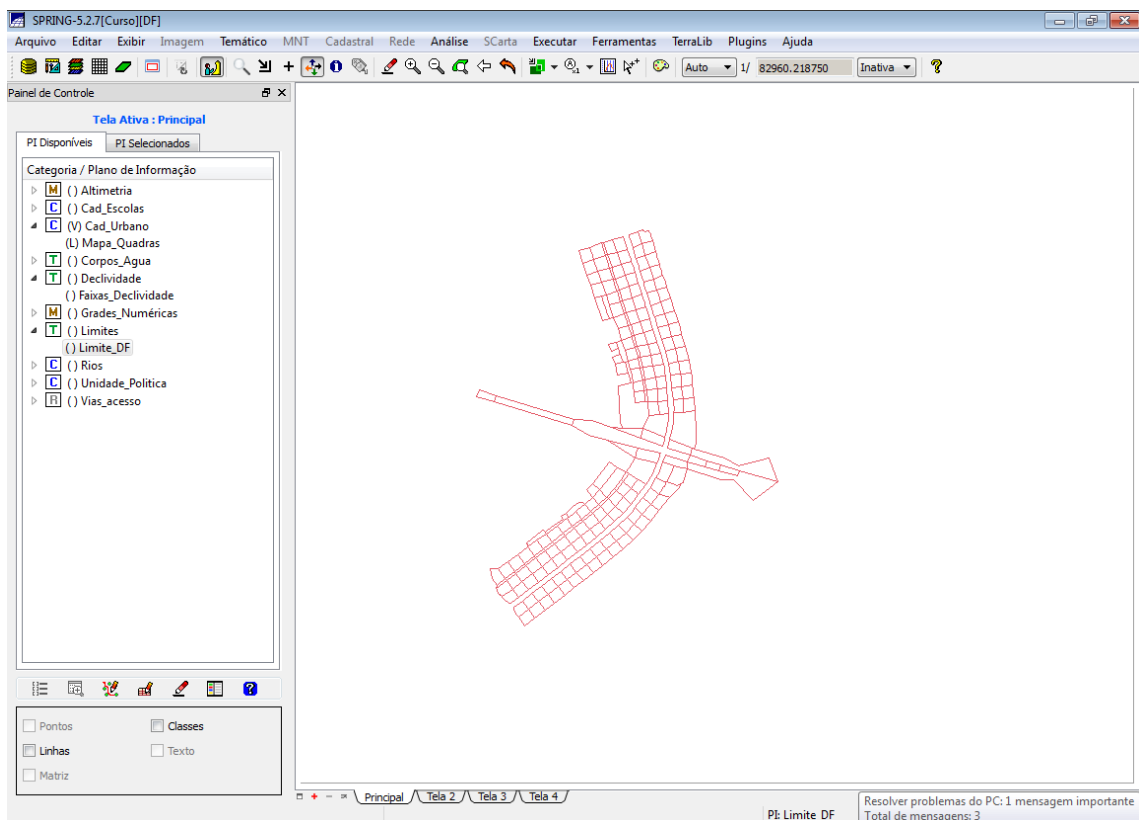


Exercício 11 - Geração de Grade de Declividade e Fatiamento

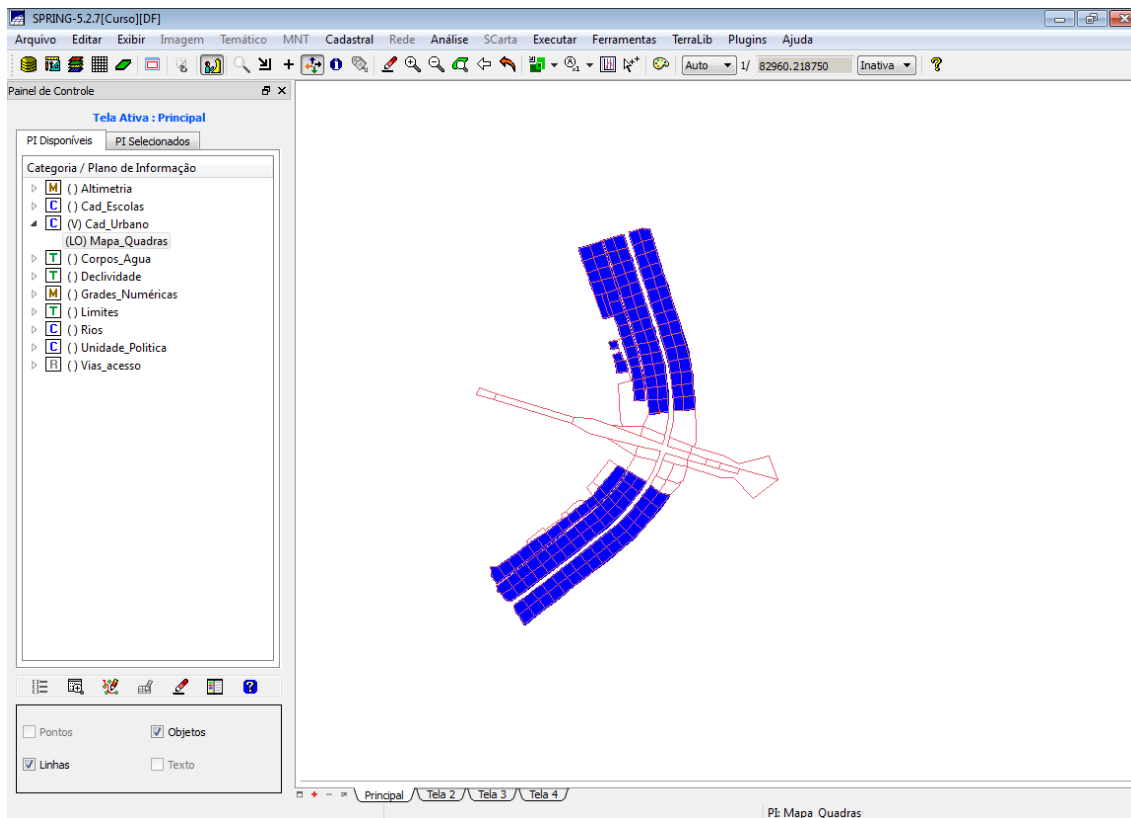




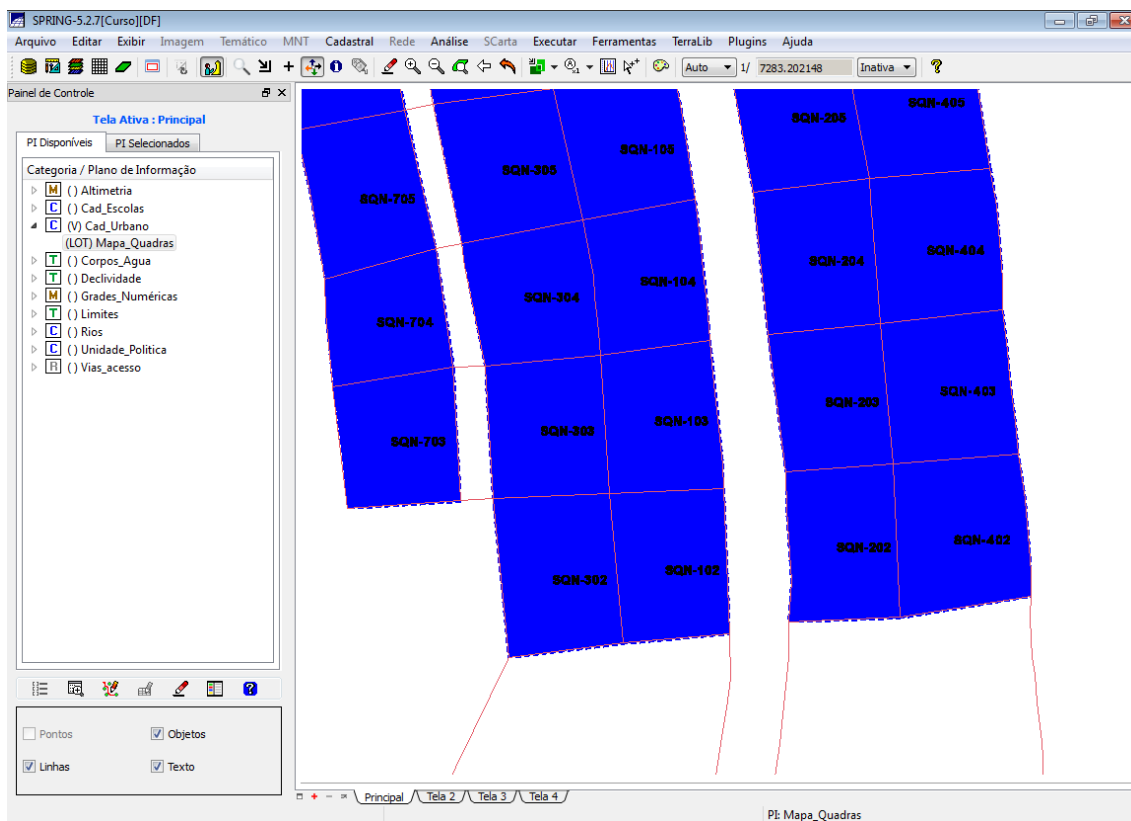
Exercício 12 - Criar Mapa Quadras de Brasília



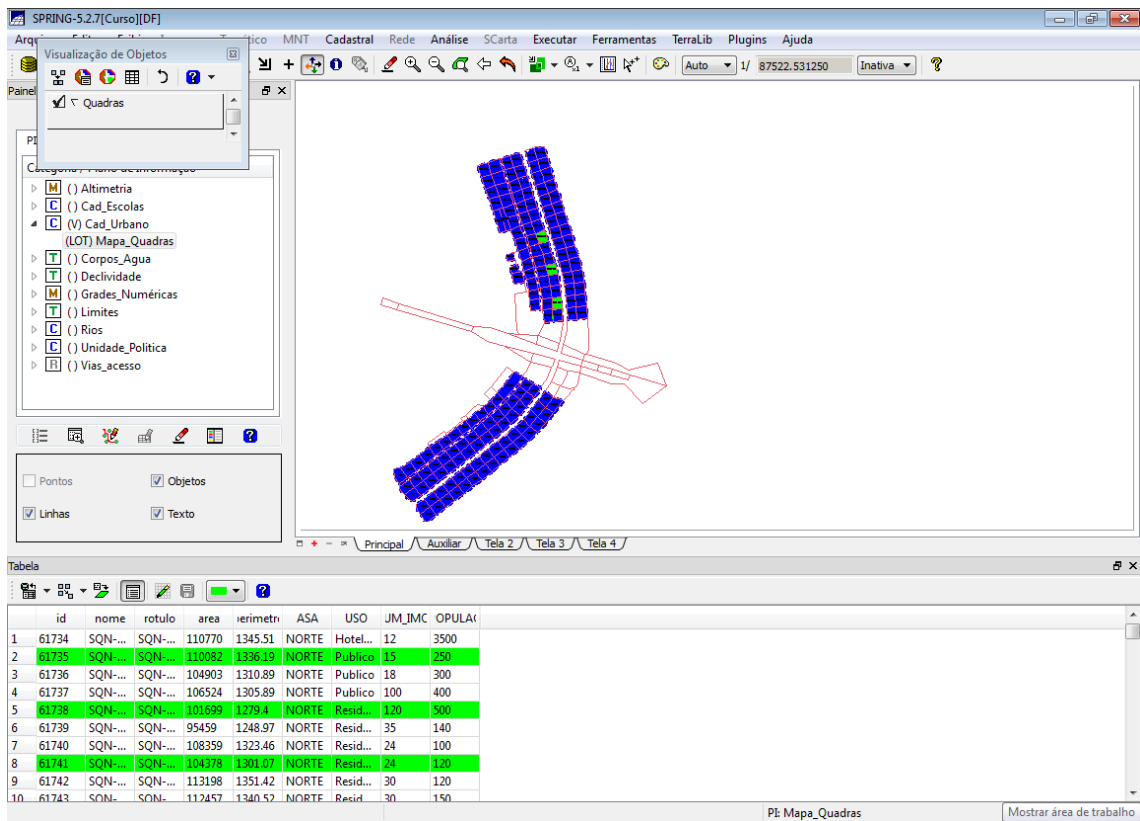
Passo 2 - Associação automática de objetos e importação de tabela ASCII



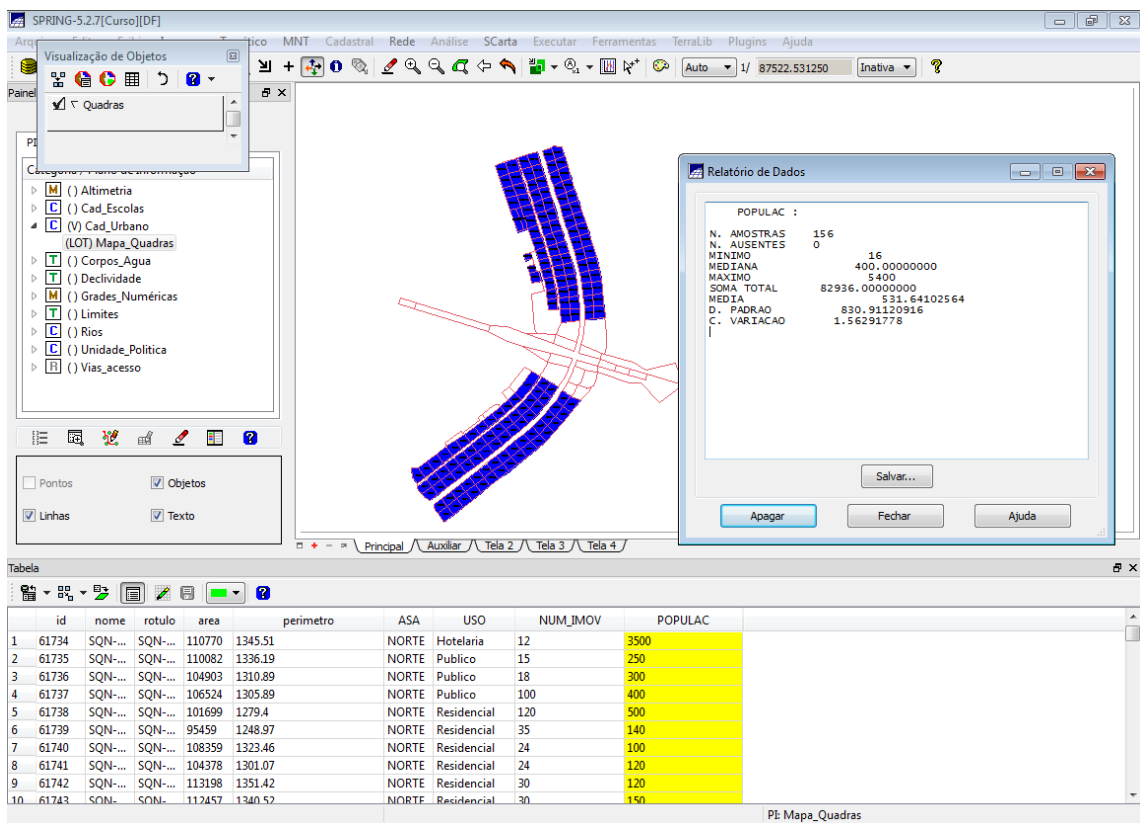
Passo 4 - Geração de toponímia dentro de cada polígono

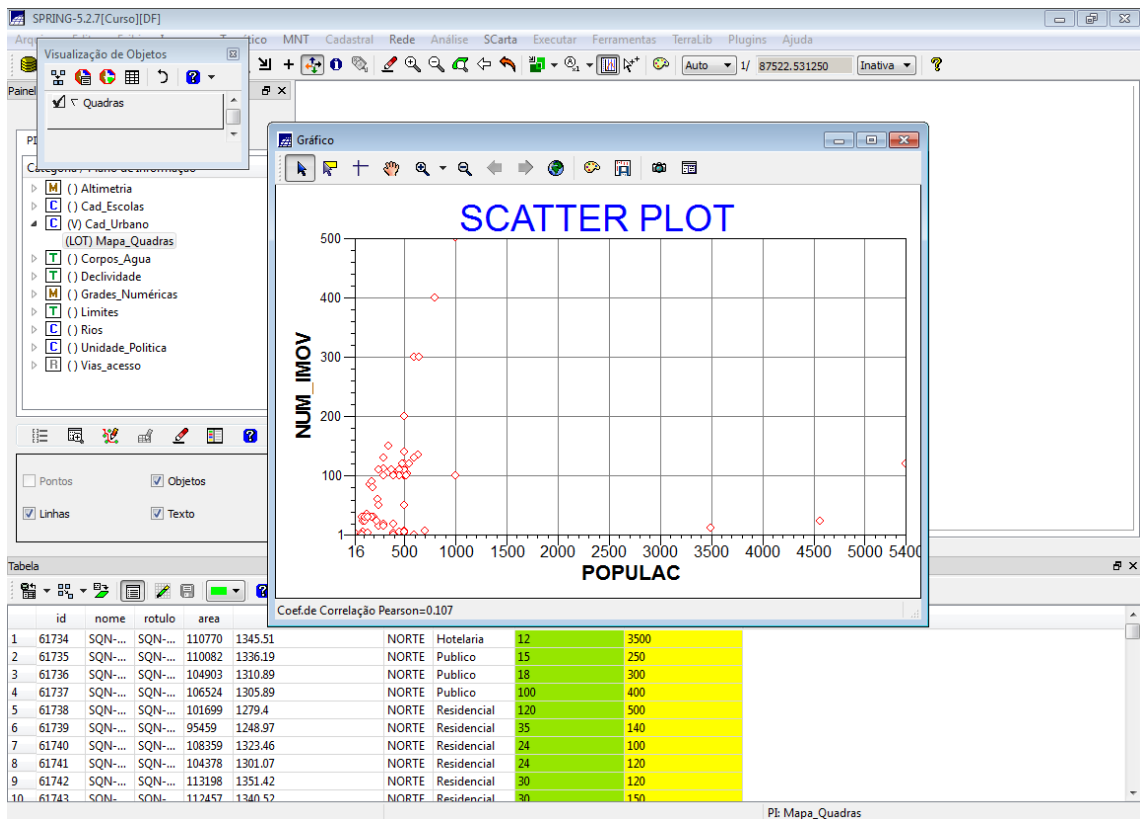
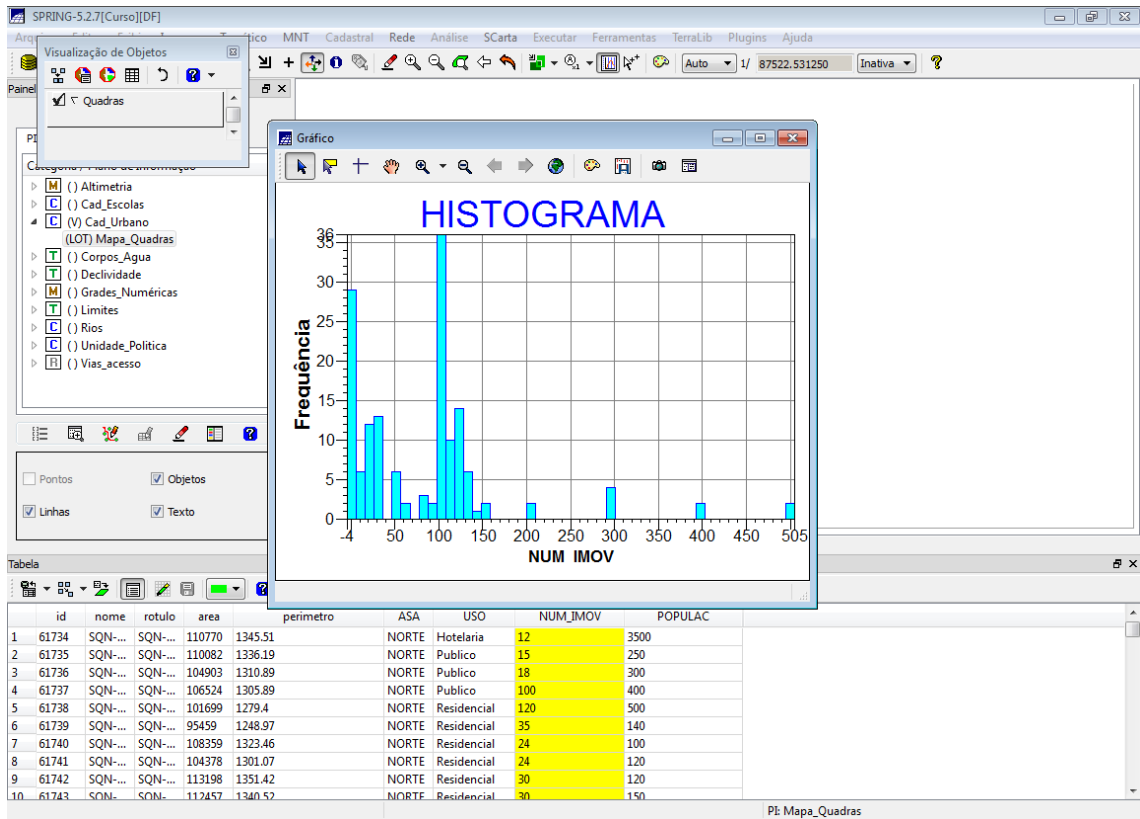


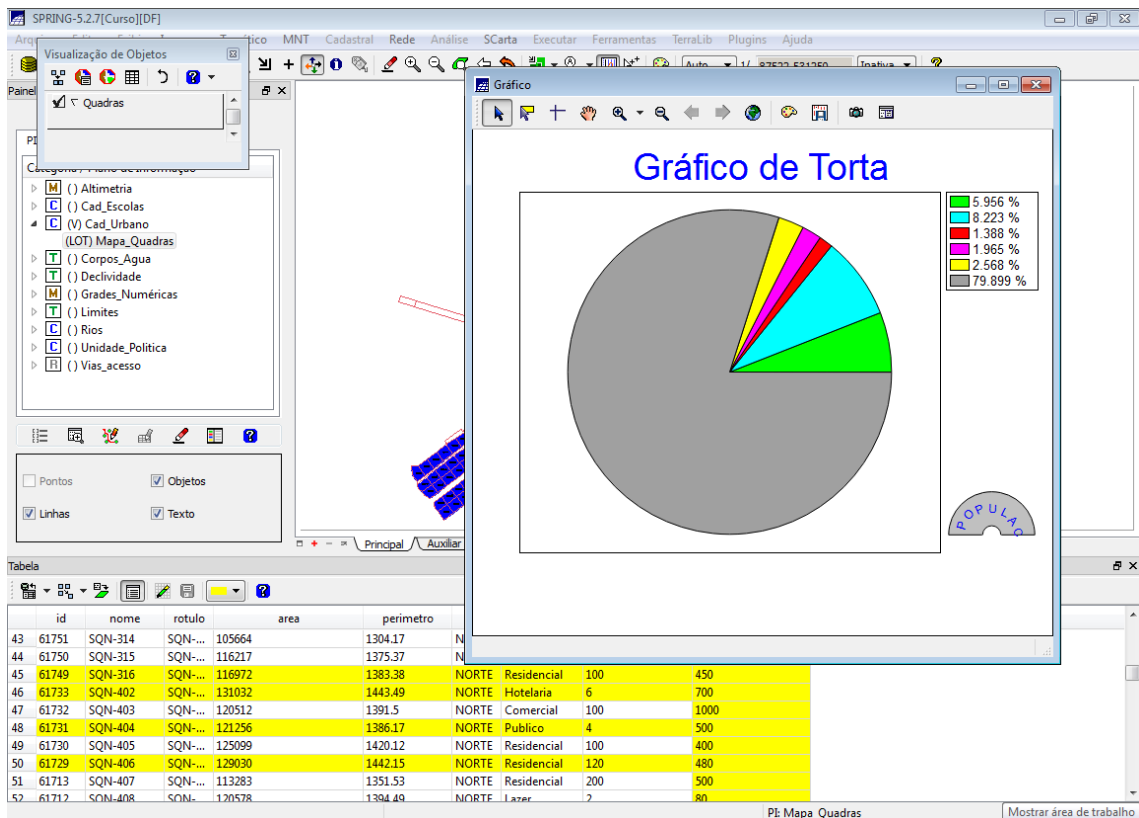
Passo 5 - Carregar módulo de consulta e verificar tabela



Estatísticas Básicas







Exercício 13 – Atualização de Atributos utilizando o LEGAL

```

1  {
2  //Programa para atualizar o atributo MDECLIV da categoria de Objetos Quadras,
3  //através do operador MEDIA ZONAL
4
5  //Declaração das variáveis
6  Objeto      zonas ("Quadras");
7  Cadastral  mapacadastral ("Cad_Urbano");
8  Numerico   decliv ("Grades_Numericas");
9
10 //Instanciação (Recuperação das variáveis do banco)
11
12 mapacadastral = Recupere (Nome = "Mapa_Quadras");
13 decliv       = Recupere (Nome = "MNT-Declividade");
14
15 //Atualização do atributo "MDECLIV" com os valores obtidos pelo operador
16 //Media Zonal, p/ cada objeto (Quadras).
17
18 // zonas."MDECLIV" = Atualize (decliv, zonas OnMap mapacadastral, MedZ);
19
20 zonas."MDECLIV" = MediaZonal (decliv, zonas OnMap mapacadastral);
21

```

Erros de Sintaxe do Programa

Categoria não encontrada: Grades_Numericas: 8 :)

Banco de Dados não possui Categoria!: decliv: 13 :)

Representação não encontrada: decliv: 13 :)

Incorporação do MEDCLIV a Tabela de atributos

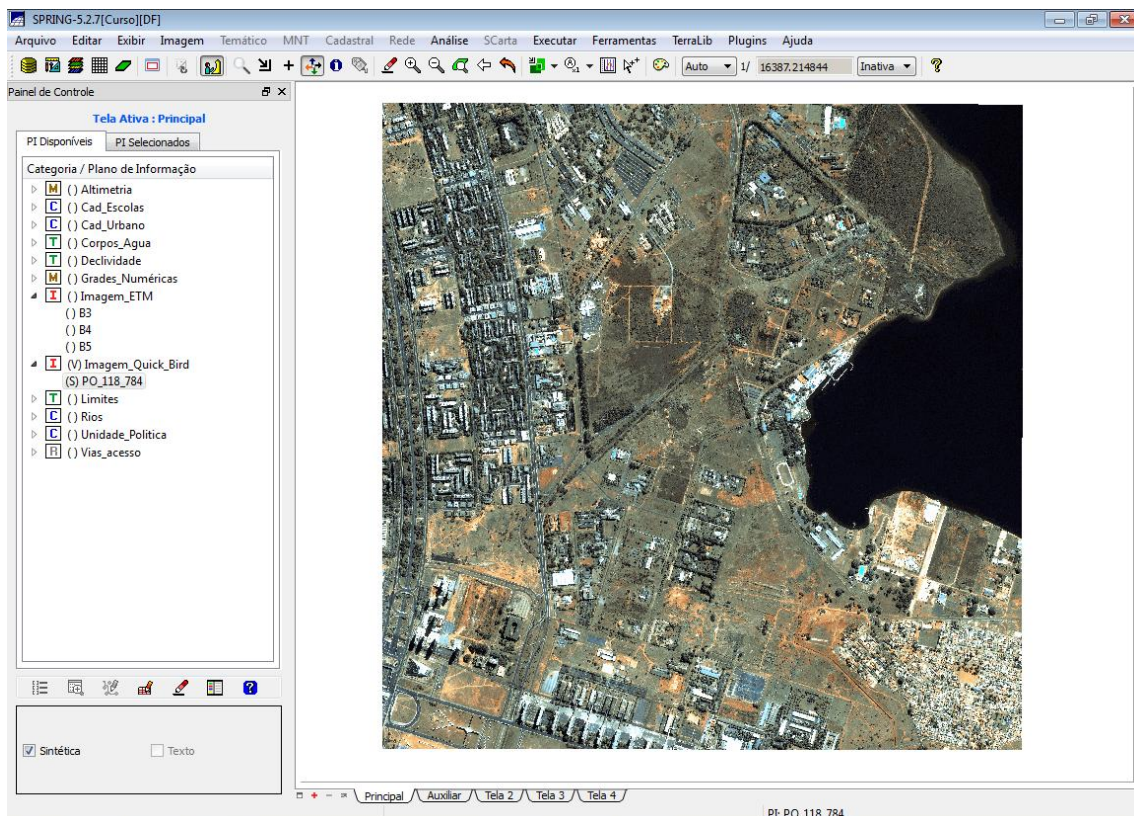
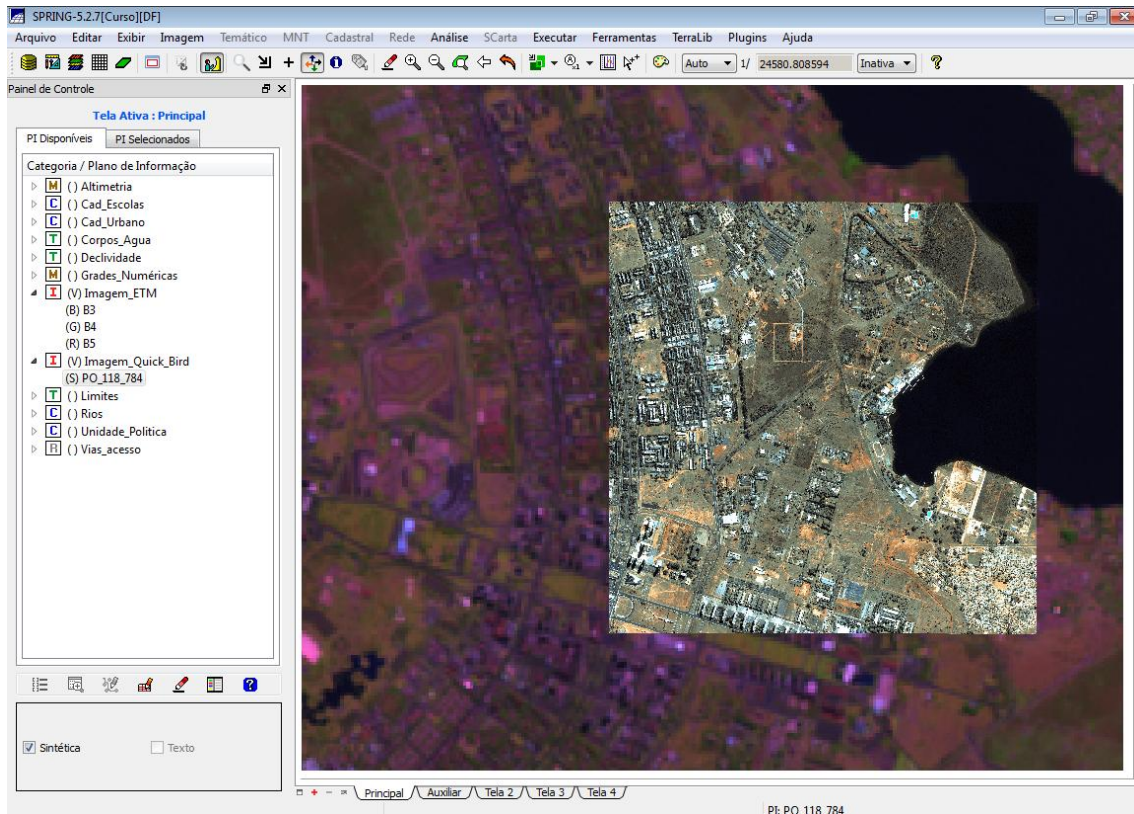
The screenshot shows the SPRING-5.2.7 software interface. The top part displays a map of a city grid with blue and red lines. The bottom part shows a table of attributes with the following data:

id	nome	rotulo	area	perimetro	ASA	USO	NUM_IMOV	POPULAC	MDECLIV	
1	61734	SQN-102	SQN-...	110770	1345.51	NORTE	Hotelaria	12	3500	2.415293943841
2	61735	SQN-103	SQN-...	110082	1336.19	NORTE	Publico	15	250	2.013620441177
3	61736	SQN-104	SQN-...	104903	1310.89	NORTE	Publico	18	300	2.488792744931
4	61737	SQN-105	SQN-...	106524	1305.89	NORTE	Publico	100	400	1.880875391838
5	61738	SQN-106	SQN-...	101699	1279.4	NORTE	Residencial	120	500	2.615973900235
6	61739	SQN-107	SQN-...	95459	1248.97	NORTE	Residencial	35	140	1.996087250625
7	61740	SQN-108	SQN-...	108359	1323.46	NORTE	Residencial	24	100	1.764534555706
8	61741	SQN-109	SQN-...	104378	1301.07	NORTE	Residencial	24	120	1.919881113217
9	61742	SQN-110	SQN-...	113198	1351.42	NORTE	Residencial	30	120	1.977844772257
10	61743	SQN-111	SQN-...	112457	1340.52	NORTE	Residencial	30	150	1.637316492812

Exercício 14 – Importação de Imagem Landsat e Quick-Bird

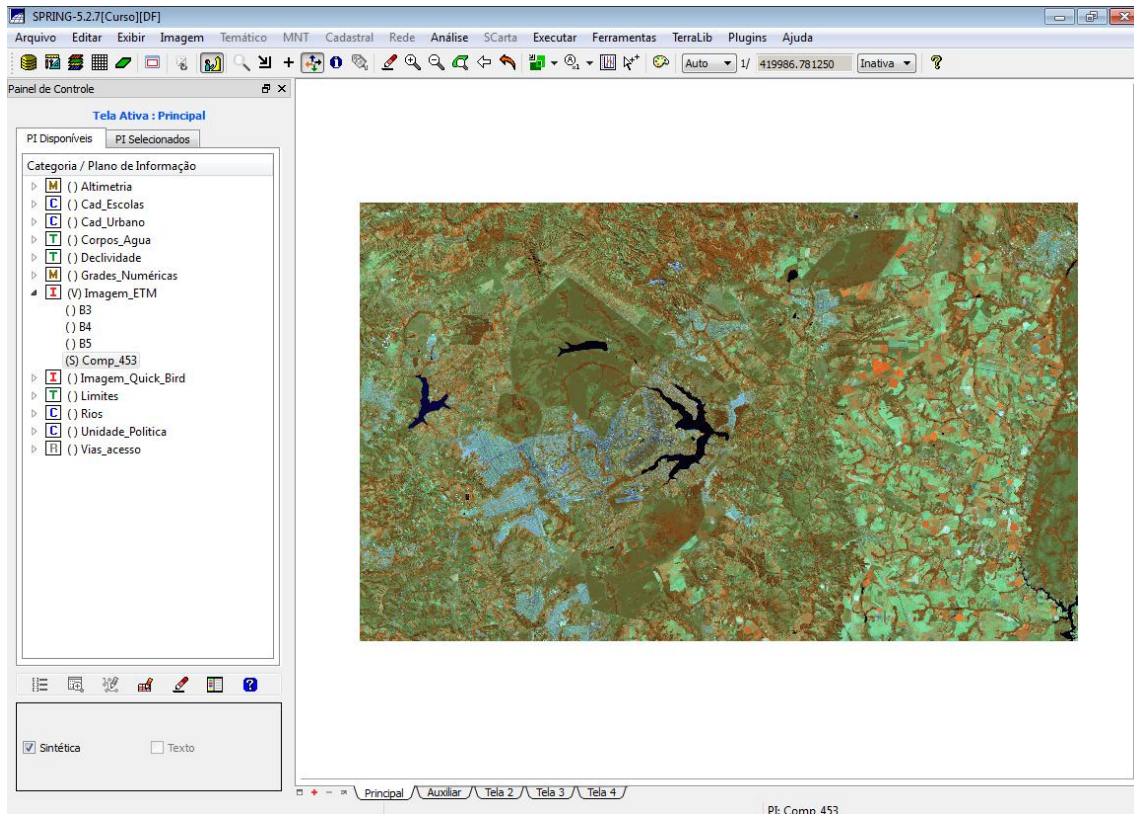
The screenshot shows the SPRING-5.2.7 software interface displaying a satellite image of a city area. The 'Painel de Controle' (Control Panel) is visible on the left, showing a tree view of layers. The 'Tela Ativa: Principal' (Active Screen: Principal) is selected. The legend at the bottom shows the following layers:

- M
- Texto
- R
- G
- B

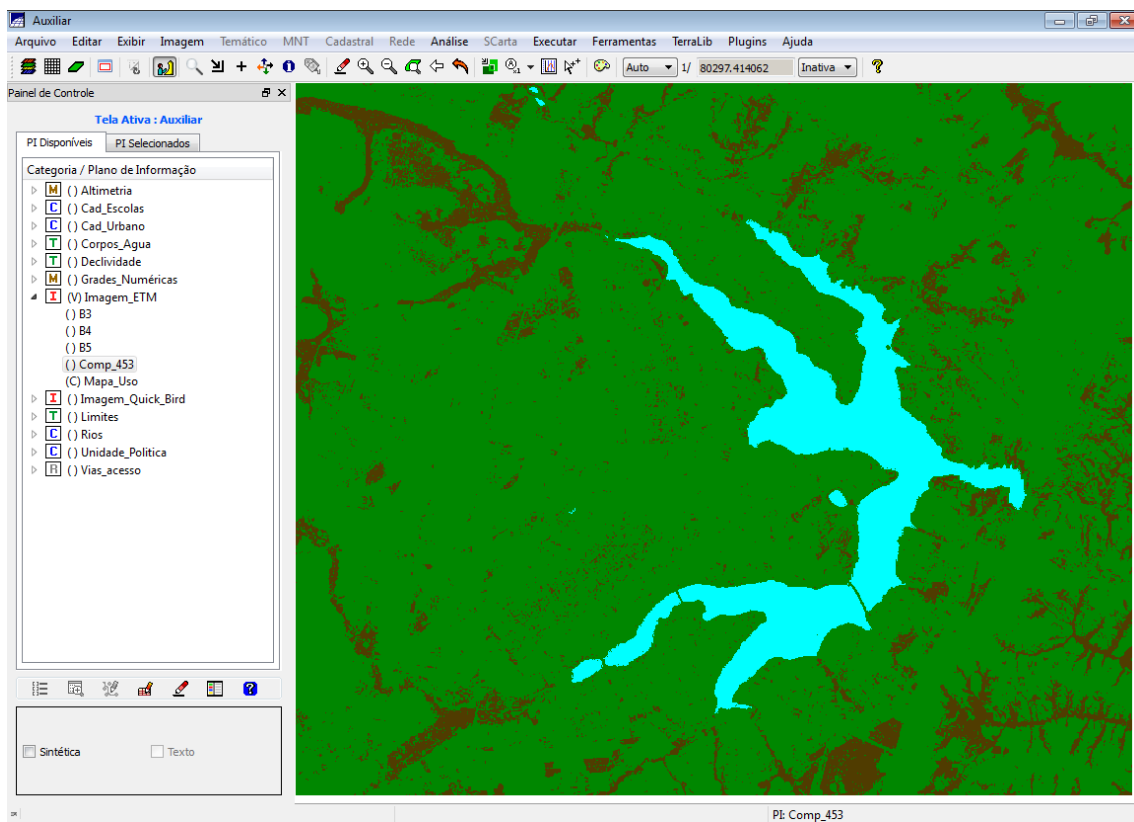


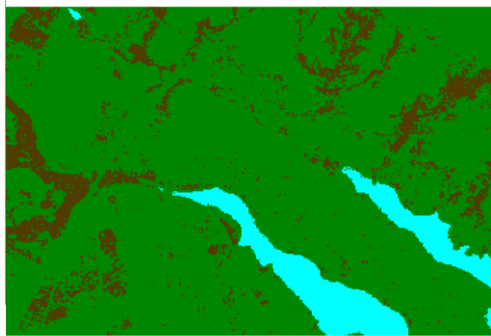
Exercício 15 - Classificação supervisionada por pixel

Passo 1 – Criar uma imagem sintética de fundo:

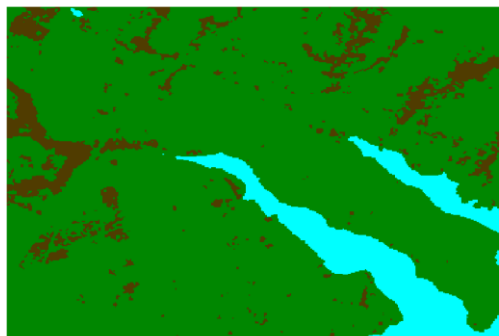


Passo 2 - Criação de um arquivo de contexto:





Classificada



Pós-Classificada

Passo 7 - Mapeamento para o modelo temático:

