



MINISTÉRIO DA CIÊNCIA E TECNOLOGIA
INSTITUTO NACIONAL DE PESQUISAS ESPACIAIS

INTRODUÇÃO AO GEOPROCESSAMENTO (SER-300)

LABORATÓRIO 03 – MODELAGEM NUMÉRICA DE TERRENO

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INPE

São José dos Campos

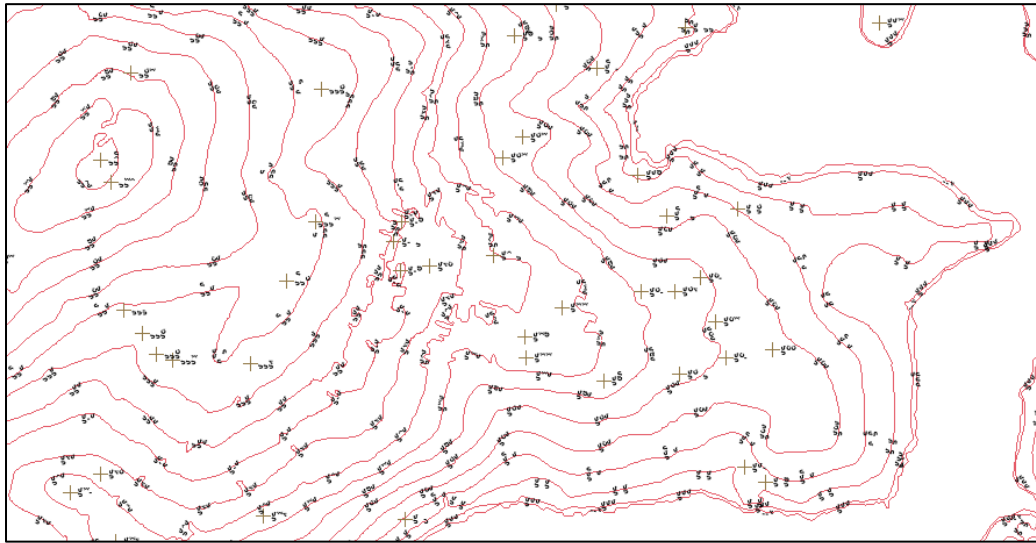
2017

1. INTRODUÇÃO

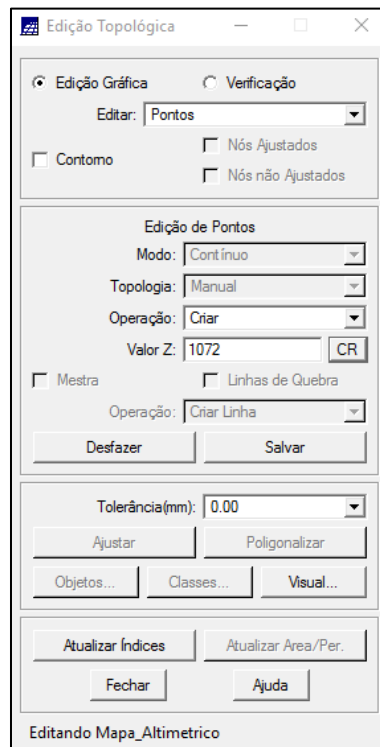
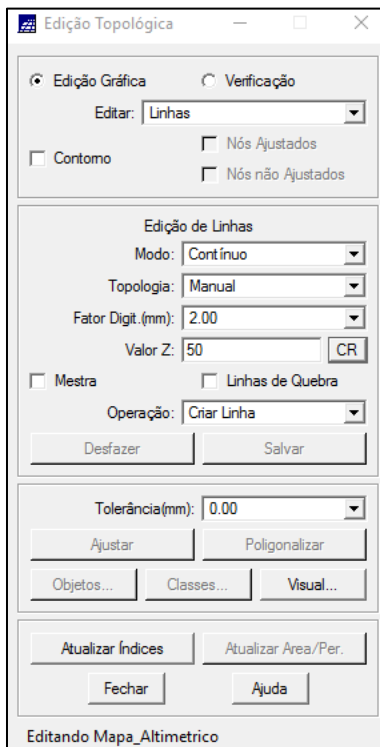
O modelo numérico do terreno (MNT) é uma representação matemática da distribuição espacial de uma determinada variável em relação a superfície considerada. O presente trabalho teve como objetivo geração de MNT no SPRING versão 5.2.7.

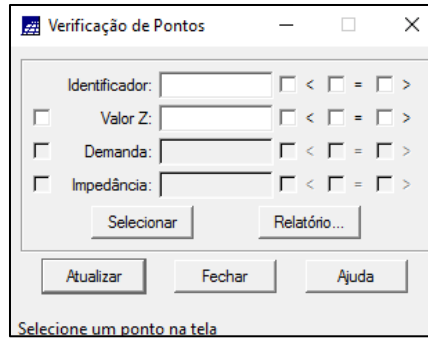
2. DESENVOLVIMENTO

2.1. Importação de Isolinhas e Pontos Cotados



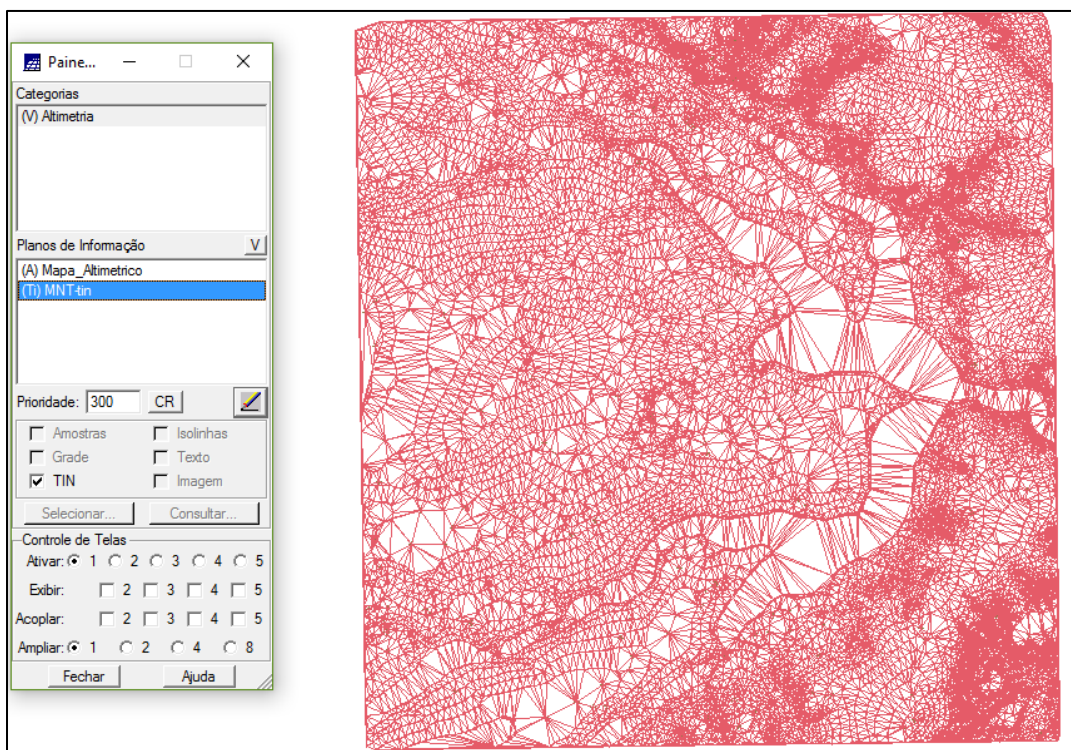
2.2. Edição de Isolinhas e Pontos Cotados



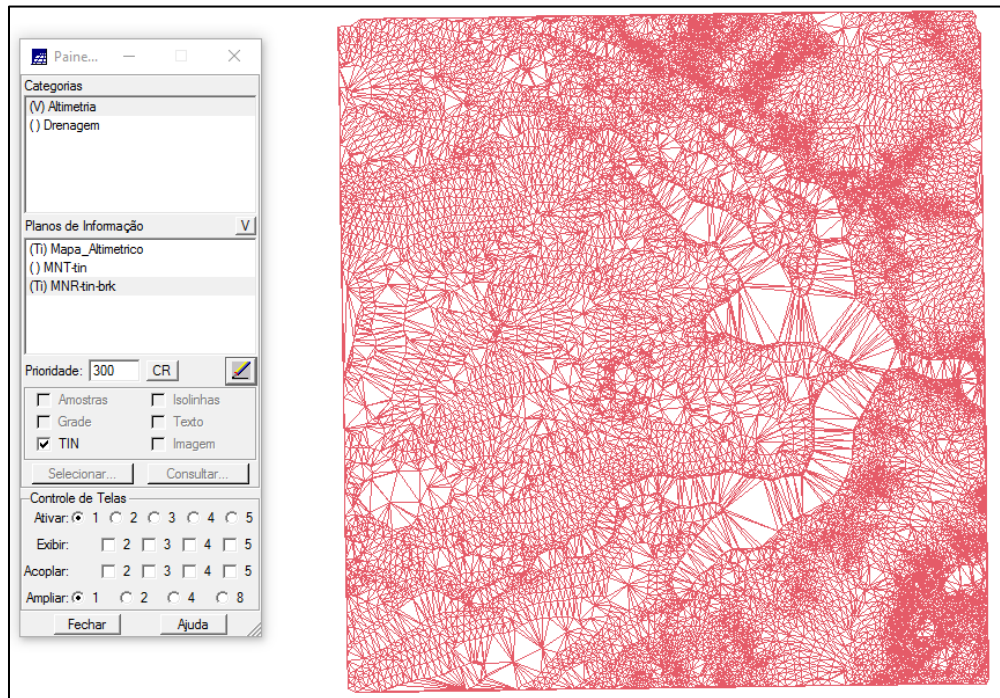


2.3. Geração de TIN

2.3.1. Sem linha de quebra



2.3.2. Com linha de quebra

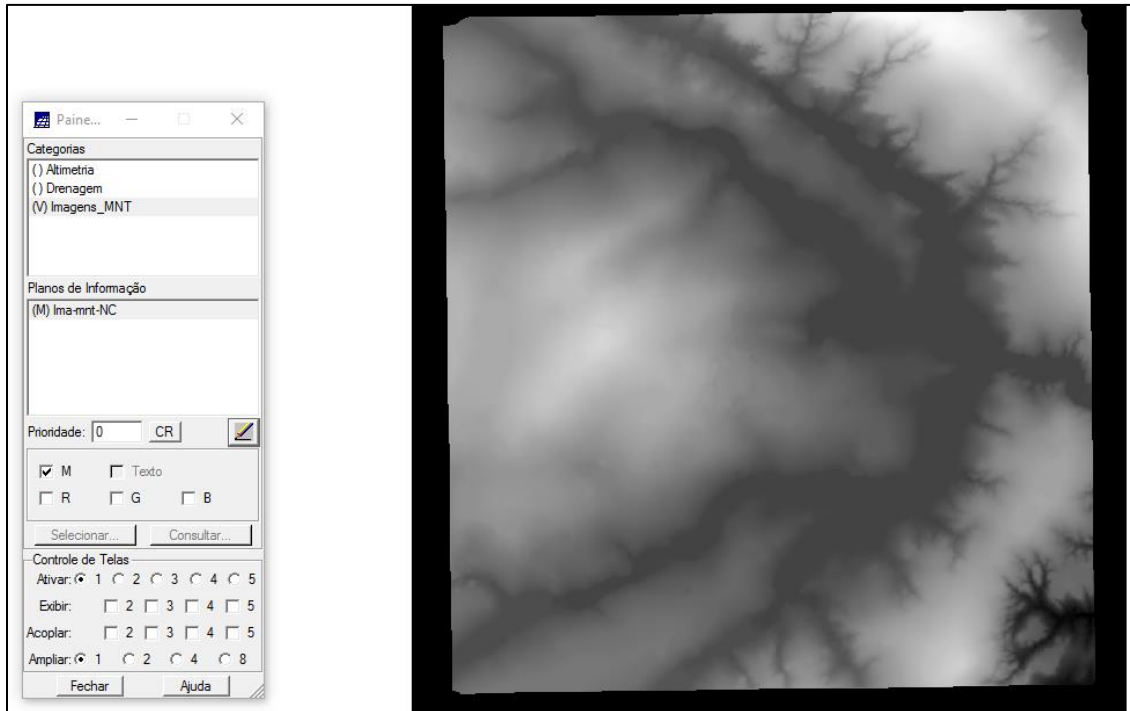


2.4. Geração de Grade

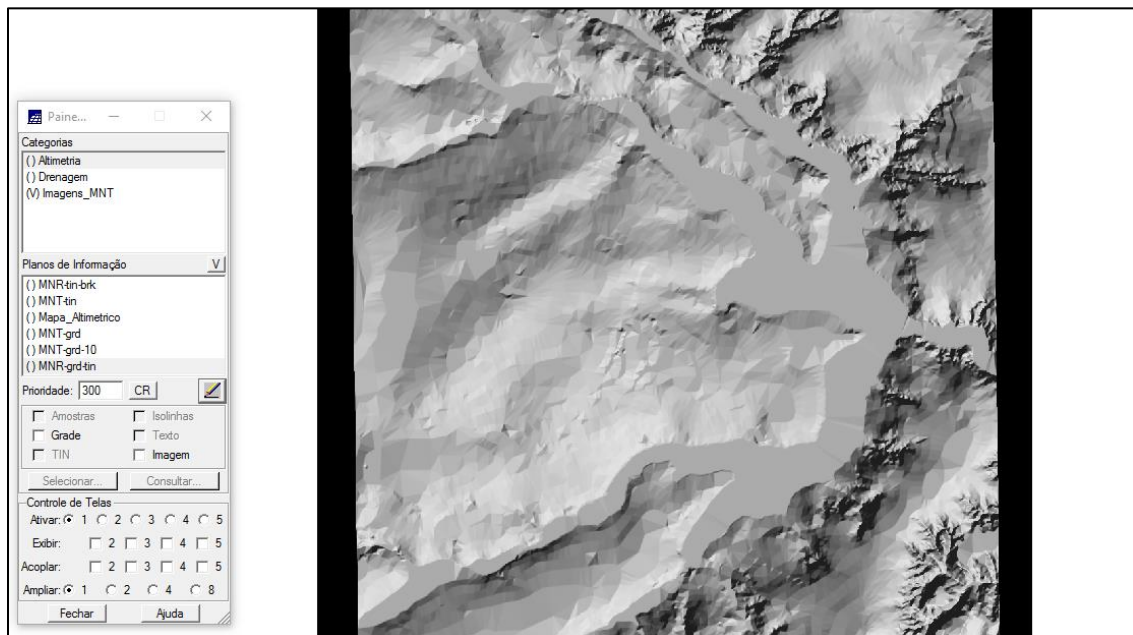
1055.0	1056.8	1030.0	1045.3	1070.0	1045.5	1020.0	1084.7	1081.3	1116.1	1140.0	1210.0	1200.0	1126.8	1044.8
1090.0	1090.0	1080.0	1020.0	1045.8	1060.0	1072.9	1030.0	1030.0	1073.4	1115.1	1135.3	1180.0	1165.2	1123.3
1105.1	1100.0	1065.0	1045.1	1010.0	1020.0	998.0	1024.5	1020.0	998.0	1043.3	1100.0	1114.7	1118.1	1170.0
1075.0	1065.5	1040.0	1050.0	1050.0	1064.7	1035.4	998.0	1010.0	1020.0	998.0	1007.0	1025.8	1120.0	1180.0
1105.0	1100.0	1090.0	1110.0	1114.8	1080.0	1050.0	1040.0	998.0	998.0	1020.0	998.0	1054.1	1110.0	1170.0
1131.5	1130.0	1120.0	1140.0	1130.0	1120.0	1096.2	1060.0	1030.0	1000.0	998.0	998.0	1034.8	1090.0	1134.8
1130.0	1130.0	1120.0	1140.0	1170.0	1135.0	1100.0	1050.0	1023.7	998.0	998.0	998.0	998.0	1046.6	1066.4
1125.1	1120.0	1125.0	1155.8	1135.4	1130.0	1110.0	1075.2	1050.0	1034.9	1010.0	998.0	998.7	1000.0	1009.7
1110.0	1110.0	1120.0	1120.0	1100.0	1110.0	1090.0	1050.0	1051.4	1030.0	1024.8	998.0	1023.8	1078.2	1075.4
1080.0	1085.0	1095.6	1090.0	1070.0	1074.9	1044.2	998.5	998.6	998.0	998.0	998.0	1051.8	1110.0	1086.1
1075.0	1080.0	1080.0	1070.0	1040.0	1030.0	998.7	1018.0	1010.5	998.0	1000.0	1000.0	1082.7	1104.3	1056.0
1055.0	1035.8	1044.8	1035.0	1015.8	1006.5	1020.0	1030.0	998.0	1013.5	1024.5	1080.0	1100.0	1050.0	1040.0
1044.9	1040.0	1010.0	1025.4	1035.3	1050.0	1042.5	1010.0	1025.3	1050.0	1100.0	1130.0	1104.0	1020.0	846.4
1015.0	1024.9	1050.0	1060.0	1060.0	1045.7	1020.0	1055.0	1085.7	1037.3	1100.0	1150.0	1104.9	1024.1	970.0

2.5. Geração de Imagem

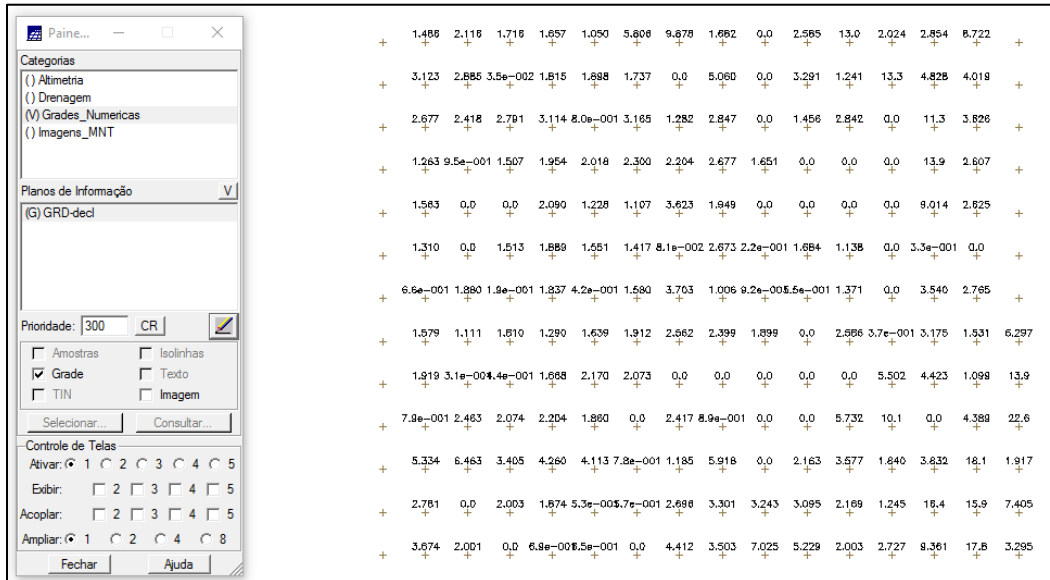
2.5.1. Em níveis de cinza



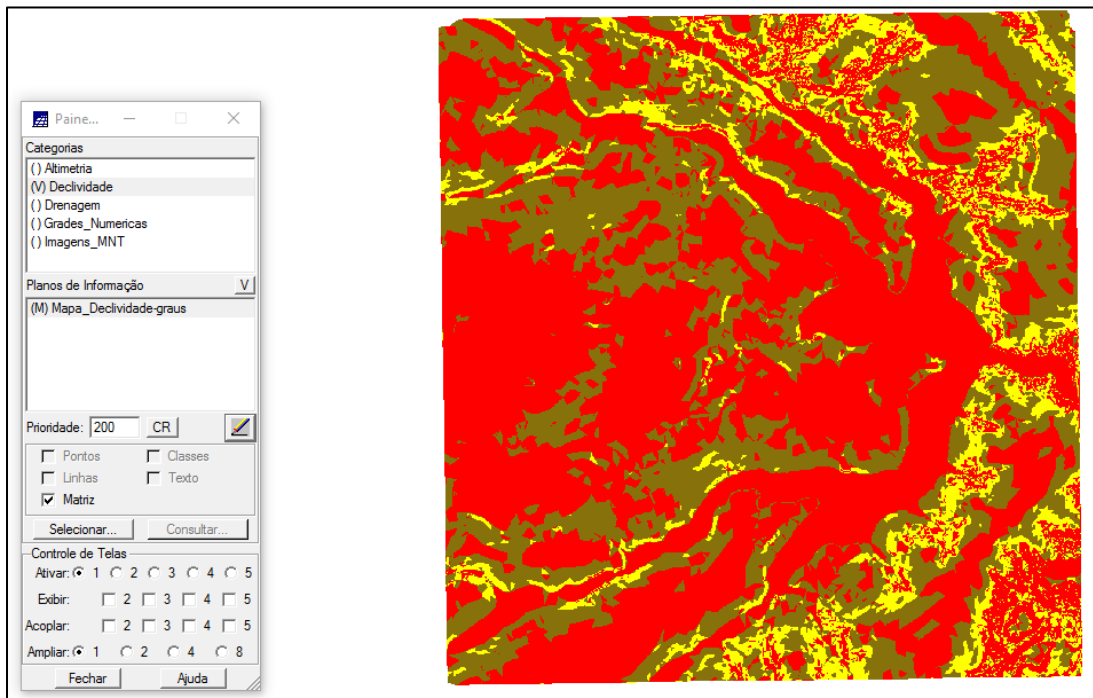
2.5.2. Sombrada



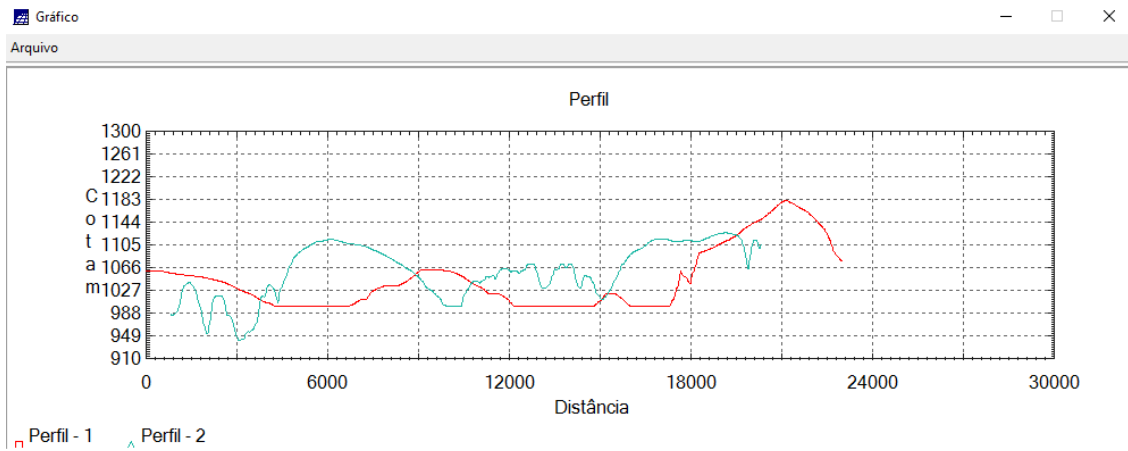
2.6. Geração de Declividade (graus)



2.7. Fatiamento de Grade Numérica

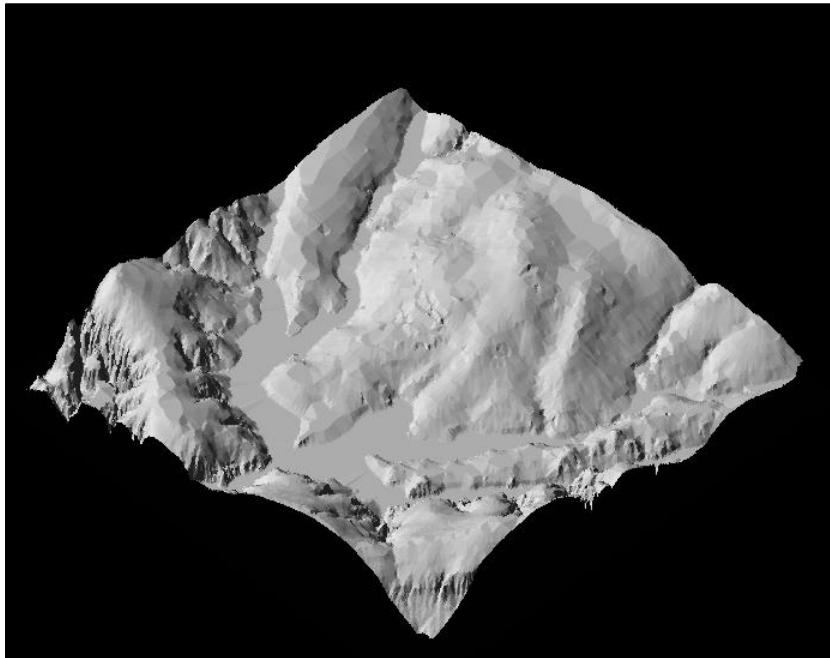


2.8. Geração de Perfil

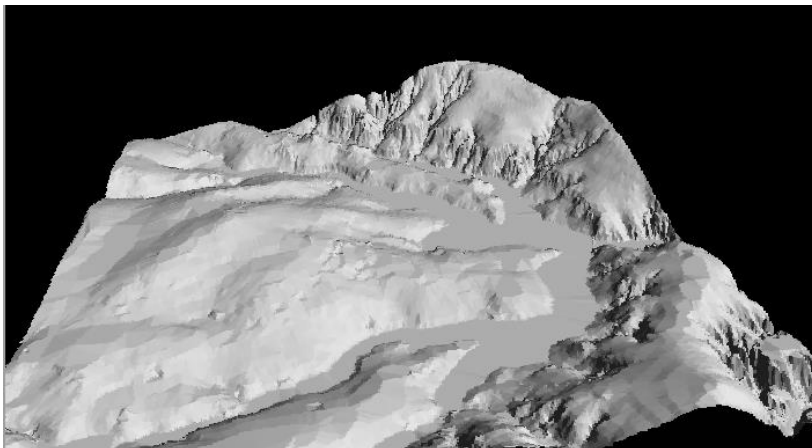


2.9. Visualização em Imagem 3D

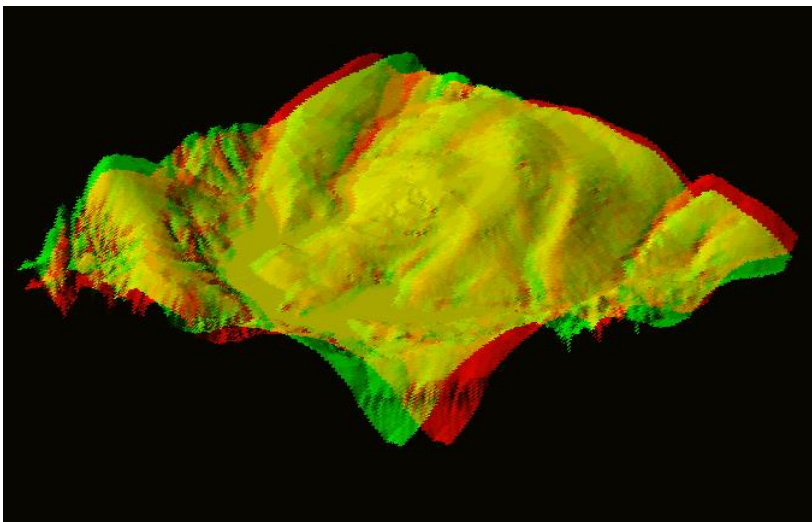
2.9.1. Paralela



2.9.2. Perspectiva



2.9.3. Paralela-Estéreo



3. CONSIDERAÇÕES FINAIS

O trabalho permitiu verificar as ferramentas do software SPRING de geração de MNT, mapa hipsométrico e a visualização de diferentes perfis do terreno, permitindo o estudo da topografia do terreno.