

## Digital maps synthesized from 50m-mesh DEM (2) Examples of typical geological informations.

# Satoshi Kanisawa[1], Takeyoshi Yoshida[2], Ryuzo Yokoyama[3], Michio Shirasawa[3], Yuu Kikuchi[4], Takeshi Ohguchi[5]

[1] Inst.Min.Pet.Econ Geol., Tohoku Univ., [2] Inst.Min.Petr.Econ.Geol., Tohoku Univ., [3] Dept. of Computer Science, Iwate Univ, [4] Dept. of Comp. Sci., Iwate Univ, [5] Res. Inst. Mat. Resour., Akita Univ.

Topographic features on the surface reflect the geology of concerned area. These are appeared as structural and tectonic reliefs. Quantify of topographic features is also possible using digital image maps. Some examples of the typical geologic features extracted from digital image maps are presented as follows; 1) granite pluton, 2) Areas of sedimentary rocks, 3) Fault valleys and fold structures, 4) River and coastal terraces.

Topographic features on the surface reflect the geology of concerned area. These are appeared as structural and tectonic reliefs. Some examples of the typical geologic features extracted from digital image maps are presented. 1) The highly eroded areas of granite pluton are characterized by flat relief and show perpendicularly crossed lineaments and curvilinearments caused by primary intruding structure. 2) The areas mainly composed of sedimentary rocks have characteristic patterns formed by well-developed fine ridge and valley. Patterns of Paleozoic - Mesozoic regions are different from those of Cenozoic regions. 3) Fault valleys and fold structures are extracted from digital image maps. 4) River and coastal terraces are also clearly extracted from digital image maps as the slope differences of terrace plains and scarps. The advantages of digital image maps are able to quantify the direction and order of patterns of ridge and valley, evaluation of average slope, and order of reliefs.