

Multispectral cartographic base in geological research, Central Asia

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Motivation

For large parts of Asia up-to-date regional-scale geological and geophysical maps are not normally immediately at hand. Publications on the geology and earth resources of Asia have to resort, as everywhere else, to schematic diagrams to get their message across. Consequently, new data and ideas remain isolated and are not optimally used in regional problems.

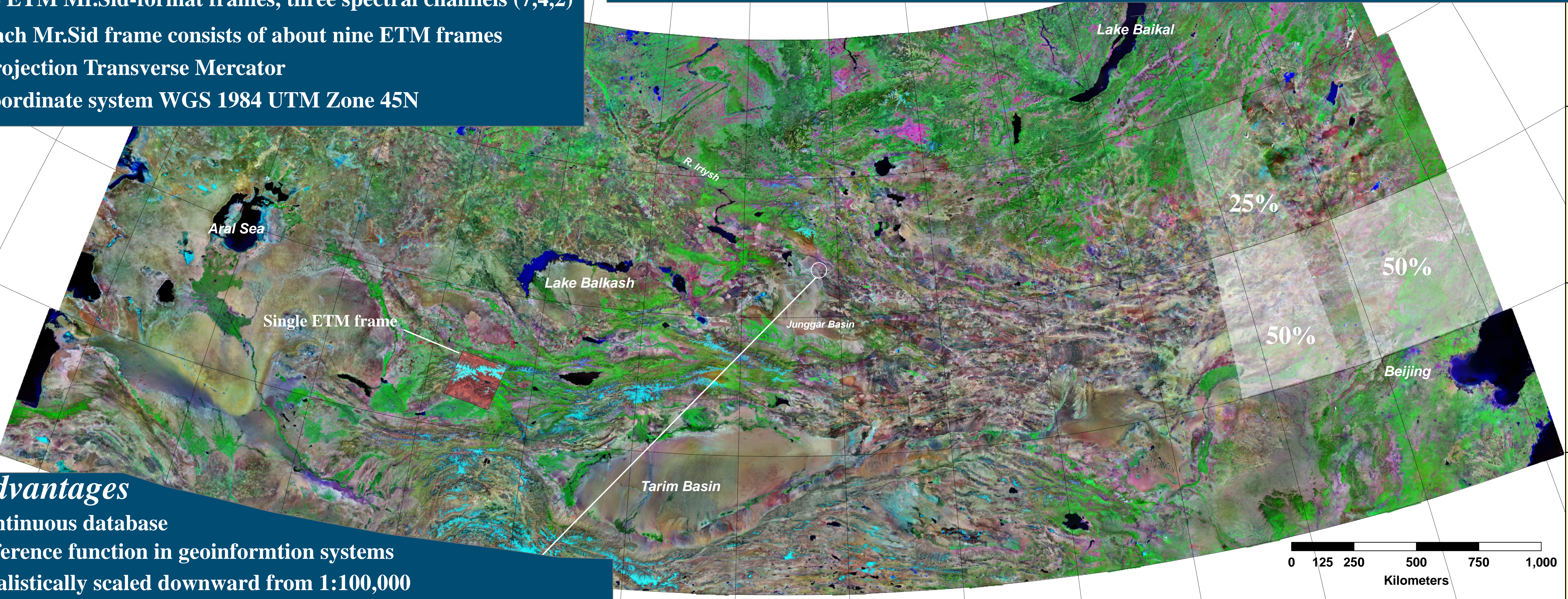
Objective

With a view to a continuous, easily managed cartographic base of continental proportions, we use Enhanced Thematic Mapper (ETM) imagery in "MrSid" format

Characteristics

44 ETM MrSid-format frames, three spectral channels (7,4,2)
Each MrSid frame consists of about nine ETM frames
Projection Transverse Mercator
Coordinate system WGS 1984 UTM Zone 45N

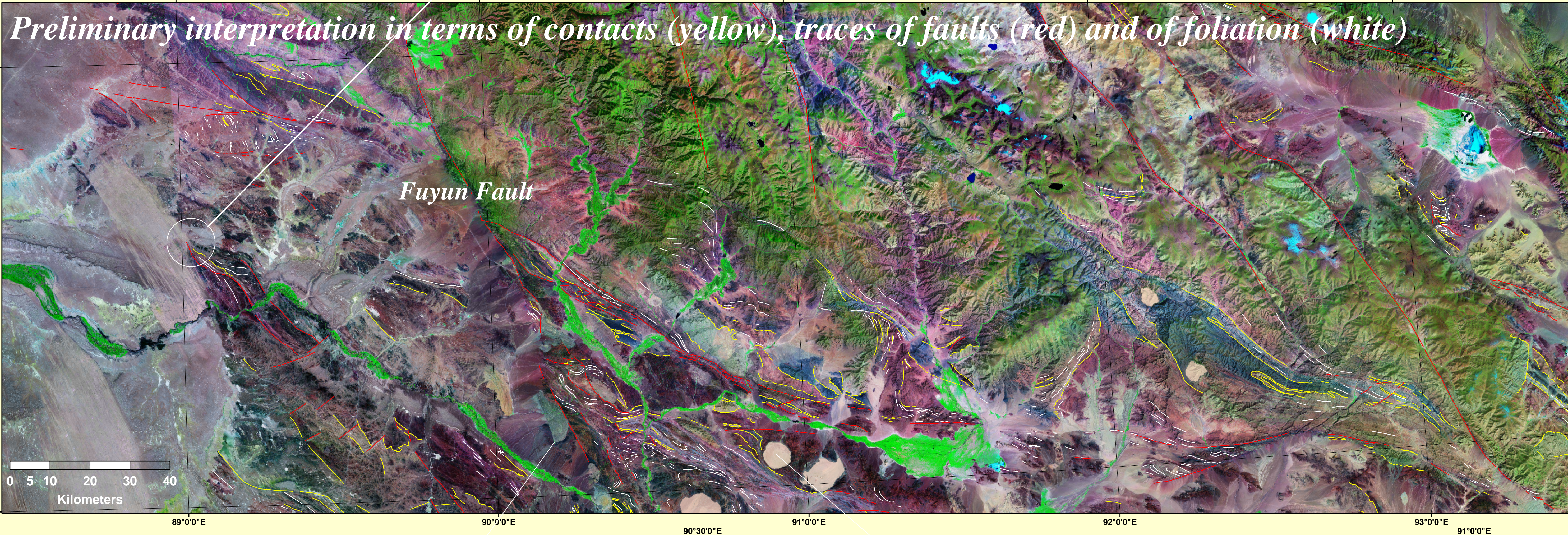
Varying transparency (%) north of Beijing illustrates extent and longitudinal overlap of Mr.Sid frames



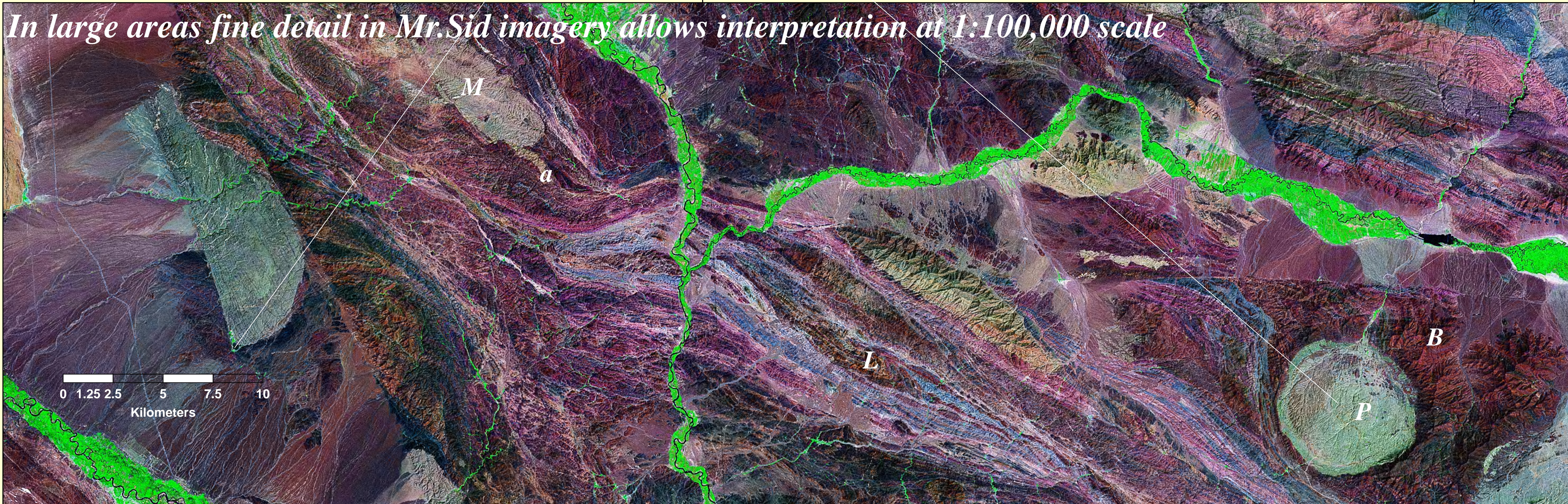
Advantages

Continuous database
Reference function in geoinformtion systems
Realistically scaled downward from 1:100,000
Hydrographic, morpho-tectonic and spectral-lithologic information

Preliminary interpretation in terms of contacts (yellow), traces of faults (red) and of foliation (white)



In large areas fine detail in Mr.Sid imagery allows interpretation at 1:100,000 scale



Bottom panel

- A finely laminated belt with lenses (e.g. -L-) and irregularly outlined bodies (e.g. -B-) of strongly varying proportions suggests ductile-brittle deformation
- Within -B-, a circular body -P- suggests a pipe-like intrusion protected from deformation by -B-
- The appendix -a- on elliptical gray mass -M- suggests a horned intrusion possibly implying syn-deformational magma emplacement