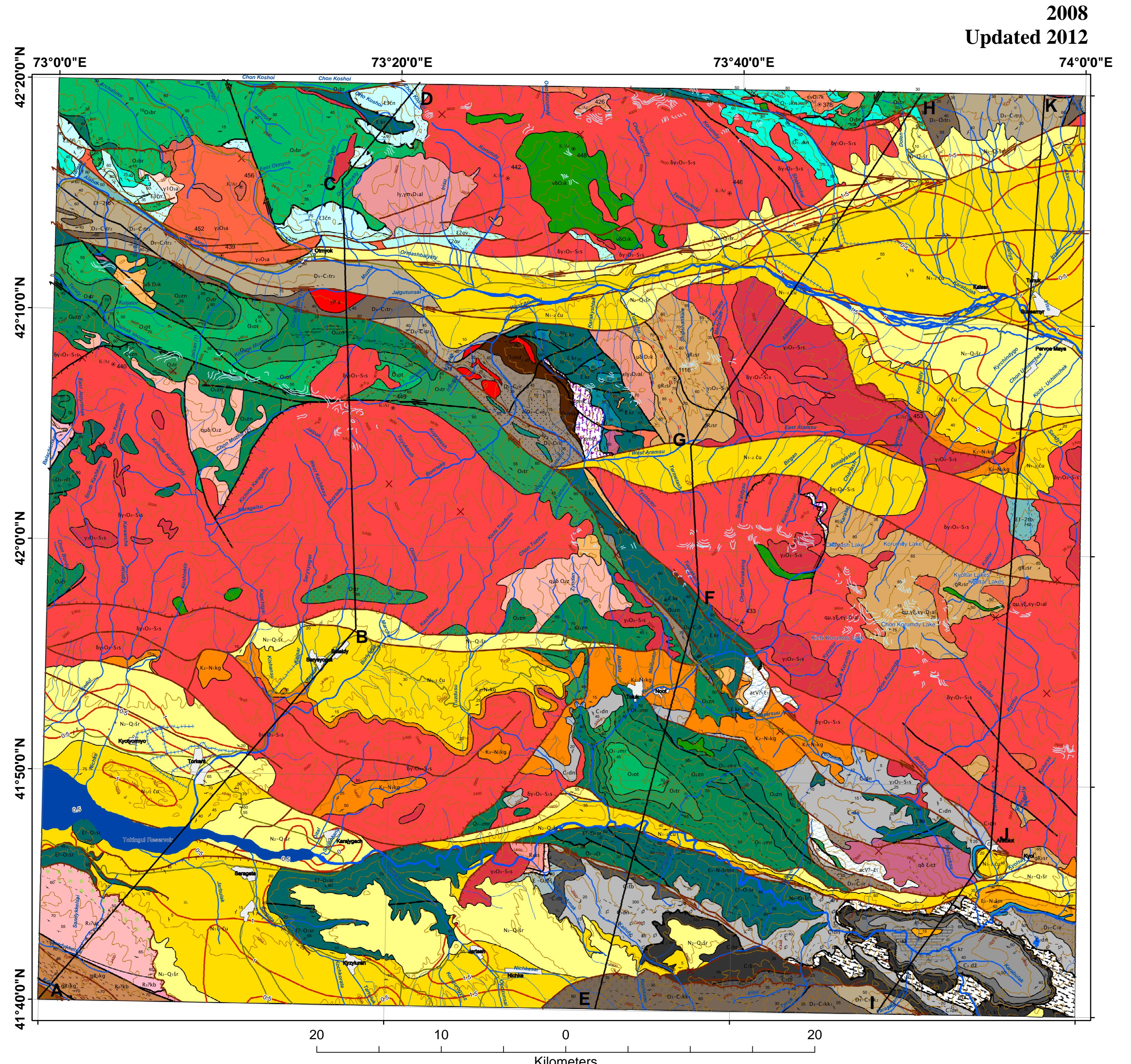


**QUATERNARY REMOVED GEOLOGICAL MAP  
( INNER TIEN-SHAN )  
KYRGYZSTAN**  
Scale 1 : 200 000

SNSF Project No IB7320-110694  
<http://www.kyrgyzstan.ethz.ch>



© Authors: A.V. Mikolaichuk, F.Kh. Apayarov, T.Yu. Vorob'ev & D.A. Chertkov  
Cartographic workers: A.V. Zubovich, A.V. Bobrovski & D.V. Gordeev.

Editors: J-P. Burg

Topographic map source: Topographical map of Scale 1 : 200 000. Sheets K-43-XIV, K-43-XX  
State Mapping-Geodetical Survey of Kyrgyz Republic. Printed in 1987.

Map projection: Transverse Mercator WGS-84

Source: Kiselyov V.I., Kordun R.M., 1956; Burtman V.S., Kiselyov S.A., 1957; Dodonova T.A., Kolesnikov B.A., 1959; Kiselyov et al., 1967; Kolesnikov V.A. et al., 1970; Khristov E.V., 1971; Tolskiy V.P., et al., 1972; Morozov V.P. et al., 1979; Orlov L.N., et al., 1979; Chekina S.A., Milkin A.N., 1987; Morozov V.G., et al., 1988; Chernov V.I., et al., 2005; Chernyavskaya Z.I. et al., 2008 & present researchers

**Legend**

|   |  |
|---|--|
| <b>MESOZOIC AND CENOZOIC COMPLEXES OF THE CENTRAL TIEN SHAN</b>           |  |
| Yellow  | Sharpydak Group, Upper Pliocene - Lower Pleistocene (N-Q, sr). Grey conglomerates, gritstones, sandstones                                      |
| Light Yellow  | Chu Group, Lower Pliocene (N, ū). Motley mudstone, and grey clay, sandstones, gritstones   |
| Orange  | Shamsi Group, Oligocene-Miocene (E-N, sm). Reddish mudstone, loams, sandstones and conglomerates   |
| Dark Orange   | Kyrgyz Redstone Supergroup, Upper Creataceous - Miocene (K-N, kg). Interbedding of carbonate, clay, sandstones and conglomerates               |
| Teal  | Suluterek Formation, Intrusive phase, Upper Creataceous - Eocene (K-E, st). Dolerite, basalt   |
| Blue  | Group of Lower Jurassic deposits (J). Siltstone, sandstone   |
| <b>PERMIAN - TRIASSIC POST-COLLISION COMPLEX OF THE CENTRAL TIEN SHAN</b> |  |
| Red   | Achitash Formation, Permian (P,a). Granites, leucocratic granites, granite-porphyry  |
| Orange  | Sandyk Formation, Early Permian (P,s). Monzonites, nepheline syenites, syenites, quartz-syenites   |
| <b>LATE PALEOZOIC COLLISION COMPLEX OF THE CENTRAL TIEN SHAN</b>          |  |
| Black   | Serpentinite mélange, Late Carboniferous (mC). Serpentinite, blocks of gabbro, basalt, limestone, schist                                       |
| White   | Gypsum mélange, Late Carboniferous (mC). Gypsum, blocks of limestones, sandstones  |
| <b>KAZAKH BASIN</b>   |  |
| Light Brown   | Torsu Formation, Upper part, Upper Devonian - Lower Carboniferous (D-C, tr). Reddish siltstones, sandstones                                    |
| Brown   | Torsu Formation, Lower part, Upper Devonian-Lower Carboniferous (D-C, tr). Reddish sandstones, gritstones, conglomerates                       |
| <b>SONKUL-TURUK BASIN</b>   |  |
| Grey  | Dungurme Formation, Lower Carboniferous (C, dn). Reddish sandstones, siltstones, gypsum, conglomerate lens                                     |
| Dark Grey   | Tabylgaty Formation, Lower Carboniferous (C, tb). Grading sandstones, siltstones, shales, olistostrome   |
| Dark Grey   | Boordy Formation, Lower Carboniferous (C, br). Limestones, clay limestones, dolomites, shales  |
| Brown   | Koktay Formation, Upper part, Upper Devonian - Lower Carboniferous (D-C, kk). Reddish sandstones, siltstones, shales                           |
| Brown   | Koktay Formation, Lower part, Upper Devonian-Lower Carboniferous (D-C, kk). Conglomerates, gritstones, sandstones                              |
| <b>KARATAU-NARYN CARBONATE PLATFORM</b>                                   |  |
| Grey  | Karakiya Formation, Early Carboniferous (C, kr). Sandstones, siltstones, gritstones, clay limestones   |
| Dark Grey   | Japryk Formation, Early Carboniferous (C, d2). Lumpy limestones, marls and cherty limestones   |
| Dark Grey   | Akchetash Formation, Early Carboniferous (C, ak). Limestones laminated and crinoidal-clastic, cherts   |
| Dark Grey   | Katunaryk Formation, Early Carboniferous (C, kt). Massive marbled limestones   |
| Brown   | Sonkul Formation, Late Devonian - Early Carboniferous (D-C, sn). Thin-laminated dolomitic limestones, dolomites and calcareous breccias        |
| <b>DEVONIAN VOLCANIC-PLUTONIC BELT</b>                                    |  |
| Brown   | Iribulak Formation, Late Devonian - Early Carboniferous (D-C, ir). Reddish sandstones, gritstones, conglomerates, dacites, andesites and tuffs |
| Orange  | Kolbasy Formation, Intrusive phase, Early Devonian (vD, k). Shonkinites, syenites  |
| Orange  | Kyzylsu Formation, Middle Devonian (uD, k). Monzonites, quartz diorites, granosyenites   |
| Red   | Alama Formation, 3 phase, Early-Middle Devonian (lyD, a). Leucocratic granites, granite porphyries   |
| Red   | Alama Formation, 2 phase, Early-Middle Devonian (lyD, a). Subalkaline leucocratic granites   |
| Red   | Alama Formation, 1 phase, Early-Middle Devonian (qD, a). Quartz-syenites, granosyenites, subalkaline granites                                  |
| Brown   | Madylbek Formation, Lower Devonian (D, md). Basalt, rhyolite, tuffs and conglomerates  |
| <b>SOUTH TIEN SHAN GEOLOGICAL PROVINCE</b>                                |  |
| Brown   | Akkurgan Formation, Early-Middle Devonian (D, ak). Limestone   |
| <b>MIDDLE TIEN SHAN GEOLOGICAL PROVINCE</b>                               |  |
| Brown   | Kargysh Formation, Late Riphean (gr, kg) Crystalline schist, gneiss  |

|                   |                                       |                  |
|-------------------|---------------------------------------|------------------|
| Amphibolites      | Flora                                 | Pass             |
| Conglomerate      | Flora (probable location)             | Glacier altitude |
| Gabbro            | Invertebrate                          | Altitude 400     |
| Granite-gneiss    | Invertebrate (probable location)      | Lake             |
| Gravelite         | K-Ar age                              | Reservoir        |
| Gypsum, salt      | U-Pb age                              | Main river       |
| Hornfels          | U/Pb isochrone age                    | Large river      |
| Limestone, marble | Paleozoic vertical fault              | River            |
| Migmatite         | Paleozoic thrust                      | Small tributary  |
| Mylonite          | Paleozoic dextral strike-slip fault   | Canal            |
| Rhyolite          | Paleozoic sinistral strike-slip fault | Road             |
| Rhyolite tuff     | Paleozoic nappe                       | Locality         |
| Sandstone         |                                       |                  |
| Siltstone         |                                       |                  |
| Minor_boundarie   |                                       |                  |
| Basement_isodepth |                                       |                  |
| Cross Section     |                                       |                  |