



**TURKISH NATIONAL UNION of GEODESY and
GEOPHYSICS**

**NATIONAL REPORT
OF VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S
INTERIOR COMMISSION OF
TURKEY FOR 2008 - 2011**

**to be presented at the XXV. GENERAL ASSEMBLY of
the INTERNATIONAL UNION of GEODESY and
GEOPHYSICS 28 JUNE - 7 JULY, 2011**

**VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S INTERIOR
COMMISSION OF TURKEY**

(www.mta.gov.tr)

**TURKISH NATIONAL UNION of GEODESY and
GEOPHYSICS**

**NATIONAL REPORT
OF
VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S
INTERIOR COMMISSION
OF TURKEY
FOR
2008 - 2011**

**to be presented at the
XXV. GENERAL ASSEMBLY
of the
INTERNATIONAL UNION of GEODESY and GEOPHYSICS
JUNE 27 - JULY 8, 2011**

**VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S
INTERIOR COMMISSION OF TURKEY
(www.mta.gov.tr)**

CONTENTS

<u>TOPIC</u>	<u>PAGES</u>
1. INTRODUCTION	3
2. PUBLICATIONS	5

1- INTRODUCTION

The Turkish National Commission for Volcanology and Chemistry of the Earth's Interior (TAVCEI) had continued his work in the period between 2007-2010 on the coordination of the scientific studies on magmatology and geochemistry in Turkey.

The commission is sponsored and supported by the General Directorate of Mineral Research and Exploration (MTA), which corresponds to the Geological Survey in many countries. MTA not only provides the secretarial support but also the web-page of the Commission. The scientific efforts of the Commission are flanked by a considerable number of scientists from the Geology Departments of the leading Universities such as İstanbul Univ., İstanbul Technical Univ., Black Sea Univ., Selçuk Univ., Middle East Technical Univ., Hacettepe Univ., 9 Eylül Univ., Çukurova Univ. etc. From these about 100 scientists are actively involved in the sub-commissions and committees. A group of graduate students and young scientists are also implicated in the activities.

The main goal of the Commission is to coordinate the studies and realize databases on the geochemical analyses and geochronological age data on igneous rocks. Moreover it systematically collects the published documents on related topics and transfers information on IAVCEI-related topics via its mail-group and web-page.

Further goals of the Commission are

- 1- to organize courses, summer-schools, work-shops, symposia and congresses on related topics,
- 2- to inform the public on the volcanogenic hazards
- 3- to provide basic knowledge on the igneous processes in the Earth's interior within the framework of popular science.
- 4- to coordinate the multi-disciplinary studies

The Sub-Commissions and Working Groups of TAVCEI are structured according to the popular issues in the country and include:

- 1- SC of Volcanology and Geothermal Energy
- 2- SC of Geochemistry
 - a- WG on Granitoids
 - b- WG on Ophiolites
 - c- WG on Alkaline magmatism
- 3- Isotope Geochemistry and Geochronology
 - a- WG for Data Bank of radiometric ages of plutonic rocks
 - b- WG for Data Bank of radiometric ages of volcanic rocks
- 4- Pyroclastic Deposits
- 5- Igneous Mineral Deposits
- 6- Data Bank on Geochemistry

- 7- Geological Heritage and Natural Monuments of igneous origin
- 8- Igneous Terminology in Turkish
- 9- WG for TAVCEI-Bulleten
- 10- WG for Documentation

In the following the Commission reports its activities and a list of related publications in the 2007-2010 interval.

Further activities of the TAVCEI can be seen on the following web-address of the Commission: <http://www.mta.gov.tr/tuvak>

2- PUBLICATIONS

- Kaya, C., 2010.** Deep crustal structure of northwestern part of Turkey, *Tectonophysics*, v. 489, 1-4, p. 227-239.
- Piper, J.D.A., Gürsoy, H., Tatar, O., Beck, M.E., Rao, A., Koçbulut, F. ve Mesci, L. 2010.** Distributed neotectonic deformation in the Anatolides of Turkey: A palaeomagnetic analysis. *Tectonophysics*, 488,31-50.
- Catlos, E.J., Baker, C., Sorensen, S.S., Çemen, İ., Hançer, M., 2010.** Geochemistry, geochronology, and cathodoluminescence imagery of the Salihli and Turgutlu granites (central Menderes Massif, western Turkey): Implications for Aegean tectonics, *Tectonophysics*, v. 488, 1-4, 5, p.110-130.
- Ersoy, Y.E., Helvacı, C., Sözbilir, H., 2010.** Tectono-stratigraphic evolution of the NE–SW-trending superimposed Selendi basin: Implications for late Cenozoic crustal extension in Western Anatolia, Turkey, *Tectonophysics*, v. 488, 1-4, p. 210-232.
- Dokuz, A., Karsli, O., Chen, B. and Uysal, İ., 2010.** Sources and petrogenesis of Jurassic granitoids in the Yusufeli area, Northeastern Turkey: Implications for pre- and post-collisional lithospheric thinning of the eastern Pontides, *Tectonophysics*, v. 480, 1-4, p. 259-279.
- Ustaömer, A., Ustaömer, T., Collins, A.S., Robertson, A.H.F., 2009.** Cadomian (Ediacaran–Cambrian) arc magmatism in the Bitlis Massif, SE Turkey: Magmatism along the developing northern margin of Gondwana, *Tectonophysics*, v. 473, 1-2, p. 99-112.
- Parlak, O., Rızaoğlu, T., Bağcı, U., Karaoğlan, F. and Höck, V., 2009.** Tectonic significance of the geochemistry and petrology of ophiolites in southeast Anatolia, Turkey, *Tectonophysics* v. 473, 1-2, p. 173-187.
- Rızaoğlu, T., Parlak, O., Höck, V., Koller, F., Hames, W.E., Billor, Z.,2009.** Andean-type active margin formation in the eastern Taurides: Geochemical and geochronological evidence from the Baskil granitoid (Elazığ, SE Turkey), *Tectonophysics*, v. 473, 1-2, p.188-207.
- Boztuğ, D., Jonckheere, R.C., Heizler, M., Ratschbacher, L., Harlavan, Y., Tichomirova, M., 2009;** Timing of post-obduction granitoids from intrusion through cooling to exhumation in central Anatolia, Turkey, *Tectonophysics*, v. 473, 1-2, p.223-233.
- Gürsoy, H., Tatar, O., Piper, J.D.A., Heimann, A., Koçbulut, F., Mesci, B.L. 2009;** Palaeomagnetic study of Tertiary volcanic domains in Southern Turkey and Neogene anticlockwise rotation of the Arabian Plate, *Tectonophysics*, v. 465, 1-4,p. 114-127.
- Bozkurt, E., Winchester, J. A., Yiğitbaş, E. and Ottley, C.J. 2008;** Proterozoic ophiolites and mafic–ultramafic complexes marginal to the İstanbul Block: An exotic terrane of Avalonian affinity in NW Turkey, *Tectonophysics*, v. 461, 1-4, p. 240-251.
- Okay, A. I, Bozkurt, E., Satır, M., Yiğitbaş, E., Crowley, Q. G. and Shang, C.K.,2008;** Defining the southern margin of Avalonia in the Pontides: Geochronological data from the Late Proterozoic and Ordovician granitoids from NW Turkey. *Tectonophysics*, v. 461, 1-4, p. 252-264.
- Karsli, O., Dokuz, A., Uysal, İ., Aydın, F., Chen, B., Kandemir, R., Wijbrans, J., 2010;** Relative contributions of crust and mantle to generation of Campanian high-K calc-alkaline I-type granitoids in a subduction setting, with special reference to the Harşit

- Pluton, Eastern Turkey, Contributions to Mineralogy and Petrology, v. 160, Number 4, p. 467-487.
- Uysal, İ., Tarkian, M., Sadiklar, M. B., Zaccarini, F., Meisel, T., Garuti, G. and Heidrich, S., 2009;** Petrology of Al- and Cr-rich ophiolitic chromitites from the Muğla, SW Turkey: implications from composition of chromite, solid inclusions of platinum-group mineral, silicate, and base-metal mineral, and Os-isotope geochemistry, Contributions to Mineralogy and Petrology, v. 158, Number 5, p. 659-674.
- Aydin, F., Thompson, R.M. Karsli, O., Uchida, H. Burt, J.B. and Downs, R.T., 2009;** C2/c pyroxene phenocrysts from three potassic series in the Neogene alkaline volcanics, NE Turkey: their crystal chemistry with petrogenetic significance as an indicator of P–T conditions, Contributions to Mineralogy and Petrology, v. 158, Number 1, p. 131-147.
- Karaoğlu, Ö., Helvacı, C. and Ersoy, Y., 2010;** Petrogenesis and $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of the volcanic rocks of the Uşak-Güre basin, Western Türkiye, Lithos, v. 119, 3-4, p. 193-210.
- Sayit, K., Göncüoğlu, M. C. and Furman, T., 2010;** Petrological reconstruction of Triassic seamounts/oceanic islands within the Palaeotethys: Geochemical implications from the Karakaya subduction/accretion Complex, Northern Turkey, Lithos, v. 119, 3-4, p. 501-511.
- Çolakoğlu, A. R. and Arehart, G. B. 2010;** The petrogenesis of Sarıçimen (Çaldıran-Van) quartz monzodiorite: Implication for initiation of magmatism (Late Medial Miocene) in the east Anatolian collision zone, Turkey, Lithos, v. 119, 3-4, p. 607-620.
- Genç, Ş.C. and Tüysüz, O., 2010;** Tectonic setting of the Jurassic bimodal magmatism in the Sakarya Zone (Central and Western Pontides), Northern Turkey: A geochemical and isotopic approach, Lithos, v. 118, 1-2, p. 95-111.
- Topuz, G., Altherr, R., Siebel, W., Schwarz, W.H., Zack, T., Hasözbeke, A., Barth, M., Satır, M. and Şen, C., 2010;** Carboniferous high-potassium I-type granitoid magmatism in the Eastern Pontides: The Gümüşhane pluton (NE Turkey), Lithos, v. 116, 1-2, p. 92-110.
- Göncüoğlu, M.C., Sayit, K. and Tekin, U.K., 2010;** Oceanization of the northern Neotethys: Geochemical evidence from ophiolitic melange basalts within the İzmir–Ankara suture belt, NW Turkey, Lithos, v. 116, 1-2, p. 175-187.
- Caran, Ş., Çoban, H., Flower, M.F.J. Ottley, C.J. and Yılmaz, K., 2010;** Podiform chromitites and mantle peridotites of the Antalya ophiolite, Isparta Angle (SW Turkey): Implications for partial melting and melt–rock interaction in oceanic and subduction-related settings, Lithos, v. 114, 3-4, p. 307-326.
- Karacık, Z. and Tüysüz, O., 2010;** Petrogenesis of the Late Cretaceous Demirköy Igneous Complex in the NW Turkey: Implications for magma genesis in the Strandja Zone, Lithos, v. 114, 3-4, p. 369-384.
- Karsli, O., Dokuz, A., Uysal, İ., Aydin, F., Kandemir, R. and Wijbrans, J. 2010;** Generation of the Early Cenozoic adakitic volcanism by partial melting of mafic lower crust, Eastern Turkey: Implications for crustal thickening to delamination, Lithos v. 114, 1-2, p. 109-120.
- Aldanmaz, E., Schmidt, M.W., Gourgaud, A. and Meisel, T., 2009;** Mid-ocean ridge and supra-subduction geochemical signatures in spinel–peridotites from the Neotethyan ophiolites in SW Turkey: Implications for upper mantle melting processes, Lithos, v. 113, 3-4, p. 691-708.
- Karsli, O., Chen, B., Uysal, İ., Aydin, F., Wijbrans, J.R. and Kandemir, R., 2008;**

- Elemental and Sr–Nd–Pb isotopic geochemistry of the most recent Quaternary volcanism in the Erzincan Basin, Eastern Turkey: framework for the evaluation of basalt–lower crust interaction, *Lithos*, v. 106, 1-2, p. 55-70.
- Aydin, F., Karsli, O. and Chen, B., 2008;** Petrogenesis of the Neogene alkaline volcanics with implications for post-collisional lithospheric thinning of the Eastern Pontides, NE Turkey, *Lithos*, v. 104, 1-4, p. 249-266.
- Keskin, M., Genç, Ş.C. and Tüysüz, O., 2008;** Petrology and geochemistry of post-collisional Middle Eocene volcanic units in North-Central Turkey: Evidence for magma generation by slab breakoff following the closure of the Northern Neotethys Ocean, *Lithos*, v. 104, 1-4, p. 267-305.
- Altunkaynak, Ş. and Genç, Ş. C., 2008;** Petrogenesis and time-progressive evolution of the Cenozoic continental volcanism in the Biga Peninsula, NW Anatolia (Turkey), *Lithos*, v. 102, 1-2, p. 316-340.
- Kürkcüoğlu, B., Furman, T. and Hanan, B., 2008;** Geochemistry of post-collisional mafic lavas from the North Anatolian Fault zone, Northwestern Turkey, *Lithos*, v. 101, 3-4, p. 416-434.
- Elitok, Ö. and Drüppel, K., 2008;** Geochemistry and tectonic significance of metamorphic sole rocks beneath the Beyşehir–Hoyran ophiolite (SW-Turkey), *Lithos*, v. 100, 1-4, p. 322-353.
- Uysal, I.T., Feng, Y., Zhao, J., Isik, V., Nuriel, P. and Golding, S.D., 2009;** Hydrothermal CO₂ degassing in seismically active zones during the late Quaternary, *Chemical Geology*, v. 265, 3-4, p. 442-454.
- Ersoy, Y., Helvacı, C., Sözbilir, H., Erkül, F. and Bozkurt, E., 2008;** A geochemical approach to Neogene–Quaternary volcanic activity of western Anatolia: An example of episodic bimodal volcanism within the Selendi Basin, Turkey, *Chemical Geology*, v. 255, 1-2, p. 265-282.
- Mutlu, H., Güleç, N. and Hilton, D. R., 2008;** Helium–carbon relationships in geothermal fluids of western Anatolia, Turkey, *Chemical Geology*, v. 247, 1-2, p. 305-321.
- Kibici, Y., İlbeyli, N., Yıldız, A. and Bağcı, M., 2010;** Geochemical constraints on the genesis of the Sarıcakaya intrusive rocks, Turkey: Late Paleozoic crustal melting in the central Sakarya Zone, *Chemie der Erde - Geochemistry*, v. 70, 3, p. 243-256.
- Kaygusuz, A. and Aydınçakır, E., 2009;** Mineralogy, whole-rock and Sr–Nd isotope geochemistry of mafic microgranular enclaves in Cretaceous Dagbasi granitoids, Eastern Pontides, NE Turkey: Evidence of magma mixing, mingling and chemical equilibration, *Chemie der Erde - Geochemistry*, v. 69, 3, p. 247-277.
- Karadağ, M. M., Küpeli, Ş., Arık, F., Ayhan, A., Zedef, V. and Döyen, A., 2009;** Rare earth element (REE) geochemistry and genetic implications of the Mortaş bauxite deposit (Seydişehir/Konya-Southern Turkey), *Chemie der Erde-Geochemistry*, v. 69, 2, p.143-159.
- Kurt, H., Asan, K. and Ruffet, G., 2008;** The relationship between collision-related calcalkaline, and within-plate alkaline volcanism in the Karacadağ Area (Konya-Türkiye, Central Anatolia) *Chemie der Erde - Geochemistry*, v. 68, 2, p. 155-176.
- Yılmaz Şahin, S. 2008;** Geochemistry of mafic microgranular enclaves in the Tamdere Quartz Monzonite, south of Dereli/Giresun, Eastern Pontides, Turkey *Chemie der Erde - Geochemistry*, v. 68,1, p.81-92.
- Ekici, T., Alpaslan, M., Parlak, O., and Temel, A., 2007;** Geochemistry of the Pliocene

- basalts erupted along the Malatya-Ovacik fault zone (MOFZ), eastern Anatolia, Turkey: Implications for source characteristics and partial melting processes *Chemie der Erde – Geochemistry* v. 67, 3, p. 201-212
- Öner, F., Alpaslan, M., Boztuğ, D., and Kuşçu, M., 2007;** *Geochemie und Petrogenese der Intrusivgesteine von Ağören in Ostanatolien/Türkei* *Chemie der Erde – Geochemistry*. V. 67, 3, p. 241-249
- Temel, A., Yürür, T., Alıcı, P., Varol, E., Gourgaud, A., Bellon, H. and Demirbağ, H., 2010;** Alkaline series related to Early-Middle Miocene intra-continental rifting in a collision zone: An example from Polatlı, Central Anatolia, Turkey, *Journal of Asian Earth Sciences*, v. 38, 6, p. 289-306.
- Kürkcüoğlu, B., 2010;** Geochemistry and petrogenesis of basaltic rocks from the Develidağ volcanic complex, Central Anatolia, Turkey, *Journal of Asian Earth Sciences*, v. 37, 1, p. 42-51 .
- Sarıfakıoğlu, E., Özen, H. and Hall, C., 2009;** Petrogenesis of extension-related alkaline volcanism in Karaburhan (Sivrihisar–Eskisehir), NW Anatolia, Turkey, *Journal of Asian Earth Sciences*, v. 35, 6, p. 502-515.
- Aydoğan, M. S., Çoban, H., Bozcu, M. and Akıncı, Ö., 2008;** Geochemical and mantle-like isotopic (Nd, Sr) composition of the Baklan Granite from the Muratdağı Region (Banaz, Uşak), western Turkey: Implications for input of juvenile magmas in the source domains of western Anatolia Eocene–Miocene granites, *Journal of Asian Earth Sciences*, v. 33, 3-4, p. 155-176.
- Kürüm, S., Önal, A., Boztuğ, D., Spell, T. and Arslan, M., 2008;** $^{40}\text{Ar}/^{39}\text{Ar}$ age and geochemistry of the post-collisional Miocene Yamadağ volcanics in the Arapkir area (Malatya Province), eastern Anatolia, Turkey, *Journal of Asian Earth Sciences*, v. 33, 3-4, p. 229-251.
- Temizel, İ. and Arslan, M., 2008;** Petrology and geochemistry of Tertiary volcanic rocks from the İkizce (Ordu) area, NE Turkey: Implications for the evolution of the eastern Pontide paleo-magmatic arc, *Journal of Asian Earth Sciences*, v. 31, 4-6, p. 439-463.
- Varol, E., Temel, A., Gourgaud, A., and Bellon, H., 2007;** Early Miocene adakite-like volcanism in the Balkuyumcu region, central Anatolia, Turkey: Petrology and geochemistry *Journal of Asian Earth Sciences* v. 30, 5-6, p. 613-628
- Gökce, A. and Bozkaya, G., 2007;** Lead and sulfur isotopic studies of the barite–galena deposits in the Karalar area (Gazipaşa–Antalya), Southern Turkey *Journal of Asian Earth Sciences* v. 30, 1, p. 53-62
- Küpel, Ş., 2010;** Trace and rare-earth element behaviors during alteration and mineralization in the Attepe iron deposits (Feke-Adana, southern Turkey), *Journal of Geochemical Exploration*, v. 105, 3, p. 51-74.
- Karakaya, N., 2009;** REE and HFS element behaviour in the alteration facies of the Erenler Dağı Volcanics (Konya, Turkey) and kaolinite occurrence, *Journal of Geochemical Exploration*, v. 101, 2, p. 185-208.
- Ersoy, E.Y., Helvacı, C., Palmer, M.R., 2010;** Mantle source characteristics and melting models for the early-middle Miocene mafic volcanism in Western Anatolia: Implications for enrichment processes of mantle lithosphere and origin of K-rich volcanism in post-collisional settings, *Journal of Volcanology and Geothermal Research*, v. 198, 1-2, p. 112-128.
- Ersoy, O., Şen, E., Aydar, E., Tatar, İ., Çelik, H.H., 2010;** Surface area and volume measurements of volcanic ash particles using micro-computed tomography (micro-CT):

- A comparison with scanning electron microscope (SEM) stereoscopic imaging and geometric considerations, *Journal of Volcanology and Geothermal Research*, v. 196, 3-4, p. 281-286.
- Ersoy, O., 2010;** Surface area and volume measurements of volcanic ash particles by SEM stereoscopic imaging, *Journal of Volcanology and Geothermal Research*, v. 190, 3-4, p. 290-296.
- Helvacı, C., Ersoy, E.Y., Sözbilir, H., Erkül, F., Sümer, Ö. and Uzel, B., 2010;** Geochemistry and $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of Miocene volcanic rocks from the Karaburun Peninsula: Implications for amphibole-bearing lithospheric mantle source, Western Anatolia, *Journal of Volcanology and Geothermal Research*, v. 185, 3, p. 181-202.
- Ulusoy, İ., Labazuy, P., Aydar, E., Ersoy, O., Çubukçu, E., 2008;** Structure of the Nemrut caldera (Eastern Anatolia, Turkey) and associated hydrothermal fluid circulation, *Journal of Volcanology and Geothermal Research*, v. 174, 4, p. 269-283.
- Oyman, T., 2010;** Geochemistry, mineralogy and genesis of the Ayazmant Fe–Cu skarn deposit in Ayvalık, (Balıkesir), Turkey, *Ore Geology Reviews*, v. 37, 3-4, p. 175-201.
- Yılmaz, H., Oyman, T., Sonmez, F. N., Arehart, G. B., Billor, Z., 2010;** Intermediate sulfidation epithermal gold-base metal deposits in Tertiary subaerial volcanic rocks, Sahinli/Tespilh Dere (Lapseki/Western Turkey), *Ore Geology Reviews*, v. 37, 3-4, p. 236-258.
- Yücel Öztürk, Y., Helvacı, C., Satır, M., 2008;** The influence of meteoric water on skarn formation and late-stage hydrothermal alteration at the Evciler skarn occurrences, Kazdağ, NW Turkey, *Ore Geology Reviews*, v. 34, 3, p. 271-284.
- Akbulut, M., Piskin, Ö., Arai, S., Özgenç, İ. and Minareci, F., 2010;** Base metal (BM) and platinum-group elements (PGE) mineralogy and geochemistry of the Elmaslar chromite deposit (Denizli, SW Turkey): implications for a local BM and PGE enrichment. *Ofioliti*, 35(1): 1-20.
- Aral I. Okay, A. I. and Donna L. Whitney, D. L., 2010;** Blueschists, eclogites, ophiolites and suture zones in northwest Turkey: a review and a field excursion guide, *Ofioliti*, 35(2): 131-171.
- Akbulut, M., Colak, M., Oyman, T., Gnos E. and Piskin, Ö., 2009;** Formation of podiform dunites in the Lycian Peridotite Nappes (Ağla - Koycegiz, Sw Turkey), *Ofioliti*, 34(1): 1-15.
- Akbulut, M. and Piskin, Ö., 2008;** Preliminary investigations on a recently discovered copper mineralization in the Lycian Nappes, SW Turkey, *Ofioliti*, 33(2): 87-93.
- Okay, A. I., Satır, M. and Shang, C. K., 2008;** Ordovician metagranitoid from the Anatolide-Tauride Block, northwest Turkey: geodynamic implications, *Terra Nova*, v. 20, 4, p. 280–288.
- Boztuğ, D., Harlavan, Y., Jonckheere, R., Can İ. and Sari, R., 2009;** Geochemistry and K-Ar cooling ages of the Ilica, Çataldağ (Balıkesir) and Kozak (İzmir) granitoids, West Anatolia, Turkey, *Geological Journal*, v. 44, 1, p. 79–103.
- Önal, A., 2008;** Mineral chemistry, crystallization conditions and magma mixing-mingling at Orduzu volcano (Malatya), Eastern Anatolia, Turkey, *Geological Journal*, v. 43, 1, p. 95–116.

- Kaya, O., Ünay, E., Göktaş, F., and Saraç, G., 2007;** Early Miocene stratigraphy of central west Anatolia, Turkey: implications for the tectonic evolution of the eastern Aegean area *Geological Journal*, v. 42, p. 85–109.
- Yılmaz, K., 2010;** Origin of anorogenic ‘lamproite-like’ potassic lavas from the Denizli region in Western Anatolia Extensional Province, Turkey, *Mineralogy and Petrology*, v. 99, 3-4, p. 219-239.
- Ustaömer, P. A., Ustaömer, T., Collins, A. S. and Reischpeitsch, J., 2009;** Lutetian arc-type magmatism along the southern Eurasian margin: New U-Pb LA-ICPMS and whole-rock geochemical data from Marmara Island, NW Turkey, *Mineralogy and Petrology*, v. 96, Numbers 3-4, p. 177-196.
- Toksoy-Köksal, F., Oberhaensli, R. and Göncüoğlu, M. C., 2009;** Hydrous aluminosilicate metasomatism in an intra-oceanic subduction zone: Implications from the Kurançali (Turkey) ultramafic-mafic cumulates within the Alpine Neotethys Ocean, *Mineralogy and Petrology*, v. 95, 3-4, p. 273-290.
- Ozgenç, I. and İlbeyli, N., 2009;** Geochemical constraints on petrogenesis of Late Cretaceous alkaline magmatism in east-central Anatolia (Hasancelebi–Basören, Malatya), Turkey, *Mineralogy and Petrology*, v. 95, 1-2, p. 71-85.
- Yavuz, F., Fuchs, Y., Karakaya, N. and Karakaya, M. Ç., 2008;** Chemical composition of tourmaline from the Asarcık Pb–Zn–Cu±U deposit, Şebinkarahisar, Turkey, *Mineralogy and Petrology*, v. 94, 3-4, p. 195-208.
- Köksal, S., Göncüoğlu, M. C., Toksoy-Köksal, F., Möller, A. and Kemnitz, H., 2008;** Zircon typologies and internal structures as petrogenetic indicators in contrasting granitoid types from central Anatolia, Turkey, *Mineralogy and Petrology*, v. 93, 3-4, p.185-211
- Boztuğ, D., Arehart, G. B., Platevoet, B., Harlavan Y., and Bonin B., 2007;** High-K, calc-alkaline I-type granitoids from the composite Yozgat batholith generated in a post-collisional setting following continent-oceanic island arc collision in central Anatolia, Turkey. *Mineralogy and Petrology*, v. 91, 3-4, 191-223
- Federici, İ., Cavazza, W., Okay, A. I., Beyssac, O., Zattin, M., Corrado, S. and Dellisanti, F., 2010;** Thermal Evolution of the Permo–Triassic Karakaya Subduction-accretion Complex Between the Biga Peninsula and the Tokat Massif (Anatolia), *Turkish J. Earth Sci.*, v. 19, p. 409-429.
- Agostini, S., Tokçaer, M. and Savaşçın, M. Y., 2010;** Volcanic Rocks From Foça-Karaburun and Ayvalık-Lesvos grabens (Western Anatolia) and Their Petrogenetic-Geodynamic Significance, *Turkish J. Earth Sci.*, v. 19, p. 157-184.
- Şahin, S. Y., Örgün, Y., Güngör, Y., Göker, A. F., Gültekin, A.H. and Karacık, Z., 2010;** Mineral and Whole-rock Geochemistry of the Kestanbol Granitoid (Ezine-Çanakkale) and its Mafic Microgranular Enclaves in Northwestern Anatolia: Evidence of Felsic and Mafic Magma Interaction *Turkish J. Earth Sci.*, v.19, p. 101-122.
- Ekici, T., Alpaslan, M., Parlak, O. and Uçurum, A., 2009;** Geochemistry of the Middle Miocene Collision-Related Yamadağı (Eastern Anatolia) Calc-Alkaline Volcanics, Turkey, *Turkish J. Earth Sci.*, v. 18, p. 511-528.
- İlbeyli, N., Pearce, J. A., Meighan, I. G. and Fallick, A. E., 2009;** Contemporaneous Late Cretaceous Calc-alkaline and Alkaline Magmatism in Central Anatolia, Turkey: O Isotope Constraints on Petrogenesis, *Turkish J. Earth Sci.*, v. 18, p. 529-547.
- Kaygusuz, A., Chen, B., Aslan, Z., Siebel, W. and Şen, C., 2009;** U-Pb zircon SHRIMP ages, geochemical and Sr-Nd isotopic compositions of the Early Cretaceous I-type

- Sariosman pluton, Eastern Pontides, NE Turkey, Turkish J. Earth Sci., v. 18, p. 549-581.
- Çolakoğlu, A. R., 2009;** Geochemical and Mineralogical Characteristics of Fe-Ni Laterite Ore of Sarıçimen (Çaldıran-Van) Area in Eastern Anatolia, Turkey Turkish J. Earth Sci., v. 18, p. 449-464.
- Aydın, F., Karlı, O. and Sadıklar, M. B., 2009;** Compositional Variations, Zoning Types and Petrogenetic Implications of Low-pressure Clinopyroxenes in the Neogene Alkaline Volcanic Rocks of Northeastern Turkey, Turkish J. Earth Sci., v. 18, p. 163-186.
- Sarıfakıoğlu, E., Özen, H. and Winchester, J. A., 2009;** Petrogenesis of the Refahiye Ophiolite and its Tectonic Significance for Neotethyan Ophiolites Along the İzmir-Ankara-Erzincan Suture Zone, Turkish J. Earth Sci., v.18, p. 187-207.
- Güçtekin, A and Köprübaşı, N., 2009;** Geochemical Characteristics of Mafic and Intermediate Volcanic Rocks from the Hasandağ and Erciyes Volcanoes (Central Anatolia, Turkey), Turkish J. Earth Sci., v. 18, p. 1-27.
- Temizel, İ. and Arslan, M., 2009;** Mineral Chemistry and Petrochemistry of Post-Collisional Tertiary Mafic to Felsic Cogenetic Volcanics in the Ulubey (Ordu) Area, Eastern Pontides, NE Turkey, Turkish J. Earth Sci., v. 18, p. 29-53.
- Sarıfakıoğlu, E., Özen, H. and Winchester, J. A., 2009;** Whole Rock and Mineral Chemistry of Ultramafic-mafic Cumulates from the Orhaneli (Bursa) Ophiolite, NW Anatolia. Turkish J. Earth Sci., v. 18, p. 55-83.
- Boztuğ, D., Güney, Ö., Heizler, M., Jonckheer, R. J., Tichomirowa, M. and Otlı, N., 2009;** ^{207}Pb - ^{206}Pb , ^{40}Ar - ^{39}Ar and Fission-Track Geothermochronology Quantifying Cooling and Exhumation History of the Kaman-Kırşehir Region Intrusions, Central Anatolia, Turkey, Turkish J. Earth Sci., v.18, p. 85-108.
- Boztuğ, D., Türksever, E., Heizler, M., Jonckheer, R. J. and Tichomirowa, M., 2009;** ^{207}Pb - ^{206}Pb , ^{40}Ar - ^{39}Ar and Apatite Fission-Track Geothermochronology Revealing the Emplacement, Cooling and Exhumation History of the Karaçayır Syenite (N Sivas), East-Central Anatolia, Turkey, Turkish J. Earth Sci., v. 18, p. 109-125.
- Bozkaya, G. and Gökçe, A., 2009;** Lead and Sulfur Isotope Studies of the Koru (Çanakkale, Turkey) Lead-Zinc Deposits, Turkish J. Earth Sci., v. 18, p. 127-137.
- Abdioğlu, E. and Arslan, M., 2009;** Alteration Mineralogy and Geochemistry of the Hydrothermally Altered Rocks of the Kutlular (Sürmene) Massive Sulfide Deposit, NE Turkey, Turkish J. Earth Sci., v. 18, p. 139-162.
- Boztuğ, D., Temiz, H., Jonckheere, R. and Ratsbacher, L., 2008;** Punctuated Exhumation and Foreland Basin Formation and Infilling in (Circum)-Central Anatolia (Turkey) Associated with the Neo-Tethyan Closure, Turkish J. Earth Sci., v. 17, p. 673-684.
- Çelik, Ö. F., 2008;** Detailed Geochemistry and K-Ar Geochronology of the Metamorphic Sole Rocks and Their Mafic Dykes from the Mersin Ophiolite, Southern Turkey, Turkish J. Earth Sci., v. 17, p. 685-708.
- Varol, E., Temel, A. and Gourgaud, A., 2008;** Textural and Compositional Evidence for Magma Mixing in the Evolution of the Çamlıdere Volcanic Rocks (Galatean Volcanic Province), Central Anatolia, Turkey, Turkish J. Earth Sci., v. 17, p. 709-727.
- Seyrek, A., Westaway, R., Pringle, M., Yurtmen, S., Demir, T. and Rowbotham, G., 2008;** Timing of the Quaternary Elazığ Volcanism, Eastern Turkey, and its Significance for Constraining Landscape Evolution and Surface Uplift, Turkish J. Earth Sci., v. 17, p.

- Boztuğ , D., 2008;** Petrogenesis of the Köseadağ Pluton, Suşehri-NE Sivas, East-Central Pontides, Turkey, *Turkish J. Earth Sci.*, v. 17, p. 241-262.
- Karlı, O., Aydın, F., Uysal, İ. and Sadıklar, M. B., 2008;** Magma Interaction Processes Inferred from Fe-Ti Oxide Compositions in the Dölek and Sarıçiçek Plutons, Eastern Turkey, *Turkish J. Earth Sci.*, v. 17, p. 297-315.
- Bağcı, U., Parlak, O. and Höck, V., 2008;** Geochemistry and Tectonic Environment of Diverse Magma Generations Forming the Crustal Units of the Kızıldağ (Hatay) Ophiolite, Southern Turkey, *Turkish J. Earth Sci.*, v. 17, p. 43-71.
- Önal, A., Boztuğ, D., Arslan, M., Spell, T. L. and Kürüm, S., 2008;** Petrology and ^{40}Ar - ^{39}Ar Age of the Bimodal Orduzu Volcanics (Malatya) from the Western end of the Eastern Anatolian Neogene Volcanism, Turkey, *Turkish J. Earth Sci.*, v. 17, p. 85-109.
- Köksal, S. and Göncüoğlu, M. C., 2008;** Sr and Nd Isotopic Characteristics of Some S-, I- and A-type Granitoids from Central Anatolia, *Turkish J. Earth Sci.*, v. 17, p. 111-127.
- Ceryan, Ş., 2008;** New Chemical Weathering Indices for Estimating the Mechanical Properties of Rocks: A Case Study from the Kürtün Granodiorite, NE Turkey. *Turkish J. Earth Sci.*, v. 17, p. 187-207.
- Karacık, Z., Yılmaz, Y., Pearce, J. A., 2007;** The Dikili-Çandarlı Volcanics, Western Turkey: Magmatic Interactions as Recorded by Petrographic and Geochemical Features. *Turkish J. Earth Sci.*, 16, 493-522.
- Şen, C., 2007;** Jurassic Volcanism in the Eastern Pontides: Is it Rift Related or Subduction Related? *Turkish J. Earth Sci.*, 16, p. 523-539.
- Ersoy, Y., and Helvacı, C., 2007;** Stratigraphy and Geochemical Features of the Early Miocene Bimodal (Ultrapotassic and Calc-alkaline) Volcanic Activity Within the NE-trending Selendi Basin, Western Anatolia, Turkey *Turkish J. Earth Sci.*, 16, p. 117-139.
- Mutlu, H., 2007;** Constraints on the Origin of the Balıkesir Thermal Waters (Turkey) from Stable Isotope (^{18}O , D, ^{13}C , ^{34}S) and Major-Trace Element Compositions. *Turkish J. Earth Sci.*, 16, p. 13-32.
- Serpen, U., Aksoy, N., Tahir Öngür, T. And Korkmaz, E. D., 2009;** Geothermal energy in Turkey: 2008 update, *Geothermics*, v. 38, 2, p. 227-237.
- Aksoy, N., Serpen, U. and Filiz, Ş., 2008;** Management of the Balcova–Narlıdere geothermal reservoir, Turkey, *Geothermics*, v. 37, 4, p. 444-466.
- Karakus, H. and Simsek, Ş., 2008;**Hydrogeological and geochemical studies of the Efteni and Derdin geothermal areas, Turkey, *Geothermics*, v. 37, 5, p. 510-524.
- Möller, P., Dulski, P. and Özgür, N., 2008;** Partitioning of rare earths and some major elements in the Kizildere geothermal field, Turkey, *Geothermics*, v. 37, 2, p. 132-156.
- Aksoy, N., Şimşek, C. and Gunduz, O., 2009;** Groundwater contamination mechanism in a geothermal field: A case study of Balcova, Turkey, *Journal of Contaminant Hydrology*, v. 103, 1-2, p. 13-28.
- Demir, T., Seyrek, A., Guillou, H., Scaillet, S., Westaway, R. and Bridgland, D., 2009;** Preservation by basalt of a staircase of latest Pliocene terraces of the River Murat in eastern Turkey: Evidence for rapid uplift of the eastern Anatolian Plateau, *Global and Planetary Change*, v. 68, 4, p. 254-269.
- Çinku, M. C., Ustaömer, T., Hirt, A. M., Hisarlı, Z. M., Heller, F. and Orbay, N., 2010;** Southward migration of arc magmatism during latest Cretaceous associated with slab

steepening, East Pontides, N Turkey: New paleomagnetic data from the Amasya region, *Physics of the Earth and Planetary Interiors*, v. 182, 1-2, p. 18-29.

Hatipoğlu, M. and Türk, N., 2009; A combined polarizing microscope, XRD, SEM, and specific gravity study of the petrified woods of volcanic origin from the Çamlıdere-Çeltikçi-Güdül fossil forest, in Ankara, Turkey, *Journal of African Earth Sciences*, v. 53, 4-5, p. 141-157.

Seyrek, A., Demir, T., Pringle, M., Yurtmen, S., Westaway, R., Bridgland, D., Beck, A. and Rowbotham, G., 2008; Late Cenozoic uplift of the Amanos Mountains and incision of the Middle Ceyhan river gorge, southern Turkey; Ar–Ar dating of the Düziçi basalt, *Geomorphology*, v. 97, 3-4, p. 321-355.

Türkmenoğlu, A. G. and Yavuz-Işık, N., 2008; Mineralogy, chemistry and potential utilization of clays from coal deposits in the Kütahya province, Western Turkey, *Applied Clay Science*, v. 42, 1-2, p. 63-73.

Ozacar, A. A., Gilbert, H. and Zandt, G., 2008; Upper mantle discontinuity structure beneath East Anatolian Plateau (Turkey) from receiver functions, *Earth and Planetary Science Letters*, v. 269, 3-4, 427-435.

Eyuboglu, Y., Dilek, Y., Bozkurt, E., Bektas, O., Rojay, B. and Sen, C., 2010; Structure and geochemistry of an Alaskan-type ultramafic–mafic complex in the Eastern Pontides, NE Turkey, *Gondwana Research*, v. 18, 1, p. 230-252.

Hasözbek, A., Akay, E., Erdoğan, B., Satır, M. and Siebel, W., 2010; Early Miocene granite formation by detachment tectonics or not? A case study from the northern Menderes Massif (Western Turkey), *Journal of Geodynamics*, v. 50, 2, p. 67-80.

Hamann, Y., Wulf, S., Ersoy, O., Ehrmann, W., Aydar, E. and Schmiedl, G., 2010; First evidence of a distal early Holocene ash layer in Eastern Mediterranean deep-sea sediments derived from the Anatolian volcanic province, *Quaternary Research*, v. 73, 3, p. 497-506.