

MESOZOIC PALAEOGEOGRAPHY OF THE EASTERN GREAT CAUCASUS AND WEST-CENTRAL CASPIAN

A *Palaeogeographic Atlas* from **Blackbourn Geoconsulting**

This new Palaeogeographic Atlas builds on Blackbourn Geoconsulting's existing Caspian Palaeogeographic Atlas by providing a more detailed analysis of the Mesozoic in the eastern part of the Great Caucasus.



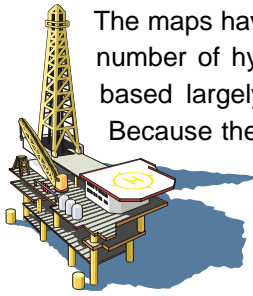
Recent significant oil and gas finds in Mesozoic reservoirs below the Central Caspian and southern part of the North Caspian have refocused activity in this area. **Blackbourn's** existing field and regional studies of the Mangyshlak Peninsula of Western Kazakhstan¹ provide good control on the eastern side of the sea for understanding the petroleum geology of the Central Caspian.

Blackbourn's earlier study of the Great Caucasus² provides some control to the west and southwest, but this study was intended as a general overview of the petroleum geology of the entire North Caucasus area, and is not sufficiently detailed to match the level of work undertaken in Mangyshlak.

The new Atlas builds on this earlier work on the Great Caucasus, and examines in considerably greater detail the depositional environments of the Mesozoic in the eastern two-thirds of the region (see map for study area). The Jurassic and Cretaceous is extremely well exposed in the Caucasus, both in the numerous river valleys which cut through the succession, and on the high mountain ridges.

Over the past decade, **Blackbourn Geoconsulting** has undertaken fieldwork both in the Central North Caucasus (especially sections in the Baksan valley to the southwest of Nalchik), and in the Azerbaijan sector. Unfortunately, current security concerns make new fieldwork in the republics of Chechnya, North Ossetia and most of Dagestan extremely hazardous. However, a great deal of excellent work was carried out on the depositional environments and basin development of these areas by geologists from Moscow State University during the 1980's and early 1990's, (especially on the Jurassic by Panov and his co-workers, and by Gavrilov). By combining the work of these authors and others with the field work undertaken in adjacent areas, with the abundant published literature on the region, and with unpublished data obtained on numerous visits, it has been possible to compile a series of detailed palaeogeographic maps of the area.

Mesozoic Palaeogeography of the Eastern Great Caucasus & West-Central Caspian



The maps have been extended into the Eastern Precaucasus on the basis of the considerable number of hydrocarbon wells drilled here. The palaeogeography of the Central Caspian is based largely on an interpretative assessment of the palaeogeographies on either coast.

Because the same Mesozoic depositional system continued below the present Caspian Sea between the Caucasus and Mangyshlak, a distance of a little over 250 km and representing an extensive low-lying shelf area, the interpretations are considered to be realistic. Initial releases of the results of the Central Caspian discovery wells support this view.

Triassic outcrops are scarce in the Great Caucasus and add relatively little to the existing palaeogeographic maps that are based largely on oil and gas wells in the Precaucasus and other areas. However, for completeness the Atlas will include a generalised Triassic sheet.

The following time-slices are illustrated by individual maps in the Palaeogeographic Atlas:

1. Triassic (generalised)
2. Early Jurassic I (Hettangian-Sinemurian)
3. Early Jurassic II (Toarcian)
4. Middle Jurassic I (Early Aalenian)
5. Middle Jurassic II (late Bajocian)
6. Middle Jurassic III (Late Bathonian)
7. Late Jurassic I (Oxfordian)
8. Late Jurassic II (Kimmeridgian-Tithonian)
9. Early Cretaceous I (Valanginian-Hauterivian)
10. Early Cretaceous II (Albian)
11. Late Cretaceous I (Early Turonian)
12. Late Cretaceous II (Maastrichtian)

The map sheets are available at a scale of 1:1,000,000. Digital files will be provided in CorelDraw and pdf formats. A detailed descriptive and explanatory text volume, illustrated with sedimentological and stratigraphic logs, photographs and cross sections, and with a full bibliography, accompanies the Atlas.

Timing & Cost

The Atlas is available now at a cost of **US \$15,000**, with a reduction in price to **US \$12,500** for those companies also purchasing *Blackbourn's* Caspian Palaeogeographic Atlas.

For further information please visit www.blackbourn.co.uk/reports/caucasus-palaeoatlas.html or to place an order, please contact Dr Graham Blackbourn at:

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¹"Petroleum Geology of Mangyshlak and Adjacent Regions, Western Kazakhstan" (1996), and "Karatau Outcrop Study: an analogue for Jurassic (to Cretaceous) Reservoirs of the Buzachi Peninsula, South Mangyshlak Trough and Contiguous Offshore Areas, Western Kazakhstan" (2001).
²"Hydrocarbon Geology of the North Caucasus Area" (1992)