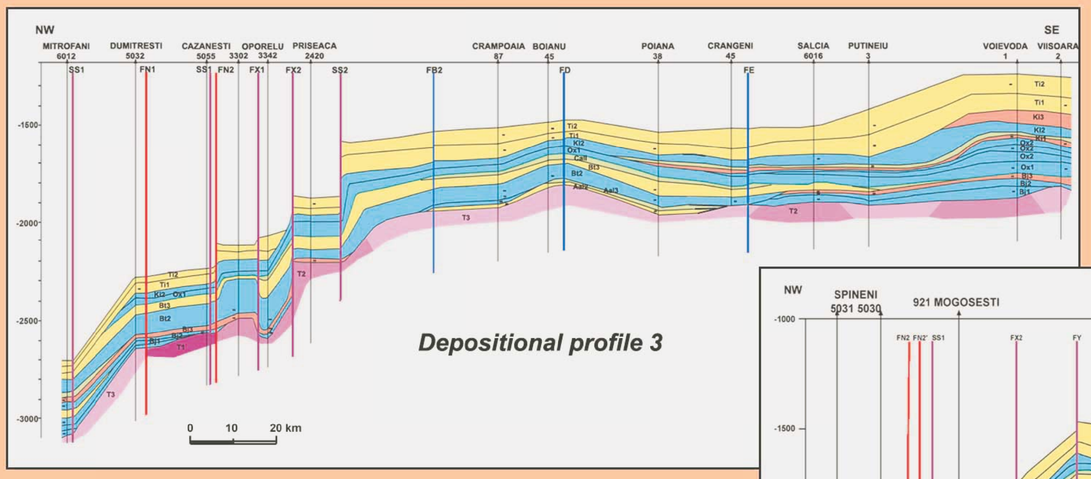


Figure 16. Depositional profile 3, with restored architecture of Jurassic depositional sequences.

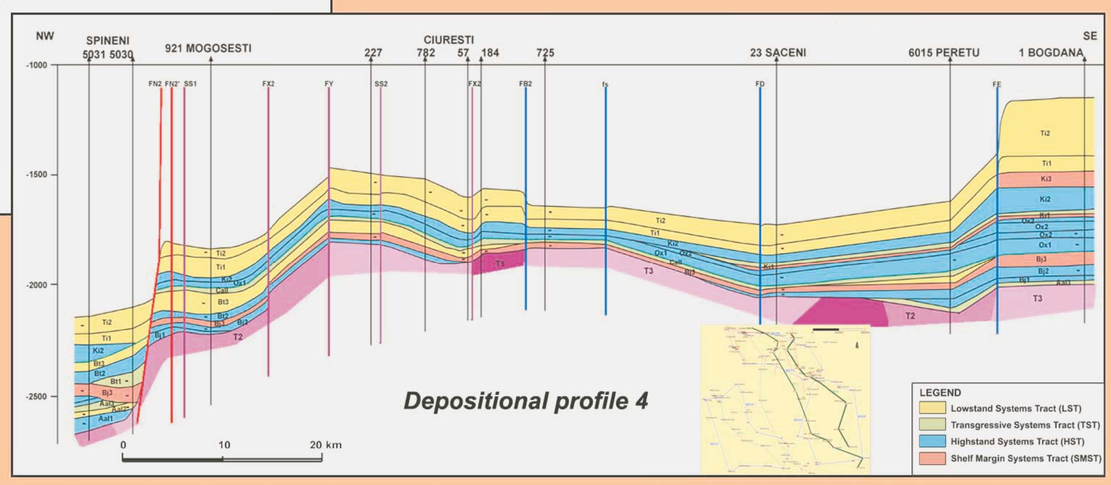


Figure 17. Depositional profile 4. Restored architecture of Jurassic depositional sequences.

**Neglecting Jurassic post-tectonic events, the restored geometry of depositional sequences and their definition on logs, in terms of facies models, allowed us to predict and correlate the main regional events in basin evolution (Figures 16, 17, 18, and 19). In Toarcian, III order composite sequences were induced by long-term uplift conditions, which also determined, in early Aalenian, the development of the HST succession, only. In Middle Bajocian, active subsidence led to the absence of the basal and middle parts of the III order depositional sequence (Figures 18 and 19).**

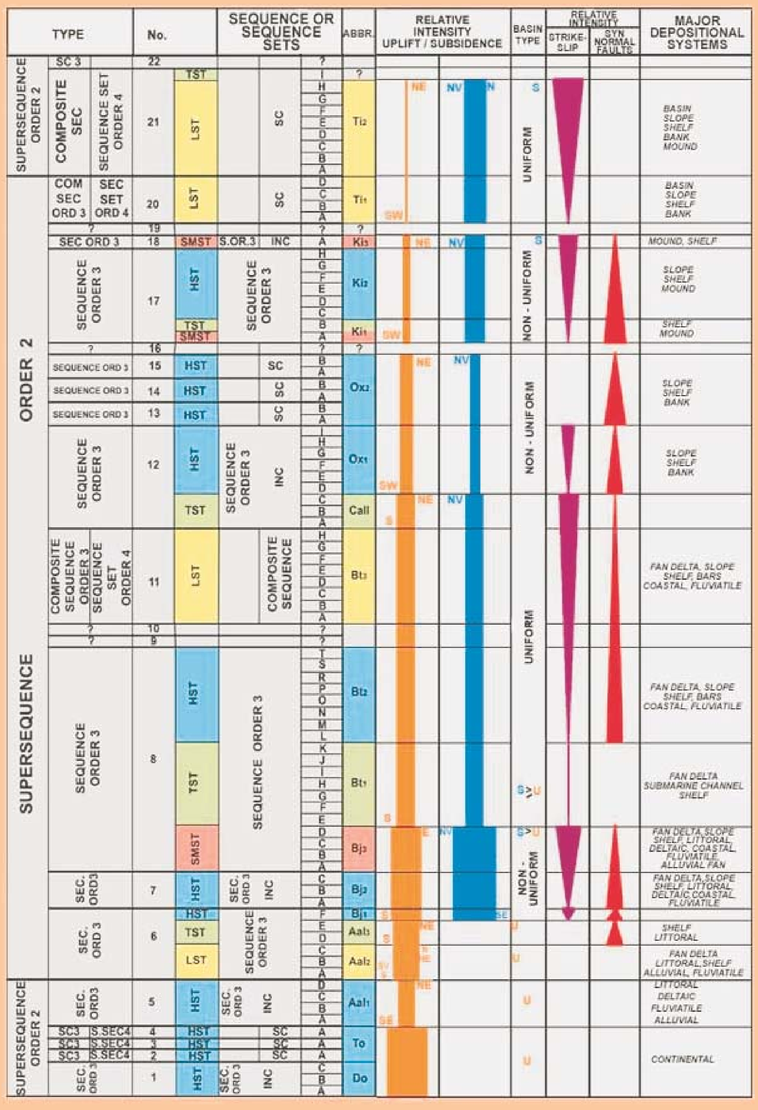


Figure 19. Jurassic tectonic and eustatic events on the Moesian Platform.

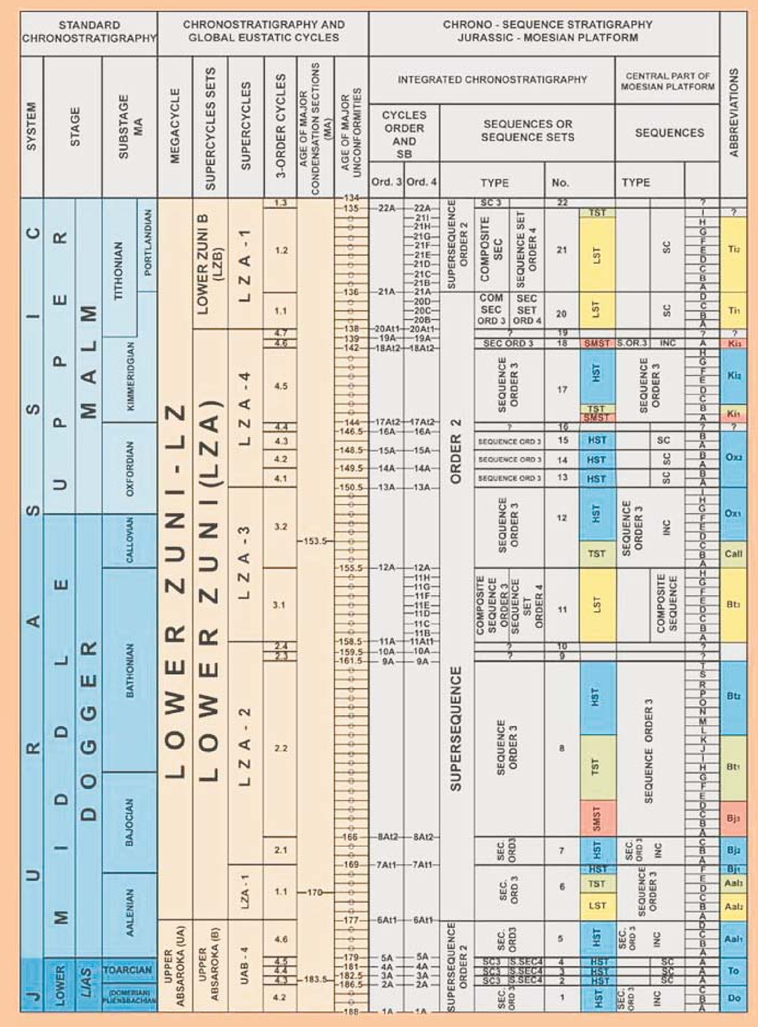


Figure 18. Chronostratigraphy and sequence stratigrpahy of Jurassic successions on the Moesian Platform, correlated with global eustatic cycles.

**In Callovian, due to regional extensional conditions, the Moesian Platform tilted and rotated, and an important discontinuity occurred as a maximum flooding surface. This surface was used as a marker in restoring of the depositional profiles. Other III order composite sequences are of Oxfordian and Tithonian ages. These are composed by higher frequency IV and V order sequences, as minor transgressive-regressive cycles. The Tithonian sequences are defined as two autochthonous carbonate wedges in a LST regime. To the south, the Tithonian carbonate wedges have an aggradational geometry, strongly influenced by the constant subsidence rate superposed on a general tendency of rapid sea level lowering. To the north, the distal pelagic carbonate facies shows progradational geometry on the by-pass, faulted (in the strike - slip system) slope, with a low rate of sedimentation.**

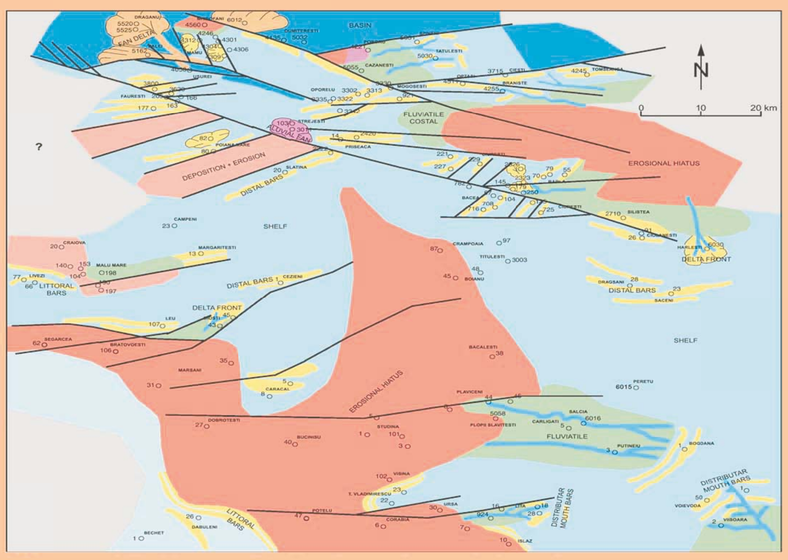


Figure 20. Late Bajocian depositional systems-Falling Stage Systems Tract.

| SYSTEMS TRACTS | | | DEPOSITIONAL SYSTEMS | OIL FIELD (Examples) |
|---|---|---|---|---|
| J3 | Ti2 | LST | Mound / Prt - Sbt | |
| | | | Submarine channel | |
| | | | *Shelf margin* | CIURESTI N. |
| | | | | BARLA |
| | Ti1 | LST | Mound / Prt | |
| | | | Mound / Inner shelf | |
| | | | *Shelf margin* | CIURESTI N. |
| J2 | Bj3 | SMST | *Regressive littoral bars* | CIURESTI S. |
| | | | | OPORELU |
| | | | *Distal bars* | FAURESTI |
| | | | *Delta* | MAMU |
| | | | *Fan delta* | DRAGANU |
| | Bj2 | HST | *Regressive littoral bars* | MALU MARE |
| | | | *Submarine channel* | MAMU |
| | | | *Fan delta* | DRAGANU |
| | Bj1 | HST | *Regressive littoral bars* | MALU MARE |
| | | | *Fan delta* | DRAGANU |
| | Aal3 | TST | *Littoral bars* | MALU MARE |
| | | | *Regressive littoral bars* | FAURESTI |
| | Aal2 | LST | *Delta front* | MALU MARE |
| | | | Fan delta | |
| | Aal1 | HST | *Delta front*, Littoral / Spt | FAURESTI |
| | | | Fan delta | DRAGANU |
| J1 | To | HST | *Delta front* | DRAGANU |
| | Do | HST | *Delta front* | DRAGANU |

Figure 22. Systems tracts related to the oil fields.

**Due to the strike-slip deformation in the NW, high subsidence prevailed. The uplift influenced the sedimentation in the NE and SE, where subaerial erosion resulted in intraformational hiatus or re-sedimentation (Figures 19, 20, and 21). In late Bajocian, late Callovian, and late Tithonian, the strike-slip system was more active, while the influence of the syndepositional normal faults decreased.**

**To illustrate the distribution of the linkage and contemporaneous depositional systems, two examples were chosen: late Bajocian siliciclastic Falling Stage Systems Tract and late Tithonian carbonate autochthonous wedge Lowstand Systems Tract.**

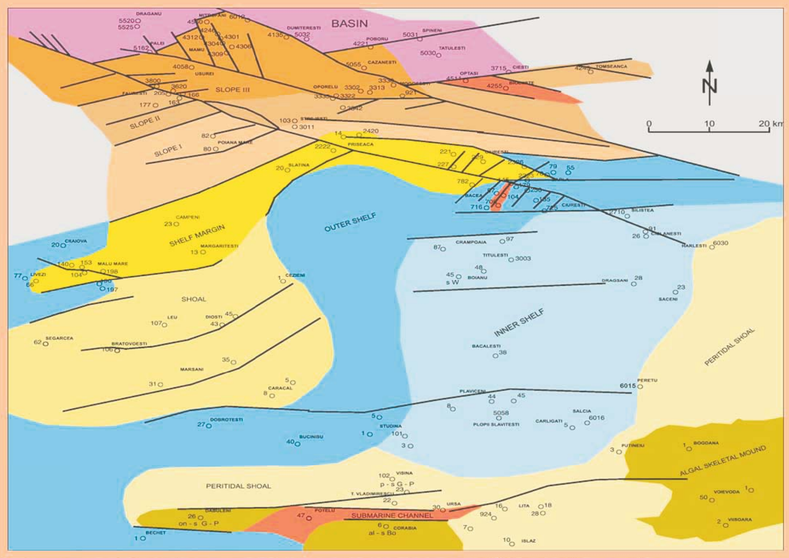


Figure 21. Late Tithonian depositional systems-Lowstand Systems Tract.

**The Middle Jurassic depositional systems are represented by coastal fluviatile domain, littoral and offshore bars, strand plain, delta system, shelf, shelf margin, slope, fan delta and basin (Figure 20). Offshore distal sandbars, littoral bars, and delta front and fan delta represent the prospects for Iancu Jianu, Fauresti, Spineni, Oporelu, Bacea, and Ciuresti hydrocarbon fields.**

**In Late Jurassic, the depositional systems consisted of carbonate shoals, banks or reefs on the internal and external shelf, a marginal shelf, faulted slopes, and basin (Figure 21). The main prospect is represented by Tithonian carbonate shelf margin with diagenetic control on the pore system.**

*Images processing:*
*GABRIELA SERBANESCU and CARMEN MURESAN*

## Conclusions

**The defining of the major events in the basin evolution of Central Moesian Platform (Figure 22) led to the following conclusions:**

- **Based on older and new considerations, Permian-Jurassic successions may be interpreted in terms of intracratonic extensional basins followed by subaerial erosion and strike-slip deformation in the northern part of the study area; in the southern-central areas, conditions for thermal subsidence of the basin prevailed.**
- **The hydrocarbon fields are distributed asymmetrically. The fields producing from the Triassic and the Dogger are located in Malu Mare, Iancu Jianu, Negreni; South Ciuresti, Fauresti, Spineni, Simnic, Ghercesti, Circea, Malu Mare, and Ciuresti fields are producing from the Dogger, only, while North Ciuresti and Barla fields are also producing from the Tithonian.**
- **It is worth noting that most of the Jurassic commercial hydrocarbon accumulations are encountered in the strike-slip basin, and they are controlled by antithetic and synthetic, en echelon faults and other typical secondary features.**

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