

## **Holocene sediments of the Rhine-Meuse-Scheldt estuaries as aids to interpret tidal and fluvial-tidal deposits in outcrop and core**

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### **Abstract**

Despite enormous technological and statistical advances in the last decade, the building of geologically-based 3D reservoir models will always be demanding. Moreover, it is imperative that uncertainty is handled appropriately, especially as remaining resources are increasingly found in smaller and/or more complicated reservoirs and undrained compartments. One way of reducing information loss is to incorporate complementary data into the interpretation of subsurface core data sets. To achieve this, geologists must continue to study modern and ancient analogues and archive their findings in a systematized 'library' (conceptual, qualitative & quantitative). Such a library should capture the natural variability of environments and facies, and include methodologies and guidelines for estimating and reducing subsurface uncertainty. This collective understanding and information can also be used for training purposes.

A library of observations and interpretations of modern and ancient outcrop analogues can help to reduce subsurface geological uncertainty and, more generally, aids the development of conceptual depositional models, (sequence) stratigraphic correlation methods, and the construction of quantitative subsurface 3D models suitable for reservoir simulation. As such, it can play a vital role in the reservoir characterization work flow. Such a library will also be a means to mitigate the risks of the overuse of simple structures to try and interpret an entire environment.