

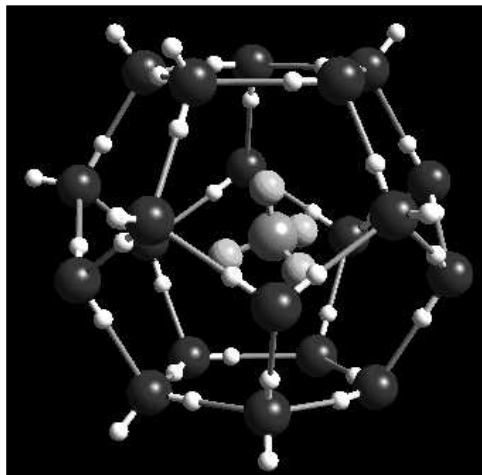
Hydráty metanu

system $\text{H}_2\text{O}-\text{CH}_4$ a
environmentální aspekty

Struktura a uvolňování metanu

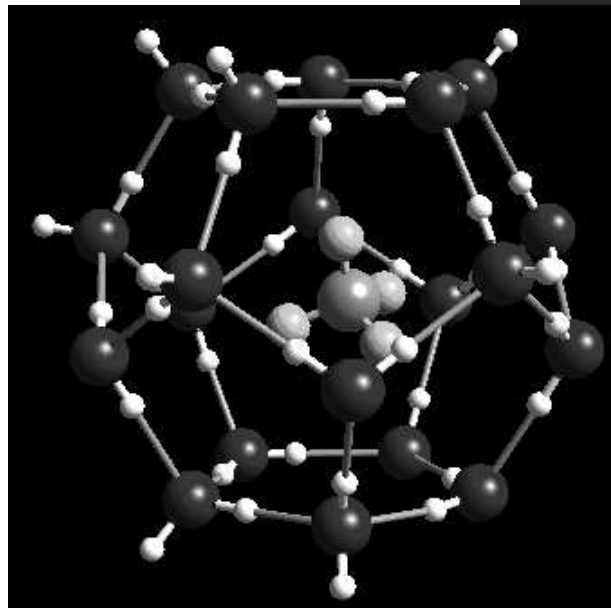
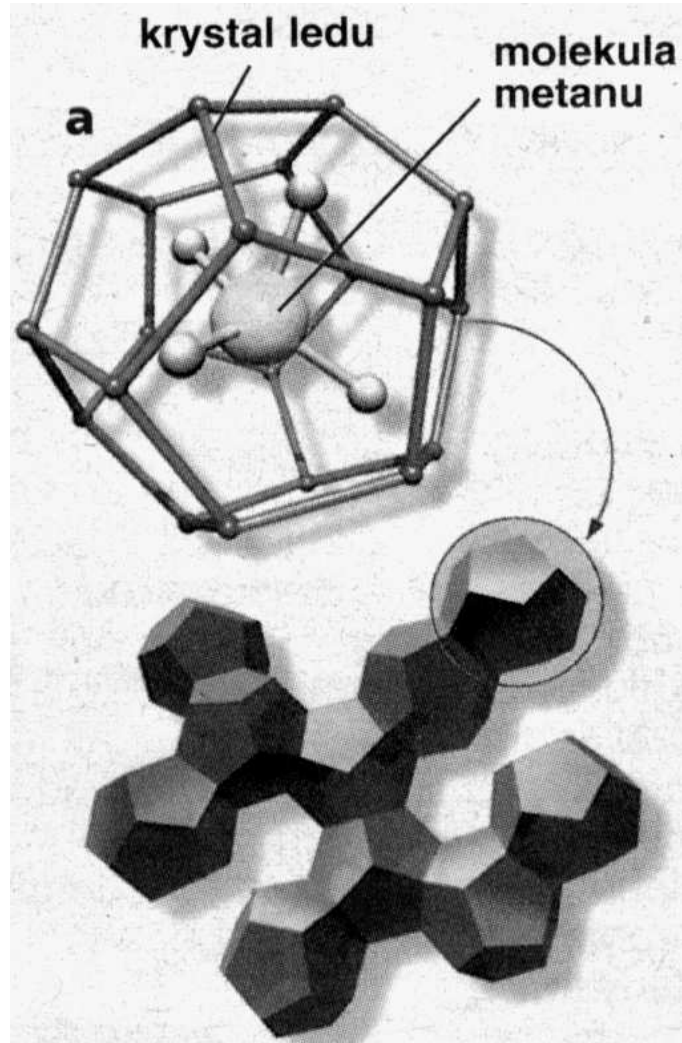
This colorized image of the ocean surface taken from the space shuttle makes the sea and clouds look like an artist's abstract dabs and brushstrokes.

The bright streaks are oil slicks produced by hydrocarbons seeping naturally from seafloor vents.



struktura led-metan

Hydráty CH_4



Rozšíření hydrátů metanu

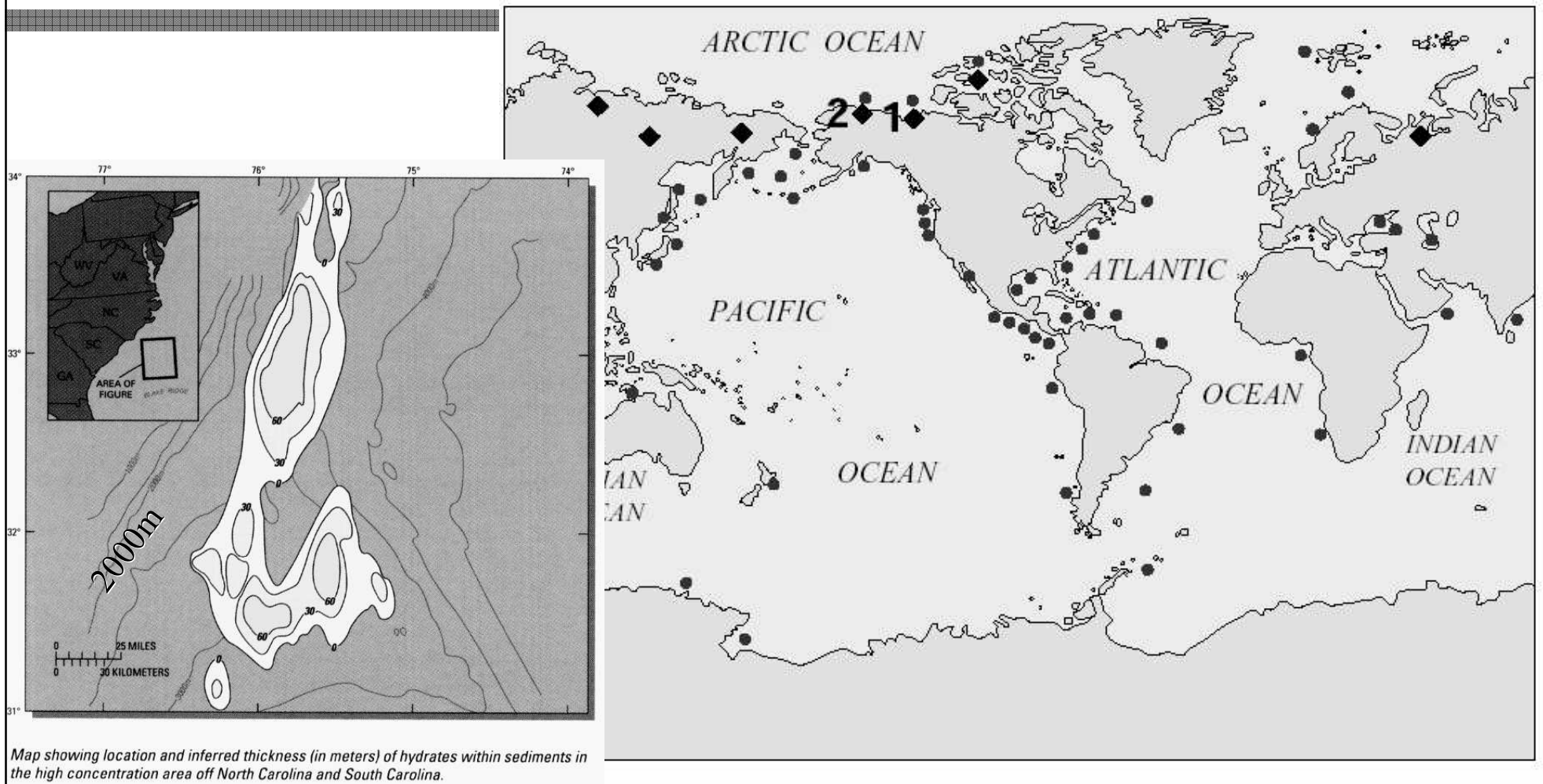


Figure 1. Known and inferred natural gas hydrate occurrences in marine (red circles) and permafrost (black diamonds) environments. Modified from K. A. Kvenvolden, U.S. Geological Survey (written commun., 1999). The USGS is studying hydrates at sites 1 (Mackenzie Delta, Canada) and 2 (North Slope, Alaska).

Vrstvičky hydrátů metanu

Figure-2 Layers of gas hydrate in a subsea sediment sample.

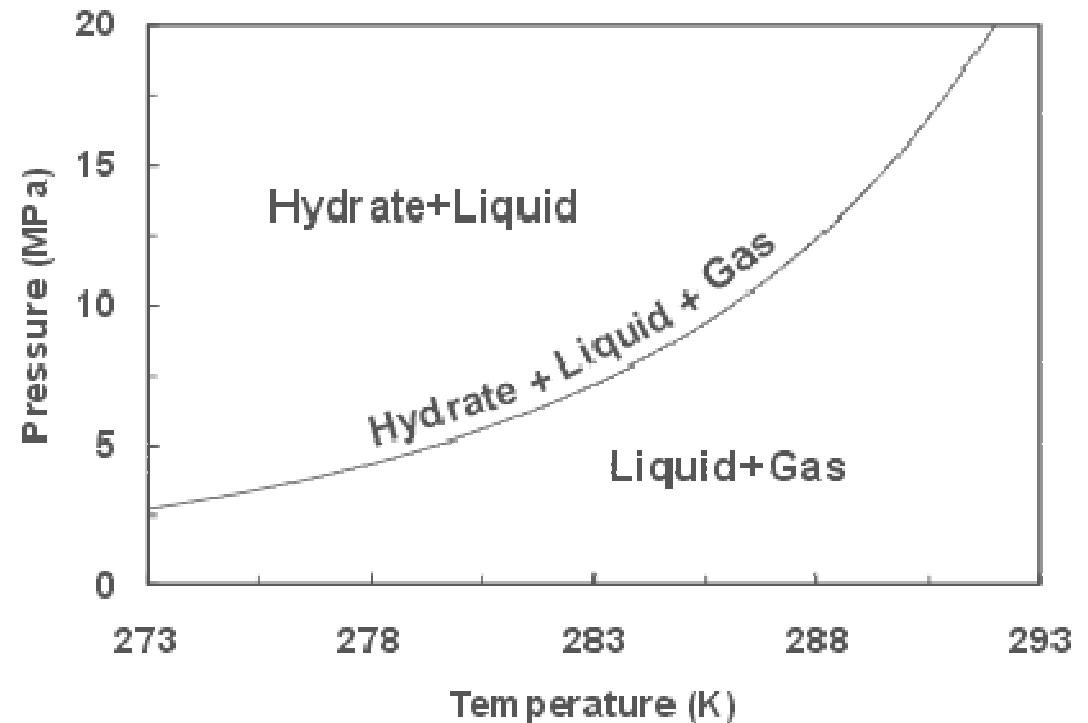
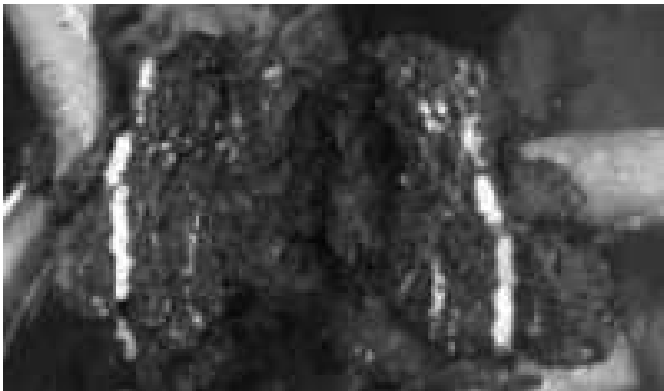


Figure 1 Pressure versus temperature phase diagram for simple methane hydrates.

Stabilita hydrátů CH₄ I.

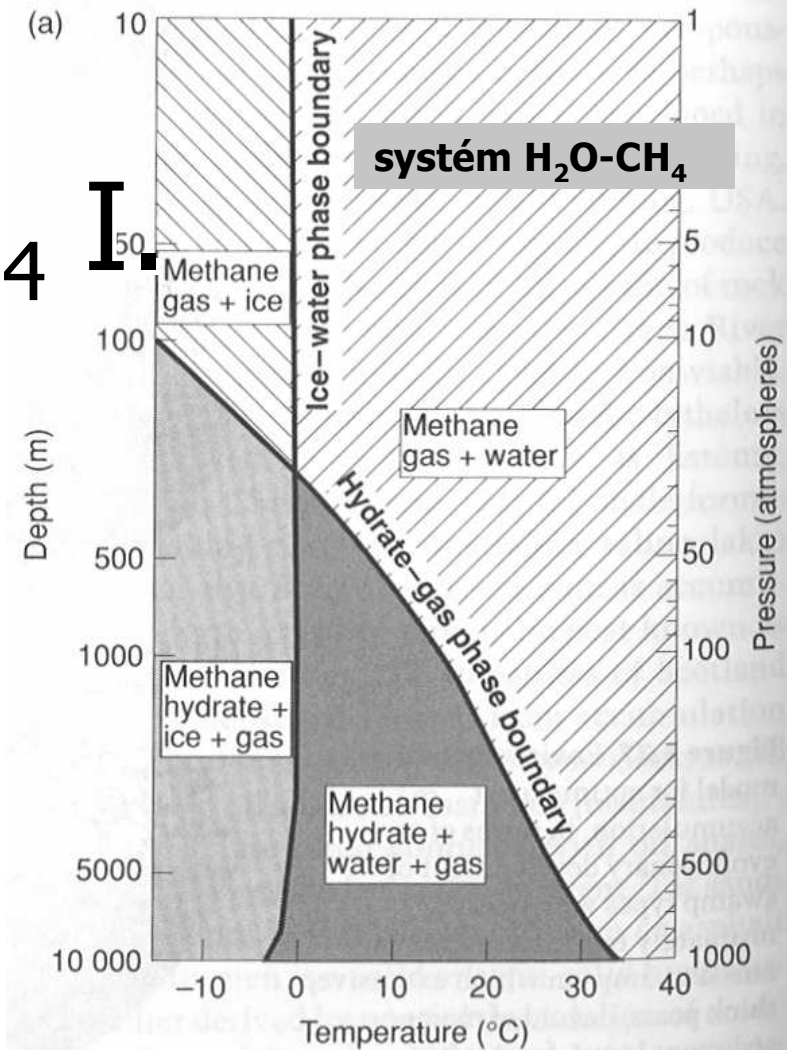
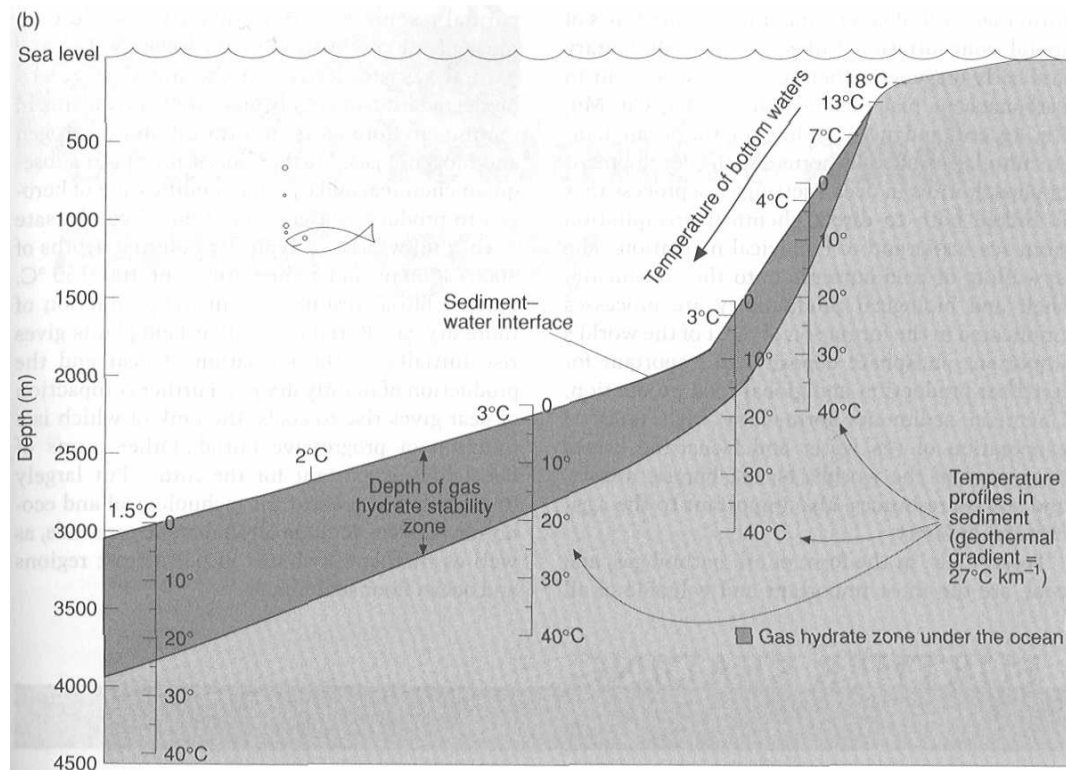


Figure 5.38 (a) Phase diagram illustrating the regions of gas hydrate stability under most natural conditions in the near-surface (after Kvenvolden and McMennamin, 1980). (b) Profile across a typical ocean-sediment interface in a continental margin setting, showing the progressive increase in the width of the gas hydrate stability zone in the ocean sediment with increasing depth of sea water (after Kvenvolden, 1988).

Stabilita hydrátů CH₄

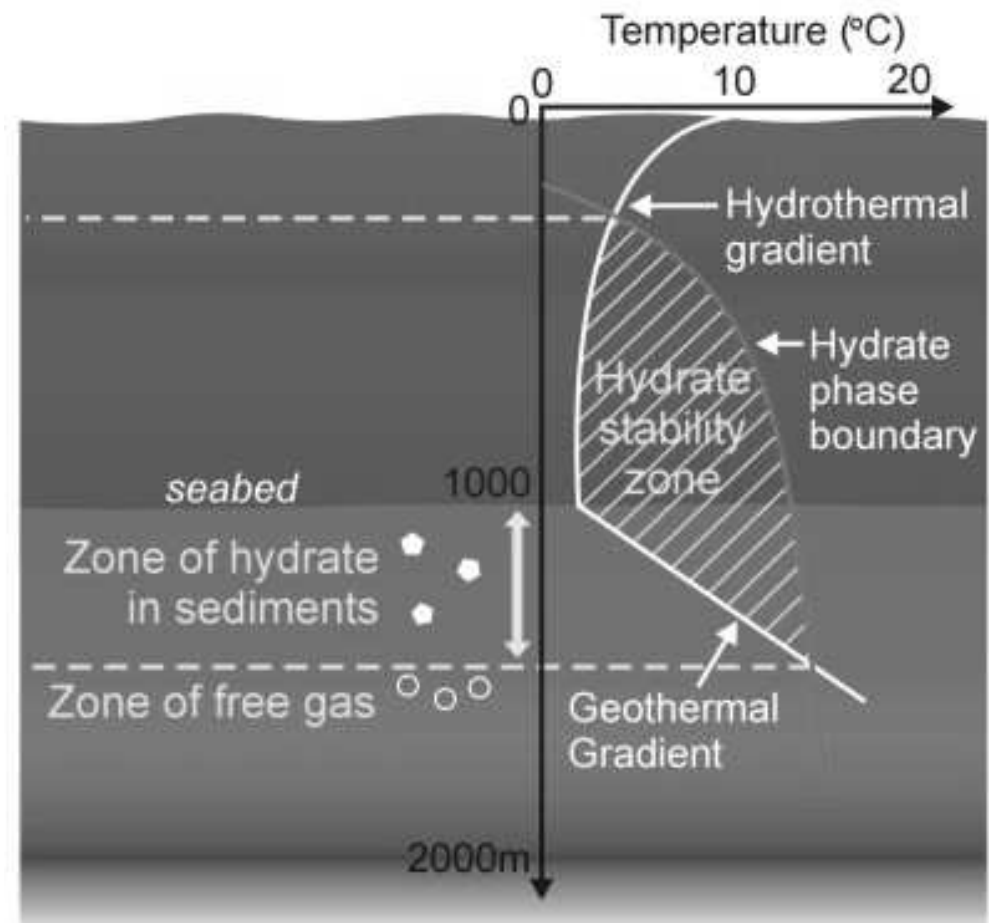
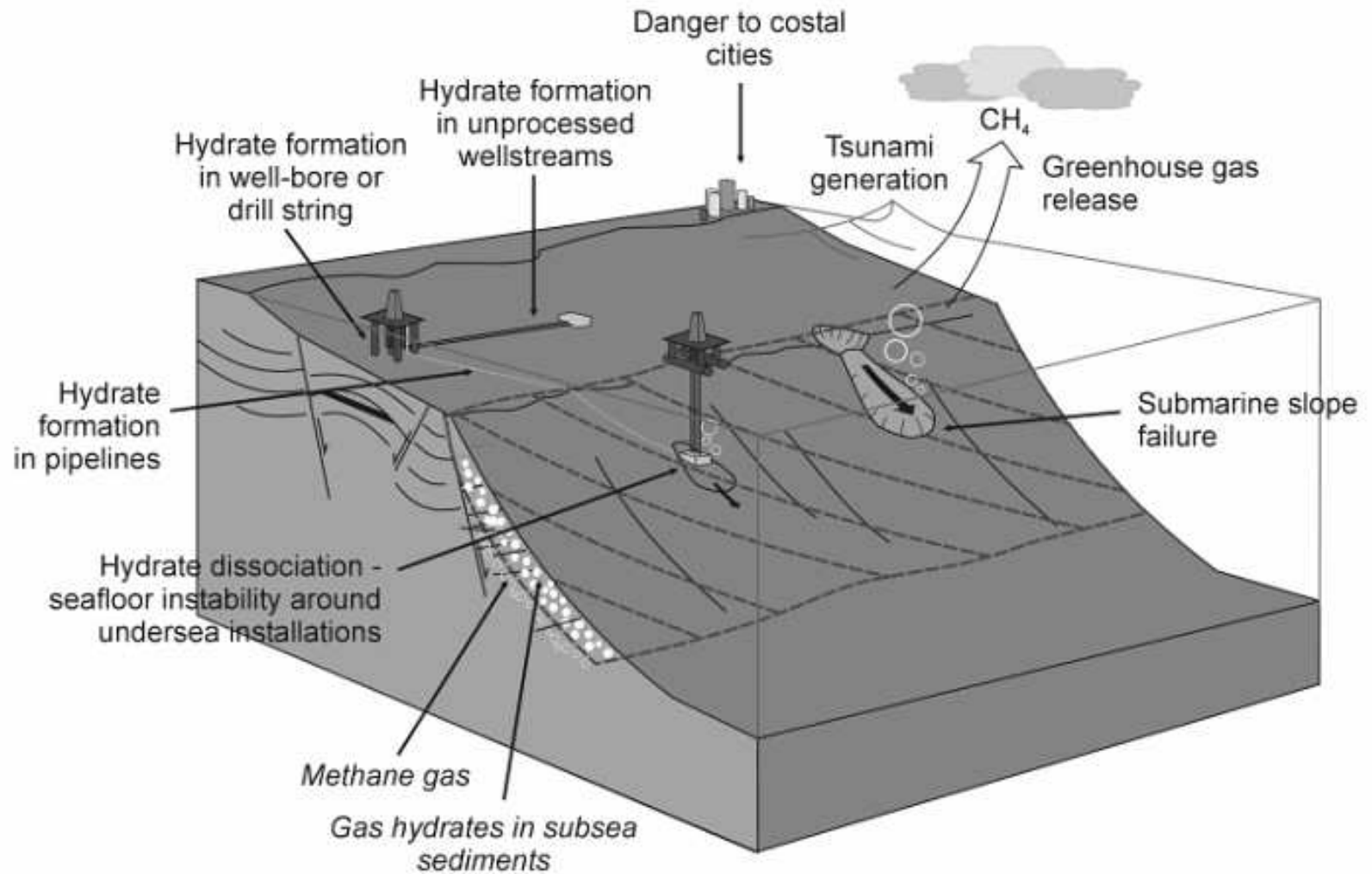


Figure 3 The Hydrate Stability Zone in Subsea Sediments

Pozice a rizika hydrátů CH₄



Hydráty metanu v potrubí

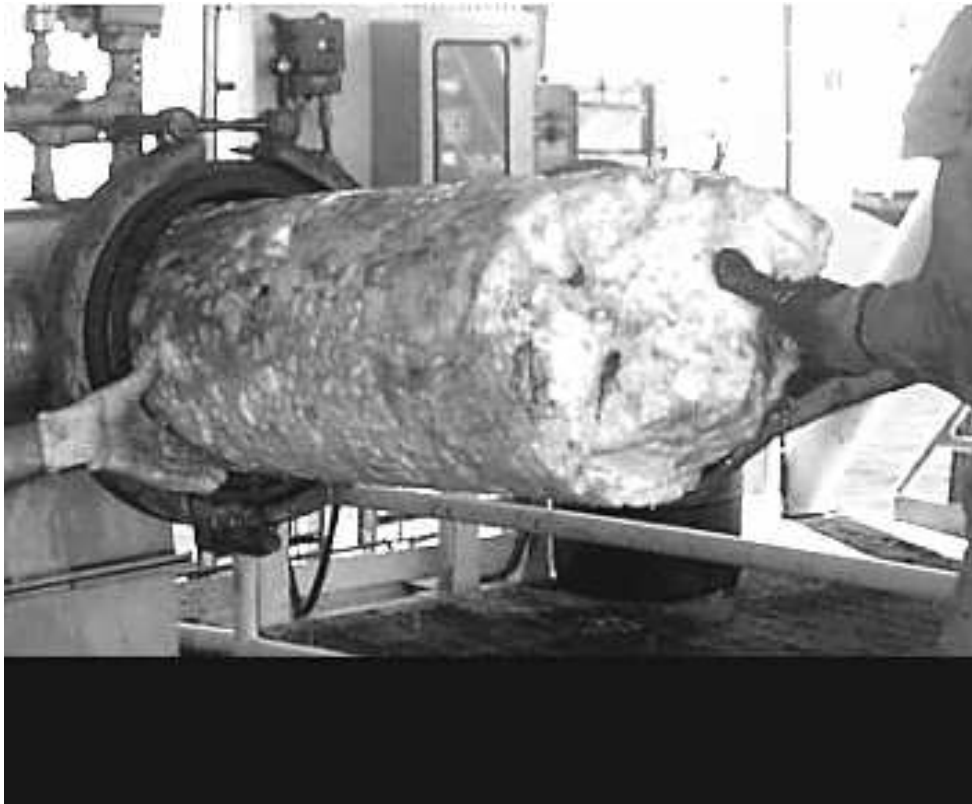


Figure-2 A large gas hydrate plug formed in a subsea hydrocarbon pipeline. Picture from Petrobras (Brazil).

Stabilita sedimentů s hydráty metanu

Figure-3 Potential scenario whereby dissociation of gas hydrates may give rise to subsea slope failure and massive methane gas release.

