

## **General Theme 6**

### **6.11**

Since early 1980, the widespread occurrence of gas hydrates has been recognized, both in permafrost and under the sea. As a consequence of this discovery, the interest in gas hydrate has grown, from the standpoints of energy potential, geo-hazard and a possible trigger of abrupt climatic changes. The integrated geological and geophysical investigations carried out by academic institutions and industry have explored the occurrence and origin of hydrates and have revealed that these deposits often occur as thick massive accumulations in chimney and columnar structures within the shallow subsurface, and that these accumulations are commonly associated with chemosynthetic communities as well as the occasional occurrence of active methane seeps. Global changes leading to major mass extinction have been ascribed in some studies, to massive dissociation of gas hydrates. Glacial-Interglacial perturbations may be one of factor in the massive dissociation of subsurface gas hydrates, slope failures and enhanced gas emission to the ocean and atmosphere. The unusual closed system within massive gas hydrates may provide a unique environment for unusual mineralization and diagenesis in shallow sediments.

This session deals with wide spectrum of methane related geologic and sedimentological phenomena and sea floor manifestations, slope failures, and environmental impact on marine ecosystems and atmosphere as well as the outcome of exploration projects.