

General Theme 1

1.3

The slopes of modern-day carbonate ramps and platforms are characterized by a unique set of depositional processes and products, and also preserve a valuable record of recent past carbonate deposition that can be used to examine the sedimentary response to past climatic change. Although the shallow-water portions of carbonate depositional settings are well-studied, deep-water slopes are historically less well-known due to the difficulty and costs of obtaining high-resolution data in the deep ocean. With modern advances in acquiring seismic, bathymetric, and core data, these environments can be studied more easily, filling a knowledge gap in our understanding of the complete depositional system, and unlocking new sedimentary records of climate-related carbonate export to the deep sea.

In contrast to modern examples, the geologic record of allochthonous deepwater carbonates is extensive. Slope deposits have fundamentally different compositions and architectures across the geologic timescale, providing important points of comparison with recent deposits. In the subsurface, carbonate-dominated slopes often have economic importance as components of hydrocarbon systems, and a thorough understanding of the evolution of slope components is essential in successful exploration and exploitation of these types of settings.

This session encompasses all aspects of modern and ancient carbonate deposition between the shelf/platform break and the abyssal plain, including (but not limited to):

- sedimentological analysis of slope deposits
- the use of geochemical and isotope proxies for climate reconstruction
- interpretation of geomorphologic features on the seafloor
- relationships between sea level and slope deposition
- external and autogenic controls on sedimentation
- evolution of carbonate slopes through time
- utility of outcrops as analogs to assist in oil and gas exploration

Multi-disciplinary approaches are encouraged, as are source-to-sink studies that place slopes within the larger spectrum of carbonate depositional environments.