

Atlanta Geological Society

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Official Lecture/Field Trip Attendance Record for Professional Development Hours

Tuesday, January 28, 2020

Palynological studies from the northern Gulf of Mexico (GOM) have primarily focused on understanding long-term climatic changes. Very few studies have addressed paleoenvironmental changes during the common era. This study used stratigraphic, loss-on-ignition, and pollen data from Bay Jimmy Island, to investigate environmental changes in coastal Louisiana since ca. 1090 AD. The results show that the wetland that presently defines Bay Jimmy area, LA, was formed at ca. AD 1090 and has mostly been influenced by prevailing climate conditions, including rare extreme events, and human activities. At least four major storms impacted the site during the past 1200 years, including two in recent times. The results indicate that the northern GOM was warm and dry during the Medieval Warm Period (ca. AD 950-1250). After AD 1090, the landscape was characterized by scattered vegetation communities of *Pinus* and *Juglans*, which were later succeeded by a closed forest that included *Quercus*, and *Morus*. The results show that red mangroves (*Rhizophora*) were established in the vicinity of Bay Jimmy until shortly after cal AD 1450 and 1640. The pollen record indicates that the LIA period (AD. 1550-1850) was cold and dry, and defined by an open vegetation community. The presence of *Ambrosia* and *Cheno/Am* pollen throughout the record suggests that anthropogenic influence has been part of the fabric of the southern Louisiana landscapes throughout the 1200 years.

Dr. Kiage is actively involved in the new and exciting science of paleotempestology, which employs geological proxy techniques, including overwash sand layers, diatoms, foraminifera, pollen, and phytoliths collected from coastal lakes and marshes to study past hurricane activities. He is presently studying the spatial and temporal variations in hurricane activity in coastal Georgia at interannual to millennial timescales and their relationship to global and regional climate changes.

Date of Lecture	Lecture Topic	Sponsor	Speaker	PDH Hours
1/28/20	A 1,200-yr Pollen Record of Environmental Changes in the Northern Gulf of Mexico	AGS No Sponsor	Dr. Lawrence Kiage Associate Professor GSU Geosciences	1

Signature of Attendee

Date

Print Name

License Number