

ANDREW C. KEMP

CURRICULUM VITAE

CONTACT INFORMATION

Department of Earth and Environmental Science
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EDUCATION

Doctor of Philosophy (Earth and Environmental Science), September 2004 – May 2009

University of Pennsylvania, Philadelphia, Pennsylvania, USA

Thesis: High resolution studies of late Holocene relative sea-level change (North Carolina, USA)

Advisors: Dr. Benjamin Horton (Principal, University of Pennsylvania), Prof. Stephen J. Culver (East Carolina University), Prof. Orson van de Plassche (VU University, Amsterdam, The Netherlands), Dr. Debra Willard (USGS, Reston, Va), Prof. Robert Giegengack (University of Pennsylvania).

20 Courses Completed Including: Paleobotany, Geology of Soils (2), Pleistocene Geology, Basin Analysis, Advanced Statistics (2), Applied Stratigraphy, Advanced Stratigraphy, Advanced Biogeochemistry, Advanced Earth Systems, Glaciology (Bryn Mawr College), Geophysics, Numerical Analysis of Biological and Environmental Data (University College London), Modelling Geographical Objects and Space, GIS (2).

GPA 3.88/4.00

Bachelor of Science (Hons), First Class. Physical Geography, June 2002

University of Durham, United Kingdom

Thesis: Post-depositional change in foraminiferal assemblages across the intertidal zone, South East Sulawesi, Indonesia.

PROFESSIONAL EXPERIENCE

Post-Doctoral Researcher, June 2009 – Present

University of Pennsylvania, Philadelphia, Pennsylvania, USA

Holocene records of hurricane frequency and sea-level change, New Jersey, USA

ANDREW C. KEMP

GRADUATE TEACHING EXPERIENCE

Teaching Assistant; University of Pennsylvania, Department of Earth and Environmental Sciences, 2005 - Present

Oceanography (GEOL 130); 2005, 2006, 2007, 2008, 2009
Evolution of the Physical World (GEOL 003); 2006.
Earth and Life Through Time (GEOL 125) 2005

Responsibilities included teaching and grading labs and homework, holding recitation for groups of up to 40 students, individual tutoring and examination preparation, monitoring and grading. Occasional lectures prepared and given to large classes.

Invited Instructor; East China Normal University, State Key Laboratory of Estuarine and Coastal Research (Shanghai, China). September 2009

Taught short course (2 weeks) on reconstructing sea-level changes. Responsible for preparing and delivering material to an audience of faculty and graduate students. Instruction included fieldwork and practical exercises.

PEER-REVIEWED PUBLICATIONS

Horton, B.P., Whittaker, J.E., Thompson, K.H., Hardbattle, M.I.J., **Kemp, A.C.**, Woodroffe, S.A., Wright, M.R. 2004. The development of a modern foraminiferal data set for sea-level reconstructions. Wakatobi Marine National Park, Southeast Sulawesi, Indonesia. *Journal of Foraminiferal Research* 35, Pg 1-14.

Kemp, A.C., Horton, B.P., Corbett, R., Culver, S.J., Edwards, R. J. and van de Plassche, O., 2009. The relative utility of foraminifera and diatoms for reconstructing late Holocene relative sea-level change in North Carolina, USA. *Quaternary Research* 71, Pg 9-21.

Horton, B.P., Peltier, W.R., Culver, S.J., Drummond, R., Engelhart, S.E., **Kemp, A.C.**, Mallinson, D., Thieler, E.R., Riggs, S.R. and Ames, D.V., 2009. Holocene sea-level changes along the North Carolina Coastline: Implications for glacial isostatic adjustment models and current rates of sea-level change. *Quaternary Science Reviews* 28, Pg 1725-1736.

Kemp, A.C., Horton, B.P. and Culver, S.J., 2009. Distribution of modern salt-marsh foraminifera in the Albemarle-Pamlico estuarine system of North Carolina: implications for sea-level research. *Marine Micropaleontology* 72, Pg 222-238.

Kemp, A.C., Horton, B.P., Culver, S.J., Corbett, D.R., van de Plassche, O., Gehrels, W.R. Douglas, B.D. and Parnell, A., 2009. The timing and magnitude of recent accelerated sea-level rise (North Carolina, USA). *Geology* 37, Pg 1035-1038.

ANDREW C. KEMP

Kemp, A.C., Vane, C., Horton, B.P. and Culver, S.J. Stable carbon isotopes as potential sea-level indicators in salt marshes, North Carolina, USA. *Accepted, The Holocene.*

PUBLICATIONS IN PREPERATION

Kemp, A.C. and Horton, B.P. Reconstructions of sea-level variations over the past two millennia, North Carolina, USA.

Presentation of two continuous, high-resolution records of sea-level change which are able to identify the Medieval Climatic Anomaly and Little Ice Age.

Kemp, A.C. with others. Global mean temperature and sea level over the past 1500 years.

Modeling the relationship between climate and changes in sea level to consider response times and driving mechanisms.

Kemp, A.C., Buzas, M. and Culver, S.J. Patchy distribution of salt-marsh foraminifera.

Investigates microscale variability in foraminiferal assemblages on a modern salt marsh.

CONFERENCE ABSTRACTS

Kemp, A.C. and Horton, B.P. Sea-level variability over the last two millennia. IGCP 495 Sixth International Meeting 2009, Myrtle Beach, SC.

Kemp, A.C., Horton, B.P., Culver, S.J., Corbett, D. R. and van de Plassche, O. Timing and magnitude of accelerated sea-level rise in North Carolina. American Geophysical Union Annual Meeting 2008, San Francisco, CA. Abstract No GC33A-0760.

Kemp, A.C., Horton, B.P., Culver, S.J., Corbett, D. R., van de Plassche, O and Edwards, R. Early onset of accelerated relative sea-level rise in North Carolina, USA. Geological Society of America Annual Meeting 2008, Houston, TX. Abstract No 148597.

Kemp, A.C., Horton, B.P., Corbett, D.R., Culver, S.J. and van de Plassche, O. Late Holocene sea-level rise on the Outer Banks of North Carolina, USA. American Quaternary Association Biennial Meeting 2008, State College, PA

Kemp, A.C., Horton, B.P., Corbett, D.R., Culver, S.J., Thomson, K. and van de Plassche, O. Evidence for recent acceleration(s) in the rate of sea-level rise from the Albemarle – Pamlico Estuarine System, North Carolina, USA. Geological Society of America Annual Meeting 2007, Denver, CO. Paper No. 25-7.

Kemp, A.C., Horton, B.P., Corbett, D.R., Culver, S.J., Thomson, K. and van de Plassche, O. Examining the evidence for a recent acceleration in the rate of sea-level rise using combined instrumental and proxy data from the Pamlico – Albemarle estuarine system, North Carolina. Geological Society of America Southeast Section Annual Meeting 2007. Savannah, GA.

ANDREW C. KEMP

Kemp, A.C., Horton, B.P., Corbett, D.R., Culver, S.J., Edwards, R.J., Feyen, J.C., Hillier, C., Thomson, K. High resolution reconstruction of relative sea-level on the Outer Banks, North Carolina. American Geophysical Union Annual Meeting 2006. San Francisco, CA. Abstract No PP23B-1747.

Kemp, A.C., Horton, B.P., Corbett, D.R., Culver, S.J., Edwards, R.J., Feyen, J.C., Hillier, C., Thomson, K. Reconstructing relative sea-level on the Outer Banks, North Carolina. A microfossil based transfer function approach. Geological Society of America. Annual Meeting 2006. Philadelphia PA. Abstract No 112871.

Kemp, A.C., Horton, B.P., Corbett, D.R., Culver, S.J., Edwards, R.J., Thomson, K. Modern microfossil distributions of the Outer Banks, North Carolina and the development of a transfer function to reconstruct former sea levels. Geological Society of America Annual Meeting 2005, Salt Lake City, UT. Abstract No 91005,

Kemp, A.C., Horton, B.P., Corbett, D.R., Culver, S.J., Edwards, R.J., Thomson, K., Engelhart, S. Rapid sea-level rise, Outer Banks, North Carolina. A multiproxy transfer function approach. American Geophysical Union Annual Meeting 2005. San Francisco, CA. Abstract No 7858.

RESEARCH GRANTS

NOSAMS Graduate Student Internship Program 2008 (\$~40 000; analytical, travel and living costs)
University of Pennsylvania Summer Stipend in Paleontology 2008 (\$1800)
Garry Jones Memorial Grant (North American Micropaleontology Section, SEPM) 2007 (\$1500)
Geological Society of America (GSA) Graduate Student Grant 2007 (\$1600)
University of Pennsylvania Summer Stipend in Paleontology 2006 (\$2000)
University of Pennsylvania Summer Stipend in Paleontology 2007 (\$2000)
American Quaternary Association 2008 Travel Grant (\$300)
Geological Society of America Travel Grants 2006, 2007, 2008 (Total \$400)

AWARDS AND ACADEMIC RECOGNITION

National Ocean Sciences Mass Spectrometry (NOSAMS) graduate internship program 2008, Woods Hole Oceanographic Institute, Woods Hole, MA

Project Title: Dating the historical onset of accelerated relative sea-level rise. This award provides analytical support and tuition in radiocarbon dating. Two awards are made each year to graduate students in the USA.

Benjamin Franklin Fellowship, University of Pennsylvania 2004 – 2009.

John Norton Prize for Geography, St. Cuthbert's Society, University of Durham 2000, UK.

ANDREW C. KEMP

ACTIVITIES AND PROFESSIONAL MEMBERSHIP

IGCP 495 Sixth International Meeting Fieldtrip

Organized and presented field trip stop at Sand Point, North Carolina for conference participants.

Graduate Associate, Kings Court English College House, University of Pennsylvania, 2005-2009

Graduate Associates act as academic mentors and advisors to undergraduate students whilst living in the college house system. I was responsible for approximately 40 undergraduate students with whom I interacted on a daily basis in academic, supervisory and social roles.

Project Leader, Earthwatch Institute Expedition. Summer 2009

Organized and ran an outreach project which introduced high school students to field-based research.

Operation Wallacea Volunteer, Wakatobi Marine Park, Indonesia. Summer 2001

Six weeks spent on an original research project focused on sea-level change as part of the Operation Wallacea biological diversity and conservation program in a pristine and little visited part of Indonesia.

Geological Society of America (GSA), since 2005

American Geophysical Union (AGU), since 2005

Cushman Foundation for Foraminiferal research, since 2006

Quaternary Research Association (QRA), since 2006

Society of Sedimentary Geology (SEPM), since 2006

North American Micropaleontological Section (NAMS), since 2007

American Quaternary Association, since 2008

ANDREW C. KEMP

REFERENCES

Dr. Benjamin P. Horton

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Prof. Heinrich Holland

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Prof. Stephen J. Culver

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East Carolina University
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Relationship: External PhD advisor

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Prof. Antony Long

Department of Geography
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