

Governor Bobby Jindal  
P.O. Box 94004  
Baton Rouge, La 70804

**\*\*Please note that supporting documents are from 2007, two years before the "Climategate" fraud was uncovered in 2009.\*\***

January 15, 2010

Dear Governor Jindal,

This letter is being submitted by scientists who have worked on Louisiana's coast.

Trends in global climate change are a central factor affecting Louisiana's coast, and the challenges the state faces in ensuring its sustainability. As the Louisiana *Comprehensive Master Plan for a Sustainable Coast* states, the most recent report (2007) of the Intergovernmental Panel on Climate Change (IPCC) reinforces the multiple lines of evidence and observed trends that demonstrate the process of global warming currently underway.<sup>1</sup>

These trends, supported by data gathered from around the world, include the retreat of ice sheets and glaciers, observational temperature records, ocean heat content, and sea-level rise.<sup>2</sup>

Sea-levels are rising globally, due primarily to thermal expansion of the oceans and loss of land-based ice due to increased melting. The continuation of the current global rates of 3-4 mm/yr documented by satellite measurements would result in a rise of over a foot by 2100. However, several papers published subsequent to the IPCC 2007 Report have concluded that global average sea level is likely to rise at least two and potentially more than four feet this century.<sup>3</sup> This is because rapid melting of the large ice sheets in Greenland and Antarctica, the beginning of which is now being observed, is expected to contribute more to sea-level rise.

The IPCC points out that sea-level rise will not be uniform around the world.<sup>4</sup> Coastal Louisiana experiences one of the highest rates of relative sea-level rise, which combines the global rate with the effects of land subsidence. The relative change in water level at Grand Isle has been 9.24 mm/yr, based on monthly mean data from 1947-2006.<sup>5</sup> This is equivalent to a rise of three feet in 100 years, even before additional sea-level rise is factored in.

We believe that the scientific evidence is compelling that sea level is highly likely to rise at faster rates than in the recent past and that this poses severe threats to

## Coastal Scientists Letter on Louisiana and Climate Change – 2

Louisiana’s people, land and coastal ecosystems. We also believe that substantial scientific evidence shows that healthy coastal wetlands are a necessary ingredient for a sustainable system able to respond to sea-level rise, and are thus a critical part of effective flood and storm protection.

The amount of sea-level rise that will be experienced depends on the future trajectory of societal greenhouse gas emissions.<sup>6</sup> These emissions are increasing atmospheric and oceanic temperatures, which are leading to concerns about stronger hurricanes, a key vulnerability for Louisiana.<sup>7</sup> It is therefore imperative that these factors be included in the development of policies on coastal protection and restoration, and that such integrated policies be strategically planned and urgently implemented.

Sincerely,  
(In alphabetical order)

Dr. Thomas Bianchi  
Texas A&M University

Dr. Donald Boesch  
University of Maryland

Dr. Piers Chapman  
Texas A&M University

Dr. James Coleman  
Louisiana State University

Dr. Richard Condrey  
Louisiana State University

Dr. James Cowan  
Louisiana State University

Dr. Michael Dagg  
Louisiana Universities  
Marine Consortium (LUMCON)

Dr. John Day\*  
Louisiana State University

Dr. Christopher D’Elia  
Louisiana State University

Dr. Duncan Fitzgerald  
Boston University

Dr. John Fleegeer  
Louisiana State University

Dr. Ivor van Heerden  
Louisiana State University

Dr. Mark Hester  
University of Louisiana  
Lafayette

Dr. Martin Hugh-Jones  
Louisiana State University

Coastal Scientists Letter on Louisiana and Climate Change – 3

Dr. Dubravko Justic  
Louisiana State University

Dr. Richard Keim  
Louisiana State University

Dr. Edward Laws  
Louisiana State University

Dr. Susan Mopper  
University of Louisiana  
Lafayette

Dr. Andrew Nyman  
Louisiana State University  
LSU Agricultural Center

Dr. Dorothy Prowell  
Louisiana State University

Dr. Denise Reed  
University of New Orleans

Dr. Victor Rivera-Monroy  
Louisiana State University

Dr. Lawrence Rouse  
Louisiana State University

Dr. Gary Shaffer  
Southeastern Louisiana University

Dr. Rick Shaw  
Louisiana State University

Dr. Paul Templett  
Louisiana State University (retired)

Dr. Tor Torngqvist  
Tulane University

Dr. R. Eugene Turner\*  
Louisiana State University

Dr. Robert Twilley  
Louisiana State University

Dr. Jenneke Visser  
University of Louisiana  
Lafayette

Dr. David White  
Loyola University

Dr. Alejandro Yanez-Aranciba  
Institute of Ecology  
Xalapa, Mexico

Response may be sent c/o names with asterisk\*

**Return Address:  
Room 1205**

**Energy, Coast, & Environment Building  
Louisiana State University  
Baton Rouge, La 70803**

## References

- <sup>1</sup> Louisiana CPRA (2007) *Louisiana's Comprehensive Master Plan for a Sustainable Coast*, pp. 25-26, <http://www.lacpra.org/>
- <sup>2</sup> Intergovernmental Panel on Climate Change (2007) *Fourth Assessment Report, Climate Change 2007 Synthesis Report*, "Observations of climate change," [http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_synthesis\\_report.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm)
- <sup>3</sup> Vermeer and Rahmstorf (2009), "Global sea level linked to global temperature," Proceedings of the National Academy of Sciences of the United States of America (PNAS), December 7, 2009, [www.pnas.org/cgi/doi/10.1073/pnas.0907765106](http://www.pnas.org/cgi/doi/10.1073/pnas.0907765106); Kopp, et al. (2009), "Probabilistic assessment of sea level during the last interglacial stage," *Nature* v. 462, December 17, 2009, [www.nature.com/nature/journal/v462/n7275/full/nature08686.html](http://www.nature.com/nature/journal/v462/n7275/full/nature08686.html); Pfeffer, Harper, O'Neel (2008), "Kinematic Constraints on Glacier Contributions to 21st-Century Sea-Level Rise," *Science* v. 321, September 5, 2008, [www.sciencemag.org/cgi/content/full/321/5894/1340](http://www.sciencemag.org/cgi/content/full/321/5894/1340)
- <sup>4</sup> IPCC 2007, "Steric Sea Level Changes," [www.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/ch5s5-5-4-1.html](http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch5s5-5-4-1.html)
- <sup>5</sup> NOAA, "Mean Sea Level Trend 8761724 Grand Isle, Louisiana," [http://co-ops.nos.noaa.gov/strends/strends\\_station.shtml?stmid=8761724](http://co-ops.nos.noaa.gov/strends/strends_station.shtml?stmid=8761724)
- <sup>6</sup> IPCC 2007, WGI, Global Climate Projections, "Projections of Global Average Sea Level Change for the 21st Century," [http://www.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/ch10s10-6-5.html](http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch10s10-6-5.html)
- <sup>7</sup> IPCC 2007, WGI, Understanding and Attributing Climate Change, "Combining Evidence of Anthropogenic Climate Change," [www.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/ch9s9-7.html](http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch9s9-7.html); Elsner, Kossin, and Jagger (2008), "The increasing intensity of the strongest tropical cyclones," *Nature*, vol. 455, September 2008, <http://myweb.fsu.edu/jelsner/PDF/Research/ElsnerKossinJagger2008.pdf>