Sustainability Leadership

Sustainability Leadership

Class 4:

Part 1: Evidence-Based Leadership

Part 2: Vulnerabilities

Part 3: Conversation with Steve Traxler

Part 4: Internships

Evidence-Based Leadership:

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Trends, system trajectory:

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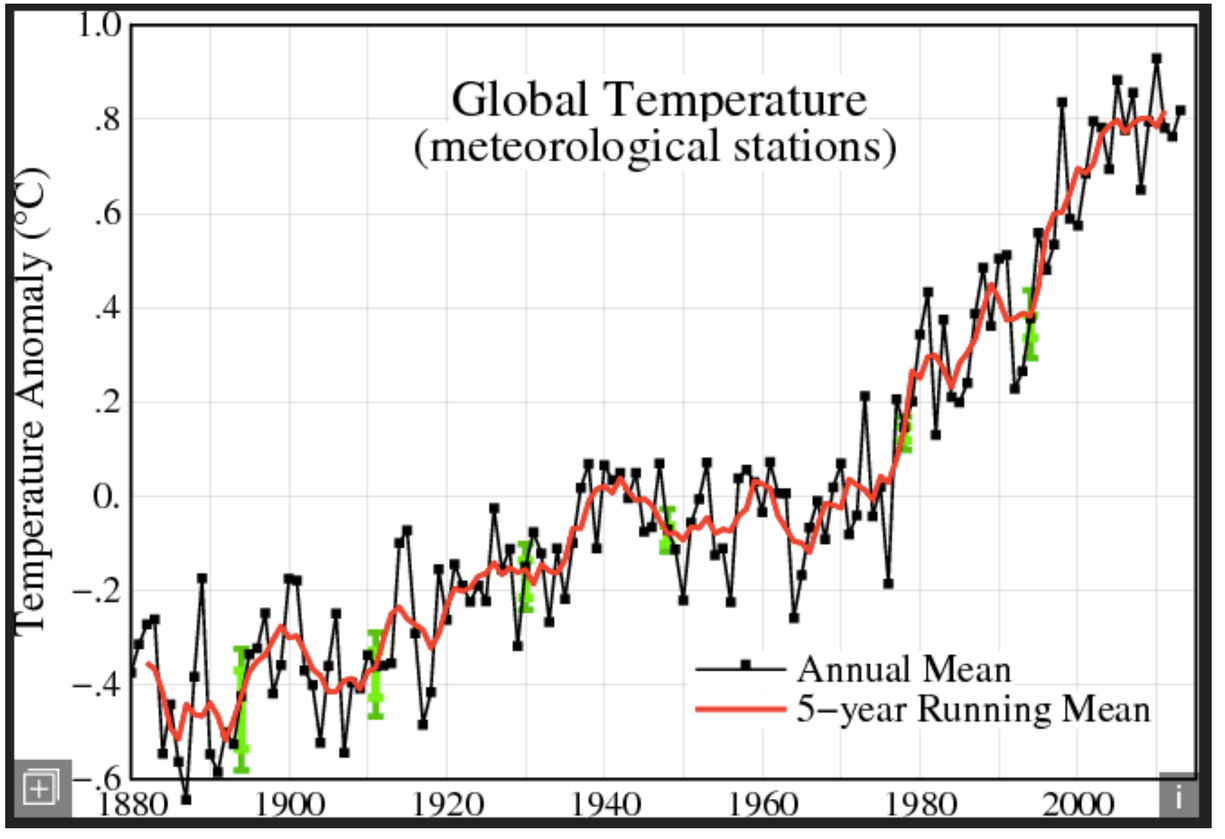
- know the signal contents



SCIENCE

Global Warming 'Hiatus' Challenged by NOAA Research

By JUSTIN GILLIS JUNE 4, 2015

Icebergs in Lallemand Fjord in Antarctica. In its research, the National Oceanic and Atmospheric Administration adjusted past data to account for new insights.
Kent Kobersteen/National Geographic Creative, via Corbis

Energy and Environment

Scientists say the pace of sea level rise has nearly tripled since 1990

By Chris Mooney May 22

An iceberg is pictured in the western Antarctic peninsula in March 2016. (Eitan Abramovich/AFP/Getty Images)

Proceedings of the National Academy of Sciences of the United States of America

> Early Edition > Sönke Dangendorf, doi: 10.1073/pnas.1616007114

Check for updates

Reassessment of 20th century global mean sea level rise

Sönke Dangendorf[a,1], Marta Marcos[b], Guy Wöppelmann[c], Clinton P. Conrad[d], Thomas Frederikse[e], and Riccardo Riva[e]

Author Affiliations

Edited by Anny Cazenave, Centre National d'Etudes Spatiales, Toulouse Cedex 9, France, and approved April 17, 2017 (received for review September 28, 2016)

Significance

Estimates of global mean sea level (GMSL) before the advent of satellite altimetry vary widely, mainly because of the uneven coverage and limited temporal sampling of tide gauge records, which track local sea level rather than the global mean. Here we introduce an approach that combines recent advances in solid Earth and geoid corrections for individual tide gauges with improved knowledge about their geographical representation of ocean internal variability. Our assessment yields smaller trends before 1990 than previously reported, leading to a larger overall acceleration; identifies three major explanations for differences with previous estimates; and reconciles observational GMSL estimates with the sum of individually modeled contributions from the Coupled Model Intercomparison Project 5 database for the entire 20th century.

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- Trends: understand the problems of inductions, the meaning of Black Swans, surprises, ...

Trends, system trajectory:

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Trends, system trajectory:

- understand the problems of inductions,
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- assess the possibility of surprises, Black Swans, …

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3. Kirchhoff et al. (2013) mention “...new approaches to the creation of knowledge involving both growing integration across disciplines and greater interaction with users” as part of their study. Briefly elaborate on that thought.
4. Additionally, Capra (1996), states in Chapter 1, “The more we study the major problems of our time, the more we come to realize that they cannot be understood in isolation. They are systemic problems, which means that they are interconnected and interdependent.” Discuss your interpretation of the statement while giving examples from the text. Can you apply Capra's point to a problem you are familiar with?

Part 2: Vulnerabilities

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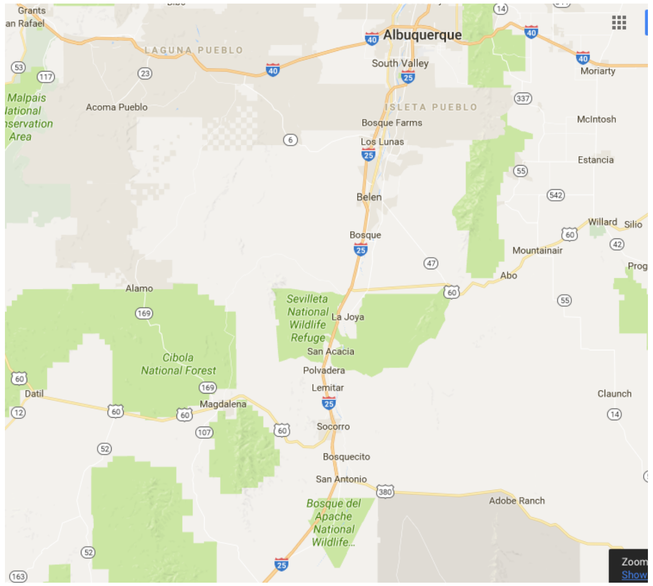
Contents:

Part 3: Steve Traxler


Uvalde National Fish Hatchery
San Antonio
Austin
Round Rock
Georgetown
Pflugerville
Marble Falls
Fredericksburg
Kerrville
Comfort
Boerne
San Marcos
New Braunfels
Seguin
Gonza
Sonora
Junction
Rocksprings
Carta Valley
Leakey
Concan
Del Rio
Brackettville
Floresville
Pleasanton
Karnes City
Kenedy
Pearsall
Dilley
Crystal City
Carrizo Springs
Asherton
Catarina
Three Rivers
George West
Beeville
Mathis
Encinal
Freer
Alice
San Diego
Corpus
Colombia
Nava Municipality
Grants
an Rafael
Albuquerque
LAGUNA PUEBLO
South Valley
Moriarty
Malpais National Conservation Area
Acoma Pueblo
ISLETA PUEBLO
Bosque Farms
Los Lunas
McIntosh
Estancia
Belen
Willard
Silio
Bosque
Mountainair
Abo
Alamo
Sevilleta National Wildlife Refuge
La Joya
San Acacia
Polvadera
Lemitar
Cibola National Forest
Datil
Magdalena
Socorro
Bosquecito
San Antonio
Bosque del Apache National Wildlife...
Adobe Ranch
Claunch

Part 4: Internship



Part 4: Internship

Sevilleta NWR
Uvalde National Fish Hatchery
Great Dismal Swamp NWR
Back Bay NWR

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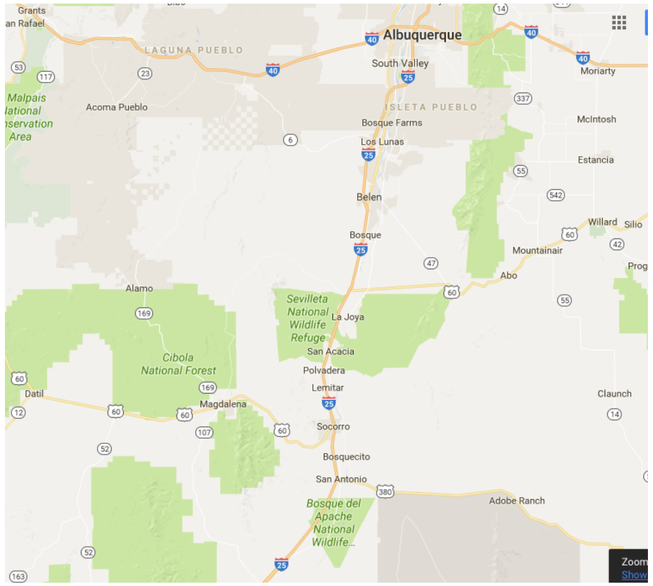

Back Bay Topics:

What are potential thresholds for sea level rise breaching the barrier dunes?

What are the impacts of rapid versus slow shift from fresh water to salt water domain on ecosystems?

Where could future freshwater areas be? Which migration paths should be protected.

How is past and future climate change impacting migratory birds (times of arrival/departure, distribution over time, food chain breach, …) and how should management respond?

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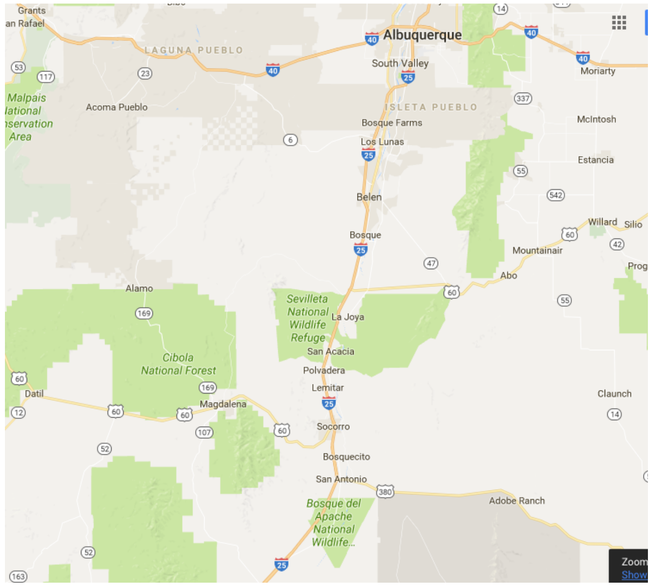

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Great Dismal Swamp Topics:
What metrics will define a healthy pocosin at the GDS? The specific parameters to review include water levels and types of indicator species (e.g., vegetation and animals); what levels need to be present?
More topics to be added

Background check in Falls Church:
- train + taxi/Uber
- needs to be done by June 2, 2017

Pickup/final part in Norfolk

Driver training

Pre-Internship project:
- based on literature
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