

## Mission Statement

### Background

During the 21<sup>st</sup> century climate change will present significant challenges to Florida residents by influencing nearly every aspect of our lives and the natural systems around us. The most obvious challenge to coastal communities will initially be increasing rates of sea-level rise and catastrophic storm landfall. The SCCI seeks to help the community prepare for these challenges through partnerships, science, and education.

Global climate change will forever change the physical, economic, environmental and social fabric of Florida communities. Specific elements of global climate change destined to change the way we currently live include:

- Accelerated sea-level rise
- Saltwater intrusion into coastal aquifers
- Expanded flood damage to coastal properties and infrastructure
- Accelerated beach erosion
- Enhanced economic loss from more frequent and stronger hurricanes
- Regional water supply shortfalls
- Increase in the number, duration, and intensity of urban heat waves
- Altered distribution of infectious diseases and human exposure to illness
- Increased risk of wildfire
- Increased demand for electric power

Within the state of Florida, average surface temperatures are predicted to increase by about 10 °F [graph] while net precipitation will likely decrease. Sea-level is projected to rise by as much as 3 feet by 2100. The State's population is expected to increase by 50% over the next 25 years, gobbling up an additional 7 million acres of undeveloped land by 2070. Two to three million acres of this development will take place on lands which currently recharge our aquifers.

### Vulnerability

The Space Coast is especially vulnerable to sea-level rise given the extensive distribution of low-lying areas along the mainland coast, throughout Merritt Island, and within the barrier Island system. Stanton and Ackerman (2007) quantified "vulnerability" by modeling inundation effects along the Florida coastline and determined Brevard County:

1. Ranks 1<sup>st</sup> in miles of vulnerable major roads and railway.
2. Ranks 4<sup>th</sup> in affected population
3. Ranks 5<sup>th</sup> in total land area submerged.
4. Ranks 8<sup>th</sup> in the number of vulnerable housing units.

Other coastal counties will also be subject to accelerated beach erosion, coastal flooding, and salt water intrusion. While a substantial number of cities and states in the US are formulating climate action plans, most of these are focused almost entirely on mitigating greenhouse gas emissions. Only a few Florida state and local government

agencies have begun to plan for the inevitable effects of sea-level rise by choosing between the options of protection, retreat, or accommodation (c.f., Miami-Dade Climate Change Advisory Task Force 2008; Treasure Coast Regional Planning Council 2005).

The SCCC mission is to facilitate the exchange of ideas between experts, policy-makers, and the general public in the pursuit of strategies to mitigate and adapt to the local consequences of *sea-level rise*.

### **Why we can't wait**

While there is still uncertainty regarding the details of this rise, comprehensive plans and associated development decisions are being made today which commit public and private investment in real estate and associated infrastructure. With a design life of 30 yrs to 100 yrs, many of these investments are on a collision course with rising sea-level and the resulting impacts will be significant. The effect on the area's marine, estuarine, and terrestrial ecosystems, all of which are vital to the local economy, has not been fully quantified but will surely be large.

Even if greenhouse gas emissions are frozen today, global climate change will impact our quality of life for decades yet to come. As a quick read of any major newspaper or website will reveal, many coastal communities are already being subjected to enhanced flooding, accelerated coastal erosion, more frequent and longer droughts, and intense hurricanes.

### **Bibliography**

Many of the concepts and text in the following citations were adapted for use in this Mission Statement.

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