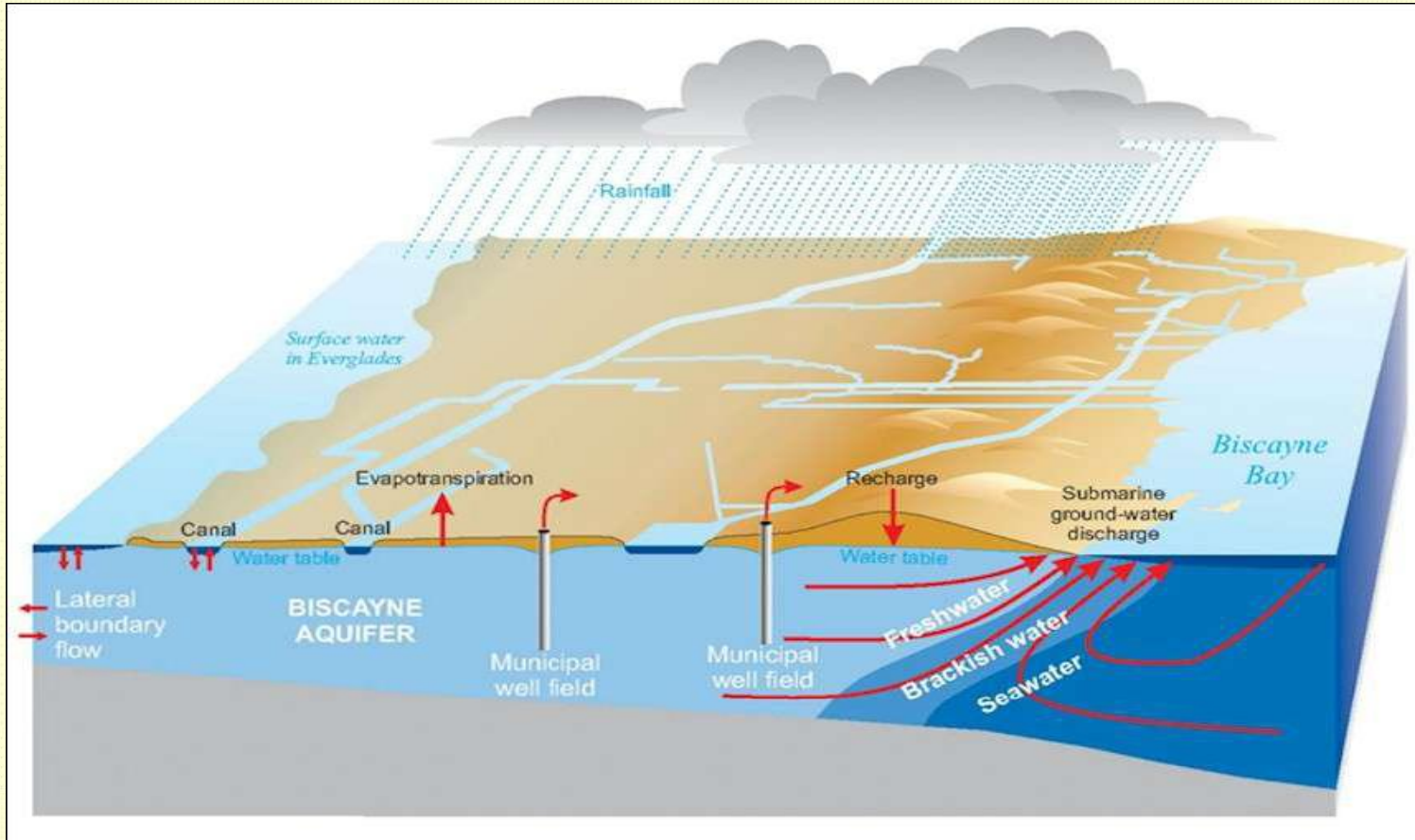


# Climate Change & Water Resources



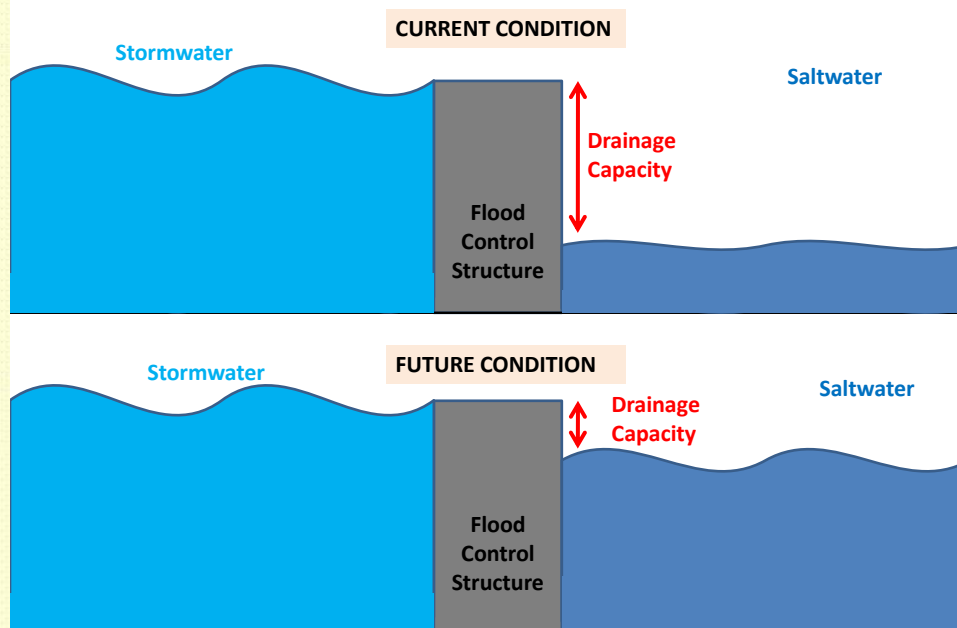
Presented by Douglas Yoder  
Miami-Dade Water and Sewer Department

# Our Delicate Water Balance



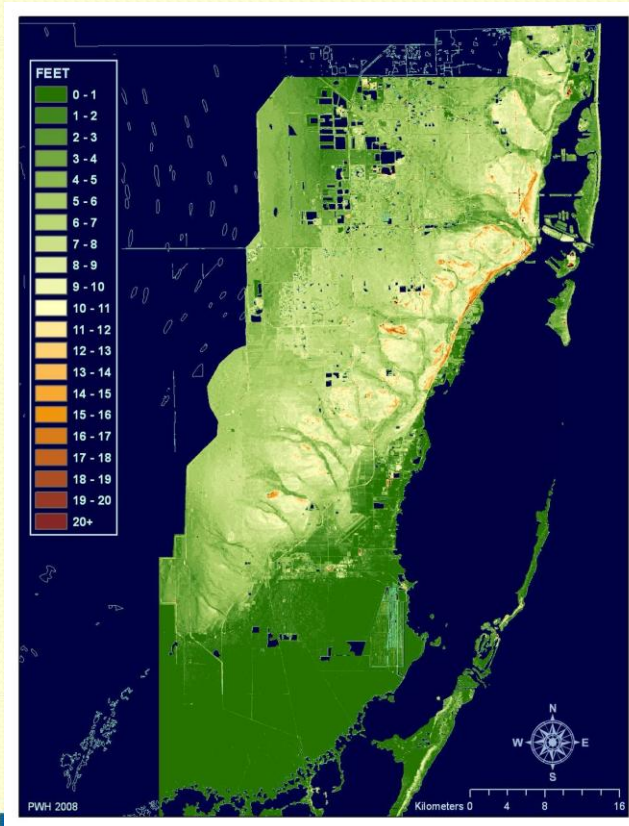


## Drainage Challenge with Sea Level Rise

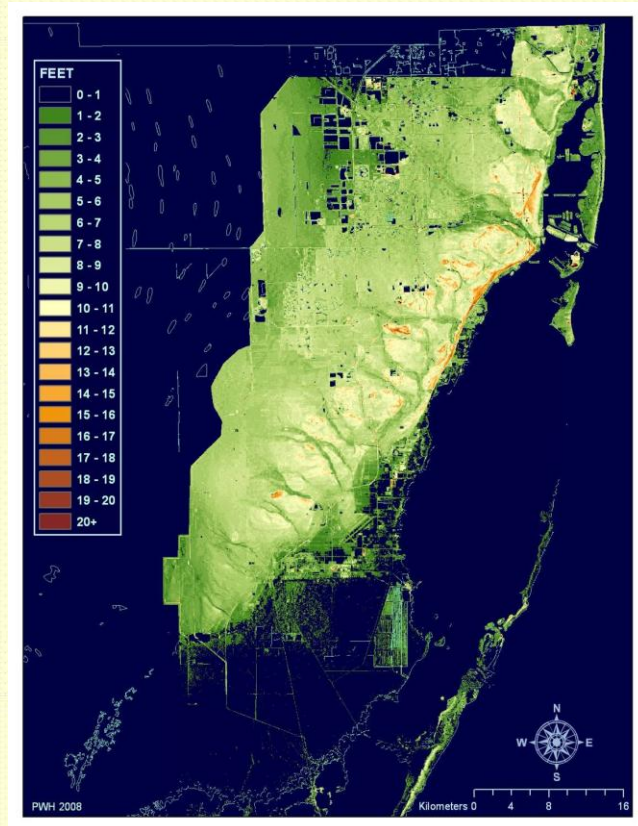


# Sea Level Rise: A Clear and Present Danger

## Present Conditions



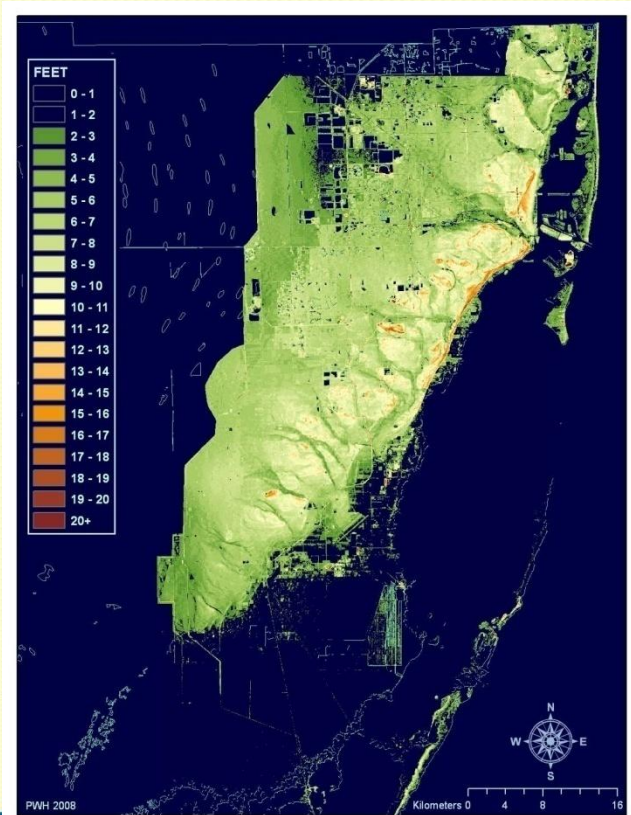
## 1 Foot Rise



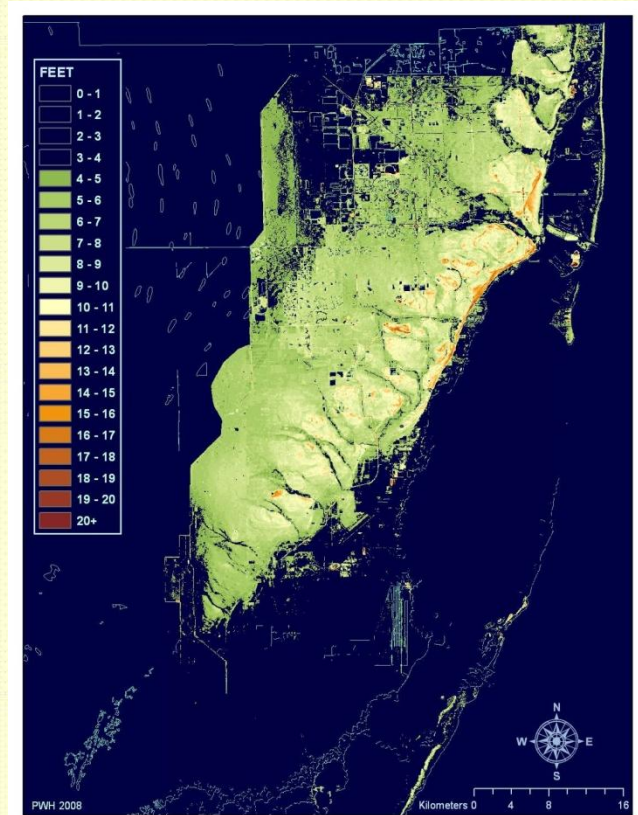


# Getting Worse

## 2 Foot Rise



## 4 Foot Rise



# Regional Water Issues

- Drainage/Flooding
- Water Supply/Salt Intrusion
- More Frequent Drought/Intense Rain
- Natural System Changes/Everglades Restoration

# Regional Responses

- Scenario Planning With Adaptation Strategies Associated With Increments of Sea Level Rise
- Regional Monitoring Program to Track the Extent and Rate of Sea Level Rise
- Careful Analysis, Optimization, and Appropriate Retrofits to Flood Control System
- Alternative Water Supply Development With Flexibility to Respond to Changing Conditions
- Infrastructure Analysis to Establish Vulnerability (building elevations, drainfields, sewer lines)



# Hydrologic Issues

- Are there realistic engineering approaches to managing the consequences of sea level rise?
- What parameters can be monitored to forecast most accurately the rate of sea level rise?
- How can this information be integrated into long range land use and infrastructure plans?



# What Miami-Dade is Doing

- Sustainability Plan (Mitigation of GHG Emissions)
- Ground Water/Surface Water Model
- Large Scale Alternative Water Supply Plan
- Climate Change Adaptation Plan
- Energy Efficient Operations and Buildings

# Conclusions

- Beyond some point, sea level rise will not be manageable through adaptation in some areas
- Only significant reductions in GHG emissions and extraction of GHG are likely to mitigate SLR
- Many adaptation measures are energy intensive and very expensive
- Solutions require individual, local, regional, state, federal, and international plans and actions; the SFWMD is a key existing regional agency to lead water management solutions





**A Survivor!**

**D. i. o**