### Panel 1.14

Hurricane damage in South Florida

# ADELUGE OF HURRICANES



Between August 13 and September 25, the 2004 hurricane season brings four back-to-back hurricanes — the worst in Florida's history. Hurricanes Charley, Frances, Ivan and Jeanne cause more than \$45 billion in damages and dump 30 inches of rainfall, sending Lake Okeechobee water levels to 18 feet. Of the 17.6 million people now living in the state, an estimated 1.6 million are forced to make temporary or permanent moves as a result of the storms. A year later, Hurricane Wilma transects Florida's lower peninsula west to east and rips off hundreds of thousands of roofs. From the air, South Florida looks like a sea of blue tarps from coast to coast.

### 2001

### First phase of Kissimmee River Restoration is completed.

Between June 1999 and March 2001, approximately 7.5 miles of canal are backfilled, 1.25 miles of new river channel are recarved, one water control structure is removed and 15 continuous miles of river are reconnected. The restoration work will revive and reclaim more than 11,000 acres of wetlands along the Kissimmee River.



### 2004

### Water managers begin cleaning water through world's largest constructed wetland.

The South Florida Water Management District begins operating a 16,500-acre treatment marsh that uses plants to naturally cleanse nutrients from water flowing into the

Everglades. Two pump stations can push more than 4 billion gallons of water into the treatment marsh every day. The world's largest constructed wetland known as Stormwater Treatment Area 3/4 costs \$197 million to build.



## 2004

Florida strengthens its commitment

### 2001

#### Severe drought ends.

Hurricane Gabrielle passes through Central Florida in the middle of September, bringing tropical rains that effectively end the severe drought gripping central and southern Florida for 10 months.

### 2004

### Florida adopts a water quality standard for the Everglades.

After decades of biological research, Florida officially adopts a stringent, science-based phosphorus water quality criterion of 10 parts per billion for the entire freshwater area of the Everglades. The water quality rule also establishes the process for improving water quality and restoring the natural system in the famed River of Grass.

#### to restore the Everglades.

Governor Jeb Bush announces an ambitious plan to accelerate the restoration of America's Everglades with "Certificate of Participation" revenue bonding.

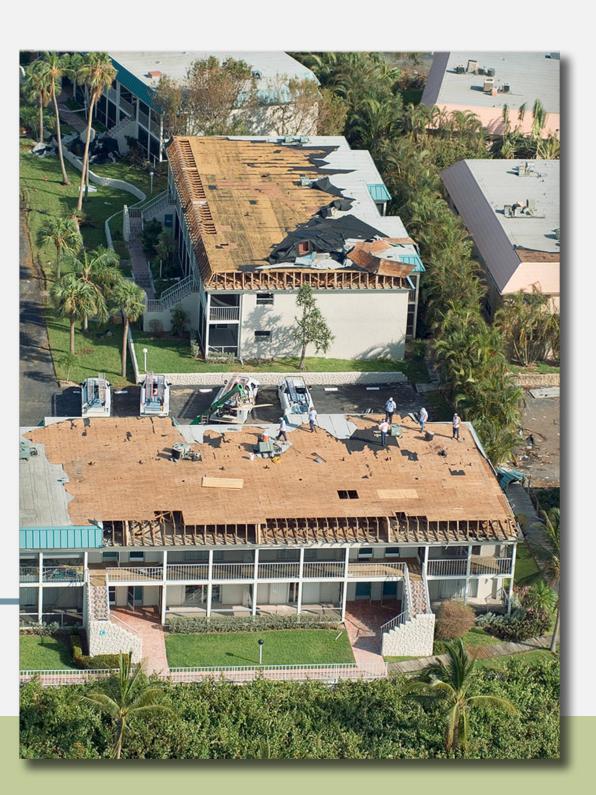
As part of the \$8 billion state-federal partnership to restore the River of Grass, Florida is the first state in the nation to use Certificates of Participation to fund environmental restoration.

### 2004



Hurricanes Charley, Frances, Jeanne and Ivan hit Florida. The South Florida Water Management District area is hit hard by three hurricanes — Charley, Frances and Jeanne — and receives rainfall from the remnants of Hurricane Ivan.

2005



### 2005

### Hurricanes Katrina and Wilma hit Florida.

Katrina makes landfall near Broward County and dumps a foot of rain. Gathering strength in the Gulf of Mexico, the hurricane moves northwest to Louisiana and devastates coastal towns and the city of New Orleans. On October 24, Hurricane Wilma makes landfall on Florida's southwest coast, accelerates across Florida in five hours, and moves into the Atlantic Ocean just north of West Palm Beach.









