Water Supply Planning
In the Face of Climate Change
Average NJ Water Use, 1990’s
(944 billion gallons/year)
Public Water Supplies

- reservoirs
- intakes
- wells
Water Use in NJ - Sources & Destination

- Surface water withdrawals (75%)
- Groundwater withdrawals (25%)
- Returned after use (91%)
- Evaporated (9%)
3 Components

Water source

Water collection, treatment & distribution

Water demand
Can the system meet the increased water demand during the most stressful conditions?
The past did not predict the future.
New Jersey Monthly Precipitation Deviation from Normal
California’s Approach

Future Temperature Projections

Future Precipitation Projections

Local time series of monthly weather
1 million acre feet ~ 1/3 trillion gallons
Change in Total Statewide Demand
1998-2005 (historical) to 2043-2050 (simulated)

- Range of 12 climate scenarios
- Repeat of 1998-2005 climate

Range of potential impact of climate change for EG narrative scenario

Change in demand [maf]

- Current Trends
- Strategic Growth
- Expansive Growth
Runoff changes by 2100
(medium emissions)
New York City Delaware River Basin Storage

October 29, 2009
236.275 bg

Storage is 126.275 bg above Drought Watch.
Storage is 142.275 bg above Drought Warning and 166.275 bg above Drought.
Storage is 86.757 bg above the long-term median (58.02%) and 51.004 bg above the level of one year ago.

Storage data is provisional and provided by the New York City Department of Environmental Protection, Bureau of Water Supply. The period of record represented by the long-term median values is June 1967 to November 1998.

*Based on the New York State Experimental Fisheries Program, Docket D-77-20 (Rev. 4)