# LIQUID ASSETS: OUR WATER RESOURCES

***"We don't make new water. The water we drink and play with is the same water the dinosaurs drank and played in, except now there's more of us."***

## A. Sources of Available Fresh Water

1. Surface water
2. Groundwater
   a) soil moisture
   b) groundwater
      (1) aquifer
      (2) water table

## B. Managing Water Resources to Increase Supply

### 1. Dams and reservoirs

a) benefits

(1) dams reduce flooding

(2) reservoirs provide irrigation water

(3) dams provide hydroelectric power

(4) reservoirs provide recreation

b) disadvantages

(1) expensive

(2) reservoirs destroy fertile land

(3) reservoirs destroy wildlife habitat

(4) reservoirs displace people

(5) reservoirs ultimately fill in with sediment

(6) reservoirs have high evaporation losses

(7) effect of evaporation on water quality

(8) dams create erosion down stream

**C. Case Study: The Aswan Dam Across Nile River in Egypt**

1. benefits of dam: flood control, hydroelectric power, irrigation

2. problems from dam

a) land no longer fertilized naturally

b) new fertilizer plants use much electricity

c) salinization of cropland

d) excessive water loss from Lake Nassar

e) increased incidence of shistosomiasis, bilharzia and trachoma

f) downstream damage to bridges

g) Nile delta shrinking

h) crash of seafood industry

**2. Water diversion**

a) California Water Project

b) Central Arizona Project

c) global management of rivers

**3. Tapping into Groundwater**

a) quality of water in aquifers

b) when groundwater is mined:

(1) overdraft

(2) subsidence

(3) salt water intrusion

(4) contamination

**4. Desalinization**

a) methods: distillation and reverse osmosis

b) costs

**5. Cloud seeding**

**6. Conservation**

a) extent of water wasted

b) reasons for wasting water

c) conservation strategies

## D. The Politics of Water

The era of water geopolitics has arrived