Hawaii’s volcanic landmass and high rain-catching ridges give each island the tools to create an efficient and dependable water source. Natural freshwater aquifers created by these conditions can be found on all major Hawaiian islands. The steep mountain ranges on Oahu, Kauai, Maui and the Big Island are key to their ability to attract abundant rainfall.

**HOW WE GET OUR WATER**

**OAHU GROUND-WATER GEOLOGY**

**HOW WATER IS DELIVERED**

1. **Water is pumped from aquifer via wells, shafts and tunnels.**
2. **Heat from the sun converts ocean water to water vapor.**
3. **Prevailing north-to-northeast winds push clouds toward the Koolau mountain range.**
4. **Rainwater sinks through the island’s soil and porous volcanic rock.**
5. **Water vapor condenses as it rises up the Koolau Range and forms rain.**
6. **The Board of Water Supply pumps an average of 150 million gallons of water per day for Oahu water consumption.**

**PERCENTAGE OF TOTAL WATER USE PER PERSON**

- Residential: 62%
- Government: 11%
- Agricultural: 3%
- Commercial: 15%
- Others: 3%
- Hotels/Motels: 4%
- Industrial: 2%
- Hot water: 16%
- Utilities: 23%
- Transportation: 8%
- Public safety: 36%
- Water from agriculture and irrigation: 5%
- Other domestic use: 14%

**OAHU WATER USAGE**

- Average personal use: 50 to 60 gallons residential indoor use (breakdown shown below)
- Average per capita use: 180 gallons per person daily (for all uses, including business)

**POPULATION GROWTH AND WATER DEMAND**

- Based on 2000 projection by BWS of population served
- Projected increase/decrease in water demand from 2000 to 2030 (in millions of gallons per day)
- PUC (urban Honolulu) 1.13M
- North Shore 0.57M
- South Shore 0.53M
- Central Oahu 0.22M
- Ewa 0.59M

**AVERAGE ANNUAL RAINFALL ON KEY WATER GAUGES ON OAHU**

Rainfall totals on water gauges near the Koolau Range. Dry-season years are highlighted. The Hawaiian Islands are currently under drought conditions.