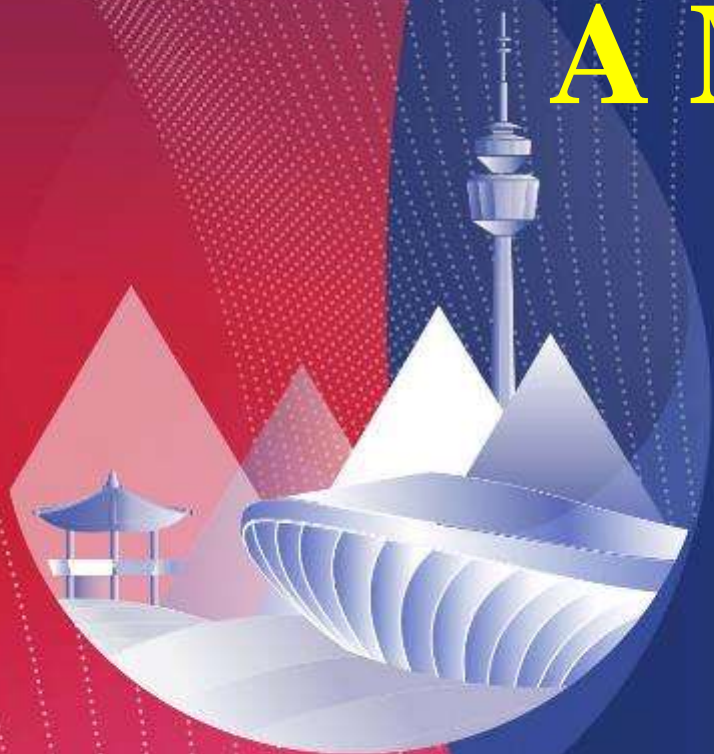


Smart City Water Management A Model Framework



Neil Grigg

Colorado State University

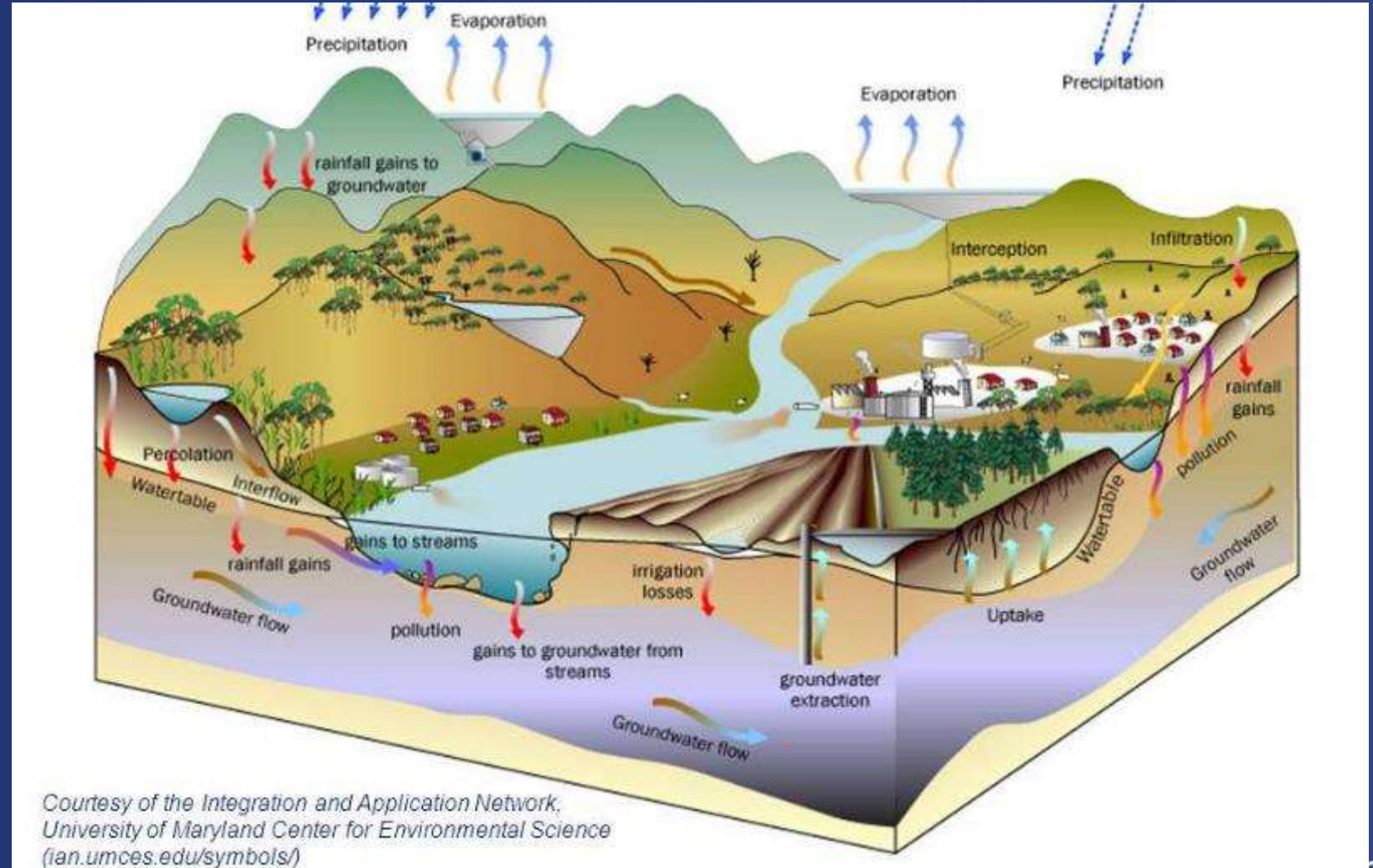
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Types of smart water systems

By

- Jurisdiction
- Infrastructure
- Level



Courtesy of the Integration and Application Network,
University of Maryland Center for Environmental Science
(ian.umces.edu/symbols/)

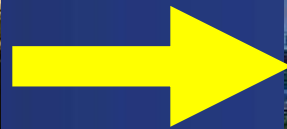
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Smart water city applications



- Water systems integration
- Infrastructure controls
- System information
- User information
- Emergency management

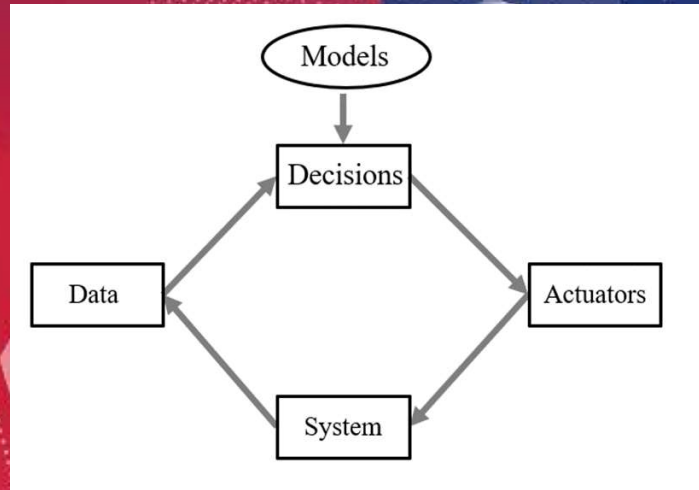
Timeline



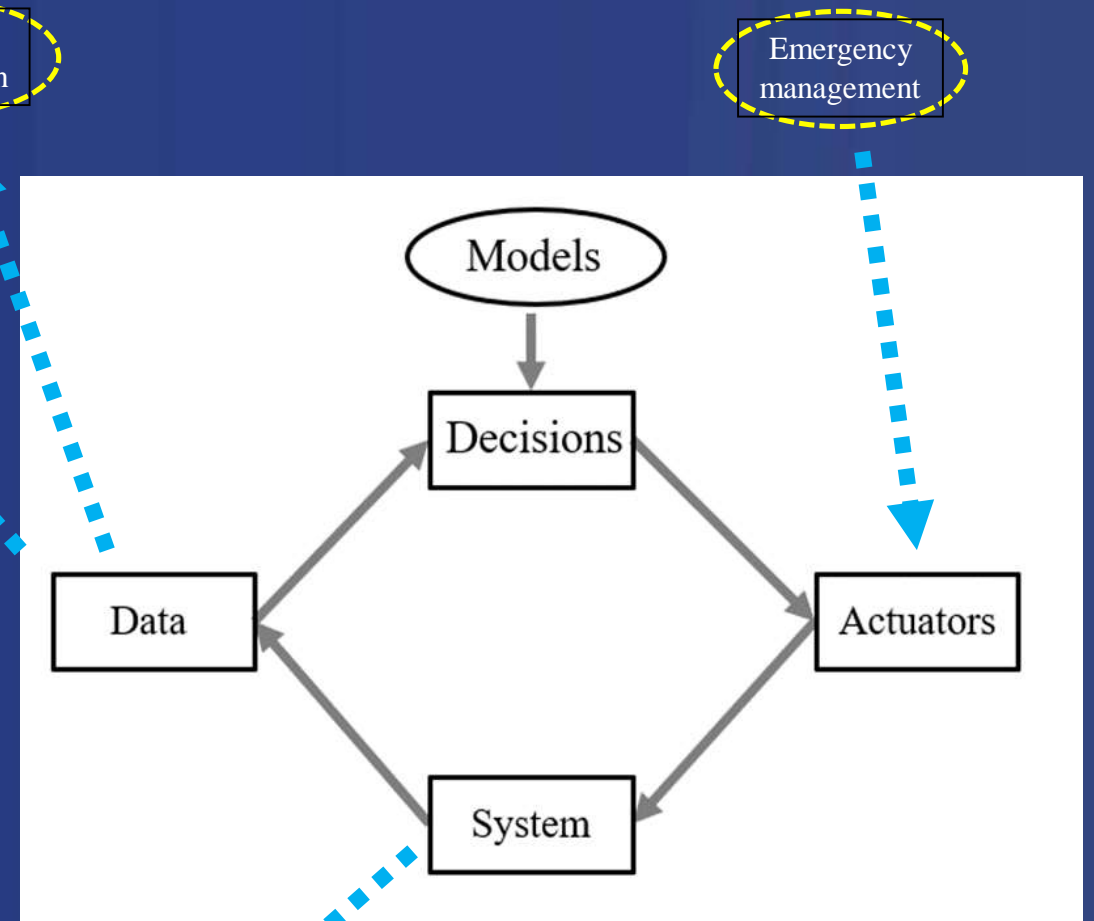
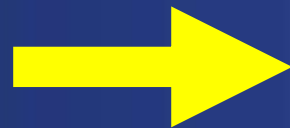
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More control, more information



Older

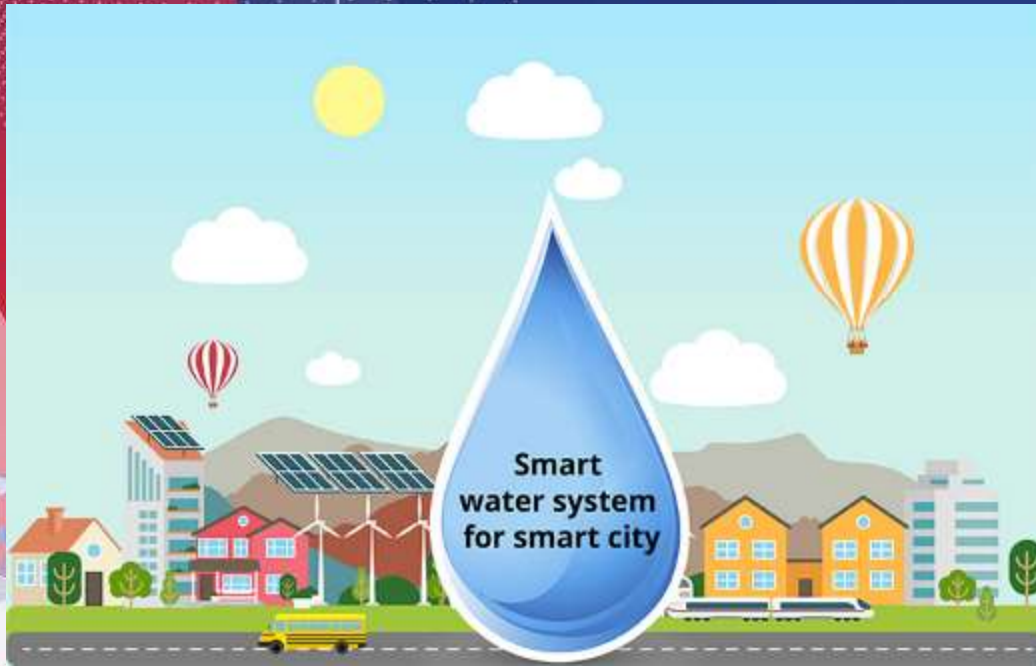


Newer

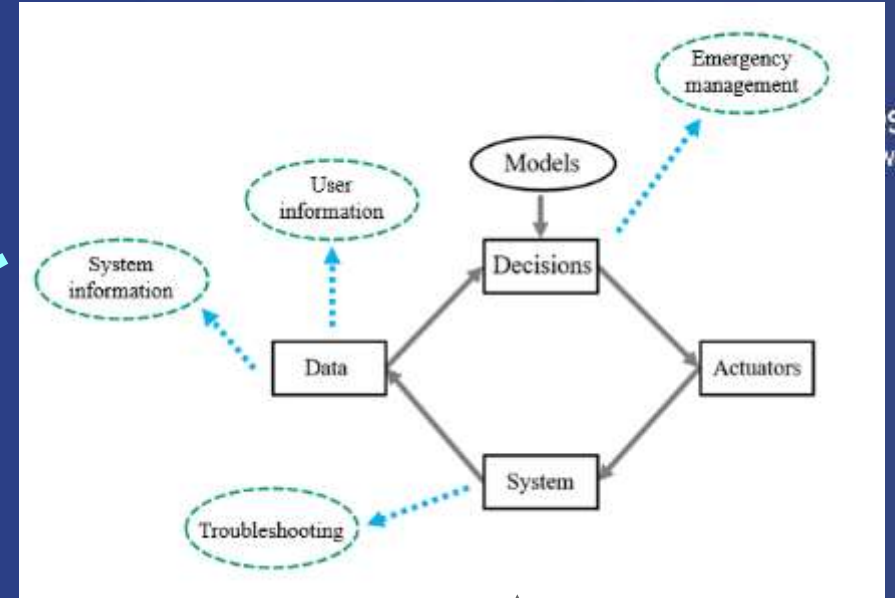
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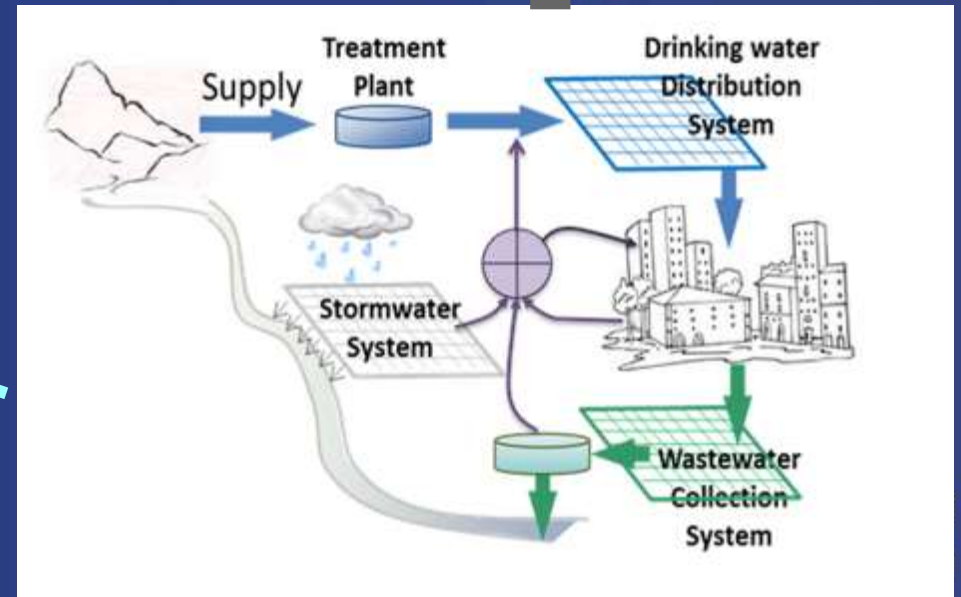
Smart water city model



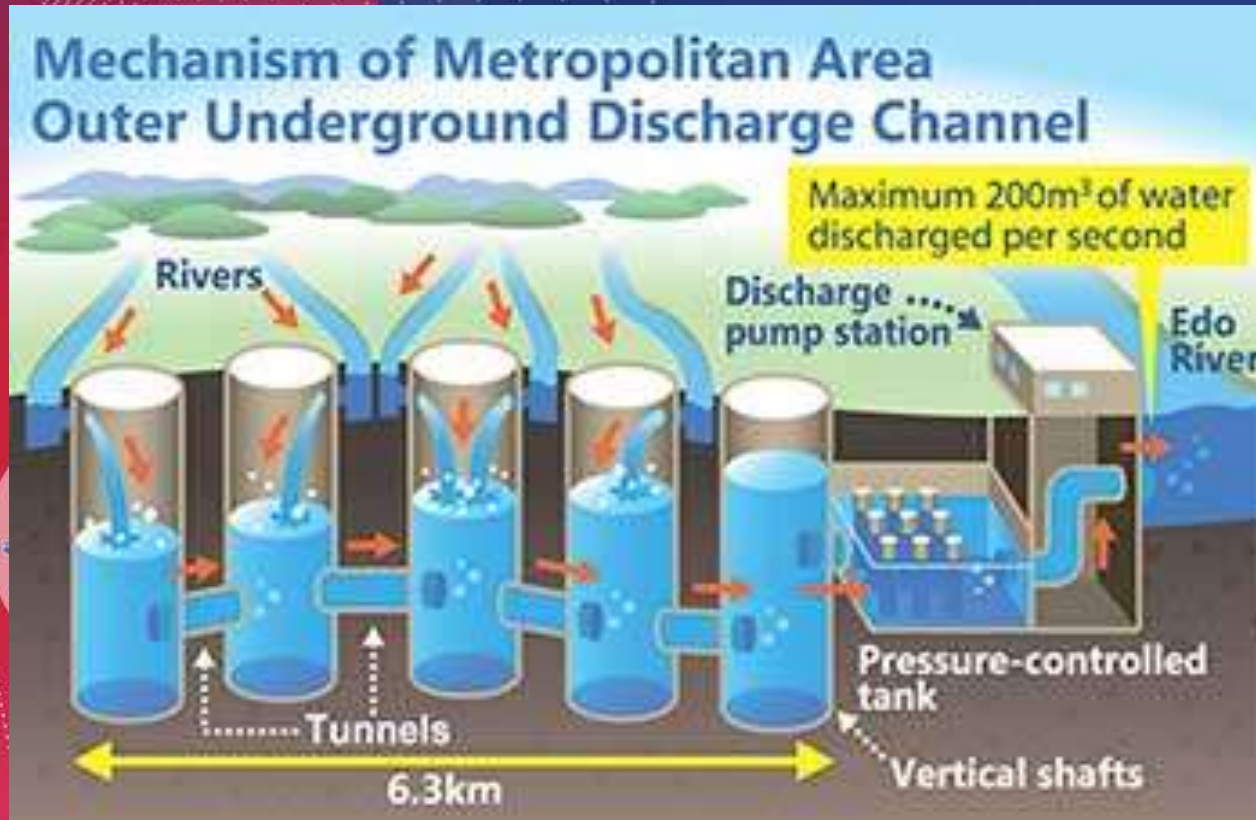
<https://www.softwebsolutions.com/resources/IoT-enabled-water-management.html>



SS
WRA



Example: Controls



https://web-japan.org/trends/11_tech-life/tec130312.html

Tokyo Flood Control System

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Example: User information

The screenshot shows the City of Fort Collins website. At the top, there is a navigation bar with a menu icon, a translate icon, the City of Fort Collins logo, an alerts bell icon, and a search icon. Below the navigation bar is a COVID-19 information banner with the text: "COVID-19 Information. Visit fcgov.com/covid for current updates. Para integrantes de la comunidad: fcgov.com/covid-esp". The main content area features a large banner with the text "TRACK YOUR USE" in white on a dark background with a glowing line graph. Below the banner is a white box containing the text "MYENERGY & MYWATER" and "Utilities". Underneath "Utilities" are several menu items: "Account", "Contact Us", "Outages", and "Services". Below these are more menu items: "Customer Service", "Rates & Fees", "Residential", "Business", "Safety & Security", and "About Us". At the bottom of the page, there is a breadcrumb trail: "home / departments / utilities / myenergy & mywater".

Fort Collins Utilities

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Example: System information

Advanced Metering Infrastructure (AMI)

REMOTELY READS YOUR WATER METER AND PROVIDES ENHANCED CAPABILITIES TO KEEP YOU INFORMED

NEW WIRELESS TRANSMITTER AND/OR REPLACEMENT METER

WIRELESS INFORMATION NETWORK

SECURE ONLINE CUSTOMER PORTAL

CYBERSAFE INTERNET PROTOCOLS

ENCRYPTED

ACWD
Advanced Metering
YOUR SMART WATER CONNECTION

acwd.org/ami
@AlamedaCountyWD

BENEFITS

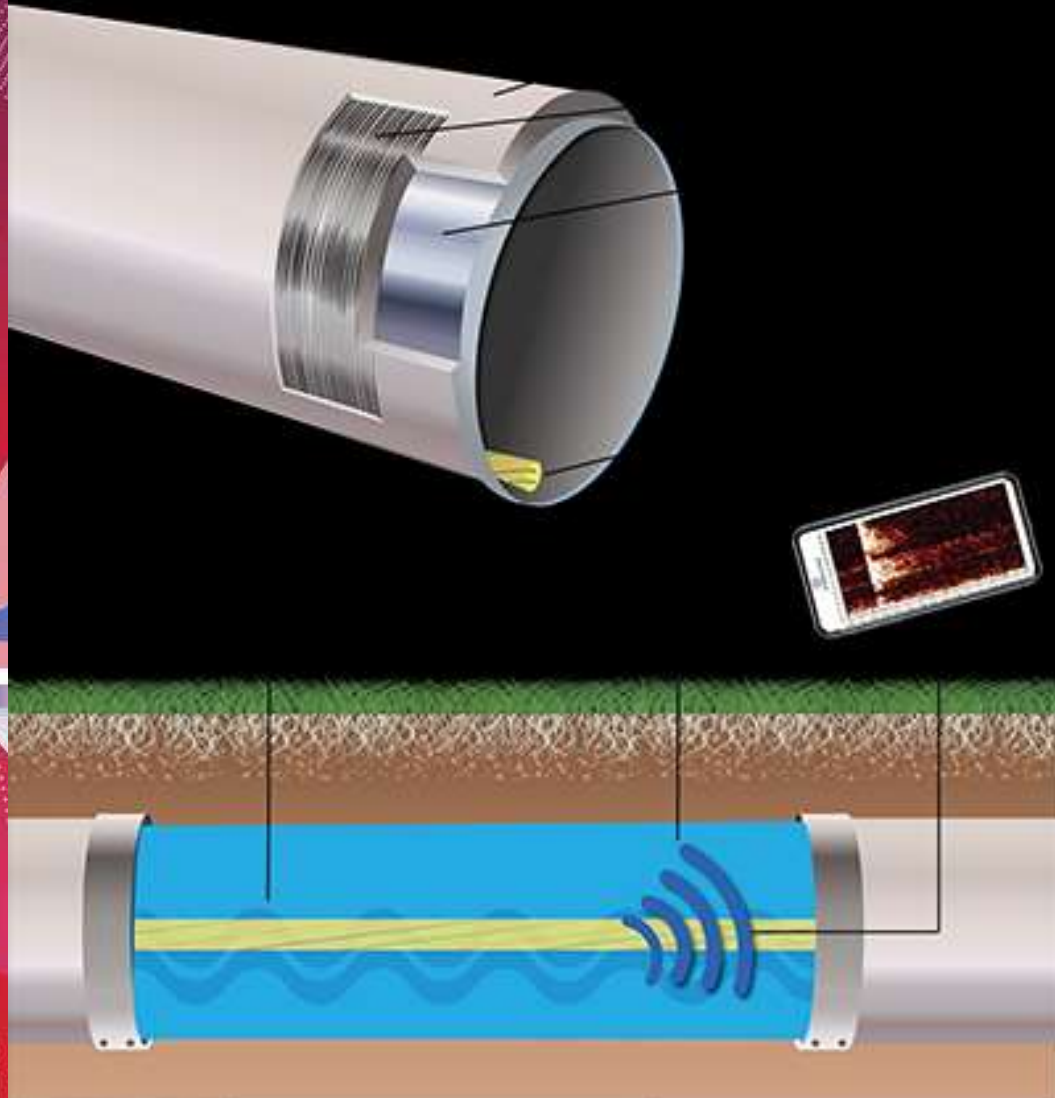
- Receive Leak Alerts
- Encourage Efficient Water Use
- Monitor Water Use
- Review and Pay Bills
- Operational Efficiencies

Advanced Metering Infrastructure

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How AFO Works



Example:  **World Water Congress**
International Water Resources Association (IWRA)

Troubleshooting

WSSC

(Washington area)

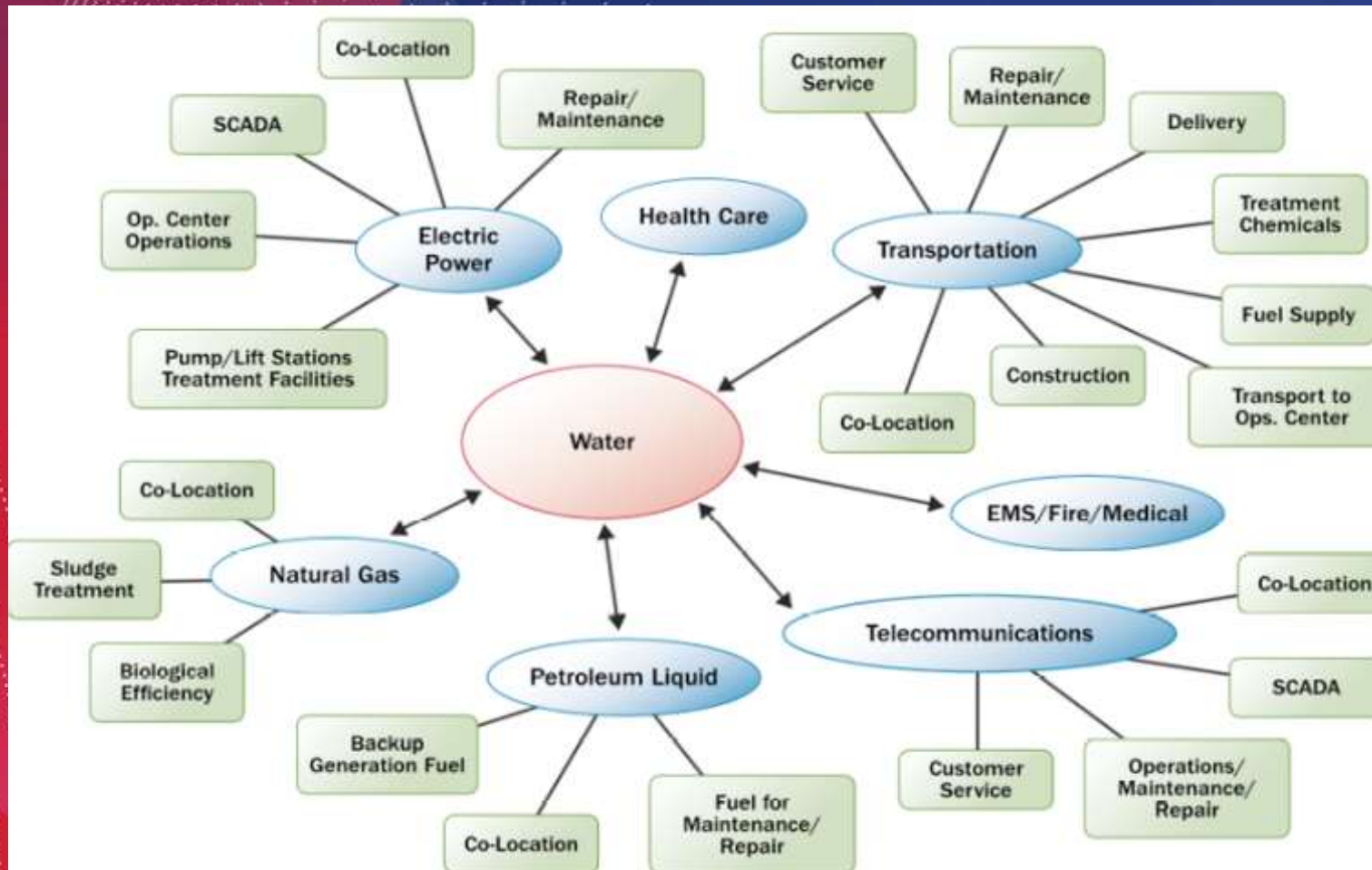
**Acoustic Fiber Optic
Monitoring System**

<https://www.wsscwater.com/afo>

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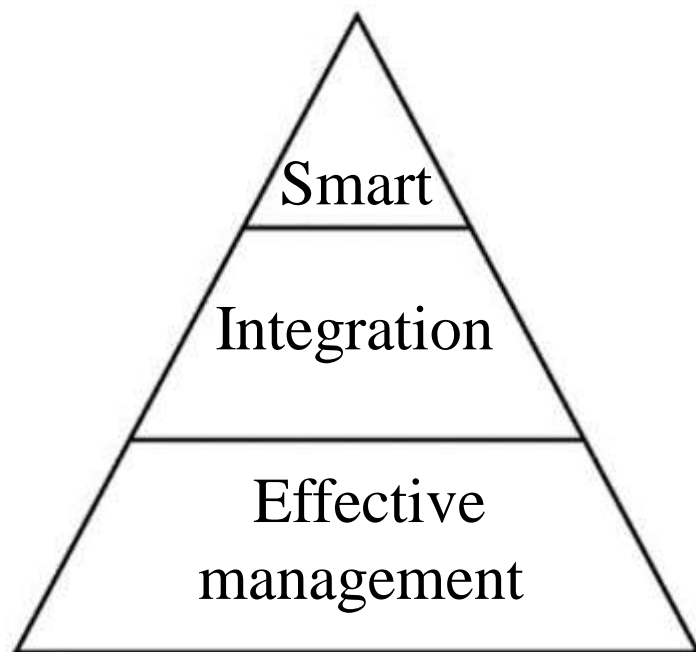
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Example: Emergency management



Smart Water Interdependencies

Toward the future



Needed

- Governance
- Innovation
- Participation



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