What are the essential components for establishing flood forecasting and early warning systems?

**DATA SOURCES:**
- Hydrology
- Meteorology
- Topography
- Social & Structural

**ELEMENTS:**
- **Data**
- **Human Resources**
  - Meteorologists
  - Water & Environment Experts
- **Infrastructure**
  - Operation center located in a safe area
  - Computers
  - Computing capability

**KEY CONSIDERATIONS FOR DATA TRANSMISSION CHANNELS:**
- Available facilities in the country/region
- Amount of information to be transmitted
- Operating requirements
- Economics and cost of system

**COMPONENTS OF AN EFFECTIVE FLOOD WARNING:**
- A single authoritative voice
- When the flood will occur and reach certain heights
- Which areas may be inundated
- What floodwater depth and velocity is expected
- What other factors may affect safety

**POTENTIAL USERS:**
- High level government decision makers
- Public & Private Infrastructure Managers
- Civil Contingency & Emergency Services
- Staff from other government departments

**FLOOD WARNINGS HELP REDUCE THE RISK OF DEATH, INJURY AND LOSS OF PROPERTY BY:**
- Allowing operational teams, emergency personnel and organizations to plan
- Alerting the public about the flood’s timing and location so they can prepare
- Warning about likely impacts on roads, dwellings and flood defence structures
- Enabling preparation for undertaking evacuation and emergency procedures

**POSSIBLE RESPONSE TO WARNINGS:**
- Rural floodplain populations move livestock and property to higher areas or to purpose-built flood refuges
- Urban areas organize road closures and diversions, temporary flood barriers and possible evacuation

**ASSESSMENT:**
Assessment of the warning system after flood events to identify potential improvements

Visit floodmanagement.info/tools for in-depth technical guidance from the Associated Programme on Flood Management

Global Water Partnership