Measure, manage and measure: Hydrology and Catchment Management in the Republic of Palau

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Project Purpose

- Promote proper watershed practices
  - Reduce land degradation
  - Preserve ecosystem stability, functions and services
    - Soil and watershed protection
    - Nutrient retention
    - Maintain Water Quality
- Resource Concerns
  - Soil erosion and sedimentation
  - Nutrient loading
  - Solid waste disposal
  - Invasive species
  - Wildlife habitat loss
**Need & Use for Catchment Management**

- **Ngerikiil & Kmekumel Rivers: Airai State**
  - Water source for over 75% ROP population
  - During strong El Nino earlier this year HYCOS monitored Ngerikiil River stream flow on weekly basis and report to Bureau of Public Works
  - Ecosystem Based Management (EBM)

- **Ngermeskang River: Ngeremlengui State**
  - Babeldaob Watershed Alliance
  - Bird Sanctuary
  - Potential water source
  - Flood risk management in Ngeremlengui State
  - Conservation Area

- **Tabecheding River: Ngatpang State**
  - Potential water source
  - Flood risk management
Need & Used for Catchment Management

- **Diongradid River: Ngardmau State**
  - Tourist Hot Spot—Highest Waterfall in Palau
  - Babeldaob Watershed Alliance

- **Lake Ngardok: Melekeok State**
  - Water source for Melekeok State & Ngerulmuud Capitol
  - Conservation Area
  - BWA

Need & Used for Catchment Management

- **Ngarchel long Rain Gauge: Ngerchelong State**
  - Driest state in Babeldaob and has no major river

- **Ngerchelchuus Rain Gauge: Ngardmau State**
  - Highest point in Palau
Hydrological Data

- Rainfall data
  1. Dry season-help BPW water hours
  2. Rainy season- Road management (landslides and road drainages)
  3. Road mitigation
  4. Ownership of data
  5. Calculate recharge rate
  6. Climate change

Future Plans for HYCOS Data

- Water level Billboard
  - Will be like a fuel gauge
- Water Quantity
  - Drought mitigation
  - Rainy season- Road management (landslides and road drainages)
  - Calculate recharge rate
  - Ownership of data
  - Climate change
Hydrological Data Provided

- Bureau of Public Works
- Babeldaoob Watershed Alliance
- Palau International Coral Reef Center
- Belau National Museum
- Palau Conservation Society
- Private Companies
- The State Offices

Palau Project Progress

- Sanitary Survey Completed
- Invasive Species Survey Completed
- Storm water Road Drainage Mitigation study completed.
  - Tree Planting Ceremony
    - July 29th
- ArcInfo GIS Map of land uses Ngerikiil.
- Intern from Palau Community College.