

# DoD Mentor-Protégé Program Water Resiliency Assessment Tool

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**AGEISS**

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# Project Overview

# DoD Mentor Protégé Program

- DoD Mentor-Protégé Program established under Section 831 of National Defense Authorization Act for FY1991
- Administered through Office of Small Business Programs
- Partners small businesses with larger companies
- Develops protégé expertise to fill niches in military supply chain through technology transfer
- Helps small business expand footprint in defense industrial base
- HBCU/MSI educational institutions participate to provide additional technical resources and train future analysts



OFFICE OF SMALL BUSINESS PROGRAMS  
DEPARTMENT OF DEFENSE

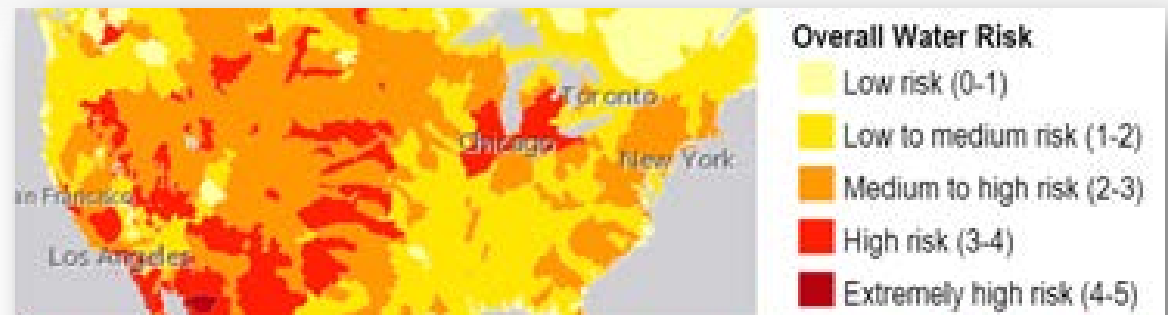
# Mentor Protégé Agreement

- AGEISS Inc. (Mentor)
- EGC, Inc. (Protégé)
- New Mexico State University (Minority Serving Institution)
- US Army Corps of Engineers, Engineer Research and Development Center, Construction Engineering Research Laboratory (Government Sponsor)



# Technology Transfer

- Develop/transfer a Water Resiliency Assessment Tool (WRAST)
  - Assess conditions affecting installation water assurance
  - Facilitate and support water resource planning at the installation



Overall Water Risk identifies areas with higher exposure to water-related risks and is an aggregated measure of all selected indicators from the Physical Quantity, Quality and Regulatory & Reputational Risk categories. (Source: WRI AQUEDUCT Water Risk Atlas)

# Tool Development

# Guidance and Resources

- Army Directives (AD), DoD Instructions/Directives (DoDI/DoDD), Executive Orders (EO), policies
  - AD 2017-07, Installation Energy and Water Security Policy
  - AD 2014-08, Water Rights Policy for Army Installations in the United States
  - AD 2014-02, Net Zero Installations Policy
  - DoDI 4170, Installation Energy Management
  - DoDD 4715.21, Climate Change Adaption and Resilience
  - EO 13834, Efficient Federal Operations
  - Army Energy Security and Sustainability Strategy (ES2)
- Installation Status Report-Mission Capacity (ISR-MC)
- Industry conferences, publications, team training



# Guidance and Resources

- Installation Status Report – Mission Capacity
  - Mission Sustainment
  - Assured Access
  - Infrastructure Condition
  - System Operation
- Funding Decisions
  - Base operations
  - Modernization projects
  - Family housing
  - Base realignment and closure

## Baseline FY17 ISR-MC Energy and Water Security Results:

### Energy Security Summary

	Green	Amber	Red	Black
Critical Mission Sustainment	16%	26%	46%	11%
Assured Access	50%	50%	0%	0%
Infrastructure Condition	18%	70%	12%	0%
System Operation	37%	46%	16%	1%

### Water Security Summary

	Green	Amber	Red	Black
Critical Mission Sustainment	17%	15%	51%	17%
Assured Access	88%	12%	0%	0%
Infrastructure Condition	36%	61%	3%	0%
System Operation	45%	54%	1%	0%

# Guidance and Resources

## Army Installation Energy and Water Plans (IEWP)

- Integrate energy and water planning
- Incorporate water assurance guidance
  - Sources, storage, distribution, staffing, decision maker support
- Execute planning process
  - Review existing plans
  - Collect current data
  - Conduct new risk and opportunity assessments
  - Develop new goals and objectives
  - Implement and monitor

# Water Resiliency Assessment Tool (WRAST)

# Description

- HTML survey platform
- Survey Categories
  - Mission Assurance
    - Demand, mission prioritization, restrictions, water balance
  - Supply Access
    - Sources, rights, contamination, regulations
  - System Resilience
    - Infrastructure, redundancy, metering, conservation
  - Planning and Preparedness
    - Risk assessment, tenant/stakeholder coordination, GIS
- Inputs generate resilience assessment scores
  - Excellent, Good, Satisfactory, Marginal

# Description

- Dashboard
  - Display assessment scores
  - Summary report with map
  - Archive survey responses
  - Suggestions to improve water resiliency
- ArcGIS
  - Water data (precipitation, temperature, water sources)
  - Jurisdictional boundaries
  - Digitize or incorporate existing digital installation data (wells, meters, mains, lines, hydrants, repair locations, new infrastructure, treatment facilities, pumping stations)

# Description

- Develop survey questions, assign weighting
- Import survey questions into HTML platform
- Build dashboard
- Incorporate demo feedback and MCDA
- Test functionality
- Provide spatial information products using ArcGIS
- Installation network compatibility

# Project Value

- Support readiness and the warfighter
- Support critical mission sustainment through water assurance
- Inform resiliency investments with effective water planning
- Promote resilience
  - Identify critical missions
  - Complete risk/vulnerability assessments
  - Implement mitigation strategies
  - Facilitate installation, stakeholder, and mission partner coordination
  - Train future analysts through STEM intern work with NMSU

# Demonstration

WRAST WRAST Survey WRAST Results

## Welcome To WRAST!

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### About WRAST

The Water Resiliency Assessment Tool (WRAST) is a survey platform that enables water managers to assess water security conditions at U.S. Army installations and joint bases. The tool organizes and calculates installation inputs to create a snapshot of current conditions while considering past, present, and future planning efforts. The time to complete WRAST is approximately 30 minutes.

The WRAST survey is divided into 4 water resiliency categories:

- Mission Assurance
  - Supply Access
  - System Resilience
  - Planning and Preparedness
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[See More](#)



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# DoD Mentor-Protégé Program Water Resiliency Assessment Tool

The logo for AGEISS, consisting of the word "AGEISS" in a bold, white, sans-serif font, centered within a dark teal rectangular background.