Engineering Research Development Center Contingency Base Virtual Forward Operating Base R&D Program

Presented by:
Kurt J. Kinnevan, P.E.

Construction Engineering Research Laboratory
Champaign, IL

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Agenda

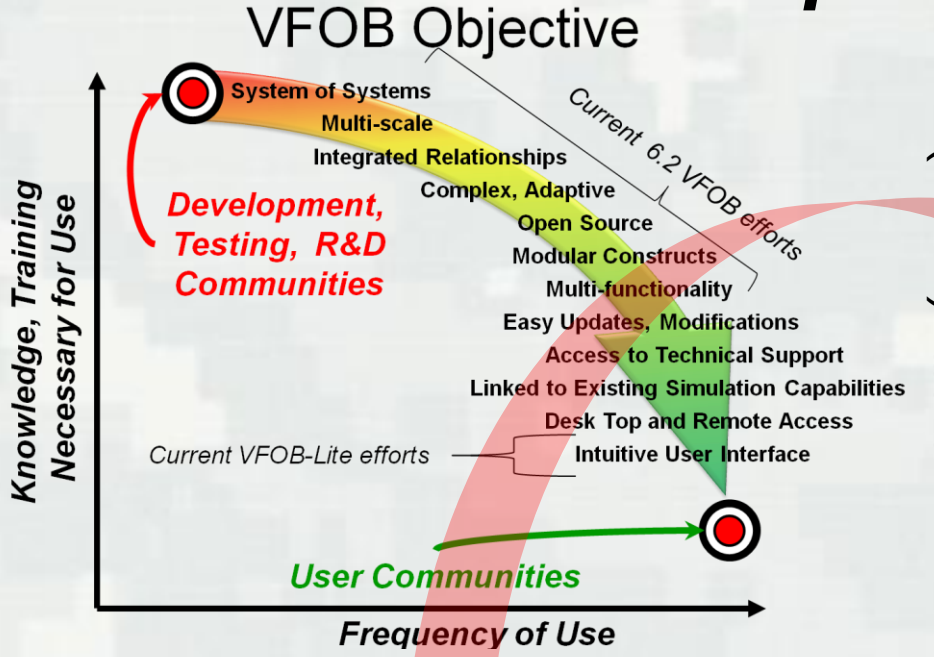
- *Contingency Base Planning and Design Goals*
- *Virtual Forward Operating Base (VFOB™) Effort*
- *Summary*
- *Questions*

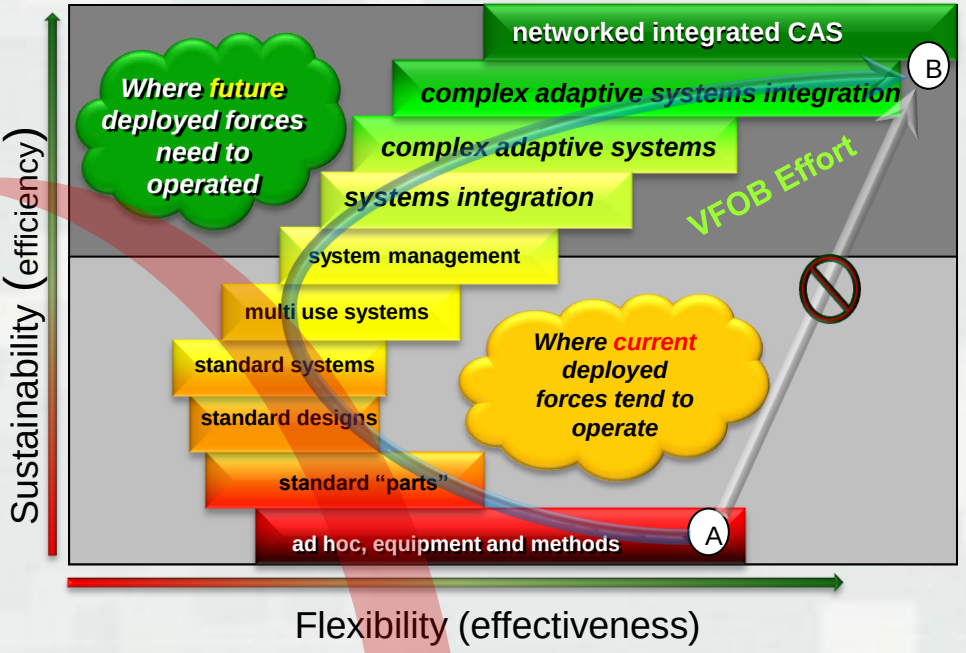
ERDC/CERL Contingency Basing Planning & Design Goals

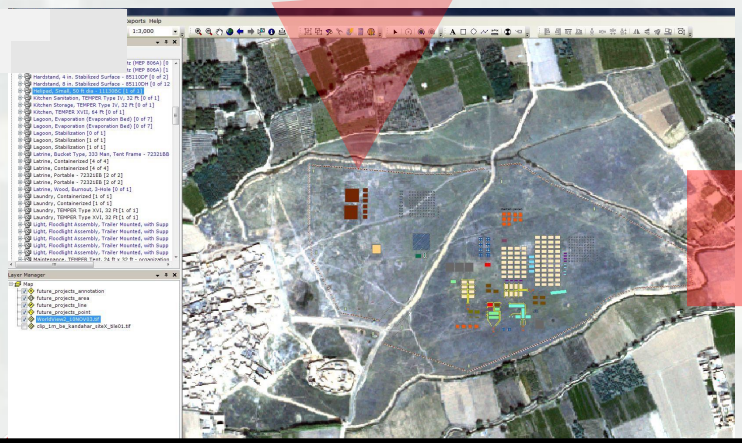
- *Reduce Resource Requirements*
- *Understand Functional Systems and System Dynamics*
- *Optimize Systems Designs*
- *Improve Sustainability*
- *Increase Modularity, Scalability, Adaptability, Reusability, Durability, and Reliability*
- *Enhance Survivability*
- *Improve Deployability*

Force Multiplier + Reduce Casualties + Combat Multiplier

Virtual Forward Operating Bases (VFOB™)

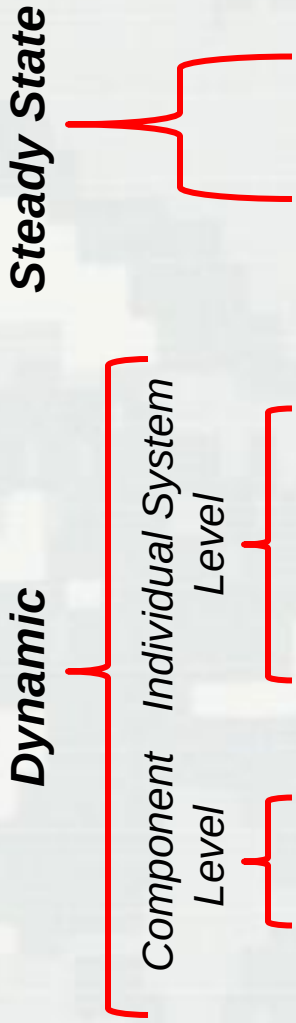






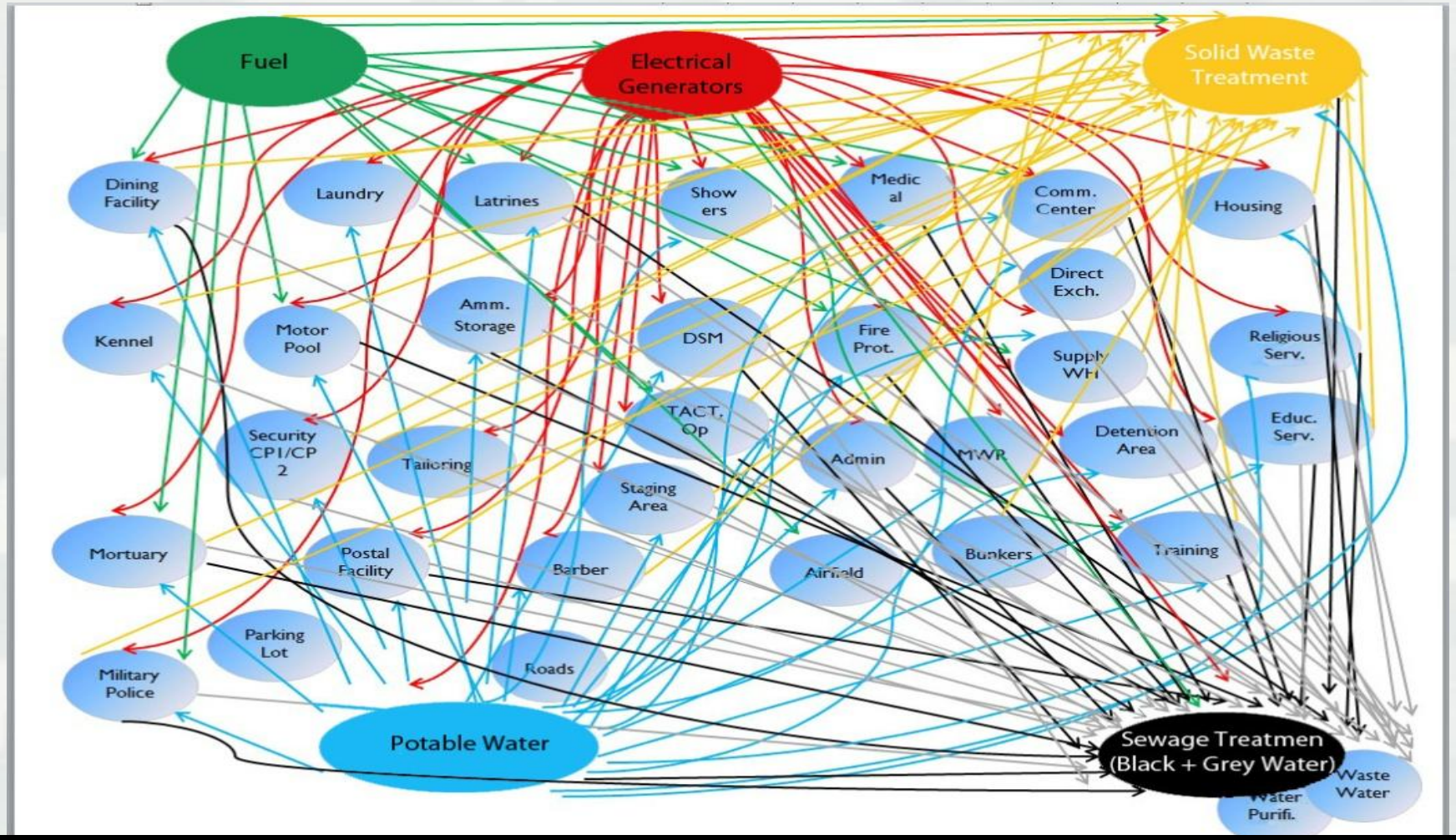
VFOB™ models Power, Water, Waste use for Contingency Bases

VFOB™ is a Multi-level Suite of Tools



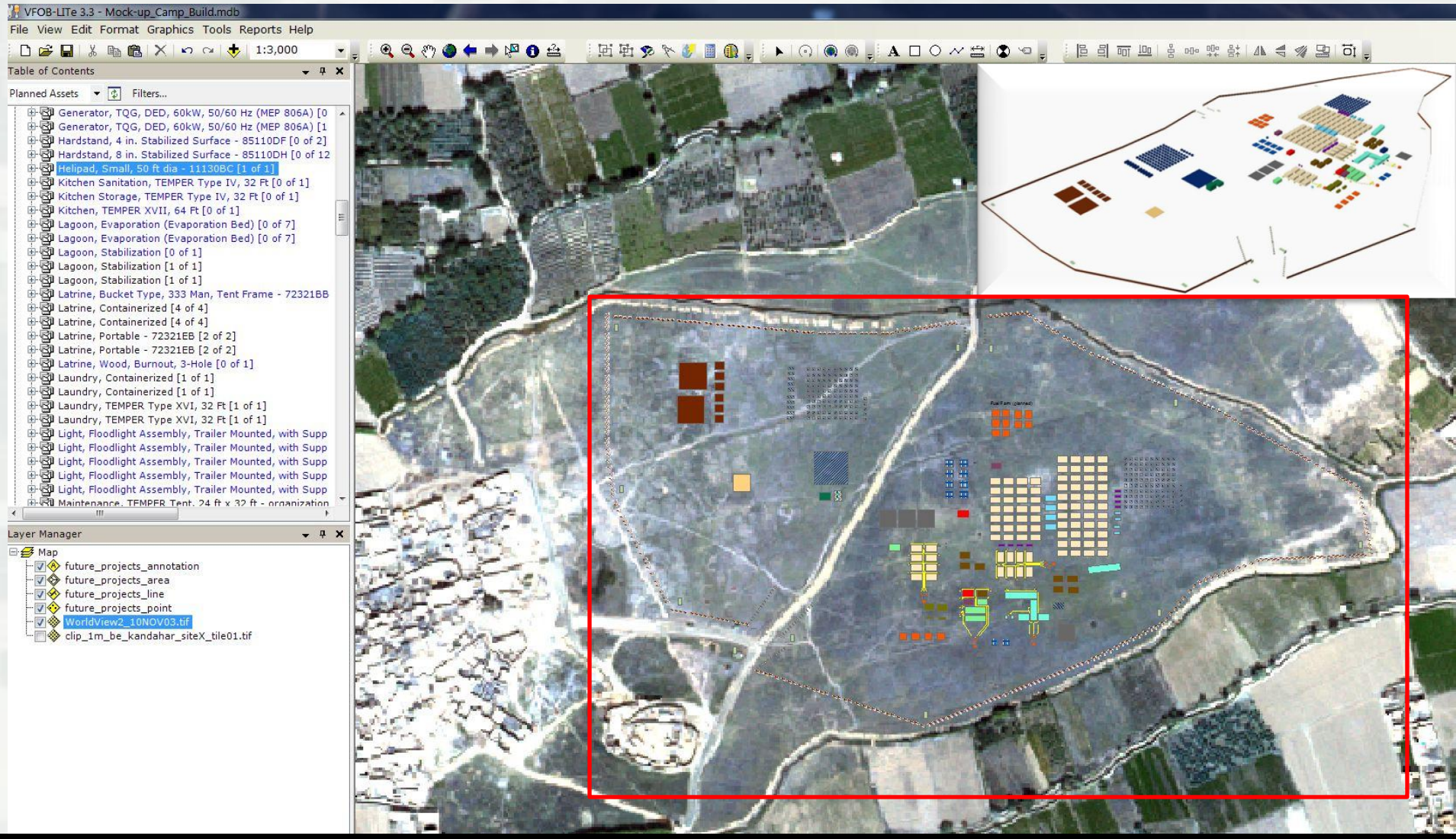
Resource Calculator	Linked Systems-level tool based on mission, PAX, Location
Planning Tool (VFOBLITE)	Geo-rectified, Interface between systems and components
Power Model (PD2AT)	Power generation and distribution model
Waste Analysis Models	Still in development
Water Resource Model	Still in development
Detailed Component Analysis Models (DCAM)	"Bottom-up", detailed, defines use levels

VFOB™ Resource Calculator Flow Paths



Numerous Complex Interrelationships

VFOB™ Layout and Information Tool Editor (VFOBLITE)

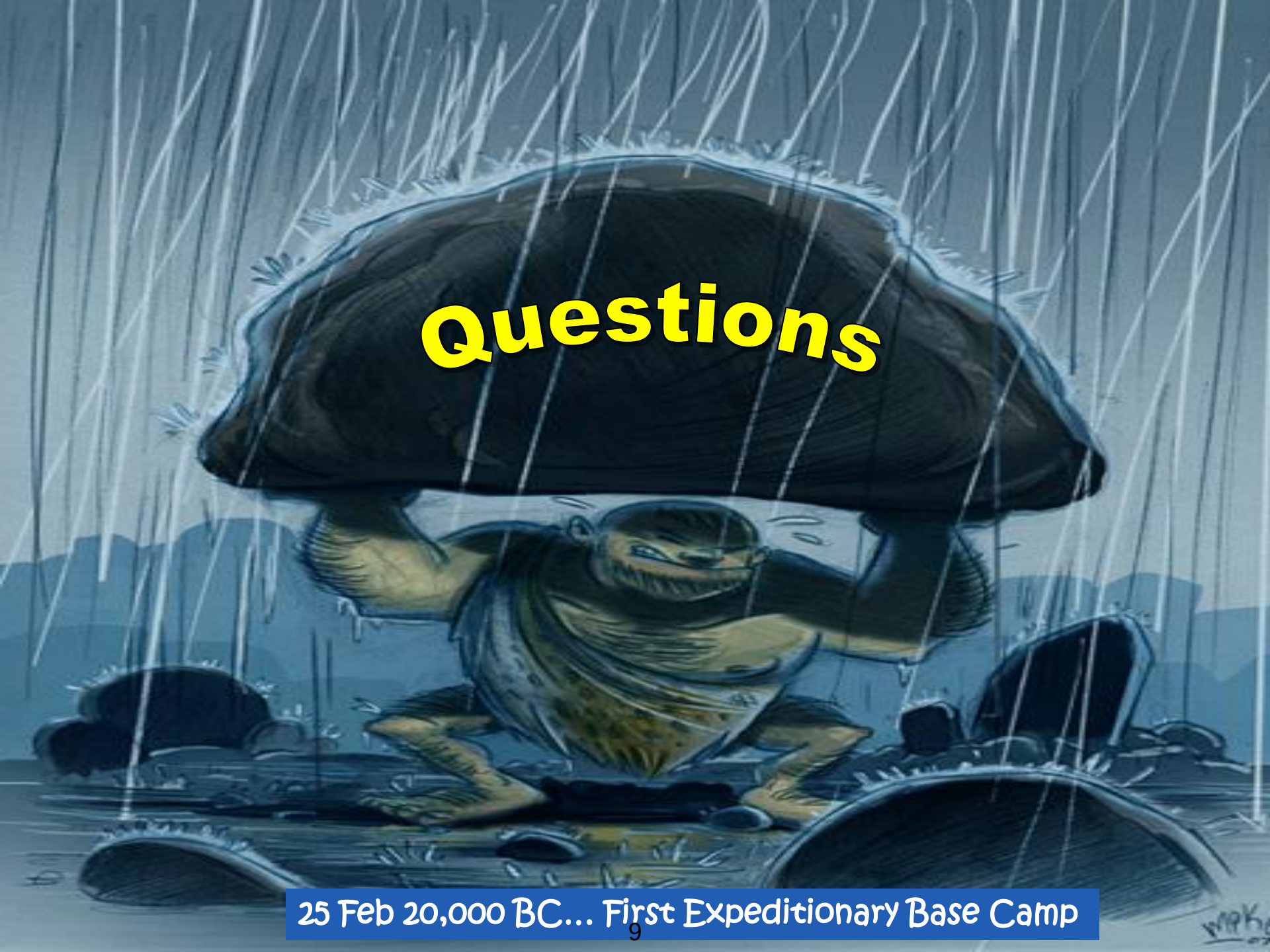


Drag and Drop Templates, Systems, Components

Summary

- ***ERDC /CERL is leading the way in developing methods and tools for planning and design for contingency bases***
  - ✓ Manage and operate CBITEC one of critical demonstration locations for TECD 4a for new capabilities
  - ✓ Co-Lead for TECD 4a Base Sustainment
  - ✓ NATO Net Zero Basing Lead for contingency base modeling.

- ***ERDC/CERL VFOB™ effort has begun spiraling out planning and tools***
  - ✓ Resource Calculator Tool
    - Undergoing first round user test and evaluation
    - USMA evaluating as training tool
  - ✓ PD2AT
    - Completed proof of concept
    - Creating user community defined use case scenarios
  - ✓ VFOBLITE
    - Established geo-rectification of maps and templates, systems sets, and components.
    - Linked with Resource Calculator and PD2AT
    - Developing systems library for object model that is capable of linking with AFCS/JCMS
  - ✓ Developing dynamic systems time dependent use relationships
  - ✓ DCAM Library
    - Expanding and improving models for non-Force Provider base camps and new technologies
    - Will be used to validate existing relationships
    - Will be used to evaluate effects of new technologies on resource-use behavior
  - ✓ Developing Water and Waste models
  - ✓ Starting Dashboard Model Start FY14


Questions