



**US Army Corps
of Engineers®**
Engineer Research and
Development Center

Product

SIRRA: Sustainable Installations Regional Resource Assessment Tool

Technology

The Sustainable Installations Regional Resource Assessment (SIRRA) methodology and web-based database analysis tool evaluates and quantifies vulnerability of the region surrounding an installation relative to 10 sustainability issues: (1) air, (2) energy, (3) urban development, (4) threatened and endangered species (TES), (5) locational issues, (6) water, (7) economic issues, (8) quality of life, (9) infrastructure, and (10) security. SIRRA™ uses “sustainability indicators” (measurable aspects) corresponding with the 10 themes to quantify the state or condition of a given geographical area. Effective *regional indicators* provide information about the impact of the surrounding region on an installation’s ability to train and maintain its mission.

SIRRA consists of:

- a database of 48 different sustainability indicators comprised of national data sets, primarily from Federal or other national organizations that collect these specific data
- a set of GIS coverages containing sustainability indicator data, for example, water quality data displayed by watershed, or quality of life data displayed by county
- a metadata file for each sustainability indicator that provides consistent source and background information for each data theme type
- lists and locations for major Defense installations
- a web-based analysis tool that provides structured views of this data, e.g., subsets of sustainability issues or installations.

Problem

A key concern for Department of Defense (DOD) installations is their ability to sustain, and sometimes change or expand, their mission activities. Optimal use of installations in the face of changing missions, closures, and realignments, requires an understanding of each installation’s capabilities. Regional competition for land, transportation, energy, water, and other resources may put an installation’s ability to perform essential activities at risk. It is critical to understand and quantify those factors that impact an installation’s ability to maintain its mission.

Expected Cost To Implement

The SIRRA™ web-based analysis tool is publicly available through the Internet free of charge at URL: <https://ff.cecer.army.mil/ff/sirra.do>

Benefits/Savings

Military installations often find themselves in competition for scarce regional resources, such as land for growth, water supply, air space, and frequency bandwidth. Installation, local, and regional planners must make decisions collaboratively to avoid or mitigate long-term mission constraints. The SIRRA tool can inform planning and decisionmaking at the national scale to maximize installation sustainability. SIRRA™ can be used to support installation sustainability planning, stationing changes, National Environmental Policy Act (NEPA) screening, regional planning, stationing changes, force transformation, and Base Realignment and Closure (BRAC) decisions.

Status

SIRRA™ version 1a is fully functional and available through the URL listed in the “Distribution” section below. Indicator data has been updated to reflect 2004 data, and data files have been updated to include DOD ranges and National Aeronautics and Space Administration (NASA) installations. A recently developed *Watershed Application* tool characterizes the nation’s watersheds, and identifies watersheds with potential sustainment problems and ranks them by their relative vulnerability. Program de-

velopment continues. Ongoing efforts include: a sustainability analysis for 308 DOD installations by service and mission type; a study of regional sustainability that uses SIRRA™ to correlate indicators to land use changes to predict alternative future scenarios; and development of a tool that characterizes land use trends around the perimeter of military ranges.

ERDC POC(s)

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Distribution Sources

SIRRA™ is accessible through the World Wide Web at URL:

<https://ff.cecer.army.mil/ff/sirra.do>

Available Documentation

Documentation is available online through the SIRRA™ webpage, under the heading “Resources.”

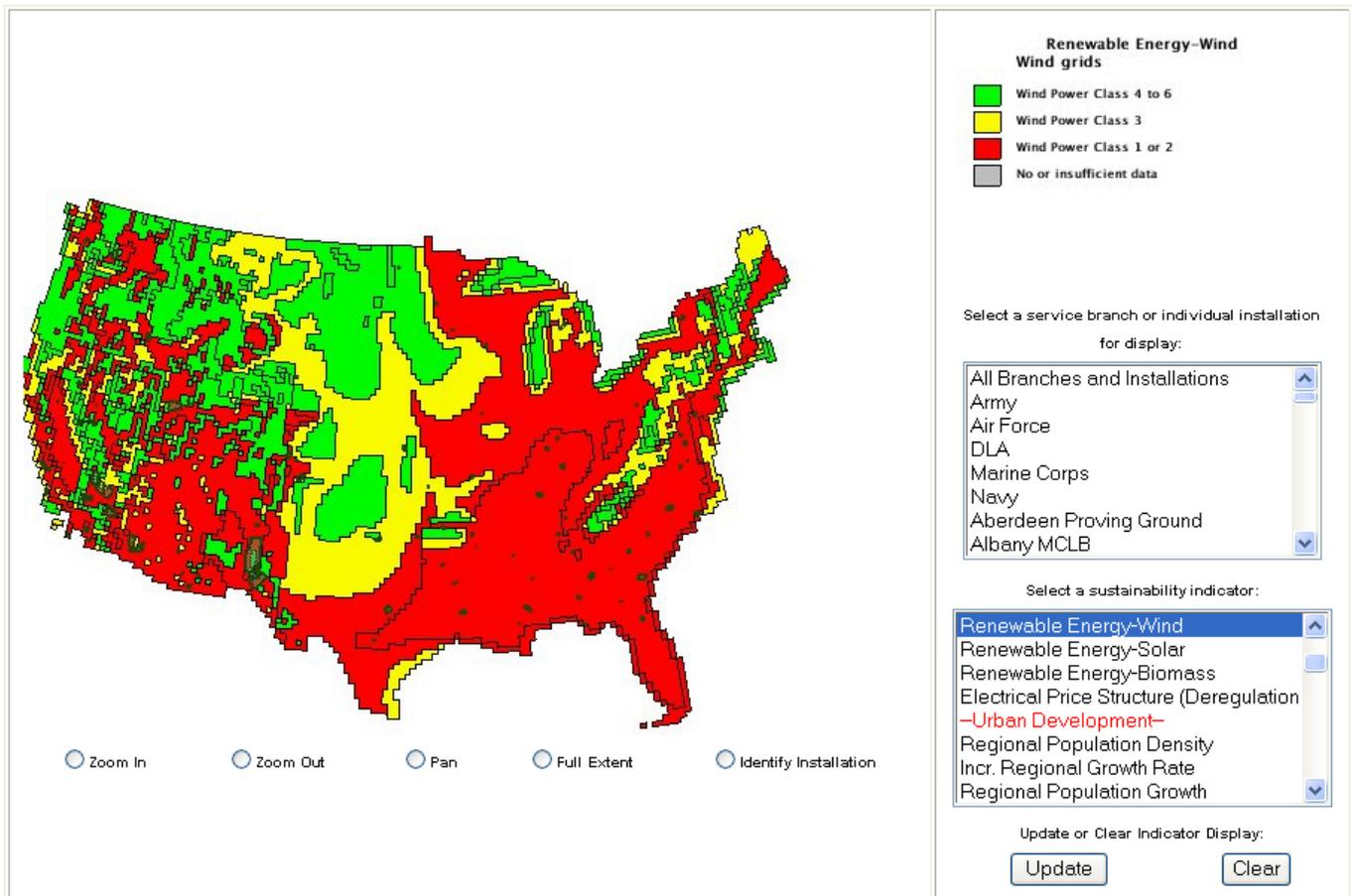
Available Training

No formal training is available—or necessary. User-friendly online help files, available through the SIRRA™ webpage under the heading “Resources,” fully describe how to use the SIRRA web-based analysis tool and database.

Available Support

Online help is available through the SIRRA™ web page through URL:

<https://ff.cecer.army.mil/ff/sirra.do?type=help>



SIRRA™ evaluates installations or service branch by selected sustainability indicator, over a chosen geographical area.