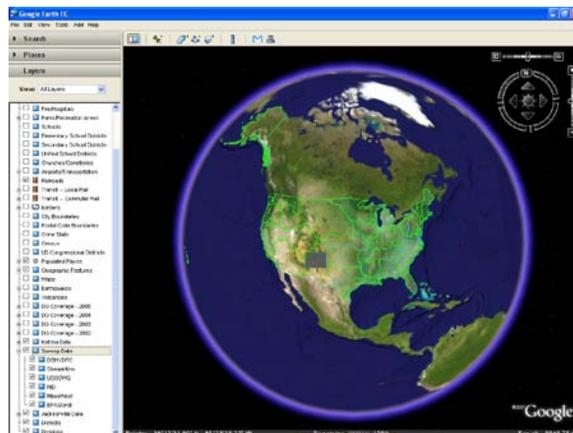




Google Earth Applications Research (GEAR)

Description: GEAR is the U.S. Army Corps of Engineers' instance of the [Google Earth Enterprise Server](#) utilized in research and development under the [System-Wide Water Resources Program \(SWWRP\)](#). The primary goal of GEAR is to provide a decision support framework for USACE and its partners in a geospatial context by developing, promoting and deploying a common geospatial environment that provides a consistent interface following best industry practices. The goal is partially achieved by:

- The ability to view terrain and high-resolution imagery in 3-D for area of interest.
- The ability to view multiple national data sets simultaneously from the original source on a 3-D map to download and graph the raw data. This significantly simplifies the data acquisition process.
- Provides a backbone infrastructure to visualize model outputs for a fast turnaround allowing the user to make adjustments and course corrections and rerun models for accuracy.



All USACE employees and partners can use the Google Earth Enterprise Client and associated data available with GEAR and CorpsMap.

Google Enterprise Client and Google Professional Client: The Google Enterprise Client (EC) does not replace the Google Pro. Similarly, Google Pro does not replace the EC client. They both work in conjunction with one another.

Background: There are four flavors of the Google Earth Clients offered by Google Inc.

- [Google Earth Client](#) – free for personal use, not authorized for commercial/enterprise use, which includes USACE.
- [Google Earth Pro Client](#) – used for professional and commercial use. This allows the user to connect to the Google Earth Server at Google.
- [Google Earth Enterprise Client](#) – free with the Google Earth Enterprise Server and connects to the USACE Google Enterprise Server by default. This allows users to see USACE specific data over commercial imagery. Details on type of data are available under the “What Data is Available” link. The Enterprise Client has the ability to connect to more than one server in the same session. For example, if the user has a Google Pro license, the user can connect to the Google Earth commercial



Google Earth Applications Research

server AND use the Enterprise Client, thereby viewing model outputs, animations and [super-overlays](#) rendered over the 1-meter commercial imagery provided by Google. This gives the ultimate viewing power of being able to see Corps owned and commercial imagery in one location.

Application: The user must download the Enterprise version of Google Earth to connect to the USACE Google Earth server. This is a free download for all USACE Google Earth server users. The most recent client is recommended. Previous clients are available. Please note that the Enterprise Client does not replace the free client or the Professional Client available from Google. **IMPORTANT: When the Google Earth Enterprise Client launches, you will be asked which server you wish to use. Enter "https://corpsglobe.usace.army.mil" in the server box then click the Login button.**

Download Client: The most recent Client can be downloaded from: <https://gear.usace.army.mil/>.

Data Available from GEAR:

National Datasets	Regional Datasets	
<ul style="list-style-type: none"> ▪ EPA STORET ▪ USGS Current Realtime Streamflow ▪ MesoWest (MesoWest meteorological data from NOAA and the University of Utah) ▪ NED (National Elevation Dataset) ▪ NID (National Inventory of Dams) ▪ NLCD (National Land Cover Data) ▪ SRTM (Shuttle Radar Topography Mission) ▪ WIS (Wave Information Studies) 	<ul style="list-style-type: none"> ▪ DBHYDRO (South Florida Water Management District's DBHYDRO database) ▪ IPET <ul style="list-style-type: none"> ○ Location of Pumps in New Orleans ○ 1 m RGB Ortho Imagery - State of Louisiana - Pre-Katrina ○ 15 cm RGB Ortho Imagery - Five Parrish - post-Katrina ○ 1 m LiDAR derived elevation data - Pre-Katrina Levees ○ 2 m LiDAR derived elevation data - Post-Katrina Levees ▪ USACE, Jacksonville District Imagery (Vector Data – .shp files) <ul style="list-style-type: none"> ○ DOQQ ECW and SPOT2000_SFWM ERDAS IMAGINE ○ Structures (South FL Water Management District) ○ Levees (South Florida Water Management District) ○ District Property around HHD ○ Canals (South FL Water Management District) ○ Herbert Hoover Dike Crest 	<ul style="list-style-type: none"> ▪ USACE, Albuquerque District <ul style="list-style-type: none"> ○ 15 cm RGB Ortho Imagery - Four Counties ○ 1 m RGB Ortho Imagery - State-wide ○ 1 m LiDAR derived elevation data - Two Counties ▪ Topographic Engineering Center <ul style="list-style-type: none"> ○ 50 cm RGB Ortho Imagery - Camp Pendleton, CA ○ 50 cm RGB Ortho Imagery - Los Angeles, CA ○ 1 m RGB Ortho Imagery - 29 Palms, CA ○ 50 cm RGB Ortho Imagery - Miramar, CA ○ 50 cm RGB Ortho Imagery - San Diego, CA ▪ USACE, Pittsburgh District <ul style="list-style-type: none"> ○ 1 ft RGB Ortho Imagery - Four Counties ▪ USACE, San Francisco District <ul style="list-style-type: none"> ○ 1 m NAIP RGB Ortho Imagery - US/Mexico Border

Google Earth Manual and Reference: This section provides assistants with features, troubleshooting, and information about KML, the Google Earth language. KML allows input of users' data and information on top of Google Earth imagery and data.

Data Requirements: Geospatial components and hydraulic models to be displayed.

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