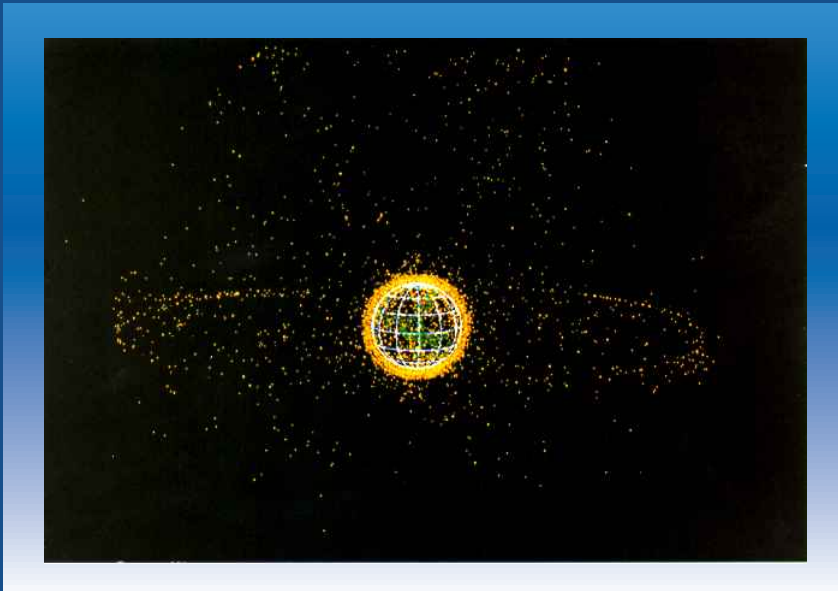


Ground-Based Electro-Optical Deep Space Surveillance (GEODSS) System

GEODSS Modification Program

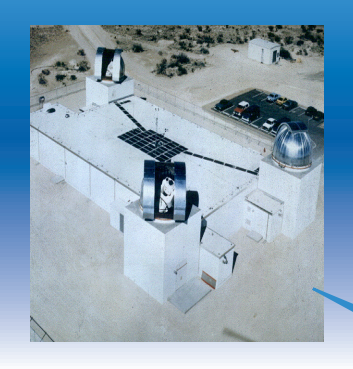
LEGACY



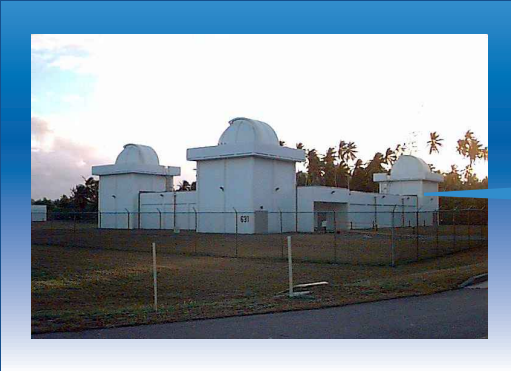
Description
The Ground-based Electro-Optical Deep Space Surveillance (GEODSS) system is an optical system that tracks objects in space from 3000NM to beyond geosynchronous altitudes. The GEODSS system is part of the Space Surveillance Network.

Mission
GEODSS provides timely metric and space object identification (SOI) data to AFSPC in support of the space surveillance mission

Operator
AFSPC, 21st Space Wing



Socorro, NM



Diego Garcia, BIOT



CMAS, CO



Maui, HI

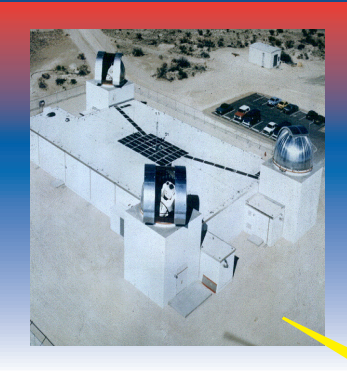
The GEODSS modification allows the system to operate effectively in an environment of up to 12,000 deep space satellites. GMP's mission planning function allows the OC3F to schedule operation of up to twelve GEODSS sensors and is capable of scheduling 2000 plus observations per sensor site per night with a growth capability to schedule 4000 plus observations per sensor site per night.

Key Parameters

- Upgrade Mission Critical Computer Resources**
 - Replace unsupportable H/W with open systems
 - Improve system throughput performance
- Reduce O&M cost by reducing manpower via automation/remote control**
 - Optical Command, Control and Communications Facility (OC3F)
- Provide growth capacity and system expandability**
 - Support existing and future optical systems
 - Reduces risk to Charge-Coupled Device (CCD) technology and minimizes engineering and manufacturing development impacts to the sensor controller and data processing systems

System Performance

Mission Element	Legacy	GMP Anticipated
• Obs Capacity/8-Hrs	931	1440
• Search Rate (Sq dg/hr)	583	600
• Metric Accuracy (arcsec).		
slow objects	17	9
fast objects	36	32



Socorro, NM

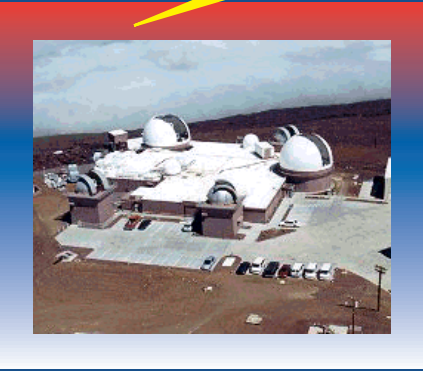


Diego Garcia, BIOT



Edwards AFB, CA

Sensor Site Upgrades

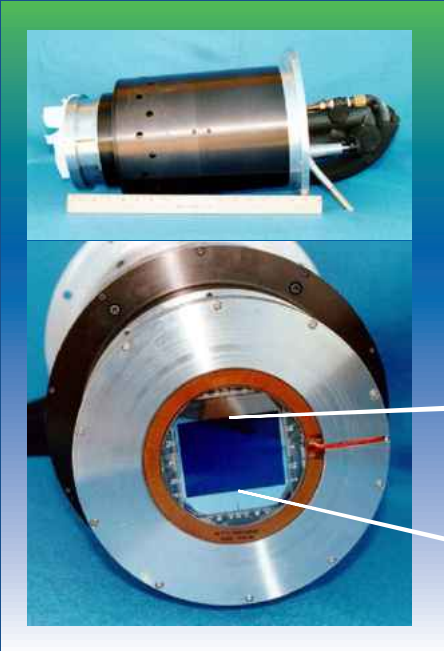


Maui, HI



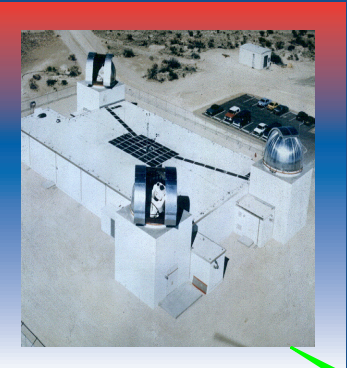
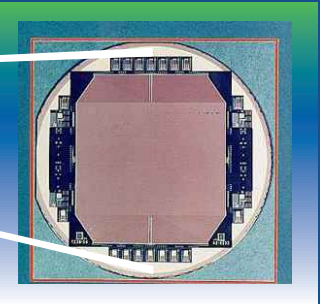
CMAS, CO

FUTURE



CCD Cameras

- GMP Sensor controller is prepared for CCD cameras
- Replacement cameras fielded in 2002



Socorro, NM



Diego Garcia, BIOT



GEODSS & Maui Optical, HI



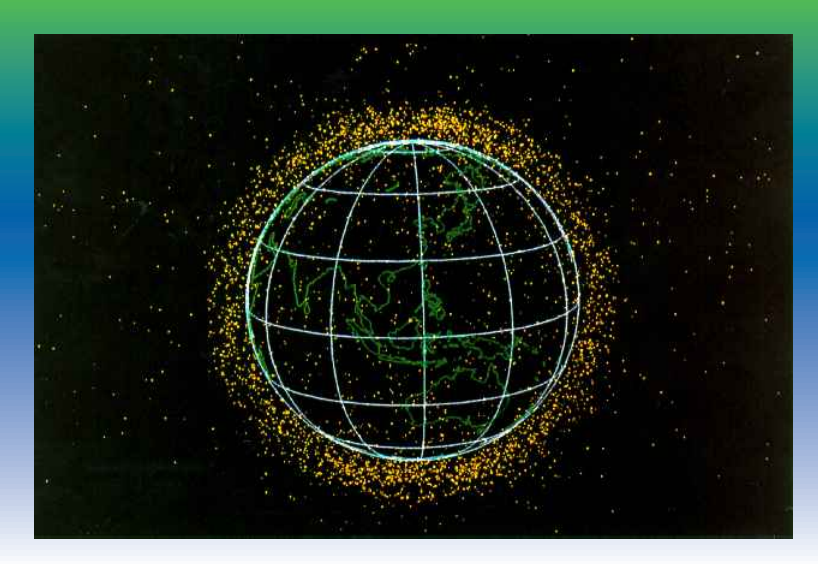
Relocatable Optical Sensors



Edwards AFB, CA

Schedule Non-GEODSS Optical Systems

The OC3F design allows mission planning growth to schedule ...



Potential Future Optical Mission

- Near Earth Objects
- Debris
- Planetary Defense

