



GEONETCast

Delivering Environmental Data to Users Worldwide

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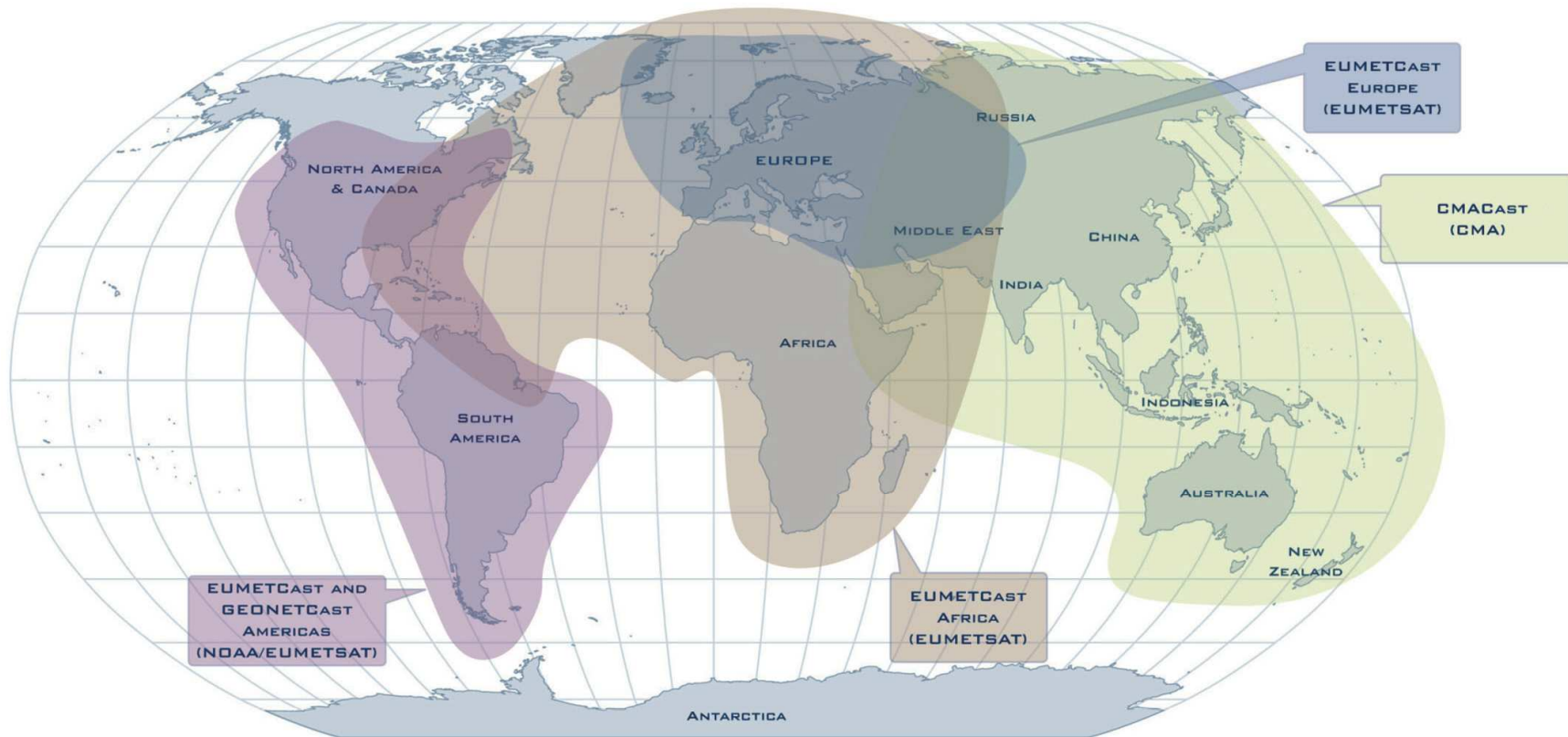


GEONETCast: Description

- **A satellite-based data and product distribution network:**
 - Low cost, stand alone, off-the-shelf reception stations.
 - 3 regional broadcasts make up the global GEONETCast system.
- **Started in 2006 GEO Work Plan: Task CB-06-04, a high priority capacity building area task under monitoring of the GEO Architecture and Data Committee.**
 - Demo of GEONETCast, as built upon EUMETCast, in 2006
 - Development of GEONETCast initiative for GEO community participation, including data products for and user involvement from all nine societal benefit areas.
- **Provide near-global coverage with established data exchange between regional broadcasts.**
 - CMA (CMACast, over Asia and western Pacific),
 - EUMETSAT (EUMETCast, over Europe, Africa, and Americas)
 - NOAA (GEONETCast Americas, over the Americas and Caribbean)



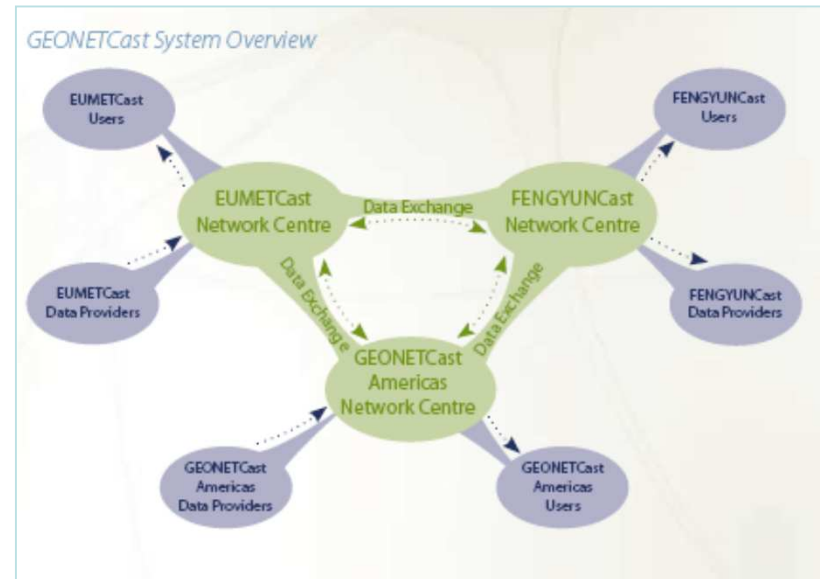
GEONETCast: Global Coverage



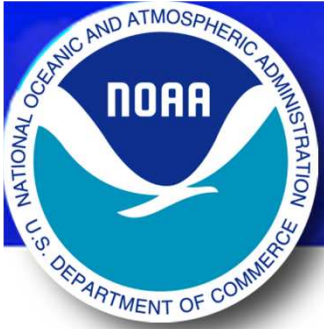


GEONETCast: Details

- **High availability, low latency data and product delivery to Users;**
- **Particularly applicable in areas of poor telecommunications infrastructure or where there is risk of damage due to disasters;**
- **Well-established mechanism for Users to request the inclusion of additional data or products;**
- **Ability to receive products generated by content providers in other regions.**



Regional Systems Are Connected



GEONETCast: Details

Receiving stations use low-cost, off the shelf DVB-S broadcast technology

Receive station cost ~ \$2,000 - \$3,000;

Small or no recurring licence costs or subscription fees

No internet connection required at User stations.

The screenshot shows a web browser window titled "Fazzt Administration - Windows Internet Explorer" with the URL "http://127.0.0.1:4039/admin/index.jsp". The page content is "KenCast Fazzt Administration (OSD-W-1985)". A left-hand navigation menu includes items like Configuration, Channels, Receive Settings, Storage Settings, Database, License, Scripting, Script Folders, Backhaul, Passwords, Alarms, Web Sites, Import/Export, Tools, Schedule, Applications, Statistics, Logs, Main Log, Received Files, UDM Log, Other Logs, Notes, Stream Statistics, and Documentation. The main area is titled "Received File Transmissions" and contains a search bar with "View All" and "inpe" entered, and buttons for "Advanced Search", "Refresh", and "Download as CSV". Below the search bar is a table with 13478 entries, showing columns for Log Time, Transmission ID, Name, Missing Packets (%), and Status. The table lists various file transmissions from 9/17/2008, including files like INPE_RFS_200809171830.jpg, INPE_LDI_200808250545.jpg, INPE_FTC_200809171815.jpg, INPE_GMC_200809171830.jpg, INPE_SAC_200809171830.jpg, INPE_SAE_200809171830.jpg, INPE_LDI_200809171830.jpg, INPE_SAD_200809171830.jpg, INPE_SAV_200809171830.jpg, INPE_SAW_200809171830.jpg, INPE_SAI_200809171830.jpg, INPE_SAC_200809171815.jpg, INPE_SAE_200809171815.jpg, INPE_SAD_200809171815.jpg, and INPE_RFS_200809171815.jpg. All entries show 0% missing packets and a status of "Validated".

| Log Time | Transmission ID | Name | Missing Packets (%) | Status |
|----------------------|-----------------|---------------------------|---------------------|-----------|
| 9/17/2008 3:15:46 PM | 4269023605 | INPE_RFS_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:15:40 PM | 4022316440 | INPE_LDI_200808250545.jpg | 0 (0%) | Validated |
| 9/17/2008 3:15:37 PM | 636344381 | INPE_FTC_200809171815.jpg | 0 (0%) | Validated |
| 9/17/2008 3:15:08 PM | 801916399 | INPE_GMC_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:09:35 PM | 3451068687 | INPE_SAC_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:09:26 PM | 642947829 | INPE_SAE_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:09:23 PM | 2129794267 | INPE_LDI_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:09:22 PM | 3616640705 | INPE_SAD_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:09:19 PM | 808519847 | INPE_SAV_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:09:10 PM | 2295366285 | INPE_SAW_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:09:06 PM | 3782212723 | INPE_SAI_200809171830.jpg | 0 (0%) | Validated |
| 9/17/2008 3:04:08 PM | 315105517 | INPE_SAC_200809171815.jpg | 0 (0%) | Validated |
| 9/17/2008 3:04:00 PM | 1801951955 | INPE_SAE_200809171815.jpg | 0 (0%) | Validated |
| 9/17/2008 3:03:56 PM | 3288798393 | INPE_SAD_200809171815.jpg | 0 (0%) | Validated |
| 9/17/2008 3:03:53 PM | 480677535 | INPE_RFS_200809171815.jpg | 0 (0%) | Validated |
| 9/17/2008 3:03:40 PM | 1667523073 | INPE_LDI_200809171815.jpg | 0 (0%) | Validated |

Kencast, Inc. Fazzt Client Application
Received File Transmission Screen on
GEONETCast Americas Receive Station



GEONETCast Americas - Receive Station

- Personal computer with client software
- Satellite antenna ~ 2.4 m
- DVB-S receiver card or box



CATHALAC/SERVIR
Antenna Installation





GEONETCast: Water Resource Management

Water Resource Mgmt.

- Agriculture Products
- Drought Monitoring
- Vegetation
- Soil Moisture
- Precipitation

Example (At right):

- Vegetation Index (NDV) from INPE/CPTEC in Brazil from AVHRR and MODIS

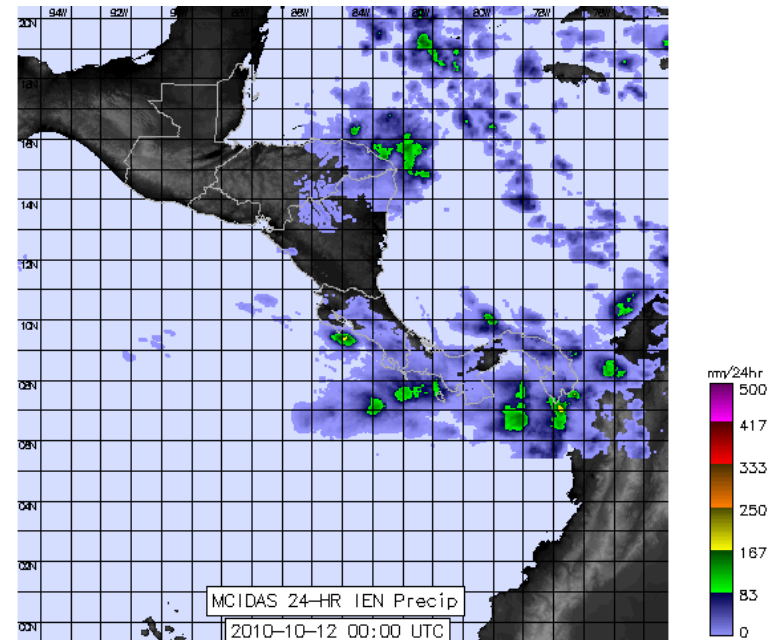




GEONETCast: Disaster Management

Disaster Application Examples:

- **Auxiliary dissemination mechanism for the International Charter “Space and Major Disasters”**
- **Precipitation Forecast for Disaster Preparedness for Floods and Landslides**
- **Portable GEONETCast Americas Receiving Stations for disaster response and recovery**



Costa Rica Instituto Meteorológico Nacional / National Meteorological Institute of Costa Rica (IMN) Precipitation Product



Portable GEONETCast-Americas Receiving Station



1.8M Flyaway Antenna (C band)



USB DVB-S Receiver



Laptop with Fazzt Client Software



Brazil National Center for the Monitoring and Alerting of natural Disasters (CEMADEN)



Future of GEONETCast

2012-2015 GEO Work Plan

IN-04 GEOSS Communication Networks

C2 GEONETCast

Leads

China (CMA), Russia (Roshydromet), USA (NOAA), EUMETSAT

Priority Actions (Relating to this Working Group)

- Further develop GEONETCast – a distribution system for GEOSS information using communication satellites and low cost, off-the-shelf reception stations. Evolve GEONETCast into a fully operational global system disseminating data and products across all Societal Benefit Areas
- Foster relationships with data providers and users to enhance data content in line with the evolving needs of users and decision-makers
- Expand interaction with networks of users in developing countries to improve access to data in areas with limited data accessibility. In particular, facilitate improved access to disaster information in developing countries through collaboration with key disaster management mechanisms, including the International Charter on Space and Major Disasters (see also DI-01)



Actions/Descions

- **Determine if/how the working group can support GEONETCast**
- **Develop specific actions on how the WG will contribute to the GEONETCast component**
- **Determine POC for the GEONETCast project should we decide to pursue it**