





#### SATELLITE IMAGE ANALYSIS & VISUALIZATION

Multi-platform software application, designed to display and analyze environmental satellite imagery.





SOFTWARE

# Get more than just a picture

Proteus is a multi-platform forecasting application, designed for detailed integration and analysis of meteorological satellite imagery and data.



## Greater accuracy in forecasting

The Proteus image-processing suite offers meteorologists, oceanographers, environmental agencies, and other research organizations the ability to perform detailed analysis of imagery and data from weather satellite systems.

Proteus is able to export all available temperature values for a particular location into a spreadsheet for the evaluation of long-range trends, and allows for cross-analysis of radar, model forecast, and synoptic weather observation data to develop a complete and more accurate forecast.

The capability to integrate satellite images with comprehensive, real-time land, sea, and atmospheric data, makes Proteus a superior forecasting solution.





Proteus is designed for the interrogation and analysis of satellite imagery. The ability to overlay of any type of modeling data allows for greater forecasting flexibility.

#### **PROTEUS ADVANTAGES**

- Multiple image display
- Image zooming and zoombox panning
- GRIB overlays
- Coast outline overlays
- Topography and river overlays
- Animation loops (auto updatable)
- Range/bearing and speed calculations
- Multiple map projections
- Application or user defined color tables
- Histogram, Scatter & Transect plots
- Histogram equalization
- Brightness and contrast image enhancements
- Integration with dissemination operations

### **APPLICATIONS**

General meteorological processing applications include:

- Spatial, Spectral and Temporal Analysis of satellite data
- Generation of animation loops
- Creation of output products for forecasting, distribution & media release
- Still pictures and animation sequences
- Facilities for analyzing satellite and forecast model data for weather forecasting

## **PERFORMANCE SPECIFICATIONS**

FUNCTION	NOTES
Cursor Display	Pixel value, physical value (temp or albedo) and lat/lon of the cursor position are displayed.
Configuration Selection	Setup files determine parameters of automatic image generation.
Simultaneous Window Displays	User can select up to four image simultaneously opened display windows.
Generation of MPEG2 or AVI	Animation loops can be saved as MPEG2 or AVI files, with user specified speed and image quality. These files can be used to output directly to PAL/NTSC format (for display on a monitor) if video output card is available
Color LUTs	Selection of 10 pre-defined lookup tables for met applications. Up to 50 user defined tables.
Overlays	Inbuilt Overlays: Gridlines Political boundaries and coastlines Latitude Longitude labels User can define Overlays Forecast MODEL GRIB and Topographic Overlays
Annotation	Automatic annotation of satellite name, data and time to images and animations.
Movie Loop Display	Up to 48 image animation loops can be generated from: a) time span b) last picture and total number c) mouse highlighting from selection Animation loop can be automatically updated with the latest satellite image. Full control of the animation loop: (start/stop, dwell, speed, direction, end delay)"
Image Combination	Arithmetic combination of images can be used to generate new images. Operations can be on pixel or physical values
Generation Of Standard Image Formats	Images can be saved as PNG, BMP, TIFF, PS, JPEG, GEOTIFF
Scatter Plot	
Skew-T	Tephigrams from NOAA & METOP Sounders
AODT	Automated Dvorak Technique capability
Histogram	2D & 3D Histograms
3D Clouds	3D rendering of clouds from Geostationary satellites

## **DISPLAY EXAMPLES**



Example RGB (MTSAT Red: VIS, Green: IR1, Blue:IR2)







3D Cloud Renderings

MTSAT IR1 : 3D Animation TC Chebi approaching the Philippines



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