Answer sheet

Giving Metadata a Title — File 3

Title: *Remotely-sensed northern Gulf of Mexico images of percent water reflectance and sea surface temperature derived from the Advanced Very High Resolution Radiometer (AVHRR)*

Metadata:

Identification_Information
Data_Quality_Information
Spatial_Data_Organization_Information
Spatial_Reference_Information
Entity_and_Attribute_Information
Distribution_Information
Metadata_Reference_Information

Identification_Information:

Citation:

Citation_Information:

Originator: National Ocean and Atmosphere Administration/ Coastal Services Center/ Coastal Remote Sensing Program

Publication_Date: 19991022

Title: Remotely sensed northern Gulf of Mexico images of percent water reflectance and sea surface temperature derived from the Advanced Very High Resolution Radiometer (AVHRR)

Geospatial_Data_Presentation_Form: remote-sensing image

Publication_Information:

Publication_Place: Charleston, South Carolina, USA

Publisher: NOAA/CSC

Online_Linkage: http://www.csc.noaa.gov

Description:

Abstract: Satellite imagery from NOAA polar orbiter environmental satellites has been converted to several products. Sea surface temperature (SST) has been calculated using a multichannel split window algorithm or a non linear split window algorithm on the thermal channels (MCSST and NLSST algorithms).

The percent reflectance in the red (a proxy for turbidity and suspended sediments) has been calculated using channels 1 and 2, with corrections for atmospheric aerosols and Rayleigh radiance and with calibrations based on the Pathfinder program to remove variation among satellites. The AVHRR reflectance algorithm was developed by Richard Stumpf. A complete description of the AVHRR water reflectance derivation can be found in Stumpf and Pennock (1989) and Stumpf and Frayer (1997; see bibliography).

For near real-time reflectance and sea surface temperature imagery, visit the NOAA Coastal Services Center, Coastal Remote Sensing homepage (http://www.csc.noaa.gov/crs/composite) or the USGS eastern Gulf of Mexico homepage (http://coastal.er.usgs.gov/east_gulf/)

Purpose: All products provide a synoptic view of northern Gulf of Mexico waters. They may be used for a variety of purposes, including determination of the location of thermal fronts and strong currents (with SST), or locating sediment and river plumes (with percent reflectance).

Supplemental_Information: These images were created with the USGS/NOAA program AVHRRMAP8.

A scene specific image offset was subtracted from each daily reflectance image to compensate for residual drift in satellite calibration and individual scene reflectance deviations. The offset for an image was determined by averaging scene reflectance values from up to 87 locations (depending on cloud cover) in the offshore Loop Current waters. These locations were in areas deeper than 200 m. Reflectance in these clear water regions should always be close to zero. Approximately 4 percent of the images had a offset that was derived in shelf break waters (~200 m depth) due to cloud cover in the offshore locations. The final offset was taken as the average offset minus 1 standard deviation.

Filenames have the formats such as gYYMMDD_HH.ref.gif or gYYMMDD_HH.sst.tif where YY = year, MM = month, DD = day of month, HH = local standard time; '.ref' indicates a reflectance product while '.sst' indicates a sea surface temperature product; '.gif' indicates GIF image format while '.tif' indicates GeoTIFF image format.

For the GeoTIFF image format, clouds have been burned to DN value 255. See 'Entity_and_Attribute_Overview' on how to convert the DN to percent reflectance or SST. For the GIF image format clouds are grayscaled.

Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 19850707
Ending_Date: 19990531
Currentness_Reference: source imagery date
Status:
Progress: complete
Maintenance_and_Update_Frequency: None planned
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: 95.72151 W
East_Bounding_Coordinate: 81.77398 W
North_Bounding_Coordinate: 30.96591 N
South_Bounding_Coordinate: 25.71651 N

Keywords:
Theme:
Theme_Keyword_Thesaurus: none
Theme_Keyword: AVHRR
Theme_Keyword: SST
Theme_Keyword: water clarity
Theme_Keyword: turbidity
Theme_Keyword: water reflectance
Theme_Keyword: sea surface temperature
Theme_Keyword: bottom albedo
Theme_Keyword: sediment transport
Theme_Keyword: river plume
Theme_Keyword_Thesaurus: GCMD
Theme_Keyword: EARTH SCIENCE > BIOSPHERE > Aquatic Habitat > Coastal Habitat
Theme_Keyword: EARTH SCIENCE > BIOSPHERE > Water Quality > Turbidity
Theme_Keyword: EARTH SCIENCE > BIOSPHERE > Water Quality > Water Temperature
Theme_Keyword: EARTH SCIENCE > OCEANS > Ocean Optics > Turbidity

Place:
Place_Keyword_Thesaurus: none
Place_Keyword: United States Coast
Place_Keyword: Northern Gulf of Mexico
Place_Keyword: Mississippi River