Landscape Classification and Analysis

Project meeting 10/16/01

Attendees: Allan Whiting (CREST), Bruce Sutherland (LCREP), Si Simenstad (UW), Dan Bottom (NMFS), Ralph Gorano (Earth Design Consultants, Inc.), and Jennifer Burke (ODFW)

Allan put together a matrix of the potential habitat classification scheme and passed this around

Jen to let Bruce know about the cost of digitizing historic T-sheets by Todd Sanders

What is the sea level that was used in the historic t-sheets? Mean high water was the vertical datum used to delineate shoreline and topographic elevations

Todd's contemporary topographic and hydrographic composite would be of value to us, especially for Ralph. Jen to pursue

Existing classification schemes should be able to be reconciled with the historic

NWI
Oregon Estuary Plan Book (modified NWI)
Dethier (Washington)
HGM
Ralph's classes (world according to Ralph)

Additional classes to add (Jen and Allan)

GLO (John Christy's work)
Duncan Thomas / Christy & Graves
T-sheets

Jen to send URL for Willamette Atlas to everyone

Our classification may be limited by the TM data

- Soil surveys are possibly outdated and the coverage may not be complete
- Ralph used these and found them to be very helpful in discerning additional classes of spectral data
- Least accurate classification for Ralph was the agricultural and wetland areas, and he would like more info for the shallow water and forested types.

Hydrogeomorphic, energy, and salinity classes are another issue.

- Salinity issue will dictate the type of veg we classify
  - Ralph suggested a field visit, but Si was skeptical that it would be possible.
- Maybe ask Antonio to run the model to determine the mean annual line of salinity, or Dave McIntyre a botanist at OSU may help with that. Jen will contact Antonio

Levels of classification - in order of increasing complexity

1. TM data cover classification
   - A.
     - dependent on "training data"
     - C-CAP is the minimum classes and NWI/Oregon estuary plan
   - B. + subclasses
     - Salinity (OGI)
     - Energy - exposure/water velocity (OGI)
     - Substrate
     - Intertidal and subtidal
   - C. + modifiers
     - prior use
     - anthropogenic disturbance
2. HGM / Functional Analysis
   - D. + bathymetry
     + topography
     + hydrology
   - E. +functional (e.g. geomorphic) measures (metrics)
     - disturbance, bio resources, climate
3. CASI

Resolution TM data

Minimal mapping is usually a combo of 3 pixels - via neighborhood analysis, thus at 25m pixels, looking at classifications at a minimum of 75m resolution

Elevation mask for Ralph

Western most scene - 50ft

Eastern most scene - 170 ft

Tributaries are an issue – don't want to carry the classification too far upstream

Send Ralph the FEMA maps from the CORPS - what datum is it in?? NGVD29

How do they derive elevation/DEM and how different is it from river's edge?

NGVD29 and NGVD88 (current standard), USGS shoreline is mean high water (MHW) based on NGVD 29 or 88 depending on the map year

Projections - Lambert Conformal Conic NAD 83

vertical datum? Topographic maps from the USGS generally have elevations referenced to an orthometric datums, either the North American Datum Vertical Datum 1988 (NAVD88) or to the older North American Geodetic Vertical Datum 1929 (NGVD29). NGVD88 is the current standard. This will have to be examined on a map-

by-map basis and I think it will be an issue because bathymetry charts use MLLW or MHW and DEMs use NGVD88.

Can we password protect subfolders on our FTP site? No

Scales of all the maps/ data - Jen put a doc together that will outline all this.

Afternoon meeting
Attendees: addiitonal - Elaine Blok and Fred from USFWS NWI, John Christy – TNC, Janet Morland (DSL)

Coastal analysis (DSL and USFWS)

- 100 ft elevation is as far as they carried in the interpretation.
- Will be using 1980 NWI and 2000 Aerial photos (rule based interpretation)
- review current NWI, add upland categories, add HGM modifiers (may be a modified version)
- scale is 1/2 acre or up to 5 acres
- besides wetland classification, there will be uplands, developed areas, and an "other" category
- adding HGM to bring the research purpose to these mapping efforts
- classifying on a one by one polygon process
- any automated classification = NO

Janet is working with an estuarine fringe HGM and NWI merged guidebook on the south coast

- our project can certainly contribute to their categories

Ralph Tiner is crosswalking between NWI and HGM

- that data is online and should be useful to us – Jen to get

Our project -
Tie historical elevation with flood stage and look at flooding frequency

Corps did a 1:24 k aerial flyover May 2001 - of the whole coast possibly including CRE

- Ralph will pursue that data source

Where CASI and GLO surveys overlap, there will be a lot of value in keeping as much detail as possible in the GLO classification scheme.