COASTAL DATA EXCHANGE

SHORELINE CERTIFICATIONS

Andy Bohlander, Shoreline Specialist
University of Hawaii Sea Grant College Program
DLNR Office of Conservation and Coastal Lands

J Schneider

My Planning Toolbox

- ☐ County Plans
- ☐ General Plans
- ☑ Conservation District Use Permits
- ☑ Setbacks
- ☑ Shoreline Certification ← *Today's Focus*
- ☑ Shoreline Permits
- ☐ Building Permits
- ☑ Special Area Management Permits
- ☐ Flood Zones

I use this planning tool to…

- ☑ Protect public safety
- ☑ Manage growth in a sustainable manner
- ☑ Protect the public trust
- ☑ Coordinate decisions
- ☑ Regulate shoreline activities
- ☑ Provide direction for future decisions
- ☑ Administer regulations pertaining to statute/ code

Data I Use

- ☑ Field observations
- ☑ Real-time ocean conditions
- ☑ Predicted ocean conditions
- ☑ Aerial photos
- ☑ Ground photos
- ☑ Technical research and reports
- ☑ GIS and land survey data

Field Observations

- Shoreline type *(e.g. sandy beach v' coastal bluff)*
- Geomorphic features *(e.g. headlands, embayments, dunes)*
- Orientation *(e.g. NW-facing v' SE-facing)*
- Exposure *(e.g. exposed v' sheltered)*
- Topography *(e.g. elevation, slope, drainages)*
- Bathymetry *(e.g. shallow fringing reef, deep channels, mud flats)*
- Substrate *(e.g. transition between marine and terrigenous sediments)*
- Wave-induced features *(e.g. berms, scarps, undercutting, exposed roots)*
- Wash signatures *(e.g. debris lines, overwash deposits, vegetation lines)*
- Additional info *(e.g. drainages, structures, water facilities, fishponds, etc.)*

Ocean Conditions

Real Time Data

- Swell (e.g. NOAA buoys, Surfline)
- Tides (e.g. NOAA water levels)
- Sea Heights and Currents (e.g. NAVY HYCOM)

Predictions

- Surf forecasts *(source: Surfline, NOAA NWS, UH/PacIOOS, HiOOS)*
- Tide predictions *(source: NOAA, PacIOOS, HiOOS)*
- High sea level forecasts *(source: PacIOOS, HiOOS)*

Aerial & Ground Photos

- Modern orthoimagery *(source: Emerge, Picometry, Google Earth, etc.)*
- Historical orthoimagery *(source: UHCGG, R.M. Towill)*
- Oblique aerial photos *(source: HawaiianImages.com, UHCGG, C&C DPP)*
- Historical ground-based photos *(source: UH Sea Grant)*

Additional Data

- Current applications *(source: DAGS Survey Office)*
- Historical surveys and maps *(source: DAGS Survey Office)*
- Shoreline change research *(source: UH)*
- Geology and hazards data *(source: USGS, UH)*
- Parcel data *(source: DLNR, Counties)*
- Historical surveys and maps *(source: DAGS, DLNR)*
- Permits for shoreline structure *(source: DLNR, Counties)*

How did this change the status quo?

- Identified problem *(lack of expertise and field-based determinations)*
- Established new position *(Shoreline Specialist, 2005)*
- Developed new approach *(based on forensic field methods)*
- Improved accuracy *(based on field observations)*
- Improved reliability *(determined by subject matter experts)*
- Improved consistency *(dedicated position for statewide program)*
- Eliminated bias *(Shoreline Specialist is UH Sea Grant extension faculty)*

Data Wish List

- Indexed historical and modern orthoimagery
- Historical ground-based and oblique photos
- Permitting history for shoreline structures
- Pending SMA applications
- Digital shoreline survey data
- Additional monitoring capacity

Data Sources

http://www.ndbc.noaa.gov/
http://www.surfline.com/home/index.cfm
http://tidesandcurrents.noaa.gov/stations.html?type=Water+Levels#Hawaii
http://www7320.nrlssc.navy.mil/GLBhycom1-12/skill.html
http://www.soest.hawaii.edu/coasts/
http://www.surfnewsnetwork.com/pat-caldwell
http://oos.soest.hawaii.edu/pacioos/wavebuoy/
http://oos.soest.hawaii.edu/pacioos/focus/modeling/wave_models.php
http://oos.soest.hawaii.edu/pacioos/data_product/SLpred/
http://oos.soest.hawaii.edu/forecast_plots/index.php
http://pubs.usgs.gov/imap/i2761/
http://ags.hawaii.gov/survey/map-search/
http://health.hawaii.gov/oeqc/
http://www.rmtowill.com/surveying-mapping
http://www.hawaiianimages.net/