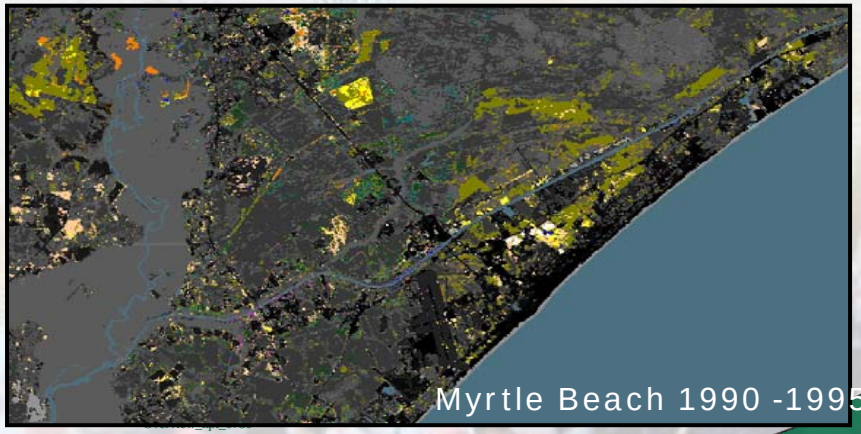
Coastal Change Analysis Program

- **C-CAP began in the 1990s by the then newly formed NOAA Coastal Ocean Program (now the NOAA Center for Sponsored Coastal Ocean Research). Initial work centered on the development of a standardized national protocol. The C-CAP protocol was developed from several regional workshops attended by more than 200 research scientists and coastal managers. The protocol was published as a guide for other organizations to use in 1995.**
- **The methodology was focused on the use of remote sensing technology, such as satellite imagery, to map land cover changes, with plans to update the maps every five years or less. This would produce a baseline from which scientific studies could be conducted on the cause-and-effect relationships of coastal changes.**



LandScan Land Cover Database

Geographic Information Science and Technology

Accurate land cover data is an integral component of the LandScan global population distribution model. The land cover data used by LandScan represents an assemblage of diverse spatial data sources of assorted resolution. Data from the National Geospatial-Intelligence Agency (NGA), federal producers of land cover data such as USGS, NASA, and NOAA, selected international sources, and land cover produced through ORNL imagery analysis are incorporated into the final land cover database. Land Cover data are assembled in a raster format (30 arc seconds or ~1km at equator)

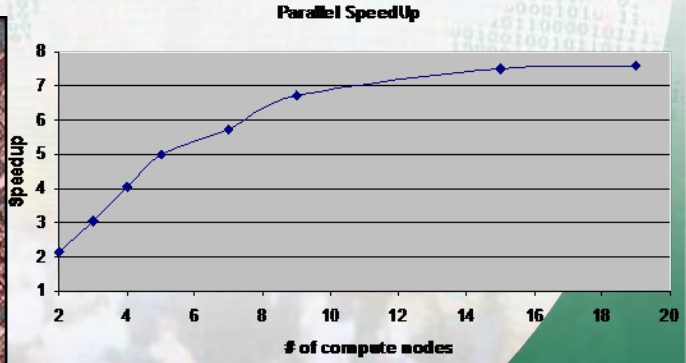
Consistent Classification Schema

Upgraded regularly on a regional basis

MODIS, Landsat-Thematic Mapper, SPOT, Ikonos, Quickbird, and Aerial Photography
Sources: National Geospatial-Intelligence Agency CIB, VMAP1
USGS National Land Cover Data, NOAA-CCAP, International spatial data products

High Resolution Feature Extraction Using Parallel Processing

- **Features are identified in high resolution imagery using a robust automated algorithm and high performance computing. The goal is to process very large high resolution (< 1m spatial resolution) image archives using efficient parallel processing.**
- **The data parallelism that is inherent to the feature extraction and clustering process is exploited and implemented using parallel processing.**
- **The computational performance of feature computation and clustering process are increased using parallel processing.**

Ikonos Image

Urban Features