GIS and Mapping system In coastal Management

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Presentation outline

- Coastal Zone
- GIS in coastal management
- Mapping Project
- Conclusion
Coastal zone

- part of the land surface influenced by marine processes.
- It extends from the landward limit of tides, waves, and wind blown coastal dunes,
- and seaward to the point at which waves interact significantly with the seabed.
- South African Coast composed of Coastal Water, Coastal Public Properties (CPP) and Coastal Protection zone (CPZ)
- The coast supports rich ecosystems, including salt marshes, mangroves, sea grass, and coral reefs.
- It play an important role for biodiversity and socio-economic development
COASTAL PROTECTION ZONE
100m in urban areas

COASTAL PROTECTION ZONE
1000m in rural areas

TERRITORIAL SEA
12 nautical miles from baseline

EXCLUSIVE ECONOMIC ZONE
200+ nautical miles from baseline
GIS in coastal management

- Increasing pressure on coastal environment
- Destruction of beach landscape
- Destruction of natural coastal habitat
- Wastewater discharges
- Dumping of solid waste
- Unplanned (random and scattered) development

Attempt to solve some of the coastal problems GIS have been seen as one of the major tool in coastal management.
GIS in Coastal management (Cont....)

- O&C is solving management conflicts through optimal solutions by integrating recent tools such as Geographic Information Systems (GIS),
- Image Processing Systems (IPS),
- Remote Sensing (RS), with Data Management,
- Data Analysis and Modelling & this looks to be a promising exercise
Mapping project

- Mapping of:
  - coastal public property,
  - the coastal protection zone boundaries and
  - auditing of structures on the coastal public property

- Mapping coastal boundaries
  - CW
  - CPP - Area between LWM and HWM
  - CPZ - 100 meters from HWM (Urban areas) and 1000 Meters (rural areas)

- Coastal Web Viewer
Coastal Web Viewer

- Enables you to Bookmark
- Enables you to View coastal features that are in CPZ & CPP
- Identify tool
- Co-ordinate plotting
- Spatial Navigation
- Drawing and Measuring
- Reporting functionality about features in CPZ & CPP
GIS and mapping system

- GIS is an important tool in coastal management:
- GIS and Planning-It informs decision making for proper coastal planning.
GIS on pollution and Land base Management-Map point source of pollution, oil spill contingency plan
GIS in Estuary management- It provide clear analysis on the proposed development along estuaries.
GIS on MPA’s- Mapping declared MPA’s, Management of MPA’s & Control development along MPA’s
THANK YOU