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SKYLAB AND ERTS-1 INVESTIGATIONS
OF COASTAL LAND USE AND WATER PROPERTIES

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Report on Significant Results
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Significant Results

ERTS-1 multispectral scanner and Skylab's S-190A, S-190B and S-192 data products were evaluated for their utility in studying current circulation, suspended sediment concentrations and pollution dispersal in Delaware Bay and in mapping coastal vegetation and land-use. S-192 digital tapes have thus far not been used extensively because of noise problems.

Imagery from the ERTS-1 MSS, S-190A and S-190B cameras shows considerable detail in water structure, circulation, suspended sediment distribution and within waste disposal plumes in shelf waters. These data products were also used in differentiating and mapping twelve coastal vegetation and land-use classes, including:

- 1.) Built-up and urban
- 2.) *Spartina alterniflora* (Salt Marsh Cord Grass)
- 3.) *Spartina patens* (Salt Marsh Hay)
- 4.) *Phragmites communis* (Reed Grass)
- 5.) Shallow water and exposed mud
- 6.) Deep water
- 7.) Forest
- 8.) Tended grass
- 9.) Plowed fields
- 10.) Planted fields
- 11.) Exposed sand-beach
- 12.) Dunes and beach grass

The spatial resolution of the S-190A multispectral facility appears to be about 30 to 70 meters while that of the S-190B Earth Terrain Camera is about 10-30 meters. Such resolution, along with good cartographic quality, indicates a considerable potential for mapping coastal land-use and monitoring water properties in estuaries and on the continental shelf. The ERTS-1 MSS has a resolution of about 70-100 meters. Moreover, its regular 18-day cycle permits observation of important changes, including the environmental impact of coastal zone development on coastal vegetation and ecology.