SAGEEP

Estuarine multi-parameter mapping and measurement via an amphibious, autonomous bottom crawler

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A new class of man-portable amphibious, autonomous bottom crawling robots enables innovative data collection across shallow water (to 300-ft), across marshland, surf zone and rivers. Bottom crawler vehicles offer a unique perspective; able to touch the ground, operate in swift and turbulent waters, and be unconcerned with water/air transitions. The new class of bottom crawlers can map and gather data over large areas and transition across environmental regimes in a seamless fashion that cannot be accessed by any other means. Since bottom crawlers touch the ground, they are ideal platforms for close-in sampling and improving instrumentation sensitivity. The vehicles are constructed to present minimal acoustic and magnetic signatures. Towed sleds (designed for ESTCP) can carry additional payload in a signature-clean environment. The look-up and look-out perspective offers a different outlook for water column characterization and minimizes the need for tidal, sea state and water column calibrations. The negative buoyancy allows the addition of sensors and payloads without concern for buoyancy and balance and provides the opportunity to gather secondary data on a single sortie with minimal logistical penalty. The systems will be discussed, payload examples shown.