

## Status of IPO's Cal/Val Study: The TODWL Spring 2002 Checkout Flights

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This presentation presented the status of the TODWL Spring 2002 checkout flight, conducted as part of the IPO-supported Cal/Val study. The flights made, noting MSFC work on surface returns, motivated the TODWL experiments by raising concern that using surface returns to calibrate the lidar returns from space may be more problematic than had been assumed. The goal is to be able to differentiate returns from the water surface and the near-surface aerosol layer. Chirping is being used to tell whether a hard or diffuse target is being encountered. For the initial TODWL flights in the Spring of 2002, the primary objectives were: to check out operation of a 2-micron coherent DWL and the semi-hemispherical scanning while airborne. The data also provide the means to investigate how TODWL (and similar instruments) might be used to provide cal/val for scatterometers and RadarSat, and an opportunity to add to the database of aerosol studies. Details of the lidar and its aircraft accommodations are reviewed. Flights made to Boulder, CO with ancillary measurements by NOAA/ETL and CTI were described, as were marine flights near Monterey, CA. While none of the data is fully analyzed yet, it is intended that the results will be posted on SWA's website: [www.swa.com/todwl](http://www.swa.com/todwl). Also mentioned were several upcoming research opportunities with the TODWL, including new GroundWinds intercomparisons, Pre-THORPEX, NAST flight over Hawaii and he offered TODWL as an additional resource for ADM cal/val. In addition, a proposed research plan for ground-based experiments with the surface version of the TODWL.

### Notes

Dave Bowdle commented on the TODWL rapidly sampling a river surface flow, compared to a technician taking hours to do single river-flow sounding in situ. Dave Emmitt acknowledged this but expressed little optimism for river flows being routinely measured via lidar.