

## Evaluating the Impact of Baseline Ozone in California using Ozone-Sonde Measurements at Trinidad Head, CA (THD): Overview

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In 2015, the Environmental Protection Agency (EPA) revised the 8-hour ozone ( $O_3$ ) National Ambient Air Quality Standard (NAAQS) to 70 parts-per-billion (ppb). Previous studies in California have documented instances in which downward mixing of baseline  $O_3$  aloft contributed to surface  $O_3$  levels that exceeded this new  $O_3$  threshold. In many cases, baseline  $O_3$  entering California can frequently exceed 60 ppb. Since baseline  $O_3$  is not governed by  $O_3$  precursor emissions within the State, attainment of 8-hour  $O_3$  NAAQS in environmentally sensitive areas can become even more challenging under certain meteorological and environmental conditions that allow surface  $O_3$  levels to be influenced by long-range transported  $O_3$ . Information on baseline  $O_3$  is becoming more important as the gap between  $O_3$  standard and baseline  $O_3$  levels diminish. The Ozone-Sonde dataset at Trinidad Head, CA (THD) contains the most temporally comprehensive vertical  $O_3$  profile measurements in California and provides extensive information on the baseline  $O_3$  that travel into the west coast. In order to determine the potential impact of baseline  $O_3$  on surface air quality, the California Air Resources Board (CARB), air quality management districts (AQMD), and atmospheric sciences community are evaluating the magnitude and the temporal variation of baseline  $O_3$  using the THD data. The information is also being used to improve regional air quality and global transport models. This poster presentation highlights the criticality of continued Ozone-Sonde measurements at THD and how the information is currently being used to support the State's air quality research and the development of future State Implementation Plans.



**Figure 1.** Trinidad Head and the town of Trinidad, CA from Luffenholz Beach.