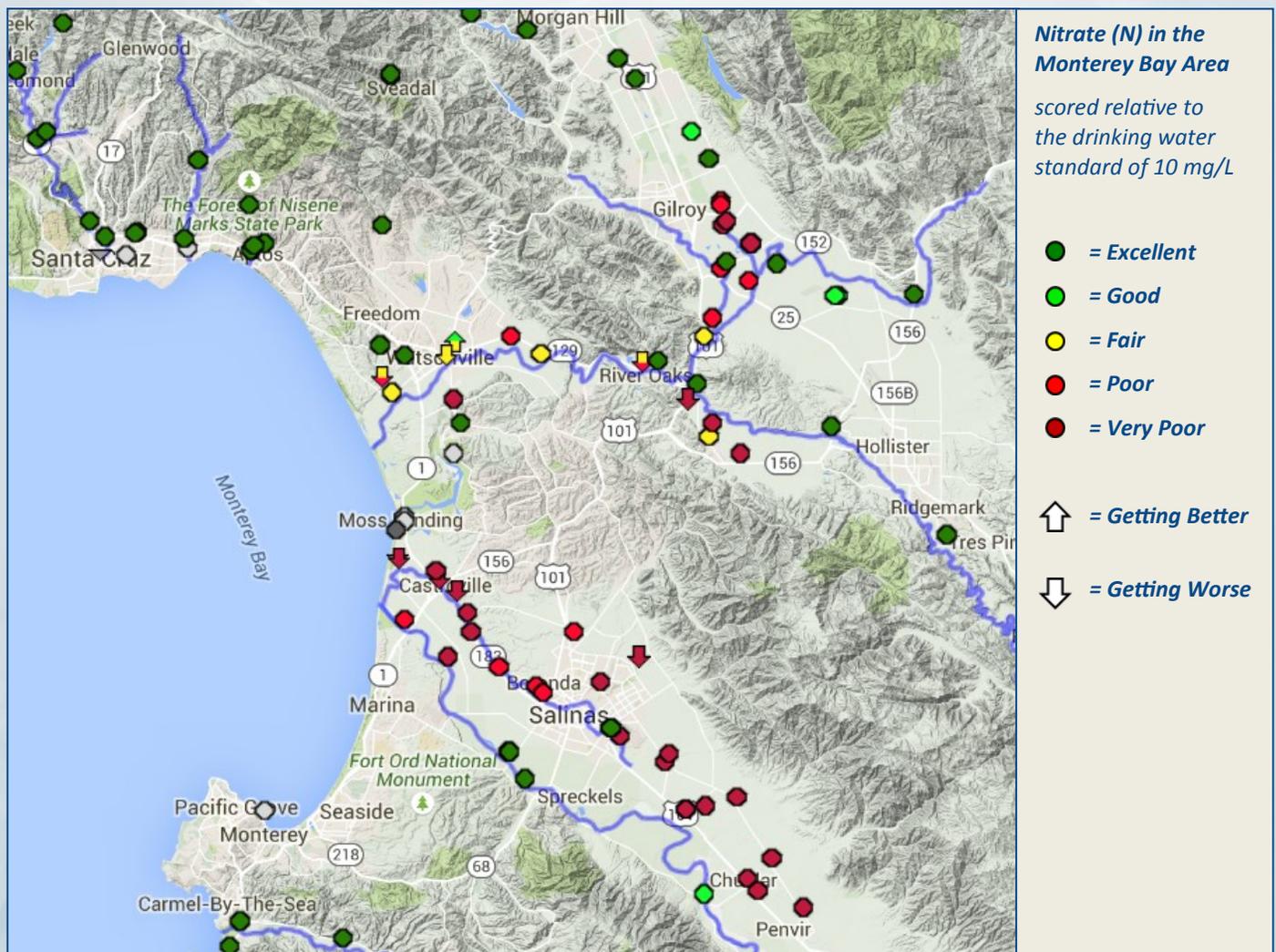


## The CCAMP Data Navigator

### A tool for better decision making

The California Central Coast's Surface Water Ambient Monitoring Program (CCAMP) has made data and, more importantly, **information** available on the CCAMP Data Navigator ([www.ccamp.org](http://www.ccamp.org)) for a number of years now. This data viewing tool can serve as a model for how to make online data more accessible, useful and meaningful. It is designed to draw data directly from the California Environmental Data Exchange Network (CEDEN) and other online data resources.

CCAMP maintains a robust trend oriented monitoring program, and combines that data online with data from the Region 3 Irrigated Lands Program. The Data Navigator makes that data available online in map, graph, and table formats, and provides *(continued on next page)*



**Figure 1.** Very high nitrate concentrations are found in the "lettuce bowl" of the Salinas Watershed.

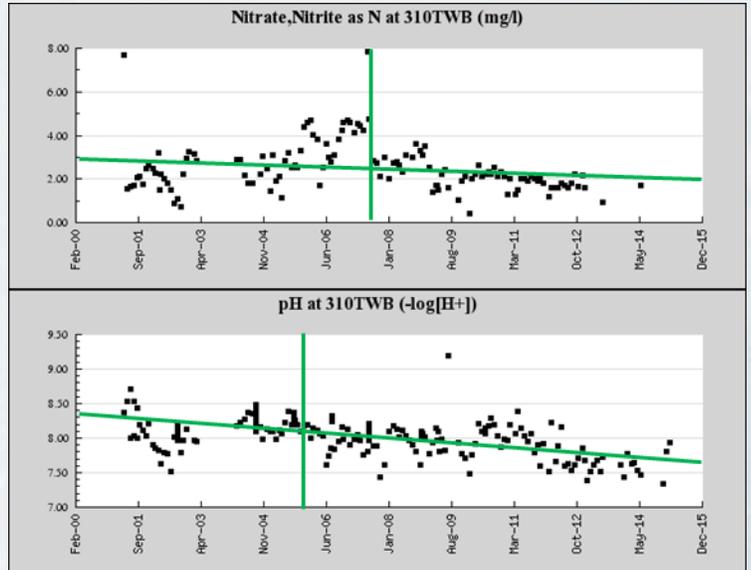
## The CCAMP Data Navigator (cont.)

access to statistical analyses, trends in concentration and load, documentation on thresholds and methods, interpretive map layers and other useful information. Web tools tell “data stories” to help staff make meaningful decisions. CCAMP data are used extensively for decision making at the Central Coast Regional Board, including for 305(b) assessment, 303(d) listing, enforcement, watershed assessment, regulatory decision making, TMDL support and a “Healthy Watersheds” report.

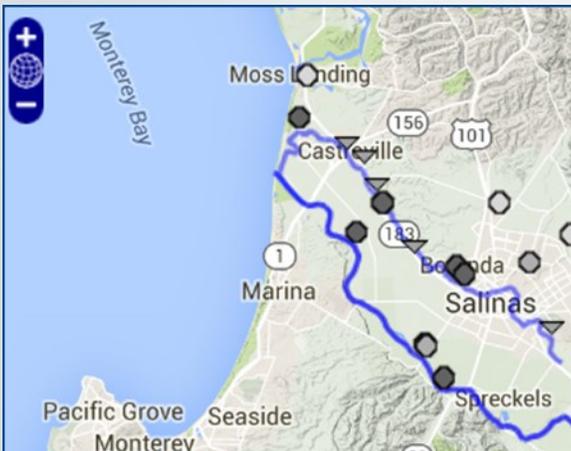
To aid the user in quickly understanding water quality conditions, sites are color-scored according to selected thresholds. The CCAMP program is designed for change detection, so at sites where statistically significant change is found, “before” and “after” groups are scored separately. For example, the site icon shown here is changing from poor to fair condition:



Trend and change analysis tools available on the Data Navigator help managers understand if management actions have successfully improved water quality. For example on Chorro Creek, which drains to the Morro Bay



**Figure 2.** Nitrate (as N) and pH on Chorro Creek, 2001 – 2014. Change analysis on the CCAMP website shows both linear change (sloped line) and a significant change point (vertical line).



**Figure 3.** Statistically significant downward trends in nitrate loading are shown as downward pointing triangles. All of these sites are located on Tembladero Slough.

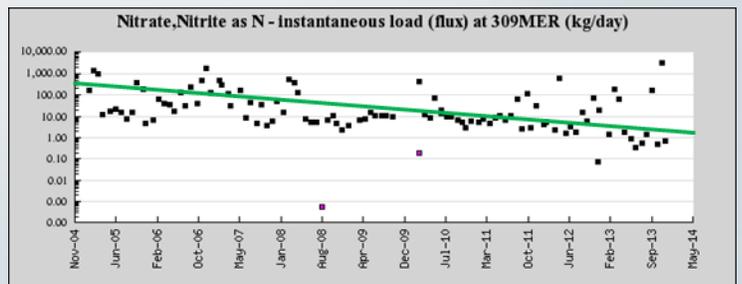
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National Estuary, a waste water treatment plant upgrade in 2007 and non-point source management activities upstream have significantly improved creek water quality in multiple parameters (Figure 2).

The Data Navigator also applies trend analysis to loading data, both for measured and modeled flow. For example, in the lower Salinas Valley, significant decreasing trends in instantaneous nitrate loads are found at several monitoring sites along Tembladero Slough, one of the most polluted waterways in the Region. Some of this decline may be drought-related, but it may also indicate reductions in concentrations and/or tail-water discharge volume.

All concentration and loading data, graphs and statistical analyses used for this article are available on the CCAMP website at [www.ccamp.org](http://www.ccamp.org). A fact sheet about the Data Navigator is available [here](#).



**Figure 4.** Example of downward trends in instantaneous Nitrate-N load on Tembladero Slough.

