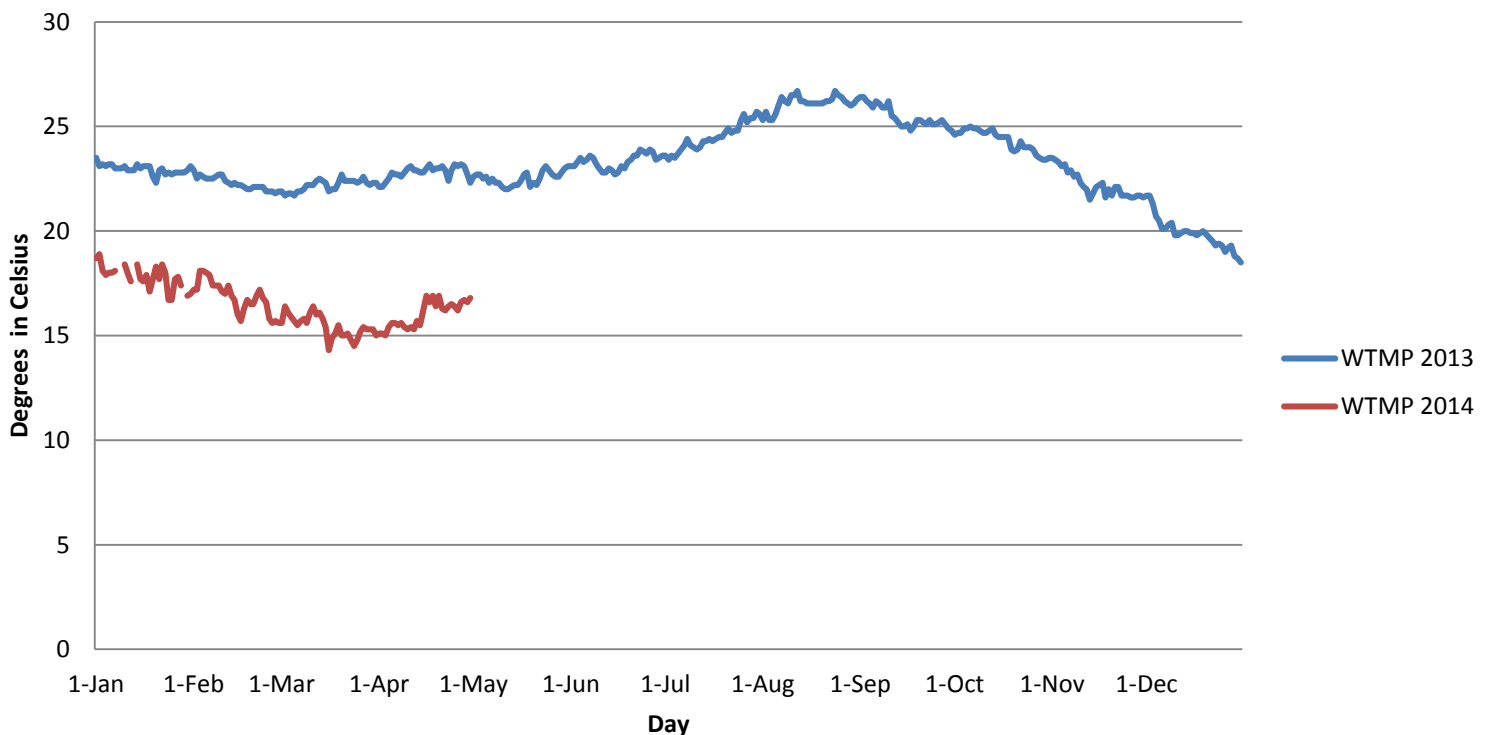


An ECH20 Academy Buoy Research Project:

Observations on Buoy Station 51000 - NORTHERN HAWAII ONE

Water Temperature:

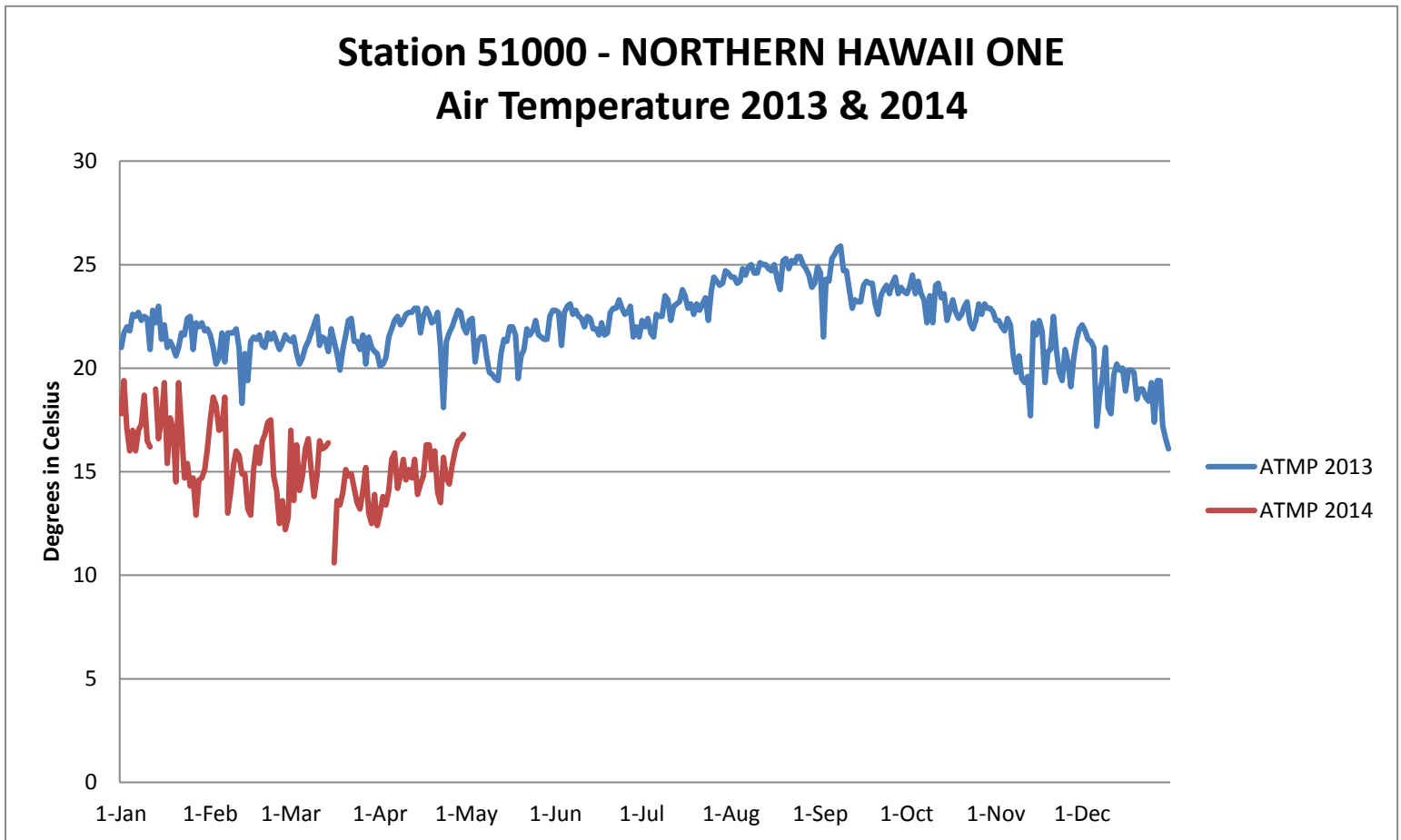
### Station 51000 - NORTHERN HAWAII ONE Water Temperature 2013 & 2014



- Water temperature (WTMP) 2014 is much lower than WTMP 2013 by about 10° C
- In this part of the Pacific La Niña may occur instead of El Niño
- WTMP 2014 has peaks and dips like WTMP 2013 though WTMP 2014 has a greater temperature range
- Some of WTMP 2014 is missing/taken out, possibly due to failure in instruments
- WTMP is more resistant to change than Air Temperature (ATMP), thus the WTMP graph is less dramatic or dynamic than the ATMP graph

Observations on Buoy Station 51000 - NORTHERN HAWAII ONE

Air Temperature:



- Air Temperature (ATMP) 2014 is lower than ATMP 2013, similar to the results of the Water Temperature (WTMP) Graph 2013 & 2014
- La Niña may occur instead of El Niño
- ATMP 2014 is not highly scaled to ATMP 2013 unlike the Water Temperature data
- ATMP 2014 has greater dips and peaks, some occur on 2014 days that have not occurred on the corresponding 2013 days
- ATMP shifts faster and greater than WTMP for the buoy site, for it is easier for ATMP to change than WTMP

Observations on Buoy Station 46086 - SAN CLEMENTE BASIN

Water Temperature:

**Station 46086 - SAN CLEMENTE BASIN  
Water Temperature 2013 & 2014**

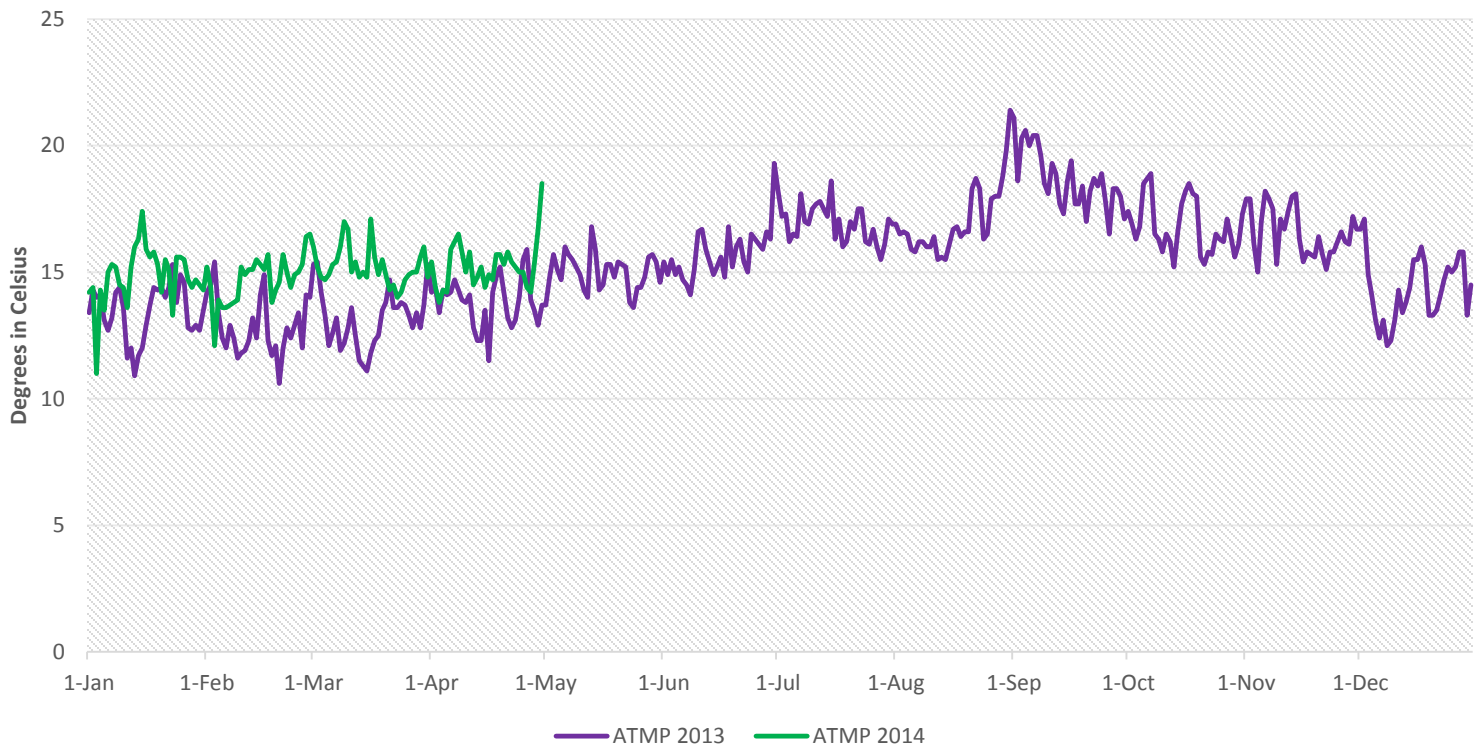


- WTMP 2014 is higher than WTMP 2013, El Niño patterns come to mind
- Initially, on January, WTMP 2014 is very slightly lower than WTMP 2013
- Also the two lines are in touch at first on January then separate
- The two WTMP lines interestingly meet again at a point in April/May time period
- A sharp WTMP 2014 dip faces a sharp WTMP 2013 peak on March
- Future may hold 2014 data that may match some of 2013's
- Instruments seem to be working fine in the past year as well as present

Observations on Buoy Station 46086 - SAN CLEMENTE BASIN

Air Temperature:

## Station 46086 - SAN CLEMENTE BASIN Air Temperature 2013 & 2014



- ATMP 2014 is generally higher than ATMP 2013, thus El Niño patterns come to mind
- Like this station's WTMP graph, ATMP 2014 in January is lower than ATMP 2013
- Outstandingly sharp ATMP 2014 dip found in January
- ATMP range is more dramatic than WTMP as expected
- Station's ATMP lines meet more often than its WTMP lines
- Future ATMP 2014 data may be relatively close to ATMP 2013 because of the lines crossing several times

The graphs are produced by myself, John J. Bolla, with the great help of the ECH20 Academy.

Data Source: <http://www.ndbc.noaa.gov/>