

# SNOTEL GOES Site Setup Rules and Send-to-Rose Checklist

## Structural Rules for CSI TX312 GOES Modem:

1. Store and transmit data points as **Low Resolution** values. This is now referred to as **FP2** format by CSI.
2. The first two values in the GOES message need to be Julian Date and Time of Day.

## Structural Rules for MicroComm GTX GOES Modem:

1. Numbers may have variable precision as defined in the GTX TPL file for the site.
2. The first two values in the GOES message need to be Julian Date and Time of Day.

## Send-to-Rose Checklist

- ❑ Site Name: \_\_\_\_\_ Example: Sidney
- ❑ Snotel ID: \_\_\_\_\_ Example: 2120
- ❑ GOES ID: \_\_\_\_\_ Example: DA5092FE
- ❑ GMT Offset: \_\_\_\_\_ hours, Standard Time Example: -8 (PST)
- ❑ Modem Type: \_\_\_\_\_ TX312, or GTX
- ❑ Define the position of all Snotel groups within the GOES message context. (See Defining Snotel Group Boundaries below.)

## Defining Snotel Group Boundaries

In GOES data transmission, all data groups are packed consecutively, and without delimiters within the GOES message context. In order to properly reconstruct the individual data groups for Snotel, the process needs to know where in the GOES message context to find each group. You can think of the GOES message context as a simple array,  $m$ , of  $n$  values, which we can refer to as  $m[0..n-1]$ , meaning that the first value in the array is referred to as  $m[0]$ , the second as  $m[1]$ , and so on. The first two values are reserved for the Julian Date and the Time of Day for the entire GOES message. (All groups share this date and time.) So, the first Snotel data group will always begin at  $m[2]$ , and will consist of however many sensors that group contains. As an example, if group 1 consists of 16 sensor values, that group may be defined like this: **group:1,2..17**, meaning that data group 1 can be found in the GOES value array,  $m[2..17]$ . It follows then, that the next group will begin at the 18<sup>th</sup> position and occupy however many values that data group placed in the GOES data stream.

Here is an example of the site definitions used by the process for the Sidney GOES site:

```
Site:Sidney          ## Site Name
snotID:2120          ## Snotel ID
goesID:DA5092FE     ## GOES ID
gmtOffset:-7        ## local time is 7 hours behind GMT
modemType:tx312     ## tx312 Modem Type
group:1,2..16       ## Group 1 is derived from GOES data fields 2 through 16
group:2,17..32      ## Group 2 is derived from GOES data fields 17 through 32
group:3,33..48      ## Group 3 is derived from GOES data fields 33 through 48
group:4,46..55,midnight1 ## Group 4 is derived from GOES data fields 46 through 55,
                        and is present only at midnight
```

1. All groups are assumed to be present in each hourly GOES message. If a midnight group is defined (occurs only at midnight), the **midnight** keyword is appended to the group's definition.