

Exploratory Analysis Subgroup

of the Arizona BioSense Workgroup

July 27, 2017



ARIZONA DEPARTMENT
OF HEALTH SERVICES

Health and Wellness for all Arizonans

Objectives

- Welcome and Attendance
- ADHS Staffing Updates
- NSSP Update-Newsletter
 - Featured Maricopa County's work on the Heat-Related Illness CC and DD Category V1 Syndrome in ESSENCE
 - [NSSP Introduces CC and DD Category for Heat-Related Illness](#)
- Community of Practice Updates
 - July [Surveillance CoP](#) Call
 - Any feedback on the call if you attended
 - **Syndrome Definitions Committee**
 - [Register](#) for the call on 08/02/2017 @ 10AM-11:00AM
 - Overdose Surveillance Committee-Opioid Series continues!
 - Join the group and find resources like past recordings of calls!
- Call with Oregon on using Syndromic for Mass Gathering Events
 - ADHS/Maricopa County
- Pinal County sharing SAS code to locate most representative weather station in ESSENCE
- Start thinking about Year 3 Charter Objectives and Deliverables!
- Questions and Open Discussion
- Next Meetings



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ADHS Staffing Updates



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NSSP News Update: July 2017



NSSP Introduces CC and DD Category for Heat-Related Illness

The summer heat is upon us, albeit much more so in some areas of the country than others. The NSSP Team has been working closely with Community of Practice members in [Maricopa County, Arizona](#), to implement a new Chief Complaint (CC) and Discharge Diagnosis (DD) category for Heat-related Illness. This category, which is based on CSTE workgroup recommendations from a few years ago, combines CC text with ICD codes to look for heat-related illness visits. Users of NSSP ESSENCE can find the definition by going to the "More" tab, syndrome definitions, CC and DD Category, and then clicking on Heat Related Illness v1.



IN THIS ISSUE:

- Overall NSSP
- Spotlight on Sys Practice
- Upcoming Events
- Last Month's Technical Assistance
- NSSP Participation
- Onboarding Updates
- Grantees and Partnerships
- Community of Practice
- Archived NSSP Update

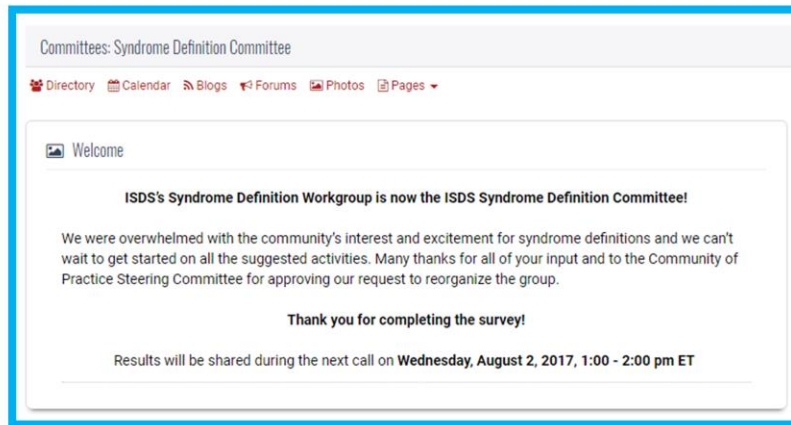
NSSP Update: <https://www.cdc.gov/nssp/news.html>

July Surveillance CoP Call

- **Part I: Community Updates**
- ISDS Announcements
 - [QPP Year 2 Proposed Rule](#)
- Community Updates
 - Introducing the [Steering Committee](#)
 - NSSP Update
 - ABC Nightline
- Guided Discussion with Presentations
 - Topic of the month: Public Health Reports
 - What are states doing?
 - Highlights: Washington
 - National shared methodology
 - Standard language
 - Best practices
- **Part II: Open Mic**
- What are your surveillance concerns this week?
- Group updates

http://www.healthsurveillance.org/members/member_engagement/groups.aspx?id=190904

Join the Syndrome Definition Committee



http://www.healthsurveillance.org/members/member_engagement/groups.aspx?id=190904

Register for future SDC Calls

Syndrome Definition Committee Call

 View Registrations  Tell a Friend



8/2/2017

• RSVP for this event

When: 8/2/2017
1 - 2 PM ET

Where: <https://attendee.gotowebinar.com/rt/6116206436909396738>
United States

Contact: Rasneet Kumar
rasneetkumar@mail.maricopa.gov

[« Go to Upcoming Event List](#)

Registration Link

<https://attendee.gotowebinar.com/rt/6116206436909396738>

<https://attendee.gotowebinar.com/rt/6116206436909396738>

Click on the event and you will be taken to the webinar registration information page.

Cold Syndrome

- Matt Roach, ADHS
 - CSTE Heat Syndrome Definition Call Update
 - Interest in a syndrome for ESSENCE

Sharing Best Practices

- Call with Oregon to share best practices for mass gathering syndromic surveillance
 - ADHS/Maricopa County

NCDC Data Analysis for Weather Station Selection

SAM PACKARD, MPH

PINAL COUNTY PUBLIC HEALTH SERVICES DISTRICT

NCDC Weather Data

NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION
NATIONAL WEATHER SERVICE AND ENVIRONMENTAL DATA SERVICE

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Home > Climate Data Online

Climate Data Online

Climate Data Online (CDO) provides free access to NCDC's archive of global historical weather and climate data in addition to station history information. These data include quality controlled daily, monthly, seasonal, and yearly measurements of temperature, precipitation, wind, and degree days as well as radar data and 30-year Climate Normals. Customers can also order most of these data as **certified hard copies** for legal use.

**Browse Datasets**
Browse documentation, samples, and links

**Certify Orders**
Get orders certified for legal use (requires payment)

**Check Status**
Check the status of an order that has been placed

**Find Help**
Find answers to questions about data and ordering



DISCOVER DATA BY

SEARCH TOOL
Search for and retrieve past weather and climate data by station name or identifier, ZIP code, city, county, state, or country.
[Search Tool >](#)

MAPPING TOOL
Find and view past weather and climate data by station name or identifier, ZIP code, city, county, state, or country.
[Mapping Tools >](#)

DATA TOOLS
Access past weather and climate data using a collection of specialized tools.
[Data Tools >](#)

NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION
NATIONAL WEATHER SERVICE AND ENVIRONMENTAL DATA SERVICE

Home Climate Information Data Access Customer Support Contact About

Home > Climate Data Online > Search

Climate Data Online Search

Start searching here to find past weather and climate data. Search within a date range and select specific type of search. All fields are required.

Select Weather Observation Type/Dataset
Daily Summaries

Select Date Range
2016-12-31

Search For
Stations

Enter a Search Term
Enter a location name or identifier here

SEARCH

Search Guide

Select Type/Dataset
Records of observations including details such as precipitation, wind, snowfall, and radar data. Read more about the datasets and view data samples.

Select Date Range
Defaults to the latest available year for the selected dataset or product but can be set to any date range within the available period of record.

Search For
Stations: Enter name, WISN, GHND, FAA, ICAO, NWSU or COOP identifiers.
Locations: Enter name of city, county, state, country or other geographic location. ZIP codes and FIPS identifiers are also valid.

NCDC Weather Data

 **NOAA** NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Home Climate Information Data Access Customer Support Contact About

Home > Climate Data Online > Search Results: Daily Summaries

casa grande national monumet SEARCH

More Search Options

Search Type
Stations

Date Range
2010-01-01 to 2016-12-31

View data types

☐ Evaporation ☐ Land

☐ Precipitation ☒ Air Temperature

☐ Sunshine ☐ Wind

☐ Water

☐ Weather Type

*All available data types shown if no boxes checked (Close)

UPPER RIO GRANDE, CO US

STATION DETAILS

Name CASA GRANDE NATIONAL MONUMENT, AZ US

ID GHCND1USC00021314

Lat/Lon 32.9947,-111.5367

PERIOD OF RECORD

Start/End 1906-03-01 to 2017-07-16

Coverage 9.8%

FULL DETAIL ADD TO CART

NCDC Weather Data

■ Cart: Daily Summaries

Step 1: Choose Options Step 2: Review Order Step 3: Order Complete

Select Cart Options

Specify the desired formatting options for the data added in the cart. These options allow more refined date selection, selection of the processed format, and the option to remove items from the cart.

Select the Output Format

Choose one option below to choose a type of format for download. Formats are a standard PDF format. Other formats are CSV (Comma Separated Values) and Text format, both of which can be opened with programs such as Microsoft Excel or OpenOffice Calc. Some formats have additional options which can be selected on the next page.

- ☐ GHON-Daily PDF
DOC Certification Option
(Does not include all elements)
☐ Include Documentation
- ☒ Custom GHON-Daily CSV
(Additional options available on next page)
- ☐ Custom GHON-Daily Text
(Additional options available on next page)

Review the items in your cart

(CLEAR CART)

CASA GRANDE NATIONAL MONUMENT, AZ US

View Full Details
Station ID: GHNCN.US02002314
Period of Record: 1956-05-01 : 2017-07-16

Delete

ROBSON RANCH, AZ US

View Full Details
Station ID: GHNCN.US02027187
Period of Record: 2008-10-01 : 2017-07-15

Delete

ORACLE STATE PARK, AZ US

View Full Details
Station ID: GHNCN.US02028117
Period of Record: 2010-02-01 : 2017-07-11

Delete

PHOENIX AIRPORT, AZ US

View Full Details
Station ID: GHNCN.US00023183
Period of Record: 1933-06-01 : 2017-07-16

Delete

TUCSON INTERNATIONAL AIRPORT, AZ US

View Full Details
Station ID: GHNCN.US00023180
Period of Record: 1946-06-01 : 2017-07-16

Delete

APACHE JUNCTION 5 NE, AZ US

View Full Details
Station ID: GHNCN.US02020288
Period of Record: 1987-05-01 : 2017-07-15

Delete

CONTINUE

NCDC Weather Data

- .CSV Format
- 6 Variables
 - Station
 - Station Name
 - Date
 - Average Daily Temperature (TAVG)
 - Maximum Daily Temperature (TMAX)
 - Minimum Daily Temperature (TMIN)
- 1 observation per day per station
 - ~15k observations for 6 weather stations over 7 year period from 2010 - 2016

	A	B	C	D	E	F
1	STATION	STATION_NAME	DATE	TAVG	TMAX	TMIN
2	GHCND:USC00027187	ROBSON RANCH AZ US	20110101	99	45	23
3	GHCND:USC00027187	ROBSON RANCH AZ US	20110102	99	54	23
4	GHCND:USC00027187	ROBSON RANCH AZ US	20110103	99	57	29
5	GHCND:USC00027187	ROBSON RANCH AZ US	20110104	99	56	29
6	GHCND:USC00027187	ROBSON RANCH AZ US	20110105	99	55	30
7	GHCND:USC00027187	ROBSON RANCH AZ US	20110106	99	61	33
8	GHCND:USC00027187	ROBSON RANCH AZ US	20110107	99	64	31
9	GHCND:USC00027187	ROBSON RANCH AZ US	20110108	99	61	33
10	GHCND:USC00027187	ROBSON RANCH AZ US	20110109	99	64	34
11	GHCND:USC00027187	ROBSON RANCH AZ US	20110110	99	60	35
12	GHCND:USC00027187	ROBSON RANCH AZ US	20110111	99	62	30
13	GHCND:USC00027187	ROBSON RANCH AZ US	20110112	99	67	39
14	GHCND:USC00027187	ROBSON RANCH AZ US	20110113	99	69	36
15	GHCND:USC00027187	ROBSON RANCH AZ US	20110114	99	69	35
16	GHCND:USC00027187	ROBSON RANCH AZ US	20110115	99	71	39
17	GHCND:USC00027187	ROBSON RANCH AZ US	20110116	99	69	37
18	GHCND:USC00027187	ROBSON RANCH AZ US	20110117	99	72	40
19	GHCND:USC00027187	ROBSON RANCH AZ US	20110118	99	74	38
20	GHCND:USC00027187	ROBSON RANCH AZ US	20110119	99	77	43
21	GHCND:USC00027187	ROBSON RANCH AZ US	20110120	99	71	40
22	GHCND:USC00027187	ROBSON RANCH AZ US	20110121	99	67	32
23	GHCND:USC00027187	ROBSON RANCH AZ US	20110122	99	69	34

SAS Code! 😊

Reads .CSV data, cleans and transposes for analysis

- User selects one temperature variable for analysis (avg, min, or max)
- Each observation represents one date with one column for each station

PROC Univariate for summary statistics of temperature readings

PROC CORR to produce correlation tables

Shows correlations of daily temperature between each weather station

- Excludes all dates with *any* missing values

Correlation Tables – Raw SAS Output

Correlation of Daily Temperatures (TMAX), June - September Only

Pearson Partial Correlation Coefficients, N = 602						
	APACHE JUNCTION 5 NE AZ US	CASA GRANDE NATIONAL MONUMENT AZ	PHOENIX AIRPORT AZ US	TUCSON INTERNATIONAL AIRPORT AZ	ORACLE STATE PARK AZ US	ROBSON RANCH AZ US
APACHE JUNCTION 5 NE AZ US	1.00000	0.84297	0.88186	0.78709	0.78249	0.91638
CASA GRANDE NATIONAL MONUMENT AZ	0.84297	1.00000	0.70905	0.66644	0.85364	0.81828
PHOENIX AIRPORT AZ US	0.88186	0.70905	1.00000	0.85668	0.66255	0.89312
TUCSON INTERNATIONAL AIRPORT AZ	0.78709	0.66644	0.85668	1.00000	0.68758	0.86630
ORACLE STATE PARK AZ US	0.78249	0.85364	0.66255	0.68758	1.00000	0.76076
ROBSON RANCH AZ US	0.91638	0.81828	0.89312	0.86630	0.76076	1.00000

Correlation Tables – Reformatted in Excel

	APACHE JUNCTION 5 NE AZ US	CASA GRANDE NATIONAL MONUMENT AZ	ORACLE STATE PARK AZ US	ROBSON RANCH AZ US
APACHE JUNCTION 5 NE AZ US		84.3%	78.2%	91.6%
CASA GRANDE NATIONAL MONUMENT AZ	84.3%		85.4%	81.8%
ORACLE STATE PARK AZ US	78.2%	85.4%		76.1%
ROBSON RANCH AZ US	91.6%	81.8%	76.1%	

	APACHE JUNCTION 5 NE AZ US	CASA GRANDE NATIONAL MONUMENT AZ	ORACLE STATE PARK AZ US	ROBSON RANCH AZ US
PHOENIX AIRPORT AZ US	88.2%	70.9%	66.3%	89.3%
TUCSON INTERNATIONAL AIRPORT AZ	78.7%	66.6%	68.8%	86.6%

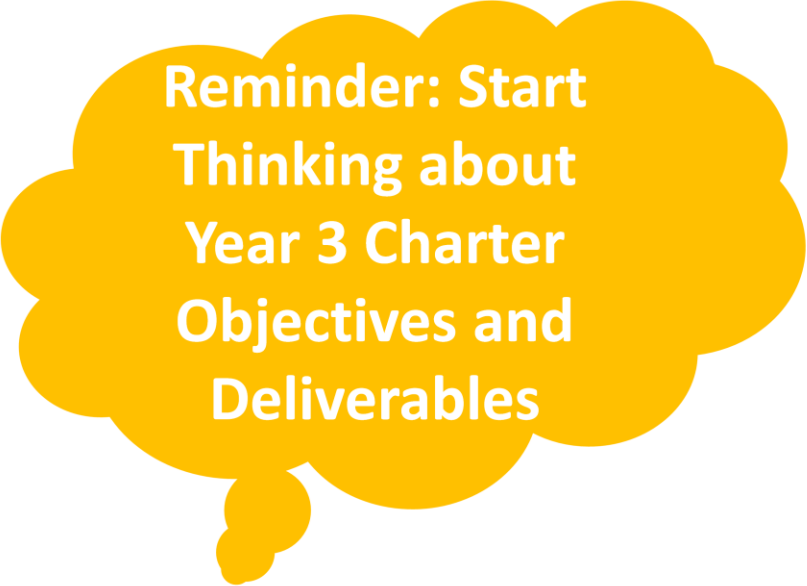
Discussion

Can choose the station most representative of either:

- County as a whole
- or*
- Stations near hospitals with bulk of admissions

Temperature Variation

- Wide variation both within county and between counties
- Graph multiple weather stations in ESSENCE?
- Overlay weather station readings over specific hospitals in ESSENCE?

A yellow thought bubble with a black outline, containing the text "Reminder: Start Thinking about Year 3 Charter Objectives and Deliverables". The bubble has a small tail pointing downwards.

**Reminder: Start
Thinking about
Year 3 Charter
Objectives and
Deliverables**

Upcoming Meetings

Arizona BioSense
Workgroup

- Tues. Aug. 27
from 1:00 – 2:00



Exploratory
Analysis Subgroup

- Tues. Aug. 24
from 1:00 – 2:00



ARIZONA DEPARTMENT
OF HEALTH SERVICES

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THANK YOU

syndromicsurveillance@azdhs.gov | 602-542-6002

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