



HOT SPOTS

Colombia

Terrain has the largest influence on Colombia's climate. The Andes run through the country in a north-south orientation. From the south to north, they diverge into three distinct ranges, Cordillera Occidental in the west, Cordillera Central, and Cordillera Oriental in the east. Volcanoes dot the southern half of Cordillera Central. Tropical rainforests are on both sides of the Andes. (see Figure 1).

The Andes are perpendicular to westward-moving bands of convective activity that move along the near equatorial tradewind convergence (NETWC) every few days during the rainy season. As a result, upslope-induced rainfall along the windward slopes of the Cordillera Oriental is substantial. This upslope flow also produces considerable cloudiness and frequent fog in Colombia's high elevation cities. Note: The NETWC is also known as the intertropical convergence zone (ITCZ), the near equatorial trough (NET), and the monsoon trough.

Much of Colombia has distinct wet and dry seasons, particularly in the north and east. The alternating seasons are in response to movement of the NETWC. The Northern Hemisphere winter months are very dry along the northern Caribbean coast with virtually no rainfall. The rainiest months in Colombia also vary by latitude and elevation.

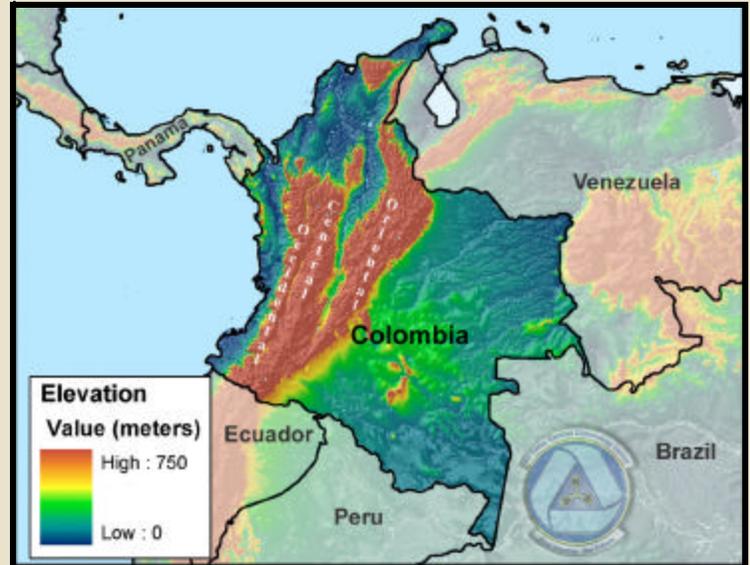


Figure 1. Elevation Map of Colombia.

High mountains have maximum thunderstorm activity in the afternoon and valleys between Cordilleras tend to have nocturnal rain. Nocturnal rain is also most frequent at low elevations on the west coast, at the foot of Cordillera Oriental in the east, and in the Lake Maracaibo basin in Venezuela. Contact Maj. Walker at DSN 673-9001/Comm: 828-271-4218 or email at malcolm.walker@afccc.af.mil.



Figure 2. Iran Dust Source Regions (as defined by the Air Force Weather Agency).

Climo Tidbits

Iran. There are several dust source regions in Iran (Figure 2). The Kavir, Lut, and Makran Deserts are the major sources. The relatively flat terrain, permanent aridity, and loose soil are all factors in dust production. The Iraq border region produces dust, but the Khuzestan Plain at its southern end gets most of its dust from the Tigris/Euphrates basin in Iraq.

Sand and dust storms are common in much of Iran. The type of debris carried by the wind varies with source region and wind strength. Silt dust is common in the southern part of the Iraq border region. The Kavir is a salt desert, and central and southern Iran have mostly sand.

Onset of sand or dust storms is generally more gradual in the warmer half of the year than the colder half. The worst conditions occur at peak heating when the strongest winds also occur. The eastern deserts have the most frequent and severe storms.

Branch Spotlight

Operations Branch

AFCCC Operations Branch (DOO). This three-person branch normally has the first contact with our customers. Besides answering numerous questions, they also receive all support assistance requests (SARs).

Unclassified electronic SARs come straight to our desktop computers. All are carefully evaluated, often after telephone or email contact is made with the customer to clarify the request. They are then assigned to the appropriate branch or section and entered into our automated tracking system. The responsible branch tries to make contact with the customer within 24 hours or within one duty day of receipt of the request.

At present, all classified SARs come to our secure area and undergo the same evaluation, initial customer contact and assignment process. About 30 percent of our SARs are either answered by DOO on the spot, or the customers are referred to our web pages where the information they need is readily available on-line. We also have "standing" SARs, or recurring requests. Almost all of these customers need updated data on a monthly basis.

By having sites on Non-secure Internet Protocol Router Network (NIPRNet), Secure Internet Protocol Router Network (SIPRNet), and Joint Worldwide Intelligence Communication System (JWICS), we can support requirements from unclassified through TOP SECRET.

We also partner with FNMOD Asheville on a joint AFW-USN climatology site on SIPRNET. This allows our joint customers on-line access to information (through the SECRET level) from both units.

Team members - all with extensive AWS/AFW or USN meteorology experience - include: Mr Ken Walters, Branch Chief (with 50 years in/around AFW, and a retired AWS CMSgt); Ms Alicia Hughes, and Mr Dan Kerupetski. Ms Hughes is also the point-of-contact for all web-related projects. Every new or revised product that appears on our website goes through Ms. Hughes.

So there you have it – a three-person branch that serves as the "first responders" for military climatological support. Contact Ms. Alicia Hughes at DSN 673-9004/DSN 673-9001/Comm: 828-271-4291 or email at alicia.hughes@afccc.af.mil.

What's New

National Climatic Data Center Access Clarification.

If you are a ".mil" user and find you can't access the NCDC site, go to <http://www.ncdc.noaa.gov/servlets/whoami>. It will show you how the host sees your system. If it doesn't show ".mil," you'll have to contact your system administrator not NCDC to resolve the problem. Contact Ms. Hughes at DSN 673-9004/Com: 828-271-4291 or email alicia.hughes@afccc.af.mil.

Realtime Nephanalysis Global Cloud Statistics (RTNEPH).

The RTNEPH Global Cloud Statistics are now available on the AFCCC Spatial Climatology web site (<https://afccc.af.mil/website>). The process is to select "Get Products," then "Spatial Climatology," then "Go to the Map Server" and finally, select "RTNEPH Global Climatology." These images show a range of cloud statistics and ceiling frequencies for several atmospheric levels on a global map. A user can get single images and looping image series. This product complements the Cloud Ceiling Climatology Atlas (also available on the Spatial Climatology web site) and may be a quick way for you to get the information you need. For more information, contact Capt Freestrom at DSN 673-9016 or Comm (828) 271-4323. E-mail: hugh.freestrom@afccc.af.mil.

Narratives. The following new narrative studies are available on the AFCCC website: Bridgetown, Barbados; Calcutta, India; and Ethiopia. Contact Ms. Higdon at DSN 673-9001/Comm: 828-271-4218 or email at melody.higdon@afccc.af.mil.

Reminder. Be sure to check out the AFCCC web page for new products available from our production floor shops. We are constantly adding to our product collection.

Ops Impacts

OEF Runway Constuction Support. Building a new runway means planning for all types of weather, especially wind direction and speed. CENTCOM requested a wind study for new runway construction at Baghrum AB, and AFCCC Tailored Climatology Products Team responded. After 30 kts was identified as a limiting factor, AFCCC built a tailored wind rose with ≥ 30 kts displayed. In addition, an Operational Climate Data Summary (OCDS) armed decision makers with additional environmental information that could possibly impact flight operations. The combined products provided Combined Joint Task Force engineers the necessary tools to plan construction of a runway for US and coalition forces. Contact Capt Freestrom at DSN 673-9005/828-271-1039 or hugh.freestrom@afccc.af.mil.

Ops Impacts

(Continued)

AFSOC Vertical Lift Capability Support. In order for AFSOC to operate aircraft over difficult terrain, both temperature and elevation must be considered and planned to determine shortfalls in vertical lift capabilities. That's why the AFCCC Tailored Climatology Products Team and Climatic Modeling Team were tasked by AFSOC to deliver average and worst case extreme Density Altitude (DA) values for Southwest Asia (SWA) and the Korea Peninsula (Figure 3). The approach was two-fold. With the combination of individual reporting stations and ACMES output, images of Korea and SWA were created for mean and max density altitudes. The final output provided invaluable statistics for the operation of rotary wing aircraft, especially within the difficult terrain of SWA and Korea.

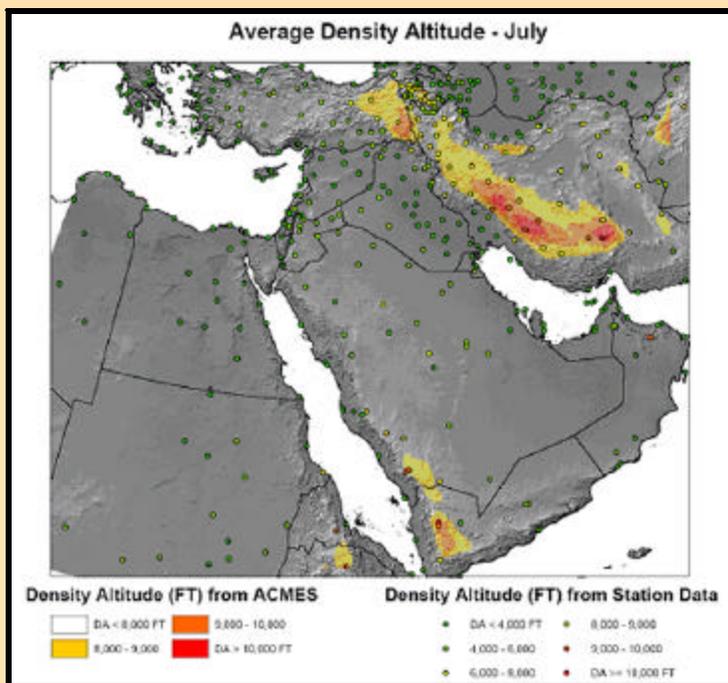


Figure 3. Sample Density Altitude Chart.

EL Nino Connected with Disease Outbreaks? The US Southern Command (USSOUTHCOM) Surgeon General is doing a study to compare the amount of rainfall to the outbreak of diseases in several Central American countries. Many lives will be saved as a result of accurately anticipating the timing and distribution of vaccines to Central America. AFCCC supplied a year-by-year rainfall analysis that helped determine where and when to distribute vaccines. Contact Maj. Guimond at DSN 673-9009/828-271-4256 or philip.guimond@afccc.af.mil.

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Library Corner



The Air Force Weather Technical Library (AFWTL) digitized 164,292 pages of government written, non-copyrighted technical material from the AFWTL collection. The documents include 105,000 pages of Terminal Forecast Reference Notebooks (TFRNs), for 860 stations around the globe. Some of these

TFRNs date back to WWII, some are for remote locations where Allied forces were stationed, but have no recent weather information. We also digitized 30,821 pages of Air Weather Service and Air Force Weather personnel written technical reports (TRs), notes, memorandums and 28,305 pages of unclassified CIA National Intelligence Summaries (NISs), for 155 countries and regions. The Adobe Acrobat (.pdf) version of these reports are on the AFCCC SIPRNET and JWICS pages. Additionally, the TFRNs and TRs are on the AFCCC and AFWTL home pages on NIPRNET.

We also have consolidated CDs of these electronic technical reports. They are available from the AFWTL based on your submitted requirements. The library has also consolidated TFRNs based on each OWS region of interest. Contact Mr. Gray at DSN 673-9019/Comm 828-271-4320, or email john.gray@afccc.af.mil.



FAIR WINDS AND FOLLOWING SEAS: Our esteemed OIC, LCDR George Moody retired on 02 June 2004, after 25 years of naval service. He led as the FNMOD OIC for nearly 4 years. During his tenure, the

Detachment had many noteworthy accomplishments, such as providing critical mission support for OEF and OIF, fielding on-demand web applications for distribution and visualization of climate data, establishing a SIPRNET presence for Navy climatology, and publishing tailored theater and country climatology briefs. Lt. Brian Rivenbark relieved LCDR Moody in a change of charge ceremony held on the same day as LCDR Moody's retirement. Lt. Rivenbark reports aboard from the Numerical METOC Center in Monterey, CA.

NEW Interface for the Global Marine Climatic Atlas (GMCA) v2.0 web application available on our internet web site. The new user interface is a map based graphical tool that allows the user to enclose a geographic area, and request products for a 1 to 10 degree box. The product and date/time selection has also been made easier to use. For more on this, use this link: <http://navy.ncdc.noaa.gov/products/fleet/helpdocs/gmcahelp.html>

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internet: <http://navy.ncdc.noaa.gov/>

siprnet: <http://navyclimatology.navy.smil.mil>

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