

L2 AF/A9 - LESSONS LEARNED BULLETIN

Learning From Today's Airmen, Lessons For Tomorrow's Air Force

Vol. VI Issue 6

Special Hurricane - HA/DR - DSCA Edition

June 2012

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Director's Column By Col Don Kimminau

In my final "Greetings from the Pentagon" I'd like to pass on my utmost appreciation to all of the Air Force's L2 professionals and add a special thanks for the support you provided over the past two years to me and the entire AF/A9L staff. Without your dedication during topic development, collection scheduling and execution, and report reviews, we certainly couldn't not have had the successes I know we made together. I also greatly value the visits I was fortunate to have had with you and was consistently energized to witness, in-person, your motivation, hard work and achievements. Thanks also for your honest feedback on how I could better serve the community at large. I hope I enabled you to boost your impact to your respective commands and am extremely confident Col Bickley will propel L2 even higher. Fly, Fight, Win & Learn! Donk, Out!

The USAF L2 Bulletin is a monthly publication to highlight USAF Lessons Learned activities within the USAF and with DoD/U.S. Governmental partners. The appearance of hyperlinked text in the L2 Bulletin does not constitute an endorsement of the author's position by Air Force Lessons Learned, the United States Air Force, or the Department of Defense.

Prediction: 2012 Atlantic Hurricane Season

By Philip J. Klotzbach and William M. Gray, Colorado State University

Information obtained through May 2012 indicates that the 2012 Atlantic hurricane season will have slightly less activity than the average 1950-2000 season. We estimate that 2012 will have about 5 hurricanes (average is 5.9), 13 named storms (average is 9.6), 50 named storm days (average is 49.1), 18 hurricane days (average is 24.5), 2 major (Category 3-4-5) hurricanes (average is 2.3) and 4 major hurricane days (average is 5.0). The probability of U.S. major hurricane landfall is estimated to be about 90 percent of the long-period average. We expect Atlantic basin Net Tropical Cyclone (NTC) activity in 2012 to be approximately 90 percent of the long-term average. We have increased our numbers slightly from our early April forecast, due largely to our uncertainty as to whether an El Niño will develop later this summer and to marginal Atlantic basin conditions. A brief update on El Niño conditions may be issued prior to the next forecast update on August 3 if conditions warrant.

Tropical Storm Events	Average 1950—2010	Forecast for 2012
Named Storms (NS)	9.6	13*
Named Storm Days (NSD)	49.1	50
Hurricanes (H)	5.9	5
Hurricane Days (DH)	24.5	18
Major Hurricanes (MH)	2.3	2
Major Hurricane Days (MHD)	5.0	4
Accumulated Cyclone Energy (ACE)	96.1	80
Net Tropical Cyclone Activity (NTC)	100%	90%

This forecast is based on a new extended-range early June statistical prediction scheme that utilizes 29 years of past data. Analog predictors are also utilized. Overall, conditions are expected to lead to a slightly below-average hurricane season.

PROBABILITIES FOR AT LEAST ONE MAJOR (CATEGORY 3-4-5) HURRICANE LANDFALL ON EACH OF THE FOLLOWING COASTAL AREAS:

- 1) Entire U.S. coastline - 48% (average for last century is 52%)
- 2) U.S. East Coast Including Peninsula Florida - 28% (average for last century is 31%)
- 3) Gulf Coast from the Florida Panhandle westward to Brownsville - 28% (average for last century is 30%)

PROBABILITY FOR AT LEAST ONE MAJOR (CATEGORY 3-4-5) HURRICANE TRACKING INTO THE CARIBBEAN (10-20°N, 60-88°W)

- 1) 39% (average for last century is 42%)

***Special Note:** Our early June forecast includes Tropical Storms Alberto and Beryl which formed prior to 1 June. Our prediction for the remainder of the season is for 11 additional post-1 June named storms. Pre-1 June activity has very little bearing on the rest of the season. The only two seasons on record with two named storms prior to 1 June were 1887 and 1908. While 1887 was a very active season, 1908 had average levels of activity. The last season with a U.S. landfall prior to 1 June was 1976, which was a relatively quiet season. All landfall probabilities are for TCs developing after 1 June.



2012 STATE IMPACT PROBABILITIES
(NUMBERS IN PARENTHESES ARE LONG-PERIOD AVERAGES)

State	Hurricane	Major Hurricane
Texas	30% (33%)	11% (12%)
Louisiana	28% (30%)	11% (12%)
Mississippi	10% (11%)	4% (4%)
Alabama	14% (16%)	2% (3%)
Florida	47% (51%)	19% (21%)
Georgia	10% (11%)	1% (1%)
South Carolina	16% (17%)	3% (4%)
North Carolina	26% (28%)	7% (8%)
Virginia	6% (6%)	1% (1%)
Maryland	1% (1%)	<1% (<1%)
Delaware	1% (1%)	<1% (<1%)
New Jersey	1% (1%)	<1% (<1%)
New York	7% (8%)	3% (3%)
Connecticut	6% (7%)	2% (2%)
Rhode Island	5% (6%)	2% (3%)
Massachusetts	6% (7%)	2% (2%)
New Hampshire	1% (1%)	<1% (<1%)
Maine	3% (4%)	<1% (<1%)
Whole US	64% (68%)	48% (52%)

Please also visit the Landfalling Probability Webpage at <http://www.e-transit.org/hurricane> for landfall probabilities for 11 U.S. coastal regions and 205 coastal and near-coastal counties from Brownsville, Texas to Eastport, Maine. In addition, we now include probabilities of named storms, hurricanes and major hurricanes tracking within 50 and 100 miles of various islands and landmasses in the Caribbean and Central America. We suggest that all coastal residents visit the Landfall Probability Webpage for their individual probabilities. We also urge coastal residents to fully prepare for all hurricane seasons, regardless of what our seasonal forecast may be.

This forecast as well as past forecasts and verifications are available via the World Wide Web at <http://hurricane.atmos.colostate.edu/Forecasts>



TOP TEN HUMANITARIAN ASSISTANCE/DISASTER RELIEF RECURRING LESSONS IDENTIFIED, WITH HISTORIAN COMMENTARY

By AF/A9L and Robert B. Sligh, PhD, 5AF Historian

Over the years, the L2 community has gathered excellent information regarding humanitarian operations. There are several lessons that have been collected and identified time and again; as another hurricane season is upon us, we should be aware of these recurring lessons. Listed below are a “top ten” of HA/DR-related lessons learned and are organized by function: initial response, deployment, employment and mission support. Dr. Sligh is veteran of six HA/DR missions, including Operation Tomodachi. *His commentary is in italics.*

INITIAL RESPONSE

1. The Request For Forces (RFF) process is not responsive enough for the rapid requirements of a HA/DR event, further, the preponderance of issues were caused by lack of training and attempts to circumvent the process. NOTE: This issue has been elevated to the Joint Staff.

“This can and should be worked out early at the COCOM, MAJCOM, and NAF levels. Third Air Force, a la 1999-2000, under the command of Maj Gen Joe Wehrle is a classic example of a unit that was primed and ready to deploy in a very short timeframe. He trained the staff in their role, the role of major IO/NGO players, held tabletops with major players, and thought through processes and procedures. During Operation Tomodachi forces moved on VoCo alone with orders coming later.”

2. A shortage of AF personnel on the lead agency/JTF staff contributes to confusion over AF capabilities at the beginning of operations. “

I would add that having the right Air Force personnel, particularly airlifters those well versed in AOC operations, on the JTF staff is very important. Moving “stuff” is the primary mission of an HA/DR JTF. I would also add having AF members conversant in HA/DR issues, like the importance and lead role of USAID/OFDA, that the World Food Program is usually a key player (a ‘big dog’) in most HA/DRs. As one of my USAID friends oft has said, ‘If you don’t give the military something to do, they’ll do something.’”



DEPLOYMENT

3. The triggering HA/DR event probably will create austere operating and living conditions for everyone located in the Relief Operations Area (ROA) to include military personnel deployed immediately after the event.

“Very true, though not as much as you might think. In Albania, 1999, the living conditions were, indeed, austere. That was not the case in many other operations, such as Mozambique in 2000, Thailand in 2005 (except Banda Ache), and Japan in 2011 (exception Camp Sendai). The vast majority of JTF staff will be away from the disaster site. That said, the triggering event will cause confusion and the more prior planning there is on the part of the COCOM, the MAJCOM, and a designated regional HA/DR NAF, the less thrash there will be. The latter is a lesson that has gone largely unlearned.”

4. Traditionally, personnel accountability will be the preeminent issue for USAF commanders and Personnelists during an HA/DR operation.

EMPLOYMENT

5. Understanding the chain of command and knowing who is in charge is a consistently weak area. Know who is in charge and what the command relationships are among participants. The lead agency will be

different based on disaster’s location so establish relationships with counterparts early and make an effort to work within their culture.

6. Real-time airborne video and imagery capabilities are critical to search for survivors and to assess damage, but difficult to manage and disseminate efficiently.

“During Operation Atlas Response we used a C-130 mounted Keen Sage suite to scope out the condition of infrastructure. We also employed a less technical approach called LOAR--lieutenant on a rope, armed with a digital camera and GPS. Both were very effective in letting the Mozambique government know the condition of their country. During Operation Tomodachi, as PACAF/A9’s article in the newsletter notes, we had Global Hawk overhead the next

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morning after the quake/tsunami. GH provided valuable imagery on the reactors and infrastructure. The best "real time" SAR capability is the aircrew talking to the AOC or JOC. There are other considerations, like working out medical processes with the host nation in case a SAR aircraft locates an injured citizen—treatment, where to take them, hold harmless..."

7. No airspace management structure or no-radar procedures creates safety issues especially during search and air rescue (SAR).
8. Air flow control in and out of aerial ports of debarkation is a critical requirement, but difficult at first. "The Government of Albania gave the CRG's ATC virtual control over airport operations. Enforcing discipline on the part of sending states was the real problem. Eventually, the European union took charge and established slot times. During Operation Tomodachi, the SOG set up portable radar and ATC system until the Japanese could take over around 14 April (a month after the quake/tsunami). A similar situation, and



solution, was established at Banda Ache after the December 2004 Indian Ocean tsunami."

MISSION SUPPORT

9. Communication is often cited as a major issue in the operating area. There will be limited communications capabilities, to include email, due to severely degraded power supply, downed telephone lines and microwave towers, and damaged or destroyed mobile phone transmission towers. "During various operations we used a combination of locally procured cell phones (Africa and Thailand) as well as Iridium phones to overcome initial comm problems. In Mozambique we set up a small, highly portable satellite shot on a hotel balcony that provided voice and data transmission. This was planned well in advance (a key point to make)."
10. Force protection issues are complex, requiring continual attention. Civil disturbances/criminal activities pose threats to rescue recovery operations. 🌐

May Forecast Update for Northwest Pacific Typhoon Activity in 2012

by Dr Adam Lea and Professor Mark Saunders, Dept. of Space and Climate Physics, UCL (University College London), UK

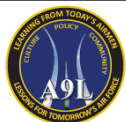
Tropical Storm Risk slightly raises its forecast and anticipates the 2012 Northwest Pacific typhoon season will see activity close to the 1965-2011 climate norm.

The TSR (Tropical Storm Risk) May forecast update for Northwest Pacific typhoon activity in 2012 anticipates a season with near-average activity. The forecast spans the full Northwest Pacific season from 1st January to 31st December 2012 (95% of typhoons occur historically after 1st May) and is based on data available through to the end of April 2012. The forecast includes deterministic and probabilistic projections for overall basin activity, and deterministic projections for the ACE index and numbers of intense typhoons, typhoons and tropical storms. TSR's main predictor at this lead for overall activity is the forecast anomaly in August-September 2012 Niño 3.75 sea surface temperature (SST). We anticipate this will be 0.02±0.51oC warmer than normal. Updated forecasts will be issued in early July and early August. The TSR forecast has increased slightly since early April due to a different forecast model being used from early May.

NW Pacific ACE Index and System Numbers in 2012

		Intense Typhoons	Typhoons	Tropical Storms
TSR Forecast (±FE)	2012	8.5 (±2.6)	15.6 (±3.5)	25.5 (±4.6)
47yr Climate Norm (±SD)	1965-2011	8.4 (±3.0)	16.3 (±3.8)	26.2 (±4.6)
Forecast Skill at this Lead	1965-2011	24%	15%	2%

Intense Typhoon = 1 Minute Sustained Wind > 95Kts = Hurricane Category 3 to 5. Typhoon = 1 Minute Sustained Wind > 63Kts = Hurricane Category 1 to 5. Tropical Storm = 1 Minute Sustained Winds > 33Kts. SD = Standard Deviation. FE (Forecast Error) = Standard Deviation of Errors in Cross-Validated Hindcasts 1965-2011. Forecast Skill = Percentage Improvement in Mean Square Error Afforded by Cross-Validated Hindcasts 1965-2011 over Hindcasts Made with the 1965-2011 Climate Norm. Northwest Pacific = Northern Hemisphere Region West of 180oW Including the South China Sea. Any Tropical Cyclone (Irrespective of Where it Forms) Which Reaches Tropical Storm Strength Within this Region Counts as an Event. (<http://www.tropicalstormrisk.com>)



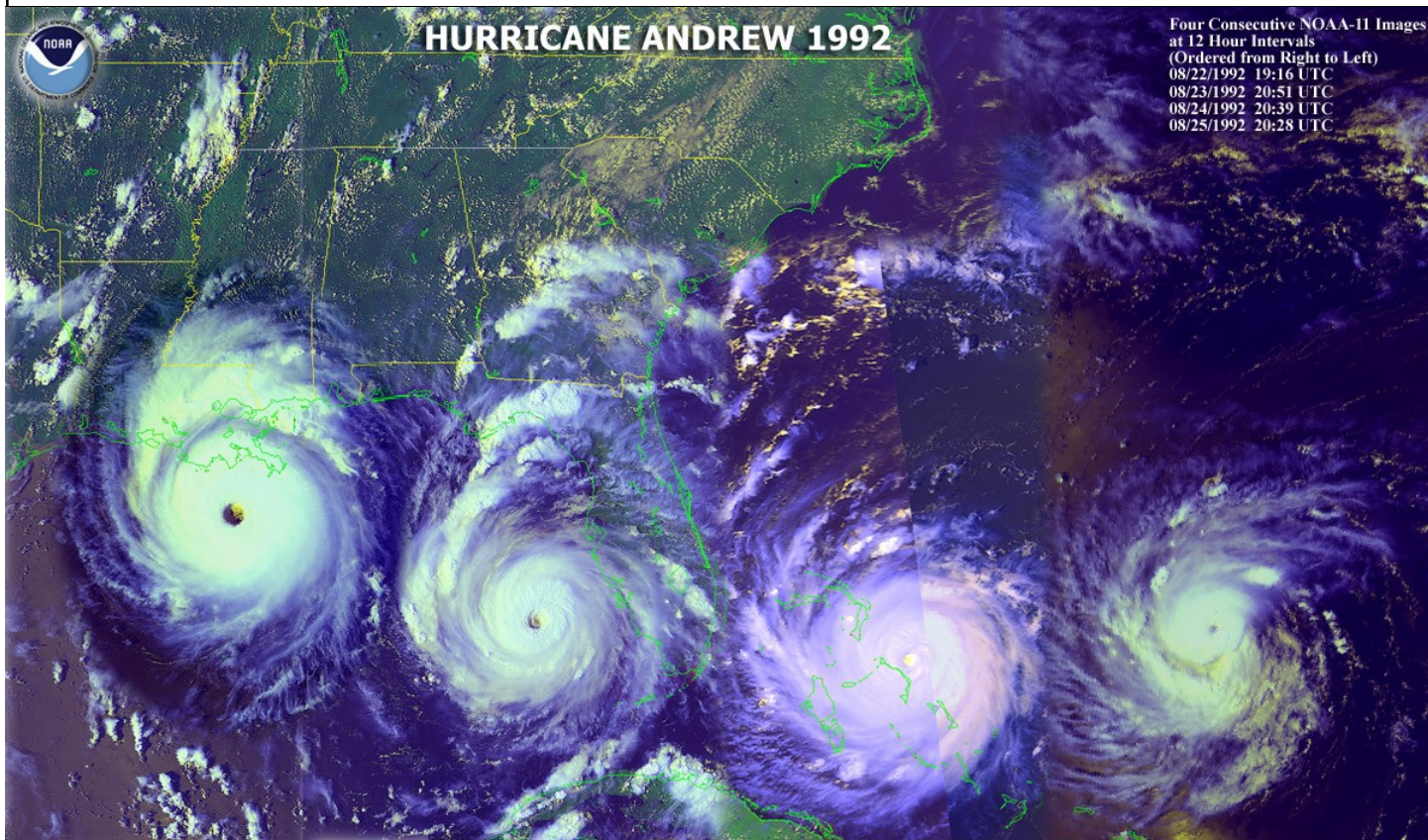
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Four Consecutive NOAA-II Images at 12 Hour Intervals (Ordered from Right to Left)
 08/22/1992 19:16 UTC
 08/23/1992 20:51 UTC
 08/24/1992 20:39 UTC
 08/25/1992 20:28 UTC

ADDITIONAL READING

- [Robert T. Stafford Disaster Relief and Emergency Assistance Act: Legal Requirements for Federal and State Roles in Declarations of an Emergency or a Major Disaster](#) (CRS Report for Congress)
- [How Should Air Force Expeditionary Medical Capabilities Be Expressed?](#) (RAND Corporation)
- [Models of Relief: Learning from Exemplary Practices in International Disaster Management](#) (RAND Corporation)

- [Humanitarian Assistance/Disaster Relief \(HA/DR\) Operations Planning](#) (Dept of the Navy)
- [Lessons Learned: Evacuations Management of Hurricane Gustav](#) (American Meteorological Society)
- [Emergency Response Planning for Military Water Systems](#) (US Army Center for Health Promotion and Preventive Medicine)

USAF PUBLICATIONS

[AFH10-416, PERSONNEL READINESS AND MOBILIZATION](#)

INFORMATIVE WEBSITES

[USNORTHCOM CRISES, CONTINGENCIES, OPERATIONS & EXERCISES PORTAL](#) (Note: You may need to register for full access: <https://registration.NORADNORTHCOM.mil/gateway/default.aspx>)

[1AF/AFNORTH](#)

[THE TROPICAL METEOROLOGY PROJECT \(FORECASTS\)](#)

[NATIONAL HURRICANE CENTER](#)

[NOAA HURRICANE WEBSITE](#)

[NASA HURRICANE WEBSITE](#)

[NOAA PACIFIC TSUNAMI WARNING CENTER](#)

[U.S. GEOLOGICAL SURVEY \(USGS\)](#)

[FEMA](#)

[FEMA LESSONS LEARNED INFORMATION SHARING](#)

[NOAA EMERGENCY RESPONSE IMAGERY SERVER](#)

[NOAA GOES SATELLITE IMAGERY SERVER](#)

[NASA EARTH OBSERVATORY IMAGERY SERVER](#)

[NRL MONTEREY TROPICAL CYCLONE IMAGERY SERVER](#)

[U.S. OFFICE OF PERSONNEL MANAGEMENT EMERGENCY GUIDANCE MEMORANDA](#)

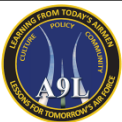
[NGB OPERATIONS DASHBOARD](#)

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ON THE HORIZON

USAF L2 COMMUNITY CALENDAR

- 2 Aug 12 Wolrdwide L2 DCO Telecon
- 13-14 Sep 12 Expeditionary Senior Leader Forum
- 25-26 Sep 12 L2 Deployment Training Class

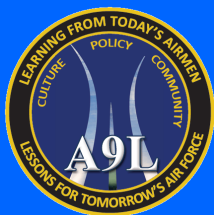
If you have an event you would like to announce, please send details to charlotte.long@pentagon.af.mil — ed.

CHEERS, KUDOS, HAILS and FAREWELLS

Welcome to our new A9L, Col Jay Bickley from 380 EOG.
 Welcome to Maj Lisa Welmers, our AFPAC Hands LNO.
 Editor's note: This will be the 44th and last bulletin I will have the privilege of editing. Thanks for all the feedback, both positive and constructive. I owe thanks to Mr. Doug Lanphier for giving me such a great platform to start from, and to Ms Charlotte Long, for being a great collaborator. I'm proud to be part of such a fine team. Cheers, Tim.

FY12 CSAF Collections Status Update Add-on and Partnership Reports

- 12-A01: Senior Leader Enduring Observations: Trends and Themes — White paper to CSAF
 - 12-A02: Operation NEW DAWN Transition — (Partnership) At AFCENT/A9 for staffing and completion
 - 12-A03: Enduring Lessons of OEF/OIF — (Partnership with AFRE) Published; Next—VCSAF task to determine those lessons, and associated actions, yet to be “learned”
 - 12-A04: IAMD USAFE — Preparing for final release
 - 12-A05: IAMD PACAF — Writing report; expect “Secret” classification writing
 - 12-A06: Operation UNIFIED PROTECTOR Compendium — (with RAND) Approved
- If time and resources are available (confidence is low)***
- 12-X01: RPA Intel/Ops Data Sharing across Services
 - 12-X02: OEF Drawdown (with AFCENT)
 - 12-X03: AF Cyber Command Org Re-look



Mission

**Enhance Readiness and Improve Combat Capability
 by Leveraging the Experiences of Airmen**

- Oversee L2 observation and validation process with HAF, MAJCOM, NAFs, Units
- Synchronize L2 with DOTMLPF programming and budgeting decisions
- Coordinate AF processes to swiftly communicate critical L2 information
- Partner AF L2 activities with other DoD and U.S. governmental agencies

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