

***NATIONAL WEATHER SERVICE WESTERN REGION SUPPLEMENT 2-2009
APPLICABLE TO INSTRUCTION NWSI 10-602
May 2, 2011***

***Operations and Services
Tropical Cyclone Weather Service Program, NWSPD 10-6
Tropical Cyclone Coordination and Emergency Operation, 10-602***

TROPICAL CYCLONE OPERATIONS COORDINATION

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Certified by: W/WR1 (C. Schmidt)

Type of Issuance: Routine

SUMMARY OF REVISIONS: This directive supersedes NWS Western Region Supplement 2-2009, dated May 15, 2009. Eliminated redundancies, clarified wording, corrected minor errors, and added a link to WSR-88D Tropical Cyclone Plan.

Signed 04/12/11
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1. Introduction. This regional supplement provides additional guidance and instructions for Western Region (WR) Weather Forecast Offices (WFOs) regarding coordination of tropical cyclone advisories and related operations. Tropical cyclones, although rare in the Western U.S., are very high impact events. The National Hurricane Center (NHC) is the official source of tropical cyclone forecast and coastal watch and warning information. Timely and efficient coordination between NHC, affected Weather Forecast Offices (WFOs) (including State Liaison Offices (SLOs)), River Forecast Centers (RFCs), the Hydrometeorological Prediction Center (HPC), the Storm Prediction Center (SPC) and the Ocean Prediction Center (OPC) is critical. It is also vital for WFOs and RFCs to closely coordinate their operations in advance of, and during tropical cyclones, to help ensure consistent provision of information to emergency responders, the media, and the general public.

The specifics of this supplement apply to Western Region WFOs and RFCs that, according to historical records, are vulnerable to a direct hit from a landfalling tropical depression, tropical storm, or in the extreme case, hurricane:

WFOs: Oxnard/Los Angeles (LOX), San Diego (SGX), Hanford (HNX), Sacramento (STO), Las Vegas (VEF), Tucson (TWC), Phoenix (PSR), Flagstaff (FGZ), and WFO Reno (REV).

RFCs: California/Nevada Basin (CBRFC), and Colorado Basin RFC (CBRFC)

These offices will maintain a tropical cyclone plan.

2. Coordination.

2.1 Coordination with NHC: Conference calls with all WFOs and RFCs listed in Section 1 will be initiated by NHC when any tropical depression, tropical storm, or hurricane forecast point enters into (or develops within) Western Region land, coastal, or adjacent offshore boundaries within 72 hours. Conference calls will normally occur at approximately 0200 Coordinated Universal Time (UTC), 0800 UTC, 1400 UTC, and 2000 UTC (one hour prior to scheduled NHC Advisory issuances). Note that actual call times may be adjusted slightly if there are other active tropical cyclones in the Atlantic, Caribbean, and/or Gulf of Mexico. Notification of the initiation of conference calls will be provided by NHC via 12Planet or (as a back-up) by contracting WFO San Diego via phone, or (for secondary back-up) WFO Tucson. The contacted WFO will then notify the other WR WFOs, RFCs, HPC and OPC for their participation on the coordination call (s).

These 6-hourly coordination calls will continue until the tropical cyclone dissipates. All other routine forecast collaboration calls between WFOs should be superseded by these NHC-led calls for the duration of the tropical cyclone threat. For simplicity, and acknowledging the forecast difficulties associated with tropical cyclones, all offices listed in Section 1 should participate in these calls, even if the system will only peripherally affect their County Warning Area(s). Mission-critical and time-critical products or services (i.e. Level 1 products and services) should have priority.

WFOs and RFCs serving the southwestern U.S., as well as their backup offices, will include the NHC Conference call number and passcode, and the general NHC Operations (non-conference call) telephone number prominently in their level Station Duty Manuals or relevant operations manual.

2.2 Coordination between WFOs: WFOs should closely coordinate their forecast grids to help ensure consistency of information. This is especially true for gridded QPF and wind forecasts, which may be complex during a tropical cyclone event.

2.3 Coordination with State Liaison Offices (SLOs): SLOs should coordinate closely and frequently with their state emergency management officials, and with adjacent SLOs, to help ensure provision of consistent forecast information and related impacts.

2.4 Coordination with the Ocean Prediction Center (OPC). If a tropical cyclone will affect OPC's area of responsibility within 72 hours, then they will be included in the aforementioned 6-hourly conference calls with the NHC.

3. Products.

3.1 Coastal WFOs (San Diego and Los Angeles/Oxnard): In accordance with NWSI 10-601, coastal WFOs will use Hurricane Local Statements (HLS) to issue/update tropical cyclone watches and warnings. Refer to NWSI 10-601 for detailed procedures and information.

3.2 Inland WFOs: Inland WFOs will use the Non-Precipitation Warning (NPW) to issue/update High Wind Watches/Warnings for tropical storm or hurricane force winds associated with tropical cyclones. Refer to NWSI 10-601 and 10-515 for additional information. Because of the rarity of tropical storms/hurricanes in the southwestern U.S., forecasters at inland WFOs are highly encouraged to add information to High Wind Watches/Warnings (in the overview section) emphasizing the storm's tropical origin/characteristics.

3.3 All WFOs: WFOs should be prepared to issue a Post-Tropical Cyclone Report (PSH) if a tropical cyclone threatened or directly impacted their county warning areas. Refer to NWSI 10-601 for additional information and criteria for preparation and dissemination.

4. Additional.

4.1 WSR-88D operations: WFOs should coordinate radar operations, and in particular, use consistent Z-R relationships as much as possible. When a tropical cyclone is occurring or imminent, affected WFOs are highly encouraged to switch to the “Tropical Z-R” relationship (250R 1.2), in consultation with their local Unit Radar Committees (URCs). Specific instructions should be readily available to the forecast staff. The WSR-88D Tropical Cyclone Plan from the Office of the Federal Coordinator for Meteorology (OFCM) may be used as a guide.

Link: http://www.ofcm.gov/nhop/wsr-88d/nat_trop_cyc_wsr-88d_ops_plan_10B12.pdf

4.2 Upper Air Soundings: Upper air sites should anticipate potential requests from NHC for 6-hourly soundings and accommodate such requests whenever possible. Normally, NHC will provide 12- 24 hours advance notice for planning purposes.

4.3 NHC Pre-Advisory Worksheets: NHC routinely produces preliminary tropical cyclone forecast information, via an internal “Pre-Advisory Worksheet”. WFO forecasters may access these Pre-Advisory Worksheets for planning purposes. Instructions for accessing these worksheets should be included in local procedures. Information contained in these worksheets is strictly preliminary (not official), and WFOs will not externally disseminate it.

4.4 Hurricane Liaison Team: The FEMA Hurricane Liaison Team (HLT) is typically activated at NHC (at the discretion of the NHC Director) for landfalling U.S. tropical storms or hurricanes. The HLT will be available for direct contact with state Emergency Management Officials. WFOs should include the contact information for the HLT in their local procedures.

4.5 Supplementary Observations from NOAA Vessels: If any NOAA vessels are operating in an area of interest (e.g. off the west coast of Mexico, southern California, or in the Gulf of California), they may be able to provide supplemental observations to WFOs. WRH MSD may be able to determine if any NOAA vessels are in or near potential areas of interest during the tropical cyclone threat, and if so, coordinate contact between the NOAA vessel(s) and WFOs. WFOs should pass along any relevant observations to NHC.

4.6 WFO Exercises and Drills: WFOs listed in Section 1 are highly encouraged to conduct periodic internal drills and exercises, preferably annually or biennially, to help maintain staff proficiency in support of potential tropical cyclone operations.