Department of Commerce ▪ National Oceanic & Atmospheric Administration ▪ National Weather Service

NATIONAL WEATHER SERVICE PACIFIC REGION SUPPLEMENT 01-2010
APPLICABLE TO NWSI 10-1301
MARCH 22, 2022

Operations and Services
Surface Observing Program, NWSPD 10-13
Upper-Air Program, NWSPD 10-14
Aviation And Synoptic Observations, NWSI 10-1301

REQUESTS FOR SPECIAL OBSERVATIONS, SYNOPTIC OBSERVING STATIONS IN MICRONESIA, STATION INSPECTION PROGRAM, DISPOSITION OF MAPSO RECORDS

NOTICE: This publication is available at: NWS Directives System.

OPR: W/PR1x4, x5 (D. Leeloy, J. Bush) **Certified by:** W/PR1 (E. Lau)
Type of Issuance: Routine

SUMMARY OF REVISIONS: This supplement supersedes Pacific Region Supplement (PRS) 01-2010, Requests for Special Observations, Synoptic Observing Stations In Micronesia, Station Inspection Program, Disposition of MAPSO Records, dated May 8, 2012, recertified on April 17, 2014.

The following changes were made in this issuance:

- Updated the Certifier and Approver.
- Updated "Table of Contents" format; updated Section and Paragraph numbering structure.
- Added external links to reference documents and internal links to jump between Sections and Paragraphs of the PRS.
- The purpose and authority to request special observations were combined and placed under Section 2.
- Updated instructions in Paragraph 2.1.4 to process all upper-air observations completely.
- Updated the second-order synoptic station equipment and resources in Paragraph 3.5.
- Updated the office designation and mailing address in Paragraph 3.6.
- In Paragraph 3.7, updated the modified coding practices for synoptic observations in Micronesia to account for 3-hour and 1-hour precipitation amounts.
- Updated Paragraph 3.8 to include an example for a 3-hour special synoptic observation.
- Updated the references in Paragraph 4.2.
- In Paragraph 4.3, deleted the references to FAA observing locations and updated SAWRS to AFIS.
- Minor changes made to Paragraph 4.4, Paragraph 4.5, and Paragraph 4.6.
- In Paragraph 4.7.4, updated the distribution contacts for the WS Form 10-13-10, Inspection Report.
- Minor changes made to Paragraph 5.1.

- Updated Appendix A: Removed inspection cycles for FAA sites, domestic SAWRS, and WFO Tiyan (Guam); Micronesian SAWRS changed to AFIS; removed table of acronyms.

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Requests for Special Observations, Synoptic Observing Stations in Micronesia, Station Inspection Program, Disposition of MAPSO Records

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Appendix

1. General

This supplement describes the National Weather Service (NWS) Pacific Region's (PR) methods and procedures for:

1. Requests for special synoptic and upper-air observations in support of operations.

2. Second order synoptic observing stations in Micronesia.

3. Station inspection program for surface observation sites.

4. On-station retention and disposition of the Micro-computer Aided Paperless Surface Observations (MAPSO) records.

2. Requests for Special Observations In Support of Operations

The purpose of this section of the supplement is to summarize instructions for taking special synoptic and upper-air observations in support of severe weather and/or special requests in the PR.

Special synoptic and upper-air observations from PR first and second-order stations shall be taken when requested from forecast centers listed in Section 2.1. All stations will make maximum effort to meet such requests, scheduling overtime as needed.

2.1 Requests from Forecast Centers.

2.1.1 Joint Typhoon Warning Center (JTWC), Pearl Harbor

The Joint Typhoon Warning Center (JTWC) issues tropical cyclone forecasts for U.S. interests. The JTWC may request through the Weather Forecast Office (WFO) Tiyan (Guam) special synoptic and upper-air observation support from any WFO, Weather Service Office (WSO), or second-order station in the Area-of-Responsibility (AOR).

The JTWC will make requests to WFO Tiyan (Guam) and WSO Pago Pago for additional observational support. The WFO Tiyan (Guam) will contact the Micronesian WSOs from which specials are desired. An informational email will be addressed to the Pacific Region Headquarters/Environmental Science & Services Division (PRH/ESSD) at pr.essd@noaa.gov.

All stations are obligated to take specials and to relay to second-order stations such requests for specials, except in emergency conditions such as a shortage of staff or hazardous weather. Specials will be started when requested by the WFO Tiyan (Guam) and continued at the intervals specified until word to discontinue is received. (See Paragraph 2.1.3 for further guidance.)

Requested special synoptic (0300Z, 0900Z, 1500, [18Z at most stations], 2100Z) and upper-air observations (0600Z, 1800Z) will be provided on a non-reimbursable basis when any of the following are present:

- A tropical cyclone warning has been issued for Micronesia.
- A tropical cyclone formation alert on a tropical disturbance is in effect.
- Data from the selected station will directly enhance forecasting.

2.1.2 Central Pacific Hurricane Center/Weather Forecast Office (CPHC/WFO) Honolulu

The CPHC may request special upper-air observations from the Data Collection Offices (DCOs) Hilo and Lihue. CPHC/WFO Honolulu will send requests for special observations to the stations concerned with an informational email to PRH at pr.essd@noaa.gov. Stations are expected to respond to such requests under the same conditions as specified in Paragraph 2.1.1.

2.1.3 Format

The special observations must be requested by station, date, and time, for example, the requesting message may not be on an "until further notice" basis. Additionally, not more than eight consecutive upper-air observations at 6-hour intervals will be made at a station. Therefore, such requests should anticipate the likelihood of a greater need for extra soundings within 72-hours.

2.1.4 Procedure

All upper-air observations will be tracked and processed completely. However, for the special upper-air observations conducted at 0600 and 1800 UTC for tropical cyclone support, process and transmit the coded upper-air message as-soon-as-possible after reaching 100 millibars/ hectopascals (mb/hPa); then, continue to track to burst and transmit the remaining messages.

2.2 Special Requests from other Agencies

Requests received from other agencies will be referred to PRH for approval.

2.3 Specials Initiated Locally

2.3.1 Upper-Air Observations

Upper-air stations are authorized to increase their program to six-hourly whenever a tropical cyclone is known to be within 300 nautical miles of the station, regardless of whether specials have been requested under the provisions of Section 2.1.

2.3.2 Special Synoptic Observations

Meteorologists-In-Charge/Officials-In-Charge (MICs/OICs) may request additional three and six-hourly synoptic observations from second-order stations under the WSOs supervision

whenever there is reason to suspect that a tropical cyclone or other severe weather is developing or moving into the WSO's AOR. Hourly observations are authorized when a tropical cyclone is near an observing station but not at the risk of observer safety. Reports from Second Order synoptic stations will not exceed 18 continuous hours.

2.4 Extending Hours of Operation

Offices operating less than 24-hours daily are authorized to extend station operating hours as necessary to comply with Section 2.1 or Section 2.3.

2.5 Transmission of Special Observations

Special observations should be transmitted using the standard communication headers/protocol over regularly used communication channels. FAX or long distance telephone calls may be used when normal tele-communication channels are out of order.

3. Second Order Synoptic Observing Stations In Micronesia.

3.1 General

The National Weather Service Pacific Region (NWSPR) operates a paid network of second order synoptic stations in Micronesia to support mission requirements. These stations are located on remote islands and atolls of the Republic of the Marshall Islands (RMI) and the Federated States of Micronesia (FSM), and help fill the void in a data sparse region. Appendix A of this Supplement lists the second-order synoptic station locations, supervising offices, and inspection schedules.

3.2 Policy

This section of the Supplement is applicable only to Micronesian second order synoptic stations. These stations, located in the World Meteorological Organization (WMO) Region V, follow coding practices contained in the Federal Meteorological Handbook No 2: Surface Synoptic Codes (FMH-2) and use the symbolic code form "FM12 SYNOP" for reporting synoptic observations from land stations. Due to lack of infrastructure (i.e., power, telecommunications, observing equipment), the modified coding practice in Paragraph 3.7 may be used to reflect these limitations where necessary.

3.3 Pacific Region Headquarters (PRH)

The PRH/ESSD provides management assistance, observer certification, oversight of the network, and logistical support.

3.4 Supervisory Offices

First Order WSOs Majuro, Pohnpei, Chuuk, and Yap are responsible for the supervision of second-order synoptic stations within their respective AORs. Supervision includes site surveys,

equipment installation, maintenance and comparisons, observer training and certification, observer payroll functions, station inspections, and data collection and transmission.

3.5 Observing Equipment at Second Order Stations

The following equipment resources are provided for each station:

- Barometer (analog or digital, set to read station pressure).
- Anemometer (handheld, read in knots or convert from mile-per-hour; otherwise estimate).
- Psychrometer (for air temperature and dew point; may be liquid-in-glass [alcohol], battery-operated, digital).
- Rain Gage (8-inch standard rain gauge [SRG], 4-inch rain gauge).
- HF Radio (for transmission of reports to the supervising WSO; to be provided by the host nation; any other forms of communication available to the synoptic observer – provided by a third party or the host nation).
- Federal Meteorological Handbook No 2: Surface Synoptic Codes (FMH-2).
- Observational Aids (Conversion tables, charts and graphs, etc…).
- WS Forms B-15-1/B-15-2 (Record of 3- and 6-hourly synoptic observations).
- Observer Supplies (to be provided by the supervising WSO – raincoat, flashlight, paper, pens, pencils, batteries, etc…).

3.6 Weather Service Forms B-15-1 and B-15-2, Record of 3- and 6-Hourly Synoptic Reports

Second-order stations shall use WS Forms B-15-1/B-15-2 to record, code, and archive the synoptic observations. The completed forms will be sent to the supervising WSO at the end-of-each month. The supervising WSOs will collect the forms for payroll purposes, provide quality control checks, and forward the forms monthly to the National Center for Environmental Information (NCEI):

National Center for Environmental Information (NCEI)
NOAA/NESDIS
Veach-Baley Federal Building
151 Patton Ave.
Asheville, NC 28801-5001

3.7 Modified Synoptic Coding Practices

Micronesian second-order synoptic stations are not 24-hour stations and in most cases staffed by a single observer. Due to staffing and equipment limitations, second-order synoptic stations are authorized to modify and report the following synoptic code groups:

Section 0 **$M_iM_iM_jM_j$ YYGGi_w** #
IIiii

Section 1 **$I_R I_x$hVV Nddff** ($1s_nTTT$) [1] ($2s_nT_dT_dT_d$) [1] ($3P_oP_oP_oP_o$) [1] (4PPPP) [1]
(5appp) [1] ($6RRRt_R$) [2,3,4,5] 7ww// $8N_hC_LC_MC_H$ (9GGgg) [1]
Section 3 333 ($58j_2j_3j_4$ or $59j_6j_7j_8$) [1] $7R_{24}R_{24}R_{24}R_{24}$
Section 5 **555 9YYGG**
Reference: WMO Manual on Codes (2019), Code Table 4019, Page A-345

[#]The groups in bold are mandatory.
[1]For the groups in parentheses ( ), report if the data is available, otherwise omit.
[2]At 00Z, the t_R will be coded as "4". (Note: Report only in Section 1.)
[3]At 06Z, 12Z, and 18Z, the t_R will be coded as "1". (Note: Report only in Section 1.)
[4]At 03Z, 09Z, 15Z, 21Z, the t_R will be coded as "7". (Note: Report only in Section 1.)
[5]For total precipitation recorded during the one-hour preceding the observation, the t_R will be coded as "5". (Note 1: Report only in Section 1.) (Note 2: Should only be used when a ***significant*** amount of precipitation occurs in a one-hour period.)

3.8 Collection and Transmission of Synoptic Reports

Second-order stations shall transmit their reports to the supervising WSO by any available method as-soon-as completed. The supervising WSO shall promptly collect, quality control, and transmit reports from all stations in their AOR over long-line circuits in bulletin format. WSOs shall report the additional groups $M_iM_iM_jM_j$ YYGGi_w in the heading of each bulletin.

Example - : SMKA02 PTTP (DDHHmm)
Standard - : AAXX 15124
91350 11474 70504 10244 20223 30120 40123 60041 780// 333 58008
70043 555 91512=

Example - : SMKA02 PTTP (DDHHmm)
Special - : AAXX 15154
91350 11474 70410 10228 20222 30115 40118 60067 780// 333 58008
70101 555 91515=

4. Station Inspection Program for Aviation and Synoptic Observation Sites

4.1 General

An effective surface observing program depends on each observation site conforming to national and agency standards and guidelines. One of the most effective ways and means to ensure that standards and guidelines are being met is through first-hand evaluation of the observing programs at each staffed observing site.

4.2 Policy and Procedures

National Weather Service Instruction (NWSI) 10-1301, Appendix B, establishes standard guidelines, policy, and procedures for conducting an effective inspection program. All NWSPR personnel responsible for conducting station inspections shall follow these guidelines during the inspection process.

In addition, inspecting personnel shall be knowledgeable of other references which are pertinent to the surface observations inspection program and shall follow the guidance provided in these references as required. Inspectors shall have the following available for ready reference:

- NWSI 10-1301: Aviation and Synoptic Observations.
- NWSI 10-1301, Appendix C: Instrument Requirements and Standards for the NWS Aviation and Synoptic Observing Programs.
- NWSI 10-1301, Appendix D: Certification of NWS Observers.
- NWSI 10-1305: Observational Quality Control - General.

4.3 Scope

The surface observation programs in the PR includes the following types of stations:

1. Staffed NWS and affiliated observing stations.

2. Synoptic Paid Stations (Second-Order).

3. Aerodrome Flight Information Services (AFIS).

4.4 Frequency of Inspections

Each surface observing site shall be visited and inspected based on the following schedule:

1. Stations listed in 4.3.1 and 4.3.2 above shall be visited annually.

2. Stations listed in 4.3.3 shall be visited semi-annually.

4.5 Responsibility for Inspections

Supervising stations listed in Appendix A are responsible for station inspections in the PR. The PRH Observing Services Program Manager (OSPM) for Aviation & Synoptic observations is responsible for the overall inspection programs and can provide assistance as required. The PRH OSPM may perform periodic assistance visits beyond the requirements listed in Appendix A.

4.6 Forms and Reports

Weather Service (WS) Form 10-13-9, Aviation & Synoptic Observation Inspection Checklist, shall be used to assist the inspector(s) in conducting a complete program review. WS Form 10-13-10, Aviation & Synoptic Observation Station Inspection Report, shall be used to complete a post-inspection written report. When possible, the inspector should include with the WS Form

10-13-10 digital photographs that best show the layout of the observing site and equipment exposure.

4.7 Disposition of WS Forms 10-13-9 and 10-13-10

1. Electronic copies of completed WS Forms 10-13-9 and 10-13-10 will be sent to the PR Observing Services Program Manager (Aviation & Synoptic) and the MIC/OIC for review within five (5) working days of returning to the home station.

2. Subsequent to review, the forms shall be returned to the inspector(s) for correction(s) if any. This subsequent review period should be for no longer than five (5) working days.

3. If there are no correction(s), or if corrections have been made, the forms shall be returned to the inspector(s) so that an electronic copy and a printed copy can be made available to the station manager of the observing site that was inspected. A copy will be provided to the inspector's station manager as well as the appropriate WFO/WSO MICs/OICs, if applicable.

4. The PR Observing Services Program Manager (Aviation & Synoptic) will:

   - Email a copy of the inspection report (only) to the NWS Headquarters at station.inspections@noaa.gov.
   - Email a copy of the inspection report (only) to the current contact at the Honolulu Airports District Office (HNL-ADO).
   - Email a copy of the inspection report (only) to the FAA Headquarters at 9-AJT-HQ-ASWO@faa.gov.
   - File a printed copy for the record.

4.8 Retention of WS Forms 10-13-9 and 10-13-10

1. The supervising WSO shall retain these forms for at least 3 years.

2. PRH shall retain these forms for at least 2 years.

3. Regardless of recency, the supervising WSO should retain the latest inspection report for information and continuity until it is superseded.

4.9 Technical Guidance

Supervising WSOs should contact the PRH Observing Services Program Managers for assistance as required.

5. On-Station Retention and Disposition of MAPSO Records

5.1 Policy

PR first-order stations using the MAPSO for taking METAR, SPECI, and synoptic observations shall follow the procedures listed below for on-station retention and disposition of these observational records:

1. In addition to end-of-month records that are sent to NCEI, retain MAPSO diskettes on station for one year. After one year, recycle for future use.

Retain MAPSO printouts (hard copy) on station for a minimum of three months, then dispose of locally.

APPENDIX A

List of Staffed Surface Observation Sites by Type and Supervising Office

Supervising Office	NWS First Order Observing Sites	Inspection Cycle
PRH	WSO Chuuk	Annual
	WSO Palau	Annual
	WSO Majuro	Annual
	WSO Pago Pago	Annual
	WSO Pohnpei	Annual
	WSO Yap	Annual

Supervising Office	AFIS Sites (Cooperator)	Inspection Cycle
WSO Palau	Babelthuap/Koror Airport, Babelthuap Island, Republic of Palau (ROP)	Semi-Annual
WSO Majuro	Marshall Islands Int'l Airport (MIAA), Majuro, RMI	Semi-Annual
WSO Pohnpei	Kosrae Airport, Kosrae, FSM	Semi-Annual
	Pohnpei Int'l Airport, Pohnpei, FSM	Semi-Annual

Supervising Office	Second Order Synoptic Stations	Inspection Cycle
WSO Chuuk	Fanunu	Annual
	Losap	Annual
	Lukunoch	Annual
	Onoun	Annual
	Polowat	Annual
WSO Majuro	Ailinglapalap	Annual
	Jaluit	Annual
	Mili	Annual
	Utirik	Annual
	Wotje	Annual
WSO Pohnpei	Kapingamarangi	Annual
	Kosrae	Annual
	Mwoakilloa	Annual
	Nukuoro	Annual
	Pingelap	Annual
WSO Yap	Ulithi	Annual
	Woleai	Annual