



## Backup Operations for Alaska Region Offices

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1. Purpose. NOAA’s National Weather Service (NWS) offices provide forecast and warning services to a variety of customers. This Supplement provides service backup guidelines and instructions for Alaska Region (AR) field offices as well as for the Alaska Region Headquarters (ARH). ARH is not an operational field unit; however, it serves both as a regional communications and data center and as an operational support center during a weather-related or environmental emergency. Therefore ARH has to be integral to any overall backup strategy for the region.

Continuity of Operations Plans (COOP) have been developed to ensure the execution of essential functions during any crisis and to provide for the safety and well being of employees during any emergency in which a building is threatened or not accessible. Service backup is a contingency plan that defines a set of procedures and processes invoked by an office(s) when a portion or all of its operational capabilities are incapacitated, to ensure critical NWS products and services are continued. The incapacitation may be scheduled (e.g., Advanced Weather Interactive Weather Processing System [AWIPS] build upgrade, hardware upgrade, etc.), or unscheduled (e.g., natural disaster, communications outage, etc.). The plan includes identification of the backup site(s), situation-dependent alternatives, the details on the transfer of responsibility as well as the assumption of product preparation and dissemination by the designated backup site. In addition, the plan includes a list of the appropriate office and regional personnel to be notified in a predetermined manner as interruption severity or duration escalates. Finally the plan outlines procedures invoked for the affected office to return to normal operations. It bears noting that COOP and backup operations are separate, though related activities.

## 2. Responsibilities.

2.1 Alaska Region Offices. Each office is required to have specific backup contingency plans in place to respond to the disruption of critical systems and services in their office, and to provide for as seamless a transition of those functions as possible to the assigned site backup office(s). The plan should include, but is not limited to:

- Documentation and implementation of the information, appropriate plans, and standard operating procedures (SOP).
- Documentation of the priorities, evacuation guidelines, and COOP.
- Documentation of the criteria and severity of a disruption based on the impact the disruption will cause to the office's critical functions.
- Determination of critical functions and systems, and the associated durations required for recovery.
- Determination of the resources required by the backup site to execute critical functions.
- Identification of the people, skills, and resources needed to assist in the recovery process not explicitly specified in the COOP.
- Acknowledgement of the need to maintain the currency of the plan's information over time.
- Acknowledgement of the need to test the documented procedures to ensure their completeness and accuracy.
- Acknowledgement of the need to train all office personnel to ensure readiness.

A table detailing the backup responsibilities among AR field offices can be found in Appendix A.

It should be noted that written instructions cannot cover every situation. Responsibility for the successful execution of service backup ultimately resides with the operational teams involved. A well trained team versed in backup procedures and contingency plans will be better prepared to exercise good judgment in a crisis situation and ensure a continuation of essential services.

Prioritization of duties in a disabled office will be determined by the official in charge guided by the mission priorities of the NWS. Top priorities might include providing support and assistance to offices currently engaged with backup services, and the activities associated with restoration of operations at the disabled office. This may include, but is not limited to obtaining data sets via alternative methods, providing draft products, soliciting and relaying real-time ground truth severe weather and damage reports, etc. When an office is expected to be disabled for an extended length of time, assistance and support may also include temporary duty (TDY) at the backup location.

The top priority of personnel in a disabled office is to ensure that mission critical products and services to protect life and property, and enhance commerce as outlined in the COOP are maintained as seamlessly as possible. A close, but second priority is restoration of local

operations. After these two high priority items, personnel will provide support and assistance to offices providing backup services to the extent possible. This may include, but is not limited to obtaining data sets via alternative methods, providing draft products, soliciting and relaying real-time ground truth severe weather and damage reports, etc. When an office is expected to be disabled for an extended length of time, assistance and support may also include TDY at the backup location.

2.2 Weather Forecast Offices (WFO). The goal for service backup is the provision of all products and services so that the backup function is essentially transparent to our customers. However, the magnitude and complexity of AR's weather, water, and climate operations and the infrastructure that supports that mission are such that the wholesale transfer of responsibility from one WFO to another, as is commonly done in the continental United States, is not possible.

Provision for products and services while operating in a backup role is priority dependent. Guidance for priorities is found in NWS Instruction 10-2201 while AR specific priorities (including Graphical Forecast Editor [GFE] grids) are outlined in Appendix B.

2.3 Weather Service Offices (WSO). When a WSO cannot provide its suite of local products and services, backup responsibility is transferred to its primary or secondary backup office as defined in Appendix A. Backup responsibility includes, but is not limited to, all possible data acquisition and quality control functions to ensure the affected observations are manually transmitted in a timely manner, as well as critical broadcast and dissemination services. The WSO requiring backup will keep their parent WFO apprised of their status until operations are re-established. For WSOs that provide High Frequency (HF) Marine Broadcasts, HF backup will be covered in the affected WSO SOPs.

2.4 Alaska Pacific River Forecast Center (APRFC). When the APRFC requires service backup, AR WFOs should have the capability of providing critical hydrological services (e.g., flood watches and warnings) without RFC guidance during the first 24 hours of an APRFC outage. If the APRFC outage is expected to continue beyond 24 hours, RFC operations should be relocated to the off-site location. An RFC AWIPs configured workstation has been pre-positioned at WFO Fairbanks for this contingency. During the breakup season, establishment of off-site operations may be initiated sooner. Off-site operations require APRFC personnel to travel TDY to the backup site to implement procedures and issue forecasts. If the outage occurs during a high water situation, the APRFC may deploy staff at affected WFOs to assist in the handling of the event(s).

2.5 Alaska Aviation Weather Unit (AAWU) and Volcanic Ash Advisory Center (VAAC). For scheduled outages, the AAWU will move its operations to the APRFC. For unscheduled outages, AAWU High Level Significant Meteorological Information (SIGMET) responsibility will be assumed by the Aviation Weather Center (AWC). Airmen's Meteorological Information (AIRMET) responsibility will be taken over by WFOs Juneau and Fairbanks. The AAWU staff will utilize resources at ARH to produce and transmit an FA (Area Forecast). In the event that communications are down at ARH, FA information will be relayed to either WFO Fairbanks or WFO Juneau, and the FA will be transmitted from either of those sites. Production of FAs will

resume as soon as time and resources permit. If possible, AAWU personnel will provide support and input over the telephone in order to ensure the highest quality products are produced. In the event of a longer term outage, consideration will be given to send AAWU personnel to an alternate location, with the goal of this alternative being to reestablish full AAWU operations, to the fullest extent possible.

The production and issuance of Volcanic Ash Advisories from the Anchorage VAAC will be transferred to the Washington VAAC when an operational outage occurs at the AAWU. To the extent possible, AAWU personnel will remain in close contact with the Washington VAAC especially during a period when a volcano is active in or upstream of the AAWU area of responsibility.

2.6 Center Weather Service Unit (CWSU). Service backup of CWSU Operations will be in accordance with Appendix B of NWSI 10-803, "Support to Air Traffic Control Facilities."

2.7 West Coast and Alaska Tsunami Warning Center (WCATWC). The need for service backup at the WCATWC should be exceedingly rare as the infrastructure supporting that office is largely independent from that which supports the group of facilities in Anchorage. In the case of an operational failure, responsibility will be transferred to the Pacific Tsunami Warning Center in Hawaii.

2.8 Alaska Region Headquarters (ARH). ARH responsibilities are to ensure regional data and product flow to support backup operations for all field offices; to provide operational support to field offices in the event of a weather related, or environmental disaster; and to provide administrative support for travel and logistics.

2.9 Communications Backup. Backup operations for communications such as WSR-88D, NOAA All Hazards Radio, etc., will be handled in accordance to NWSI 10-2201 Appendix I.

3. Operations. Scheduled backup operations (e.g. AWIPS builds) will be coordinated in advance by the office requesting backup. However, there will certainly be times when prompt, immediate implementation of service backup plan will be required. Examples of the sort of events that invoke immediate implementation are as follows:

- Emergency evacuations
- Site communications or power failure
- Critical equipment failure

For unscheduled/emergency situations as defined above, the Chiefs of both the Environmental and Scientific Services Division and Systems Operations Division (or their designees) at ARH should be notified as soon as possible by telephone, which would immediately be followed by a preliminary "For the Record (FTR)" to ARH. Designated primary or secondary backup offices listed in Appendix A will provide warning and forecast services until normal office operations at the affected site are restored. Upon restoration of normal operations, the field office returning

from backup operations will notify ARH as well as affected WFOs, associated WSOs, the APRFC, the AAWU, and/or CWSU.

Offices providing backup will provide service consistent with normal operations and take into account additional workload, the weather, and available resources (personnel and equipment). During backup operations, additional personnel may be required to be called in or held over in order to maintain continuity of operations. Overtime pay or compensatory time is authorized for the additional personnel required during a backup situation. For longer term backup, temporary duty at the backup office may be necessary to sustain services.

4. Readiness. Offices will maintain all instructions related to the implementation of service backup. Offices will maintain lists and contacts for emergency management and other key public decision-makers, spotters, and Cooperative Observers for offices which they provide backup. All offices should also be familiar with their assigned backup office's operational programs, SmartTools, and text formatters. The office management team is responsible for ensuring that personnel are trained in service backup, and those procedures are exercised on a regular enough basis for personnel to remain proficient. It is the responsibility of each office to ensure that offices performing service backup have been provided all necessary items, as outlined above, to accomplish backup successfully.

**APPENDIX A - Service Backup Assignments**

<b>Office</b>	<b>1<sup>st</sup> Backup</b>	<b>2<sup>nd</sup> Backup</b>
WFO Anchorage	AER-AJK and ALU-AFG	AER-SEW and AJK-PQR
WFO Fairbanks	AFC (AFG)	AJK
WFO Juneau	AFC (AER)	AFG
Alaska Pacific River Forecast Center	AFG and AJK (situation dependent)	APRFC-configured backup workstation(s) at any AWIPS site with APRFC staff deployed
Alaska Aviation Weather Unit	APRFC	WCATWC, AWC, HFO
Volcanic Ash Advisory Center	Washington VAAC	WCATWC
Center Weather Service Unit	AAWU	None
West Coast and Alaska Tsunami Warning Center	PTWC	AFC, AFG, PTWC
WSO Annette	AYA	AVW
WSO Barrow	AMC	AOM
WSO Bethel	AKN	ACD
WSO Cold Bay	ASN	ADQ
WSO King Salmon	ABE	ACD
WSO Kodiak	AVW	AYA
WSO Kotzebue	AOM	ABR
WSO McGrath	ABR	AOM
WSO Nome	AOT	AMC
WSO St. Paul	ACD	ADQ
WSO Valdez	ADQ	AYA
WSO Yakutat	ANT	AVW

## APPENDIX B – Critical Products List

1. The following are the ***required critical products*** to be issued with ***no break in service***:
  - a. WCATWC: Tsunami Watches/Warnings/Advisories, Tsunami Information Bulletins
  - b. AAWU: Volcanic Ash Advisories, SIGMETS, Airmets.
  - c. Public, Fire Weather and Hydrological Warning and Watch products.
    - i. These include Fire Weather Spot forecasts associated with ongoing warnings as well as Spot forecasts for HAZMAT, SAR, etc.
    - ii. ***Products will be produced using either WarnGen or GHG in service backup mode*** to ensure continuity of VTEC coding.
  - d. Marine Warnings and associated forecast text (including Coastal Waters Forecasts [CWF], Offshore Forecasts [OFF], and NAVTEX).
  - e. Public and Hydrological Advisories or Statements
  - f. TAFs (in the order shown by office)
    - i. Anchorage: Anchorage, King Salmon, Cold Bay
    - ii. Fairbanks: Fairbanks, Nome, Kotzebue, Deadhorse, Barrow
    - iii. Juneau: Juneau Ketchikan, Sitka, Gustavas, Petersburg, Skagway, Wrangell, Yakutat
  - g. Local Storm Reports in support of Watch and Warning operations.
  - h. RFC: River stage and flow forecasts (product category RVF) issued during flood situations and Hydrologic Coordination Messages (HCM) providing guidance on flood impacts and extent.
  - i. WSOs: Coastal Waters Forecasts (CWF) issued by Kodiak, Valdez and Yakutat.
2. The following products ***should be issued with minimal break in service***:
  - a. TAFs (in the order shown by office)
    - i. Anchorage: Kodiak, Kenai Homer, Cordova, Valdez, Gulkana, Talkeetna, Palmer, Dutch Harbor, Bethel, Dillingham, Saint Paul, Iliamna, Sand Point.
    - ii. Fairbanks: McGrath, Nuiqsut, Galena, Unalakleet, Bettles, Tanana, Northway.
  - b. Routine Public Zone Forecasts (ZFP), concentrating on Days 1-3.
  - c. Short Term Forecasts (STF):
    - i. WFO issued short-term forecasts for Fairbanks Tanana Valley (Zone 222) and all STFs issued by WFO Juneau.
    - ii. All WSO issued STFs.
  - d. Fire Weather Zone Forecasts (FWF)
  - e. Juneau Motoring Forecasts
  - f. Area Forecast Discussions (AFD)
  - g. Other Local Storm Reports
  - h. Daily Climate Summaries (WFO and WSO)
  - i. Quantitative Precipitation Forecasts (QPF)
  - j. River Statements
  - k. Flood Potential Outlooks
  - l. Hydrologic Summaries



- m. RFC:
    - i. River stage and flow forecasts
    - ii. Hydrometeorological coordination message (HCM), and
    - iii. RFC Quantitative Precipitation Forecasts (QPF)
    - iv. AHPS graphic river forecasts
  - n. AAWU Area Forecasts (within 12 hours)
  - o. Barrow Surf Zone Forecast
3. The following products may be issued after Sections 1 and 2 above are completed, and time constraints warrant:
- a. Area Weather Summary
  - b. Hourly Weather Roundup
  - c. State/Area Temperature and Precipitation Table
  - d. Monthly Climate Summary (WFOs and WSOs)
  - e. Record Reports
  - f. Record Reports (WFOs and WSOs)
  - g. Public Information Statements (WFOs and WSOs)
  - h. CF6
  - i. Other specialized products such as sea ice products, ANC Takeoff data, vent factor, Marine fax charts, Offshore, etc.
    - i. State Weather Summary (SWS) – WSO Valdez
4. WFO GFE Grids and the NDFD:  
If the WFO grids are available in a timely manner from the central server, **and** there are sufficient personnel and computer resources available at the office providing service backup, then all attempts should be made to issue grids for the down office.