National Interagency Predictive Services Handbook- 2023

The National Predictive Services Oversight Group (PSOG) provides management oversight and direction to National Predictive Services Program. The group coordinates, directs and oversees the development and implementation of national program products and services, ensures the integrity and cohesiveness of program operations, arbitrates differences, and provides a venue for dialogue and deliberation in support of a sustainable and effective program.

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Predictive Services Oversight Group, Chair

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Purpose

The purpose of the National Interagency Predictive Services Handbook is to provide direction, guidance, and standards to the Predictive Services program at both the National and Geographic Area Coordination Center levels. It establishes minimum standards for products and services from the Predictive Services programs in support of the wildland fire organization. This handbook defines:

- Program management and organization
- Roles and responsibilities
- Products and services
- Communication and coordination
- Decision-making processes
- Training and development
- Operational support

Handbook Review and Updates

The Predictive Services Handbook will be reviewed annually and updated as needed. Any proposed changes will be submitted to the Predictive Services Oversight Group by December 1 to be considered for inclusion for the following year. Proposals will then be presented to all members of the Predictive Services Program and the Geographic Area Center Managers for discussion and decision. Changes will be implemented no later than January 31.

Predictive Services Intent

Predictive Services was developed to create an interdisciplinary decision support unit that better coupled weather and climate to the evolution of fuels and wildland fire. This is accomplished through analysis of weather, climate, fuels, fire activity and intelligence. Predictive Services consists of three primary functions: fire weather and climate; fuels and fire danger; and fire activity and firefighting resources intelligence. Predictive Services units are located at the National Interagency Coordination Center (NICC) in Boise, ID, and at each of the Geographic Area Coordination Centers (GACCs). Users of Predictive Services products range from national agency administrators to regional fire managers to firefighters on the ground.

Predictive Services Background

Understanding the history of the development of Predictive Services will provide context to local staffing and policies. Consulting with your Center Manager, other Predictive Services members, or host agency supervisor may lend additional information.

Historically, the wildland fire organization managed wildfire in a reactive fashion. Land management agencies operated with a distinct lack of integrated planning and without multidisciplinary tools that incorporated expertise in weather, climate, fuels, and fire management resource requirements. Agencies allocated resources as needed or when significant fire threats became imminent. This approach failed to provide for long range fire activity planning on a national interagency basis, or for periods of high competition for resources.

During the 1990s, fire managers attempted to blend weather, fuels, and resource information into fire management planning. Several efforts failed or were complicated by declining budgets, complex and restrictive land management policies, and a restructuring of the National Weather Service's (NWS) fire

weather program. Management of resources grew increasingly difficult with a growing need for all hazards support from the land management agencies. This cemented the need for development of integrated planning and decision-support data, information, and tools for fire management.

Recognizing this need, attempts to synthesize multidisciplinary information into proper planning tools began at a few Geographic Area Coordination Centers. Teams of intelligence coordinators, fuels and fire danger specialists, and meteorologists combined their respective areas of expertise to develop seasonal outlooks that gave fire managers a predictive tool to plan management strategies for the coming fire season. These early efforts proved useful and led to a dedicated program for addressing these issues on a continuous basis. In 1999, the Northwest Coordination Center hired the first dedicated fire meteorologist to work directly with GACC staff and other subject matter experts to produce a suite of products that addressed medium and long-range fire planning concerns.

The severity and extent of the 2000 fire season highlighted the need for a more holistic approach to managing wildland fires as national fire resources were overwhelmed by a destructive season that raised public and political awareness at the national level. It became apparent that despite a wealth of weather, fuels, and resource information, there were no centers of expertise to integrate this information into effective planning and decision support tools. The update of the National Fire Plan provided funding for 20 fire meteorologists to join with the existing intelligence staff at the GACCs and the NICC, to form the National Predictive Services Program.

A National Predictive Services Group (NPSG) was formed and originally chartered under the Geographic Area and National Interagency Coordination Center Managers in 2002 to provide the Predictive Services program with oversight, leadership, and direction. To ensure strong national leadership and advocacy for the Predictive Services Program, the National Fire and Aviation Executive Board (NFAEB) agreed to re-charter NPSG in the fall of 2005. After NFAEB and NWCG were combined during the NWCG restructuring process, NPSG was again re-chartered in 2009 and renamed the National Predictive Services Subcommittee (NPSS). Between 2015 and 2017, the effectiveness of the NPSS seemed to have failed.

In 2017 a program review was conducted of Predictive Services. The analysis determined that the group and their products were used and appreciated by many in fire management, but several shortfalls were impeding success of the program. Issues included proactive staffing that would address career progression and succession planning; governance and supervision of positions supporting multiple agencies; funding for new hires as well as product development and maintenance; standardization of products at different geographic areas; and how to better engage research and new technologies. One of the highest priorities identified a need for fire analysts at the NICC and at each GACC that would work with the meteorologists and intel to assess meteorological influences on the fire environment and describe subsequent implications to both wildland and prescribed fires and the effectiveness of control measures.

In 2019, the Predictive Services Oversight Group (PSOG) was chartered by the Fire Management Board (FMB) in response to the findings from the 2017 Predictive Services Program Review Report. PSOG encouraged a minimal level of staffing at each GACC, including that each area hire a fire analyst into the program. The Northwest GACC and NICC already staffed fire analysts in their Predictive Services units prior to this report.

The NICC and several geographic areas, including Alaska and North Ops, quickly hired fire analysts. In 2022, South Ops and Eastern Area also hired full-time fire analysts. Northern Rockies has a shared fire analyst

position with the Northern Region USFS Regional Office. Rocky Mountain has an analyst detail that they may choose to turn into a full-time position in the future. The goal is for all GACCs to have a fire analyst as part of their Predictive Services Program.

National Program Management and Organization

Program Organization

National Predictive Services staff works under the direction of the NICC Manager, with guidance from the National Multi-Agency Coordinating Group (NMAC). GACC Predictive Services staff work under the direction of the GACC Manager, with guidance from the Geographic Area Coordinating Groups. National and GACC Predictive Services work in unison to create and maintain products and services which provide value to users at all levels. Predictive Services is comprised of Meteorologists, Wildland Fire Analysts, and Intelligence Coordinators at the NICC and GACCs.

Program Management and Coordination

PSOG is tasked with providing management oversight and direction to the National Predictive Services Program. The group consists of:

- fire and center managers representing the federal land management agencies and the coordination system,
- subject matter experts from the Intel, Meteorologist, and Fire Analyst staff.

The group coordinates, directs, and oversees the development and implementation of nationally standardized products and services. Consistent group dialogue and effective communication with Predictive Services staff and stakeholders ensures the integrity and cohesiveness of daily operations and provides for a sustainable and effective program.

PSOG is accountable for and has the authority to coordinate and provide management oversight to the National Predictive Services Program on behalf of its stakeholder groups and the Wildland Agencies. More information about PSOG can be found here: https://www.nwcg.gov/partners/fmb/psog.

Ideally, a Program Manager within the Predictive Services Unit at the GACC is identified. This person will be the primary interface with the GACC Manager and provide daily supervision of the Predictive Services Unit. Alternatively, the GACC Center Manager may function as the Program Manager for Predictive Services, though due to specific skills and training involved in the program, this is less desirable. Regardless of program management, GACC Managers provide supervision of their respective Predictive Services Units and work with that group in developing GACC-specific operating plans. These operating plans will encompass the daily activities of the GACC Predictive Services program, including supervision, the flow of information within the GACC and Geographic Area, the products produced, and the internal and external dependencies for these products.

GACC Managers and geographic area coordinating groups have the responsibility for ensuring GACC Predictive Services staff have the appropriate allocation of time and resources to produce national products as outlined in this handbook and that those products are completed as required. Any recurring and systemic issues regarding product issuance, data outages, and coordination among GACCs should be presented to PSOG through the appropriate subject matter expert.

Roles and Responsibilities

Predictive Services is a decision support unit for federal, state, and local land agencies for operational management of and strategic planning for wildland firefighting resources. Predictive Services accomplishes this through analysis of weather climate, fuels, fire activity and expected behavior, and resource availability. The products and services provide support for the proactive management of wildland fire considering safety, cost containment, efficiency, and ecosystem health. Additionally, Predictive Services will advance the state of science through collaborations with cooperating agencies, including academic, research, and public/private sector partners.

National Wildfire Coordinating Group (NWCG)

Formed in 1974, the National Wildfire Coordinating Group facilitates operational cooperation and coordination between various public agencies having jurisdictional responsibility for wildland fire management.

In 2007, Predictive Services was recommended for representation on the Fire Environment Committee and on the Fire Weather and Fire Danger Subcommittees.

Predictive Services Oversight Group (PSOG)

The Predictive Services Oversight Group (PSOG) provides management oversight and direction to the National Predictive Services Program. The group coordinates, directs, and oversees the development and implementation of national program products and services, ensures the integrity and cohesiveness of program operations, arbitrates differences, and provides a venue for dialogue and deliberation in support of a sustainable and effective program. The charter can be found at https://www.nwcg.gov/sites/default/files/docs/eb-psog-charter.pdf. PSOG is accountable for and has the authority to coordinate and provide management oversight to the National Predictive Services Program on behalf of its stakeholder groups and the Wildland Agencies.

PSOG is responsible for fulfilling the following management duties:

- Provide a common and integrated approach to national program strategy, planning and implementation.
- Coordinate and solicit fire management needs with National and Geographic Area Multi-Agency Coordinating Groups (NMAC and CGAC), who as stakeholders provide well-defined communication pathways to interagency fire leadership at the local, geographic, and national level.
- Facilitate communication with National and Geographic Area Center Managers Community.
- Ensure management coordination of changes to national program products, services, and applications.
- Provide guidance to National and Geographic Coordination Center Predictive Services.
- Make recommendations for the development and support of new national program products, services, and applications.
- Serve as a deliberative body to review and resolve national issues for which Predictive Services program staff has failed to reach consensus.
- May establish standing or ad hoc working groups whose purpose is to provide effective, coordinated, and sustainable management to the National Predictive Services Program.

PSOG will consist of the following core (voting) membership:

- NMAC Representative
- CGAC Representative
- NICC Center Manager or Assistant Center Manager
- GACC Center Manager or Assistant Center Manager
- Two Agency Fire Management Representatives
- Predictive Services Fire Analyst Working Group Representative,
- Predictive Services Intelligence Working Group Representative,
- Predictive Services Meteorologist Working Group Representative.

Non-voting liaison representation includes:

- Fire Management Board (FMB)
- Office of Wildland Fire
- National Weather Service

Membership, program review information, meeting minutes, FAQs, FMB memos, and other documents related to PSOG can be found at https://www.nwcg.gov/partners/fmb/psog.

NICC and GACC Predictive Services Unit

The National Predictive Services Program mission is to integrate climate, weather, fuels, fire activity, fire potential, and fire risk, and incident resource status information to enhance the ability of managers to make informed decisions for both short- and long-range strategic planning. Working as cohesive units, Predictive Services blends the functions of intelligence, fire management analysis, climate, and meteorology for delivering decision support data products and services in support of Geographic Area and National decision-making.

Predictive Services units at NICC and the GACCs will provide decision support products and services to federal, state, local and tribal land management agencies, and emergency management organizations. Products and services will include but are not limited to weather and climate, fuels and fire danger, significant fire potential, historical and current fire activity, and firefighting resources.

Predictive Services responsibilities include:

Managing operational staffing. Each unit will be organized and adequately staffed for fulfilling the duties required of its mission. These include but are not limited to preparation and dissemination of weather, climate, fire, and resource products; routine and ad hoc briefings for fire organization staff; development of analysis, diagnostic and prognostic tools; administrative documents including information and policy bulletins. Qualified specialists (meteorologists, intelligence specialists, fuels and fire danger analysts, etc.) will be identified and scheduled as needed to maintain full-service capabilities year-round to meet the wildland/prescribed fire missions, especially during the unit's core fire season, during intensive operational periods, and during unexpected staffing emergencies.

Providing decision support products and services. Predictive Services units will work collectively and individually to provide decision support products and services to the wildland fire organization. These products and services include but are not limited to collection, analysis and dissemination of fire activity,

weather, fuels, and firefighting resource data; prediction of weather, fuels, and fire activity (danger, potential, behavior, etc.); responding to queries for information related to fire activity, weather, fuels, firefighting resources and prescribed fire support; responding to inquiries from officials at agency, department, congressional, or executive levels; and maintaining situational awareness and briefing decision makers of evolving conditions.

Research and development in areas of expertise. Predictive Services units will research, develop, and disseminate methods for improving the state of the science and technology used in performing its duties. This includes but is not limited to developing new methods for data collection and analysis; developing new quantitative forecast methodologies and tools; identifying correlations among the variables that affect weather, climate, fuels, and wildfire; identifying and establishing better thresholds or breakpoints for assessing weather and fuels risks; validating processes and verifying forecasts; and determining value of products and services to the overall business of fire management. Leveraging Regional Fire Science Consortia or Fire Exchange Network (https://www.firescience.gov/JFSP_consortia.cfm), utilizing the Joint Fire Science Program, and reaching out to university researchers is encouraged.

Maintain proficiency with existing technologies while identifying and developing new ones. Predictive Services will maintain a high level of proficiency in all technologies that are essential in fulfilling its responsibilities. It will also identify and develop new technologies that can improve or enhance its ability to provide decision support products and services to the wildfire organization. Such technologies will include but are not limited to computer software, database and data analysis systems, internet technologies, mobile technologies, geographic information systems (GIS), and dissemination and broadcast systems. If Predictive Services personnel do not possess these skillsets, training may be assigned to acquire necessary skills to complete their duties. Additionally, if new and emerging technology outpaces training and existing skillsets, PSOG should be made aware while additional outside support should be provided by GACC Managers or fire management to help fulfill Predictive Services mission.

Identify and maintain collaborative relationships. Predictive Services will develop and foster collaborative relationships with partners from among the wildland fire agencies, other government agencies, academic institutions, and the public and private sectors to leverage the collective expertise and improve the quality of decision support products and services. Predictive Services will maintain membership on NWCG committees and sub-committees that incorporate the fire environment and intelligence gathering.

Complete required training as well as assist in training of wildland fire personnel. Predictive Services personnel must complete all general and job-specific training required to maintain proficiency in their skills. They should also make every effort to complete additional training that can enhance their capabilities. Further, Predictive Services personnel should contribute to the corporate knowledge base by participating as instructors in many of the training exercises and courses offered within the fire organization. While this is encouraged, it should not interfere with performance of regular duties.

Intelligence Section

The Intelligence unit of Predictive Services at the GACC and NICC is established to collect, analyze, and report on situation and resource information. At the GACC, positions vary and may include an Intelligence Coordinator, Intelligence Officer, and/or a detailed Intelligence Support Specialist (INTS). In addition, roles, responsibilities, and duties also vary among the Intelligence units at the GACC, but generally include:

Multilevel coordination. The Intelligence units coordinate with all levels of the interagency wildland fire organization including zones, areas, units, dispatch offices and other GACC Predictive Services units. Daily coordination enables the collection and exchange of information regarding resource commitment and availability; situational assessments of incidents (locations, number, size, complexity); threats to people; values at risk (natural resources, infrastructure, structures, etc.); and critical resource needs.

Analysis and situational assessment. Intelligence units analyze incident and resources information to identify critical needs, prioritize threats, and establish preparedness levels to assist decision-makers and dispatchers in incident and resource management decisions.

Archive historical incident and resource information. Intelligence units archive data from all levels of the wildland fire organization and maintain the historical record for future study, evaluation, planning and preparedness. This data includes but is not limited to incident location, start and end dates, size, cause, jurisdiction, resources dispatched, costs, values lost (structures, infrastructure, natural resources, etc.), injuries and fatalities.

Briefings and reports. Intelligence units provide written and oral briefings and reports and perform data analysis for a wide range of users, including resource managers, agency leadership, department secretaries and officials, congressional members and staffers, and congressional committees and subcommittees.

Oversight and training of reporting programs. Intelligence units provide oversight for the ICS-209 and Situation Reporting programs to ensure incident information is accurate and timely. Intelligence personnel also develop and conduct training for fire and dispatch personnel.

Meteorologist Section (Fire Weather and Climate)

Meteorologists are the weather, climate, and fire potential subject matter experts of the Predictive Services program. They collect and analyze weather data, forecast weather and its impacts on fuels, fire danger, fire potential, and resource allocation and disseminate findings throughout the fire organization. When available, the meteorologist works closely with a Wildland Fire Analyst. Strong working relationships and coordination with National Weather Service (NWS) forecast offices, incident meteorologists, regional operational centers, national centers, and NWS fire management are encouraged. In addition, relationships with agencies outside typical government partners may be critical, particularly with those in the energy and transportation sector. While roles and responsibilities vary to a degree among the Geographic Area Predictive Services units, the overall mission focus is to provide the following:

Analysis and prognosis. Meteorologists analyze observed and modeled meteorological data from a wide variety of sources to identify patterns that will affect the state of fuels, fire activity, and allocation of resources. They assess current and forecast conditions across multiple spatial and temporal scales to identify areas of elevated potential for significant wildfire prescribed fire activity, including ignitions, spread, behavior, severity, and duration. Air quality and smoke concerns may also be identified and considered.

Fire and resource management decision support. Meteorologists provide decision support information and tools in support of fire and resource management activities. Decision support is accomplished through briefings, published products, analysis and forecasting tools, and ad hoc queries. Protection of life and property, including firefighter and firefighting equipment safety, is implicit in all decision support activities. If a Predictive Services meteorologist is certified as an Incident Meteorologist (IMET) or Air Resource

Advisor (ARA), or feels comfortable providing such services, they are encouraged to provide on-site decision support, especially on prescribed burns, when activity and management allow.

Research and development. Meteorologists must keep current with the state of the sciences in weather and climate, fuels, and wildland fire. They must also advance the science through research, development of new methods and tools for prediction, and contributing to the overall knowledge base in fire and fire prediction.

Technology and data transfer. Meteorologists will identify ways to disseminate and distribute data and products, working with partners to develop and implement technologies that will facilitate efficient and effective data transfer and understanding.

Education and outreach. Meteorologists will educate the wildland fire community on the use and understanding of meteorological data and products in wildland fire. This can be accomplished by participating as instructors in formal training courses offered by the wildland fire organizations; by preparing and disseminating training materials, user guides, or other documents to the wildland fire community; by attending meetings, workshops, and conferences; or through day-to-day interactions with firefighters, fire managers, and decision makers. Consistent efforts should be made to communicate effectively with stakeholders and partners in fire management to build trust and shared experience to facilitate better working relationships. Meteorologists should also engage the general public, educating them about wildfire and its prediction, through various outreach methods such as media interviews, community meetings, public school functions, or tours of wildland fire facilities.

Wildland Fire Analyst Section

The Wildland Fire Analysts assess how fuels, fire danger, and fire behavior will be affected by current and forecast weather conditions to identify potential safety concerns, problem areas, and opportunities for allocating or repositioning resources. The Wildland Fire Analysts work closely with the Predictive Services Meteorologists. They assist with fire danger/behavior skills prior to, during, or after increased fire activity to help develop short- and long-term outlook products.

Analysis and forecasting: Wildland Fire Analysts analyze observed and modeled weather, fuels, fire danger, and behavior data from a wide variety of sources to identify patterns that will affect fire activity. They assess current and anticipated conditions across spatial and temporal scales to identify areas of greater potential for significant fire activity, including ignitions, spread, behavior, severity, and duration for wildfire and prescribed fire efforts. Wildland Fire Analysts analyze incident information to identify critical patterns, prioritize threats, and assist decision-makers and dispatchers in incident, RX and resource management decisions.

Fire and resource management decision support: Wildland Fire Analysts provide decision support information and tools in support of wildfire and resource management activities. Decision support is accomplished through briefings, published products, analysis, and ad hoc queries.

Research and development: Wildland Fire Analysts keep current with the state of the sciences in weather and climate, fuels, and fire behavior. They advance the science through research, development of new methods and tools for prediction, and contributing to the overall knowledge base in fire and fire prediction.

Education and outreach: Wildland Fire Analysts will educate the wildland fire community on the use and understanding of weather and fuels data and products in wildland/prescribed fire. This can be accomplished by participating as instructors in formal training courses offered by the wildland fire organizations; by preparing and disseminating training materials, user guides, or other documents to the wildland fire community; by attending meetings, workshops and conferences; or through day-to-day interactions with firefighters, fire managers and decision makers. Fire Analysts should also engage the general public, educating them about wildfire and its prediction, through various outreach methods such as media interviews, community meetings, public school functions, or tours of wildland fire facilities.

Multilevel coordination: Wildland Fire Analysts coordinate with all levels of the interagency wildland fire organization including zones, areas, units, and dispatch offices. Daily coordination enables the collection and exchange of information regarding fuels and fire danger and behavior.

Briefings and reports: Wildland Fire Analysts provide written or oral briefings, prepare written reports, and perform data analysis for a wide range of users, including resource managers, agency leadership, department secretaries and officials, congressional members and staffers, and congressional committees and subcommittees.

Products and Services

Predictive Services provides national and Geographic Area products designed to meet national, regional, state, and local interagency needs. National products are standardized to provide consistency and ensure comprehension by all users.

Geographic area products vary widely across the country and are designed to meet the specific, and sometimes unique, needs of the GACC and local users. All products provided by meteorologists, intelligence staff, and fire analysts are considered Predictive Services products.

National Predictive Services Products

The NICC Predictive Services unit produces or oversees the production of national products for dissemination to decision makers throughout the country. Users include Congressional members and their staffs, Department Secretaries, Agency Directors, Fire Directors, Regional and State Directors, Fire Management Officers, Emergency Management Officials, fuels and fire analysts, dispatch units, firefighters, and other Federal, State, and Local partners. Some national products originate at NICC Predictive Services; others include products from the Geographic Area Predictive Services units integrated by the NICC Predictive Services unit.

Incident Management Situation Report (IMSR)

The Incident Management Situation Report is a national synopsis of significant incidents. It provides key incident information to many agencies and offices within government, as well as many groups and entities outside of government with an interest in wildland fire activity. The IMSR includes significant fire activity based upon Geographic Area, information on where to find national Predictive Services products, a “Six Minutes for Safety” topic, year to date wildland and prescribed fire statistics and resource commitments in a synopsized format. The Report is prepared by NICC Intelligence staff from information and data derived from Interagency Situation Reports and ICS-209 reports submitted through the SIT-209 application in the Wildland Fire Application Portal. Additionally, NICC Predictive Services provides a weather discussion and

a link to the National 7-day Significant Fire Potential Outlook and the National Significant Wildland Fire Potential Outlook where general weather, climate, and fuels information can be found.

The criteria for including significant wildfires and other incidents in the IMSR are described in the National Interagency Mobilization Guide, Chapter 60. The IMSR is issued weekly at National Preparedness Level 1, Monday through Friday at National Preparedness Level 2, and daily at National Preparedness Level 3 and higher.

National 7-day Significant Fire Potential Outlook

The National 7-day Significant Fire Potential Outlook (7-Day) is a composite of outlooks produced by each of the Geographic Area Predictive Services units. The 7-day provides a week-long projection of significant fire potential, considering current conditions and predicted trends in fuel dryness, weather, and fire ignition potential. This product is a nationwide view of the significant fire potential for the next seven days with links to the individual Geographic Area outlooks. The system is database-driven and is updated immediately as each Geographic Area Predictive Services unit posts its outlook. For national briefings, GACCs must issue their 7-day product by 0830 MDT to be included in the emailed briefing and by 0930 MDT to be included in the NMAC briefing. Any GACC unable to meet these deadlines will be represented by their last issuance. Since this product is a compilation of forecasts from each Geographic Area, the input frequency will vary depending on fire activity in each GACC. The national product will draw on the latest forecast from each Predictive Services unit and will show gray coloring after three days with no update, indicating that area is at PL1, and fire activity is minimal.

National Significant Wildland Fire Potential Outlook

The National Significant Wildland Fire Potential Outlook is prepared and distributed by NICC Predictive Services on the first day of each month at 1200 Mountain Time throughout the year, but exceptions may occur if the first is on a weekend or holiday. The report is a composite of discussions with and written input from the Geographic Area Predictive Services units with national summaries prepared by NICC Predictive Services. The purpose of the Outlook is to provide fire managers at all levels with the information needed to make long range decisions concerning resource staffing and allocation. This is primarily done through identifying areas in which potential significant wildfire activity is expected to be above or below normal levels.

The report provides an outlook of monthly significant fire potential for the next four months, including monthly maps covering the outlook period depicting above normal, normal, or below normal significant wildland fire potential. It contains the following content:

- An *Executive Summary* provides a brief synopsis of each of the outlook periods.
- Maps in the summary depict areas of below normal, normal, and above normal significant fire potential.
- The *Past Weather and Drought* section summarizes the weather of the past month and the evolution of any drought conditions to illustrate how fuels and wildfire conditions reached the current state. This section may include any significant wildfire events.
- The *Weather and Climate Outlooks* section summarizes the broad climate patterns that will affect temperature and precipitation for the next four months.
- The *Geographic Area Forecasts* section provides more specific weather, fuels, and fire potential information for each of the Geographic Areas. The Geographic Area Forecasts should discuss past weather and drought, fuel conditions, fire activity and season timing, and how weather and

climate outlooks will impact significant fire activity in the coming months, with a summary of the forecast outlook at the beginning.

NICC Predictive Services will facilitate a monthly coordination call in approximately the third week of each month to coordinate monthly outlooks. The call will focus on a climate briefing from Predictive Services subject matter experts. Other climate subject matter experts from partner agencies may participate. Each Geographic Area Predictive Services unit will have the opportunity to offer additional weather, climate, and fuels information, ask questions, or convey preliminary thoughts on the outlook. Additional coordination may occur between neighboring units after the primary coordination call.

Geographic Area Predictive Services units must provide written input and maps of significant wildland fire potential concern for their respective area to NICC Predictive Services by the date and time specified during the coordination call of the National Significant Wildland Fire Potential Outlook. The contributions from each of the Geographic Area Predictive Services Units should be well-written and professional, adhering to technical writing standards as to minimize editing by NICC Predictive Services and to achieve high standards of a flagship and forward-facing Predictive Services product. These outlooks should be written in a manner that is accessible to non-meteorologists, although some technical language is permitted due to the nature of the outlooks. Please note, these outlooks are widely circulated and utilized, including national and international media and high-ranking elected officials.

Fuels and Fire Behavior Advisories

Fuels and Fire Behavior Advisories are alerts issued to address an exceptional or extreme circumstance that presents an increased threat to firefighter or public safety. Conditions that could normally be reasonably expected do not warrant a Fuels and Fire Behavior Advisory. Advisories will highlight current conditions that are on-going and should give specific examples from the field, if available.

- Advisories should be tailored so that firefighters at all experience levels can recognize the situation and act accordingly.
- Advisories must be coordinated with neighboring administrative units to ensure that all areas with similar conditions are being addressed.
- Advisories that extend beyond a single local administrative unit or that will be posted on the national Advisory map must be coordinated with the NICC and Geographic Area Predictive Service Units.
- Advisories must include a map of the affected area.
- Only one Advisory may be active at any time over any area: if multiple advisory conditions are present, they must be incorporated into one Advisory.
- Advisories will remain in effect for no more than 14 days from issuance. If conditions continue beyond that time frame, a new Advisory will need to be issued to update conditions with more timely information. At the request of the issuer, Advisories may be lifted at any time.

Issuance of Fuels and Fire Behavior Advisories that extend beyond a single local administrative unit will be handled on a national level. The Advisory text product and map will be submitted utilizing the Fuels and Fire Behavior Advisory Template found at https://www.nifc.gov/sites/default/files/document-media/Fuels_fire_behavior_advisory_template.pdf to the NICC Predictive Services Unit and the National Multi-Agency Coordinating Group representative for the Geographic Area issuing the Advisory. Once finalized and approved, NICC Predictive Services staff will distribute the Advisory via email throughout the Predictive Services Program, the National Coordination System, and the External Affairs unit. NICC

Predictive Services will maintain a national website of current Fuels and Fire Behavior Advisories, consisting of a national map depicting advisory areas with links to the Fuels and Fire Behavior Advisory text product. It is strongly recommended that any anticipated Fuels and Fire Behavior Advisories be coordinated with NICC Predictive Services staff before they are submitted for issuance.

Other National Products

Other national products and services may include briefings, reports, and summaries as needed, program management, verification and quality assurance, training, national team involvement, product development, support and implementation, and management of web site, database, and systems that are controlled by Predictive Services personnel.

Geographic Area Predictive Services Products

The Geographic Area Predictive Services units produce and distribute weather, climate, fuels and fire potential, fire activity, and resource dispatch information and products for decision support at the geographic and local levels of the wildland fire organization. This information may also be used by national level interests when a higher level of detail not found in national products is required. Geographic Area Predictive Services units engage in upward reporting of vital fire and resource status information and decision support forecast products for inclusion in national reports and outlooks.

Geographic Area Predictive Services units produce other reports and outlook products that vary widely across the country to meet the specific needs of the Geographic Area, Multi-Agency Coordination Groups, and other regional and local users.

Incident Status Summary (ICS-209)

The Incident Status Summary (ICS-209 or simply "the 209") is the primary method for the situational reporting of significant wildfires and other significant incidents on lands under federal protection or ownership. States and other federal cooperators may also report incidents using the SIT-209 application in the Wildland Fire Application Portal. The ICS-209 form details specific incident information daily (reporting requirements may vary depending on the type and nature of the incident) and is submitted via the SIT-209 application. The ICS-209 is a primary source for incident information beyond the local unit and provides valuable information at the geographic and national levels.

The federal agency that has primary protection responsibility for an incident is responsible for completing the ICS-209. If the protecting agency is non-federal and chooses not to meet federal reporting standards, then the federal agency which has administrative jurisdiction shall submit the ICS-209. GACCs should ensure that incidents and dispatch centers submit complete and accurate ICS-209 reports into the SIT-209 application by the specified time.

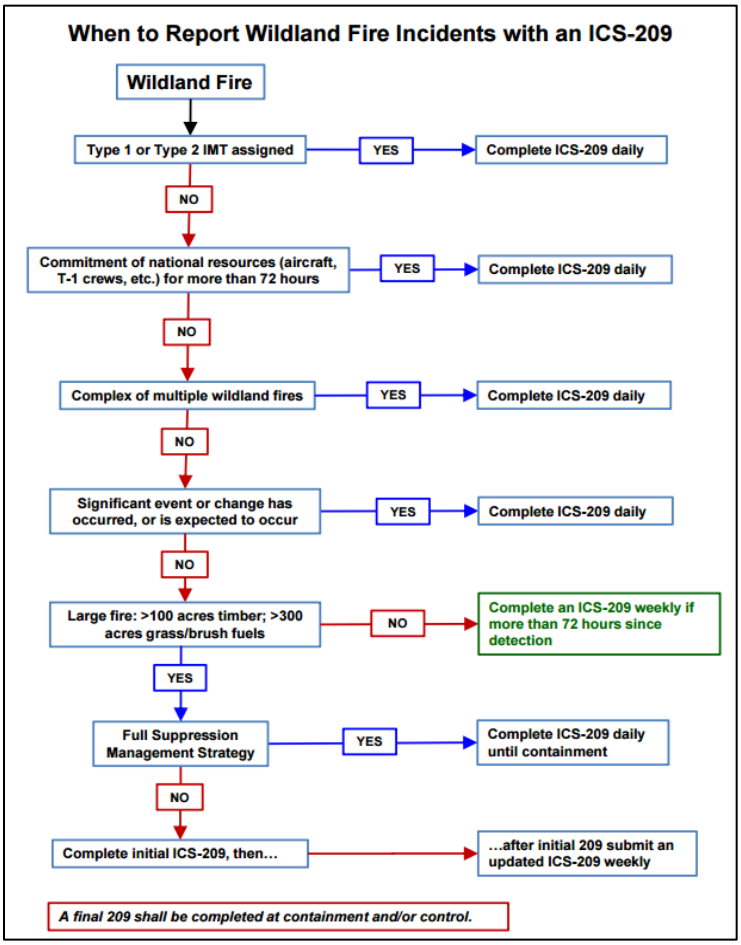
For national reporting purposes (agency, geographic area and local requirements may vary) an ICS-209 shall be submitted according to the following guidelines:

- Wildland fires will be reported based on assignment of Incident Management Team (IMT) and national resources; significant events having occurred or forecast to occur; acres burned (>100 in timber, >300 in grass/brush fuels); incident strategy (Full Suppression, Point/Zone Protection, Confine and Monitor); and time since detection (see Diagram 1 below).
- Wildland fires managed for complete perimeter control (full suppression) will submit an ICS-209 daily when that fire meets large fire criteria. The National Interagency Coordination Center

classifies large fires as 100 acres or larger in timber and slash fuel types, 300 acres or larger in grass or brush fuel types, or when a Type 1 or 2 IMT is assigned. For fires being managed under this strategy, an ICS-209 will be submitted daily until the incident is contained. Refer to the GACC Mobilization Guide, or agency policy for reporting requirements once containment is achieved.

- Wildland fires managed under a Monitor, Confine, or Point/Zone Protection management strategy will submit an ICS-209 following the guidelines outlined in the When to Report Wildland Fire Incidents with an ICS-209 flowchart below.

Specific instructions for completing the ICS-209 form and using the 209 Program are in the User's Guide. Issuance times depend on local and national needs and are determined prior to fire season.



Incident Situation Report

The Interagency Situation Report is part of the SIT-209 application in the Wildland Fire Application Portal. Dispatch centers are required to submit Situation Reports:

- Daily at National Preparedness Level 2 and above.
- Weekly from November through April when:
  - there is wildfire activity (including prescribed fires),
  - there is an increase in wildland fire resource commitments, or
  - a unit's fire danger is very high or extreme.

Reporting is required for all prescribed fire activity year-round according to the schedule listed above. The reporting period for the Situation Report is 0001 to 2400. GACCs shall ensure that all their dispatch centers have submitted complete and accurate Situation Reports as outlined in each Geographic Area Mobilization Guide. The NICC Intelligence unit will retrieve Situation Reports from the SIT-209 application by 0200 Mountain Time.

The Sit Report application shares incident information with the SIT-209 application for certain summaries and reports. Specific reporting requirements and program instructions are in the Sit Report User's Guide.

7-Day Significant Fire Potential Outlook

The 7-day Significant Fire Potential Outlook provides a week-long projection of fuels dryness, weather, fire potential and firefighting resource information. Fire activity at each Geographic Area will determine the frequency of product issuance. During the active portion of the area's fire season (or year) at PL1 and PL2, and while transitioning in or out of that active time, the product will be issued daily, M-F. At PL3 and higher, the product will be issued 7 days a week. Once out of fire season or the active part of the fire year, the product may no longer be issued for that area, though updates on any indications of changing potential are desired. There may be situations when GACCs will issue this product outside of their normal active season, depending on anticipated weather and fuel conditions. Additionally, if the National PL is at 4 or 5, then all GACCs should produce their portion of the product 7 days a week. This outlook must be issued by 0830 MDT to be included in the briefing emailed by NICC PS staff to fire managers, and by 0930 MDT to be included in the NMAC briefing.

The outlooks will be produced by a qualified meteorologist, fire analyst, or another trained support staff member under Predictive Services' supervision. It will be generated using the National 7-day Significant Fire Potential Development page accessed at https://fsapps.nwcg.gov/psp/npsg/forecast/ with login access. This will facilitate producing the routinely issued product as well as unscheduled updates. Because it is a centralized, database-driven system, it will automatically populate the National 7-day Outlook. It will enable Predictive Services units to provide GACC-to-GACC backup for the product. Specific issuance times for each Geographic Area's outlook can be found in its Geographic Area Mobilization Guide or in its National Weather Service/Predictive Services Annual Operating Plan.

The 7-day Significant Fire Potential Outlooks are found at https://fsapps.nwcg.gov/psp/npsg/forecast/ with a product description at https://www.nifc.gov/sites/default/files/document-media/7-Day_Product_Description.pdf

Significant Wildland Fire Potential Outlook

The Significant Wildland Fire Potential Outlook is prepared and distributed by the Geographic Area Predictive Services units on the first business day of each month throughout the year. While not required, units are encouraged to produce an outlook to supplement the National Significant Wildland Fire Outlook (see section 40.1.3). The Geographic Area report must align with the National outlook in providing an assessment of significant fire potential for the next four months and follow a similar format. Published Geographic Area outlooks must align with the National outlook. Areas highlighted must be identical in both products. Published outlooks must be posted to their respective websites on the first business day of the month, in conjunction with the National outlook. Geographic Area websites must link to the National outlook. Links for the Geographic Area outlooks can be found at each Geographic Area's

respective website or at https://www.nifc.gov/sites/default/files/document-media/monthly_seasonal_outlook.pdf

If a Geographic Area chooses to publish a mid-month update, changes to the national product are not necessary, though the national office should be informed of any significant changes.

Fuels and Fire Behavior Advisories

Advisories are issued at different levels of the wildland fire organization depending on their geographic scope. Single, local administrative units may issue advisories for their immediate jurisdiction without input or approval of the NICC, although it is strongly recommended that all affected Predictive Services groups are consulted and coordination occurs. If multiple units within a Geographic Area issue concurrent advisories, especially if contiguous, the Geographic Area Predictive Services must engage and coordinate the effort with the NICC Predictive Services Unit.

Advisories can be found at https://www.nifc.gov/nicc/predictive-services/fuels-fire-danger and may be linked on the Geographic Areas websites.

Continuity of Operations Plan (COOP)

The GACCs and NICC will develop and maintain Predictive Services backup plans for transferring or assuming operational responsibility during failures, emergencies or staffing shortages. Backup plans will become part of NICC and GACC Continuity of Operations Plans (COOP).

Staffing

GACC PS managers and GACC managers should make sure appropriate staffing levels are maintained, including adding additional staffing during increased activity and preparedness levels. Internal staffing options within the coordination system should be utilized first. For meteorologists, the option to bring in NWS IMETs may be pursued if the GACC is at PL 3 or higher or if multiple incident management teams are active within the GACC per the AOP.

Anticipated staffing vacancies should be remedied ahead of time in coordination with the GACC PS unit, coordinating group, center manager, NICC PS, and PSOG. If internal PS staffing support is unavailable or unsustainable for the duration of the vacancy, the aforementioned entities and personnel should contact external partners (i.e., NWS, state agencies) for potential detail opportunities. It is unacceptable to go without PS products and services due to staffing vacancies.

Coordination

Effective coordination is an integral part of Predictive Services. It facilitates the exchange of details concerning data gathering, analysis, and decision-making. It ensures that a consistent message is presented to partners and customers. And it facilitates moving the program forward through research and development that germinates through the exchange of ideas.

Predictive Services' partners and customers fall into two categories: internal and external. Effective communication with both is essential for conveying pertinent information and for coordinating actions to reduce or eliminate ineffective and inefficient efforts.

Internal Coordination

Internal coordination is between Predictive Services and any of its partners or customers within the wildland fire organization. This includes communication within Predictive Services itself. It fosters the sharing of ideas, provides a mechanism for evaluating program effectiveness and value, and facilitates coordination to ensure consistency with programmatic and organizational missions.

While internal communication is often ongoing and situational, routinely scheduled communication ensures consistent exchange of information. Within Predictive Services, scheduled communication is often by way of teleconference calls or virtual meetings.

Monthly Intelligence Calls

Intelligence Coordinators and Officers will conduct a monthly call. Calls may follow a set schedule or may be announced. All intel personnel are encouraged to participate.

Daily Intelligence Reporting

The NICC Intelligence staff requires daily reporting from the GACCs when at National PL 3 and above. The purpose of this report is to get a quick synopsis of the current fire activity, initial attack, significant weather events, expected resource commitment, and any other items of significance. This information is compiled via Microsoft Forms and presented to the National Multi Agency Coordination Group in the afternoon briefing.

Monthly Meteorological Calls

Meteorologists will conduct a monthly call to focus on administrative and programmatic issues, as well as webinars and other training sessions sponsored by individual GACCs or the national program. All Meteorologists and wildland fire analysts are encouraged to participate.

Monthly Significant Wildland Fire Potential Outlook Coordination

Predictive Services meteorologists and wildland fire analysts will conduct a monthly call to coordinate the issuance of the monthly significant fire outlook. These calls will include a discussion of anticipated climate conditions for the Outlook period and provide an opportunity for exchange of information on each GACC's anticipated outlook products. At least one meteorologist from each GACC is required to participate unless otherwise coordinated with NICC PS. Fire analysts are encouraged to join the call and external partners can be invited. GACC PS collaboration with regional and state subject matter experts is encouraged.

Daily Meteorologists Coordination Call

Predictive Services meteorologists will conduct a daily coordination call as fire conditions necessitate, to discuss issues affecting weather, fuels, and fire potential. Call frequency and Geographic Area participation will be based on national and Geographic Area Preparedness Levels, as described in the table below. GACC fire analysts are also encouraged to join the call as well.

The call will be kept to 20 minutes or less. Each call will consist of roll call, then a brief synopsis by the NICC Predictive Services Unit regarding what they see as key issues for the next outlook cycle. This will be followed by a round robin for each GACC, identifying significant weather impacts and any suspected changes to the outlook in the one-to-three-day period, then the trend for days four through seven. Geographic Area input could be as simple "no changes" if there is nothing to add. Coordination between GACCs is not intended for this call, though the line will be available after the call to do so as needed. The

on-shift Storm Prediction Center fire weather forecaster and a representative from the National Weather Service Western Region Operations Center are also welcome on this call.

National Preparedness Level	Call Schedule	GACC Preparedness Level				
		1	2	3	4	5
1	As Needed	Optional	Optional	Required	Required	Required
2	Mon	Optional	Optional	Required	Required	Required
3	Mon Wed Fri	Optional	Required	Required	Required	Required
4	Mon - Fri	Optional	Required	Required	Required	Required
5	Daily	Optional	Required	Required	Required	Required

Regional Coordination Calls

The Geographic Area Predictive Services units may coordinate with local partners and customers to exchange information regarding weather and climate, fuels status, fire activity and potential, and resource status. Purpose of calls, schedules, and teleconferencing details should be included in local Standard Operating Plans (SOPs) and Predictive Services-National Weather Service Annual Operating Plans (AOPs).

External Coordination

External coordination occurs between Predictive Services and any of its partners or customers outside the wildland fire organization. This may include government agencies and officials (federal, state, local) that are not directly involved in wildland fire but have an interest. Groups include emergency management officials, air and environmental quality agencies, Congressional members and staff, governors, state legislators, media outlets, and the general public.

External communication is often situational and provided on an as-needed basis. However, routine coordination may be scheduled for short periods, particularly during times of high fire activity. External coordination should be carefully managed to ensure that operational decision support is not adversely affected.

Conflict Resolution

Should a conflict arise between a Predictive Services unit and any other person or organization, including conflicts between Predictive Services units, all parties should first work toward an agreeable solution. If unable to agree, then the Predictive Services units should elevate the dispute to the Geographic Area Center Manager, the National Interagency Coordination Center Manager, and the National Predictive Services Program Lead or Leads. A conference call will be scheduled between all these personnel to discuss and resolve the issue. If agreement is not achievable by these parties, then the issue will be brought to PSOG, which will provide final resolution.

Decision Making Process

Predictive Services makes many decisions that affect all or parts of the overall program. Most decisions concerning direction, guidance, and standards will be made at the PSOG level or higher. Those that are not will be addressed by Predictive Services personnel using one of the following techniques.

Programmatic decisions are those that consider issues directly related to the function and work product of Predictive Services. They affect the program as a whole and not solely members of Predictive Services. These include but are not limited to national product standards (content and formats, issuance times, change management, etc.); training standards or requirements; national equipment and technology standards or requirements. Though some of these decisions are driven at a higher level and dictated down, other decisions are made by Predictive Services as a group. It is imperative that each Predictive Services unit discuss any impending decisions with their Geographic Area Center Manager and other Fire Management personnel.

Voting will be conducted as one vote per GACC in which 50 percent plus one vote of all GACCs is required to make an ultimate decision.

Personnel decisions are those that relate to the individual members of Predictive Services. These include but are not limited to representatives to committees, subcommittees, task groups, etc., and Chairs and Vice-chairs for the sub-functions of Predictive Services. Geographic Area Center Managers should be consulted prior to a personnel decision that affects the workload of their staff.

Voting will be conducted as one vote per member in which 50 percent plus one vote of all Predictive Services staff at both the National and GACC level is required to make an ultimate decision.

Training and Development

The following table outlines the training courses and skills for Predictive Services positions. Except where ICS qualifications are required, the skill and training elements in the Training and Development table do not constitute hiring criteria. Individual employee training plans should reflect those courses or skills needed.

(C)OURSE or (S)KILL	Intel Coord.	Intel Officer	Met (Prog. Mgr)	Met	Fire Analyst
Agency Requirements	X	X	X	X	X
I-100 OR I-200 (C)	X	X	X	X	X
S-130 (C)	X	X	X	X	X
S-190 (C)	X	X	X	X	X
S-203 (C)	X	X	R		R
I-400 (C)	R	R	R		R
S-290 (C)	X	X	X	X	X
S-390 (C)	R	R	X	X	X
S-490 (C)	R		R	R	X
S-491 (C)	X	R	X	X	X
S-495 (C)	R	R	R	R	X
S-590 (C)			R		X
D-110 (C)	X	X			
D-310 (C)	X	X			
M-410 (C)	X	R	X	X	X
ICS-209 (S)	X	X	R		R
SIT Report (S)	X	X			R
Rx-410 (C)			X	R	R
INTS (C)	X	X			R

R Python, Power Bi, Tableau, or stats/visualization tools (S)	R	R			R
FEMS (S)	R	R	X	X	X
FFPLUS (S)	X	X	X	X	X
BEHAVE PLUS (S)	R	R	R	R	X
ArcGIS (S)	R	R	R	R	X
WIMS/KCFAST (S)	X	X	X	X	X
FAMAUTH- WX (S)	X	X	X	X	X
AWIPS II/CAVE (S)			X	X	R
BASIC STATISTICS (S)	R	R	X	X	X
EXCEL & ACCESS (S)	X	X	X	R	X
BASIC UNIX/LINUX (S)			R	R	R
WFSA WORKSHOP (S)			R		R
COGNOS (Query St.) (S)	X	X			R
COGNOS (Reports) (S)	X	X			R
IROC Reports (S)	X	X			
FamAuth User Manager (S)	X	X	R	R	X
WFDSS (S)	R	R	R	R	X

X – Required R – Recommended
* (C) = Successful Course Completion
* (S) = Skill Acquired Through OJT or Formal Training
* Where a position requires ICS qualifications, course and skill requirements listed here may be in addition to those required by the ICS position.

Recommended Experience or Skills for Intel:

- 90 days Fire experience
- Intelligence Support Specialist (INTS) or trainee

Recommended Training, Experience or Skills for Mets:

- Recommended reading:
    - Mountain Meteorology: Fundamentals and Applications, Author: C. David Whiteman
    - Fire Weather – NFES Publication 1174
    - NFDRS Weather Station Standards – PMS 426-3
    - FAMAUTH and WIMS user guides

Recommended Experience for Wildland Fire Analysts:

- Fire Behavior Analyst (FBAN) or trainee
- Long Term Fire Analyst (LTAN) or trainee

Support Requirements

The Predictive Services Program recommends the following staffing to successfully meet program objectives. Actual program support varies between Geographic Areas and will be addressed through Coordinating Group decision making processes.

Staffing

National Interagency Coordination Center. Predictive Services staffing at NICC will typically consist of:

2 National Program Leads (Meteorologists)

1 Wildland Fire Analyst

1 Intelligence Coordinator

1 Intelligence Officer

1 Intelligence Officer (seasonal)

Geographic Area Coordination Centers. Predictive Services staffing at GACCs will typically consist of:

1 Geographic Area Program Manager (may be separate or filled by one of PS personnel)

2 Meteorologists

1 Wildland Fire Analyst

1 Intelligence Coordinator

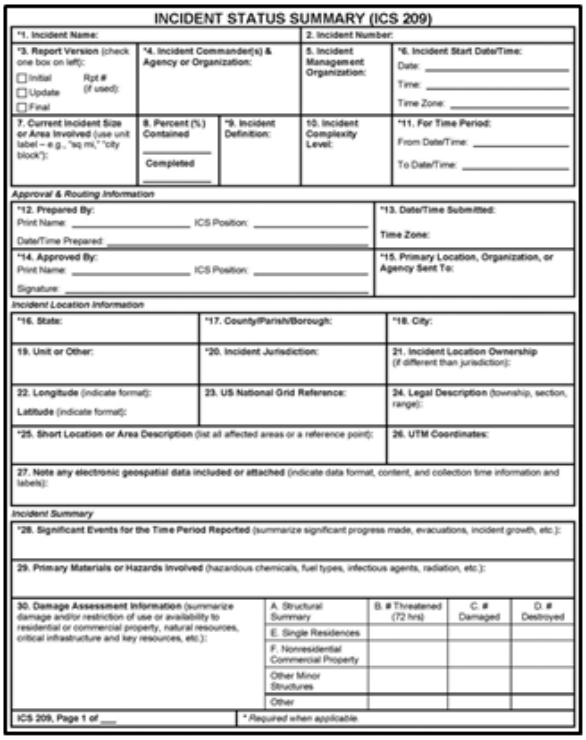
1-2 Intelligence Officers (may be seasonal, dedicated, or detailed)

There may be local variations on staffing based on local needs and external factors. Alaska and Eastern Areas only have one meteorologist each. California GACCs typically have additional staffing due to heavier workload and longer fire seasons. Other areas may choose to have more or less staffing than recommended, including seasonal hires, based on varying workload and funding opportunities.

Appendix: Standardized Forms and Products

Incident Status Summary (ICS-209)

Available electronically: https://www.nifc.gov/sites/default/files/document-media/NIMS_ICS-209_Form_%282015%29.pdf



INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name:
2. Incident Number:
*3. Report Version (check one box on left): ☐ Initial ☐ Update ☐ Final — Rpt # (if used):
*4. Incident Commander(s) & Agency or Organization:
5. Incident Management Organization:
*6. Incident Start Date/Time: Date: Time: Time Zone:
7. Current Incident Size or Area Involved (use unit label – e.g., "sq mi," "city block"):
8. Percent (%) Contained: Completed:
*9. Incident Definition:
10. Incident Complexity Level:
*11. For Time Period: From Date/Time: To Date/Time:

Approval & Routing Information

*12. Prepared By: Print Name: ICS Position: Date/Time Prepared:
*13. Date/Time Submitted: Time Zone:
*14. Approved By: Print Name: ICS Position: Signature:
*15. Primary Location, Organization, or Agency Sent To:

Incident Location Information

*16. State:
*17. County/Parish/Borough:
*18. City:
19. Unit or Other:
*20. Incident Jurisdiction:
21. Incident Location Ownership (if different than jurisdiction):
22. Longitude (indicate format): Latitude (indicate format):
23. US National Grid Reference:
24. Legal Description (township, section, range):
*25. Short Location or Area Description (list all affected areas or a reference point):
26. UTM Coordinates:
27. Note any electronic geospatial data included or attached (indicate data format, content, and collection time information and labels):

Incident Summary

*28. Significant Events for the Time Period Reported (summarize significant progress made, evacuations, incident growth, etc.):
29. Primary Materials or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc.):
30. Damage Assessment Information (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc.):

A. Structural Summary	B. # Threatened (72 hrs)	C. # Damaged	D. # Destroyed
E. Single Residences			
F. Nonresidential Commercial Property			
Other Minor Structures			
Other			

ICS 209, Page 1 of ___ | * Required when applicable.

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name:
2. Incident Number:

Additional Incident Decision Support Information

*31. Public Status Summary:	A. # This Reporting Period	B. Total # to Date
C. Indicate Number of Civilians (Public) Below:		
D. Fatalities		
E. With Injuries/Illness		
F. Trapped/In Need of Rescue		
G. Missing (note if estimated)		
H. Evacuated (note if estimated)		
I. Sheltering in Place (note if estimated)		
J. In Temporary Shelters (note if est.)		
K. Have Received Mass Immunizations		
L. Require Immunizations (note if est.)		
M. In Quarantine		
N. Total # Civilians (Public) Affected:		

*32. Responder Status Summary:	A. # This Reporting Period	B. Total # to Date
C. Indicate Number of Responders Below:		
D. Fatalities		
E. With Injuries/Illness		
F. Trapped/In Need of Rescue		
G. Missing		
H. Sheltering in Place		
I. Have Received Immunizations		
J. Require Immunizations		
K. In Quarantine		
N. Total # Responders Affected:		

33. Life, Safety, and Health Status/Threat Remarks:

*34. Life, Safety, and Health Threat Management:	A. Check if Active
A. No Likely Threat	☐
B. Potential Future Threat	☐
C. Mass Notifications in Progress	☐
D. Mass Notifications Completed	☐
E. No Evacuation(s) Imminent	☐
F. Planning for Evacuation	☐
G. Planning for Shelter-in-Place	☐
H. Evacuation(s) in Progress	☐
I. Shelter-in-Place in Progress	☐
J. Repopulation in Progress	☐
K. Mass Immunization in Progress	☐
L. Mass Immunization Complete	☐
M. Quarantine in Progress	☐
N. Area Restriction in Effect	☐

35. Weather Concerns (synopsis of current and predicted weather; discuss related factors that may cause concern):

36. Projected Incident Activity, Potential, Movement, Escalation, or Spread and influencing factors during the next operational period and in 12-, 24-, 48-, and 72-hour timeframes:

12 hours:
24 hours:
48 hours:
72 hours:
Anticipated after 72 hours:

37. Strategic Objectives (define planned end-state for incident):

ICS 209, Page 2 of ___ | * Required when applicable.

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name:
2. Incident Number:

Additional Incident Decision Support Information (continued)

38. Current Incident Threat Summary and Risk Information in 12-, 24-, 48-, and 72-hour timeframes and beyond. Summarize primary incident threats to life, property, communities and community stability, residences, health care facilities, other critical infrastructure and key resources, commercial facilities, natural and environmental resources, cultural resources, and continuity of operations and/or business. Identify corresponding incident-related potential economic or cascading impacts.

12 hours:
24 hours:
48 hours:
72 hours:
Anticipated after 72 hours:

39. Critical Resource Needs in 12-, 24-, 48-, and 72-hour timeframes and beyond to meet critical incident objectives. List resource category, kind, and/or type, and amount needed, in priority order:

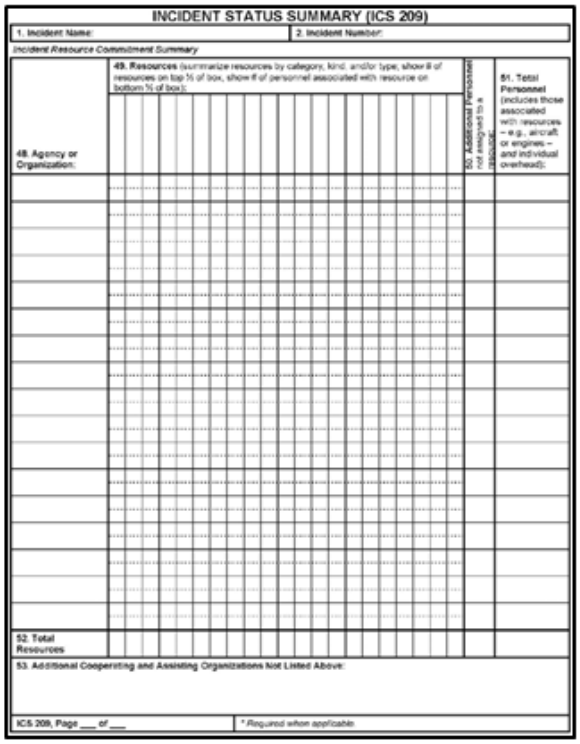
12 hours:
24 hours:
48 hours:
72 hours:
Anticipated after 72 hours:

40. Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to:
1) critical resource needs identified above,
2) the Incident Action Plan and management objectives and targets,
3) anticipated results.
Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts.

41. Planned Actions for Next Operational Period:

42. Projected Final Incident Size/Area (use unit label – e.g., "sq mi"):
43. Anticipated Incident Management Completion Date:
44. Projected Significant Resource Demobilization Start Date:
45. Estimated Incident Costs to Date:
46. Projected Final Incident Cost Estimate:
47. Remarks (or continuation of any blocks above – list block number in notation):

ICS 209, Page 3 of ___ | * Required when applicable.



INCIDENT STATUS SUMMARY (ICS 209)

1. Incident Name:
2. Incident Number:

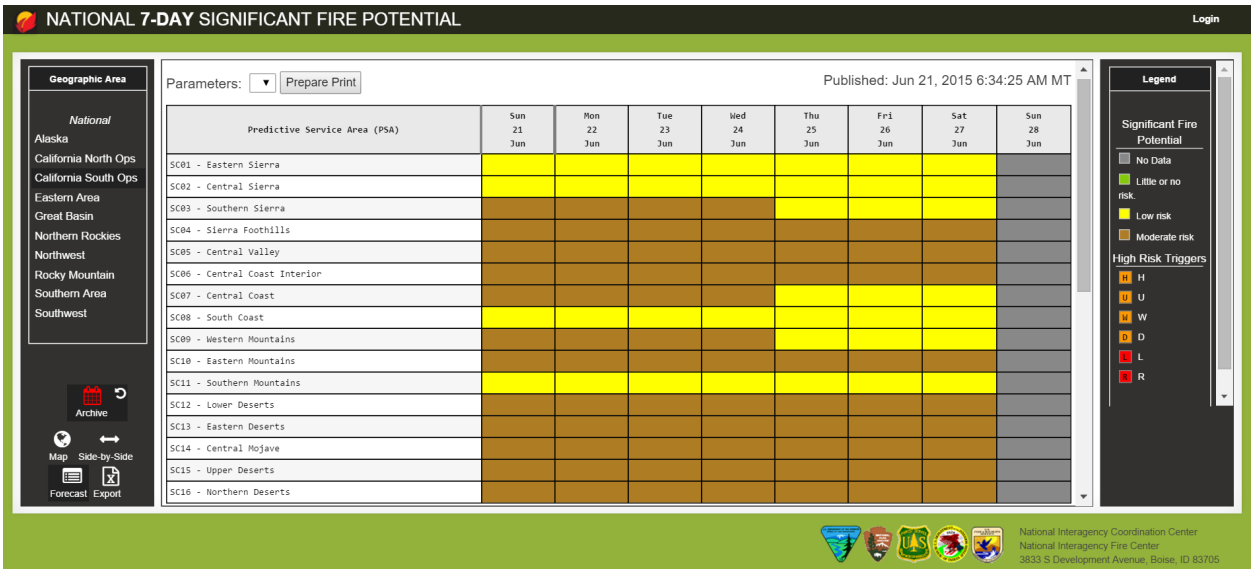
Incident Resource Commitment Summary

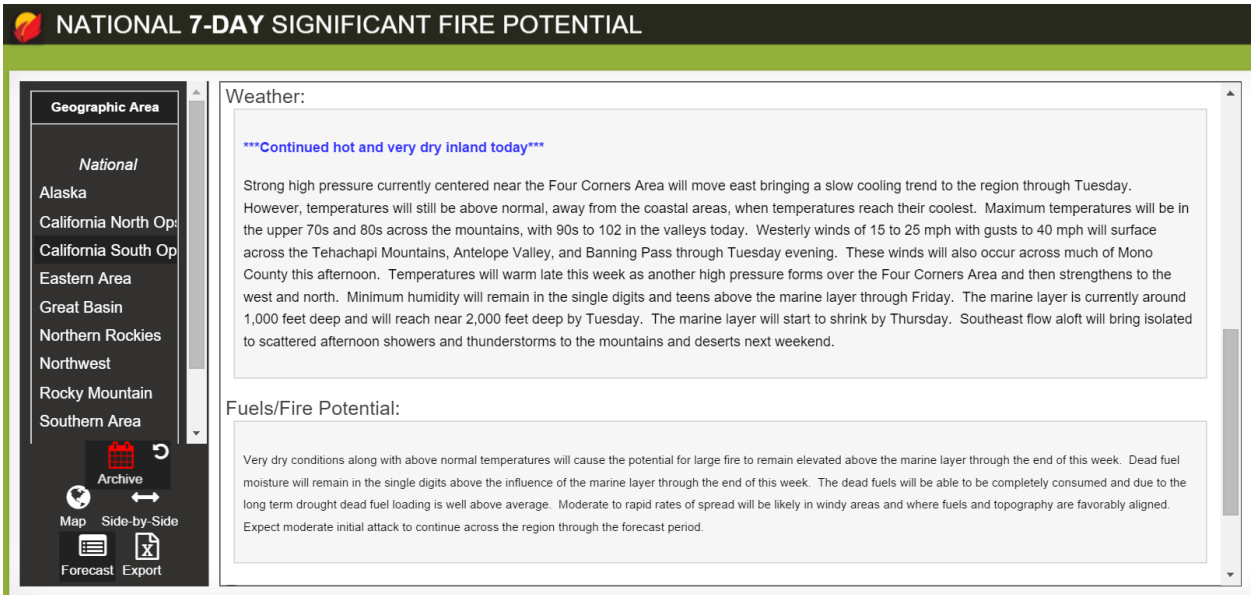
48. Agency or Organization:	49. Resources (summarize resources by category, kind, and/or type; show # of resources on top ½ of box, show # of personnel associated with resource on bottom ½ of box):	50. Additional Personnel not assigned to a resource:	51. Total Personnel (includes those associated with resources – e.g., aircraft or engines – and individual overhead):
52. Total Resources			

53. Additional Cooperating and Assisting Organizations Not Listed Above:

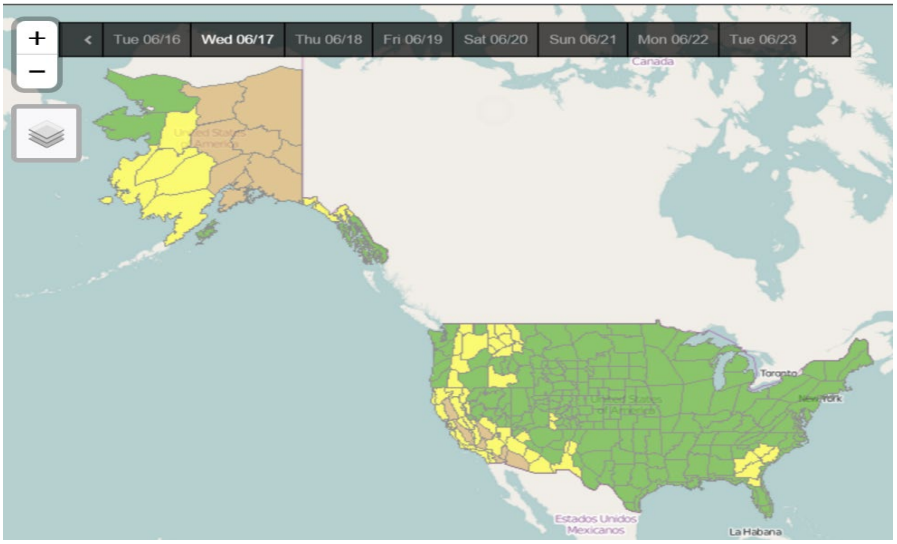
ICS 209, Page ___ of ___ | * Required when applicable.

7-day Significant Fire Potential Matrix and Discussion

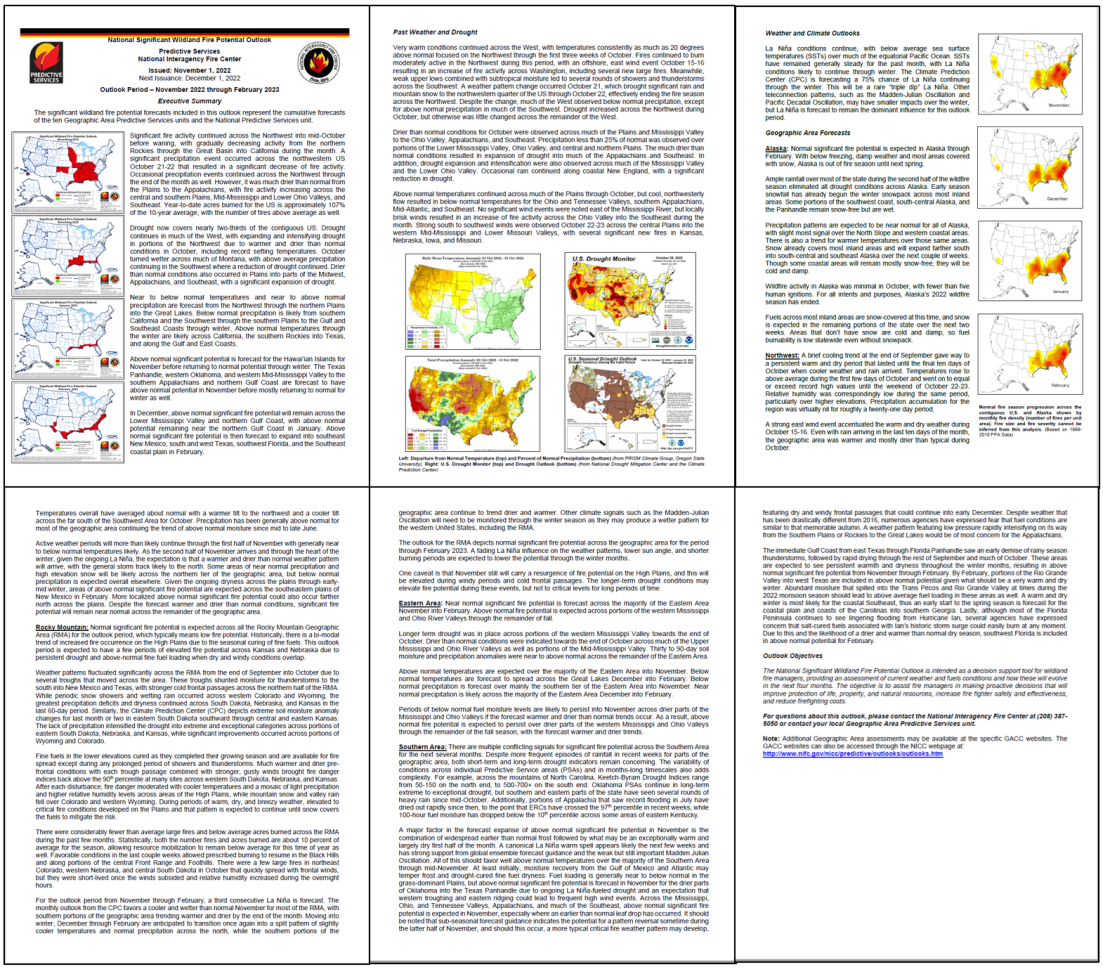




7-day Significant Fire Potential National Map



Monthly Seasonal Significant Wildland Fire Potential Outlook



National Significant Wildland Fire Potential Outlook

Predictive Services
National Interagency Fire Center

Issued: November 1, 2022
Next Issuance: December 1, 2022

Outlook Period – November 2022 through February 2023

Executive Summary

The significant wildland fire potential forecasts included in this outlook represent the cumulative forecasts of the ten Geographic Area Predictive Services units and the National Predictive Services unit.

Significant fire activity continued across the Northwest into mid-October before waning, with gradually decreasing activity from the northern Rockies through the Great Basin into California during the month. A significant precipitation event occurred across the northwestern US October 21-22 that resulted in a significant decrease of fire activity. Occasional precipitation events continued across the Northwest through the end of the month as well. However, it was much drier than normal from the Plains to the Appalachians, with fire activity increasing across the central and southern Plains, Mid-Mississippi and Lower Ohio Valleys, and Southeast. Year-to-date acres burned for the US is approximately 107% of the 10-year average, with the number of fires above average as well.

Drought now covers nearly two-thirds of the contiguous US. Drought continues in much of the West, with expanding and intensifying drought in portions of the Northwest due to warmer and drier than normal conditions in October, including record setting temperatures. October turned wetter across much of Montana, with above average precipitation continuing in the Southwest where a reduction of drought continued. Drier than normal conditions also occurred in Plains into parts of the Midwest, Appalachians, and Southeast, with a significant expansion of drought.

Near to below normal temperatures and near to above normal precipitation are forecast from the Northwest through the northern Plains into the Great Lakes. Below normal precipitation is likely from southern California and the Southwest through the southern Plains to the Gulf and Southeast Coasts through winter. Above normal temperatures through the winter are likely across California, the southern Rockies into Texas, and along the Gulf and East Coasts.

Above normal significant potential is forecast for the Hawai'ian Islands for November before returning to normal potential through winter. The Texas Panhandle, western Oklahoma, and western Mid-Mississippi Valley to the southern Appalachians and northern Gulf Coast are forecast to have above normal potential in November before mostly returning to normal for winter as well.

In December, above normal significant fire potential will remain across the Lower Mississippi Valley and northern Gulf Coast, with above normal potential remaining near the northern Gulf Coast in January. Above normal significant fire potential is then forecast to expand into southeast New Mexico, south and west Texas, southwest Florida, and the Southeast coastal plain in February.

Past Weather and Drought

Very warm conditions continued across the West, with temperatures consistently as much as 20 degrees above normal focused on the Northwest through the first three weeks of October. Fires continued to burn moderately active in the Northwest during this period, with an offshore, east wind event October 15-16 resulting in an increase of fire activity across Washington, including several new large fires. Meanwhile, weak upper lows combined with subtropical moisture led to several rounds of showers and thunderstorms across the Southwest. A weather pattern change occurred October 21, which brought significant rain and mountain snow to the northwestern quarter of the US through October 22, effectively ending the fire season across the Northwest. Despite the change, much of the West observed below normal precipitation, except for above normal precipitation in much of the Southwest. Drought increased across the Northwest during October, but otherwise was little changed across the remainder of the West.

Drier than normal conditions for October were observed across much of the Plains and Mississippi Valley to the Ohio Valley, Appalachians, and Southeast. Precipitation less than 25% of normal was observed over portions of the Lower Mississippi Valley, Ohio Valley, and central and northern Plains. The much drier than normal conditions resulted in expansion of drought into much of the Appalachians and Southeast. In addition, drought expansion and intensification were also observed across much of the Mississippi Valley and the Lower Ohio Valley. Occasional rain continued along coastal New England, with a significant reduction in drought.

Above normal temperatures continued across much of the Plains through October, but cool, northwesterly flow resulted in below normal temperatures for the Ohio and Tennessee Valleys, southern Appalachians, Mid-Atlantic, and Southeast. No significant wind events were noted east of the Mississippi River, but locally brisk winds resulted in an increase of fire activity across the Ohio Valley into the Southeast during the month. Strong south to southwest winds were observed October 22-23 across the central Plains into the western Mid-Mississippi and Lower Missouri Valleys, with several significant new fires in Kansas, Nebraska, Iowa, and Missouri.

Left: Departure from Normal Temperature (top) and Percent of Normal Precipitation (bottom) (from PRISM Climate Group, Oregon State University). Right: U.S. Drought Monitor (top) and Drought Outlook (bottom) (from National Drought Mitigation Center and the Climate Prediction Center)

Weather and Climate Outlooks

La Niña conditions continue, with below average sea surface temperatures (SSTs) over much of the equatorial Pacific Ocean. SSTs have remained generally steady for the past month, with La Niña conditions likely to continue through winter. The Climate Prediction Center (CPC) is forecasting a 75% chance of La Niña continuing through the winter. This will be a rare "triple dip" La Niña. Other teleconnection patterns, such as the Madden-Julian Oscillation and Pacific Decadal Oscillation, may have smaller impacts over the winter, but La Niña is forecast to remain the dominant influence for this outlook period.

Geographic Area Forecasts

Alaska: Normal significant fire potential is expected in Alaska through February. With below freezing, damp weather and most areas covered with snow, Alaska is out of fire season until next spring.

Ample rainfall over most of the state during the second half of the wildfire season eliminated all drought conditions across Alaska. Early season snowfall has already begun the winter snowpack across most inland areas. Some portions of the southwest coast, south-central Alaska, and the Panhandle remain snow-free but are wet.

Precipitation patterns are expected to be near normal for all of Alaska, with slight moist signal over the North Slope and western coastal areas. There is also a trend for warmer temperatures over those same areas. Snow already covers most inland areas and will expand farther south into south-central and southeast Alaska over the next couple of weeks. Though some coastal areas will remain mostly snow-free, they will be cold and damp.

Wildfire activity in Alaska was minimal in October, with fewer than five human ignitions. For all intents and purposes, Alaska's 2022 wildfire season has ended.

Fuels across most inland areas are snow-covered at this time, and snow is expected in the remaining portions of the state over the next two weeks. Areas that don't have snow are cold and damp, so fuel burnability is low statewide even without snowpack.

Northwest: A brief cooling trend at the end of September gave way to a persistent warm and dry period that lasted until the final ten days of October when cooler weather and rain arrived. Temperatures rose to above average during the first few days of October and went on to equal or exceed record high values until the weekend of October 22-23. Relative humidity was correspondingly low during the same period, particularly over higher elevations. Precipitation accumulation for the region was virtually nil for roughly a twenty-one day period.

A strong east wind event accentuated the warm and dry weather during October 15-16. Even with rain arriving in the last ten days of the month, the geographic area was warmer and mostly drier than typical during October.

Normal fire season progression across the contiguous U.S. and Alaska shown by the monthly activity maximum of fires per unit area. Fire size and fire severity cannot be inferred from this analysis. (Based on 1999-2010 FPA Data)

Temperatures overall have averaged about normal with a warmer tilt to the northwest and a cooler tilt across the far south of the Southwest Area for October. Precipitation has been generally above normal for most of the geographic area continuing the trend of above normal moisture since mid to late June.

Active weather periods will more than likely continue through the first half of November with generally near to below normal temperatures likely. As the second half of November arrives and through the heart of the winter, given the ongoing La Niña, the expectation is that a warmer and drier than normal weather pattern will arrive, with the general storm track likely to the north. Some areas of near normal precipitation and high elevation snow will be likely across the northern tier of the geographic area, but below normal precipitation is expected overall elsewhere. Given the ongoing dryness across the plains through early-mid winter, areas of above normal significant fire potential are expected across the southeastern plains of New Mexico in February. More localized above normal significant fire potential could also occur farther north across the plains. Despite the forecast warmer and drier than normal conditions, significant fire potential will remain near normal across the remainder of the geographic area.

Rocky Mountain: Normal significant fire potential is expected across all the Rocky Mountain Geographic Area (RMA) for the outlook period, which typically means low fire potential. Historically, there is a bi-modal trend of increased fire occurrence on the High Plains due to the seasonal curing of fine fuels. This outlook period is expected to have a few periods of elevated fire potential across Kansas and Nebraska due to persistent drought and above-normal fine fuel loading when dry and windy conditions overlap.

Weather patterns fluctuated significantly across the RMA from the end of September into October due to several troughs that moved across the area. These troughs shunted moisture for thunderstorms to the south into New Mexico and Texas, with stronger cold frontal passages across the northern half of the RMA. While periodic snow showers and wetting rain occurred across western Colorado and Wyoming, the greatest precipitation deficits and dryness continued across South Dakota, Nebraska, and Kansas in the last 60-day period. Similarly, the Climate Prediction Center (CPC) depicts extreme soil moisture anomaly changes for last month or two in eastern South Dakota southward through central and eastern Kansas. The lack of precipitation intensified the drought into extreme and exceptional categories across portions of eastern South Dakota, Nebraska, and Kansas, while significant improvements occurred across portions of Wyoming and Colorado.

Fine fuels in the lower elevations cured as they completed their growing season and are available for fire spread except during any prolonged period of showers and thunderstorms. Much warmer and drier pre-frontal conditions with each trough passage combined with stronger, gusty winds brought fire danger indices back above the 90th percentile at many sites across western South Dakota, Nebraska, and Kansas. After each disturbance, fire danger moderated with cooler temperatures and a mosaic of light precipitation and higher relative humidity levels across areas of the High Plains, while mountain snow and valley rain fell over Colorado and western Wyoming. During periods of warm, dry, and breezy weather, elevated to critical fire conditions developed on the Plains and that pattern is expected to continue until snow covers the fuels to mitigate the risk.

There were considerably fewer than average large fires and below average acres burned across the RMA during the past few months. Statistically, both the number fires and acres burned are about 10 percent of average for the season, allowing resource mobilization to remain below average for this time of year as well. Favorable conditions in the last couple weeks allowed prescribed burning to resume in the Black Hills and along portions of the central Front Range and Foothills. There were a few large fires in northeast Colorado, western Nebraska, and central South Dakota in October that quickly spread with frontal winds, but they were short-lived once the winds subsided and relative humidity increased during the overnight hours.

For the outlook period from November through February, a third consecutive La Niña is forecast. The monthly outlook from the CPC favors a cooler and wetter than normal November for most of the RMA, with southern portions of the geographic area trending warmer and drier by the end of the month. Moving into winter, December through February are anticipated to transition once again into a split pattern of slightly cooler temperatures and normal precipitation across the north, while the southern portions of the geographic area continue to trend drier and warmer. Other climate signals such as the Madden-Julian Oscillation will need to be monitored through the winter season as they may produce a wetter pattern for the western United States, including the RMA.

The outlook for the RMA depicts normal significant fire potential across the geographic area for the period through February 2023. A fading La Niña influence on the weather patterns, lower sun angle, and shorter burning periods are expected to lower the potential through the winter months.

One caveat is that November still will carry a resurgence of fire potential on the High Plains, and this will be elevated during windy periods and cold frontal passages. The longer-term drought conditions may elevate fire potential during these events, but not to critical levels for long periods of time.

Eastern Area: Near normal significant fire potential is forecast across the majority of the Eastern Area November into February. Above normal fire potential is expected across portions of the western Mississippi and Ohio River Valleys through the remainder of fall.

Longer term drought was in place across portions of the western Mississippi Valley towards the end of October. Drier than normal conditions were indicated towards the end of October across much of the Upper Mississippi and Ohio River Valleys as well as portions of the Mid-Mississippi Valley. Thirty to 90-day soil moisture and precipitation anomalies were near to above normal across the remainder of the Eastern Area.

Above normal temperatures are expected over the majority of the Eastern Area into November. Below normal temperatures are forecast to spread across the Great Lakes December into February. Below normal precipitation is forecast over mainly the southern tier of the Eastern Area into November. Near normal precipitation is likely across the majority of the Eastern Area December into February.

Periods of below normal fuel moisture levels are likely to persist into November across drier parts of the Mississippi and Ohio Valleys if the forecast warmer and drier than normal trends occur. As a result, above normal fire potential is expected to persist over drier parts of the western Mississippi and Ohio Valleys through the remainder of the fall season, with the forecast warmer and drier trends.

Southern Area: There are multiple conflicting signals for significant fire potential across the Southern Area for the next several months. Despite more frequent episodes of rainfall in recent weeks for parts of the geographic area, both short-term and long-term drought indicators remain concerning. The variability of conditions across individual Predictive Service areas (PSAs) and in months-long timescales also adds complexity. For example, across the mountains of North Carolina, Keetch-Byram Drought Indices range from 50-150 on the north end, to 500-700+ on the south end. Oklahoma PSAs continue in long-term extreme to exceptional drought, but southern and eastern parts of the state have seen several rounds of heavy rain since mid-October. Additionally, portions of Appalachia that saw record flooding in July have dried out rapidly since then, to the point that ERCs have crossed the 97th percentile in recent weeks, while 100-hour fuel moisture has dropped below the 10th percentile across some areas of eastern Kentucky.

A major factor in the forecast expanse of above normal significant fire potential in November is the combination of widespread earlier than normal frost followed by what may be an exceptionally warm and largely dry first half of the month. A canonical La Niña warm spell appears likely the next few weeks and has strong support from global ensemble forecast guidance and the weak but still important Madden Julian Oscillation. All of this should favor well above normal temperatures over the majority of the Southern Area through mid-November. At least initially, moisture recovery from the Gulf of Mexico and Atlantic may temper frost and drought-cured fine fuel dryness. Fuel loading is generally near to below normal in the grass-dominant Plains, but above normal significant fire potential is forecast in November for the drier parts of Oklahoma into the Texas Panhandle due to ongoing La Niña-fueled drought and an expectation that western troughing and eastern ridging could lead to frequent high wind events. Across the Mississippi, Ohio, and Tennessee Valleys, Appalachians, and much of the Southeast, above normal significant fire potential is expected in November, especially where an earlier than normal leaf drop has occurred. It should be noted that sub-seasonal forecast guidance indicates the potential for a pattern reversal sometime during the latter half of November, and should this occur, a more typical critical fire weather pattern may develop, featuring dry and windy frontal passages that could continue into early December. Despite weather that has been drastically different from 2016, numerous agencies have expressed fear that fuel conditions are similar to that memorable autumn. A weather pattern featuring low pressure rapidly intensifying on its way from the Southern Plains or Rockies to the Great Lakes would be of most concern for the Appalachians.

The immediate Gulf Coast from east Texas through Florida Panhandle saw an early demise of rainy season thunderstorms, followed by rapid drying through the rest of September and much of October. These areas are expected to see persistent warmth and dryness throughout the winter months, resulting in above normal significant fire potential from November through February. By February, portions of the Rio Grande Valley into west Texas are included in above normal potential given what should be a very warm and dry winter. Abundant moisture that spilled into the Trans Pecos and Rio Grande Valley at times during the 2022 monsoon season should lead to above average fuel loading in these areas as well. A warm and dry winter is most likely for the coastal Southeast, thus an early start to the spring season is forecast for the coastal plain and coasts of the Carolinas into southern Georgia. Lastly, although most of the Florida Peninsula continues to see lingering flooding from Hurricane Ian, several agencies have expressed concern that salt-cured fuels associated with Ian's historic storm surge could easily burn at any moment. Due to this and the likelihood of a drier and warmer than normal dry season, southwest Florida is included in above normal potential for February.

Outlook Objectives

The National Significant Wildland Fire Potential Outlook is intended as a decision support tool for wildland fire managers, providing an assessment of current weather and fuels conditions and how these will evolve in the next four months. The objective is to assist fire managers in making proactive decisions that will improve protection of life, property, and natural resources, increase fire fighter safety and effectiveness, and reduce firefighting costs.

For questions about this outlook, please contact the National Interagency Fire Center at (208) 387-5050 or contact your local Geographic Area Predictive Services unit.

Note: Additional Geographic Area assessments may be available at the specific GACC websites. The GACC websites can also be accessed through the NICC webpage at: http://www.nifc.gov/nicc/predictive/outlooks/outlooks.htm

Fuels and Fire Behavior Advisory

Fuels and Fire Behavior Advisory

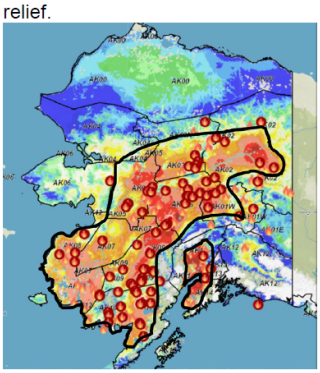
Interior, Southwest, and South-Central Alaska

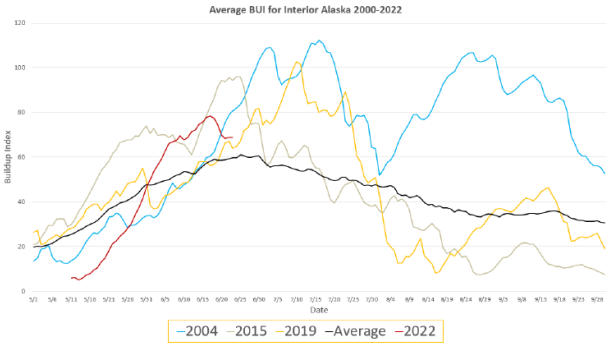
Valid: June 25 – July 8, 2022

Subject: **Exceptional landscape flammability and widespread ongoing large fire growth.**

Discussion: The Buildup Index (BUI) is the best indicator of seasonal severity and overall flammability of fuels in Alaska. It represents deeper drying in the duff layers and greater fuel availability. Large fire growth occurs from mid-June to mid-July surrounding the summer solstice when long days and rapid drying can produce elevated BUIs. Southwest Alaska normally experiences shorter periods of high flammability but has had numerous fires burning since the end of May. By mid-June fire activity began to spread eastward in the Interior. Numerous fires are now burning in the central Interior. The area of activity is expected to expand eastward into the Yukon Flats. South Central has been drying rapidly and BUIs are now at record levels.

Difference from normal conditions: The attached graph shows the current 2022 BUI trend for the Interior of Alaska compared to other busy fire seasons. 2022 has been above average BUI since May 31, and higher than 2019 levels for the same period. Convective precipitation has moderated values in some areas but forecast high pressure will rapidly increase values. Much of the landscape has experienced large fire growth earlier than usual. Multiple days of wetting rain adding up to more than one inch will be needed for lasting relief.





Concerns to Firefighters and the Public:

- Spruce stands are extremely flammable, will ignite readily, exhibit rates of spread more than one mile per hour, torch, and spot prolifically up to ¼ mile or more, and exhibit intense crown fire behavior.
- Temperatures above 80 degrees and RH below 30% are important thresholds for rapid spread and crown fire behavior. Strong winds are not required for large fire growth.
- Long-term drying has stressed green fuels and is encouraging spread into riparian areas and less flammable hardwood forests. These fuel types may no longer be barriers to fire spread.

Mitigation Measures:

- Ensure that you can recognize hazardous fuel types including tundra that is exceptionally dry.
- Understand the triggers and thresholds for problem fire behavior.
- Monitor forecasts and indices to anticipate areas of increased flammability and extreme fire behavior.
- Maintain clear communications when working around active fires.

Area of Concern: Interior, Southwest and South Central Alaska

Issued By: Alaska Interagency Coordination Center Predictive Services