



Date: June 14, 2018

TO: Larry Sutton, Fire Management Board Liaison

FROM: Dan O'Brien, Lead, Predictive Services Program Review, Phase II Task Team

SUBJECT: Predictive Services Phase II Final Report

### Executive Summary

The objective of the Predictive Services Phase II (PSP2) Program Review is to “identify alternative courses of actions, prioritize, evaluate and recommend solutions to the significant issues identified in Phase I assessment in order to sustain and improve the Predictive Services program.”

Section I of this report details the operating principles and mission of the Predictive Services program envisioned by PSP2. Section II and III formulate management alternatives and evaluate those alternatives.

In Section IV, preferred management alternatives are selected, namely:

**Alternative 1: Predictive Services is Fully Integrated as a Functional Unit of the National Coordination System.**

This alternative places a Fire Analyst at NICC and all GACCs to support a shifting management emphasis. Additionally, the Fire Analyst position assumes leadership and supervision for the respective Predictive Services Units.

**Alternative 3: National Weather Service Provides Predictive Services Meteorologists**

The National Weather Service staffs a full-time meteorologist position at the National and Geographic Area Coordination Centers and provides an additional forecast meteorologist to support peak activity. Fire Analysts are placed at NICC and all GACCs; this position assumes leadership and supervision for the respective Predictive Services Units.

Section V discusses a number of Administrative Issues, including Agency Sponsorship, Research and Opportunities for Program Growth.

Section VI outlines next steps of the process.

### Background

In 2017, findings of Phase 1 of this review process followed themes similar to earlier reviews in 2003 and 2007: “innovation and creativity are clearly evident” and program strengths included a level of knowledge and capacity that helped “paint a big picture for fire managers.” Simultaneously, inconsistencies in implementation were noted, as were a lack of collective vision, uncertainty of principal customers, problems of governance, and other issues.

Phase 1 and other assessments suggest that the Predictive Services (PS) program strengths can be credited to the talents and customer service orientation of the collective PS staff. Program challenges continue to reflect an organization without clear expectations, relationships or governance. *Answering the questions of where they fit, how they fit, and their purpose for being fit into the wildland fire agencies would go a long way towards resolving Predictive Services’ programmatic issues.*

At the same time, history is important. Predictive Services was born out of the 2000 National Fire Plan. Units were situated at the Geographic Area and National Coordination Centers in order to “integrate climate, weather, situation, [firefighting] resource status and fuels information that will enhance the ability of managers to make sound decisions for both short and long range strategic planning.” As a unit, Predictive Services “was to blend the functions of intelligence, meteorological forecasting and fire analyst capabilities *into one cohesive group [my italics]...in order to place emphasis on predictive capability at the*



Geographic Area and National levels.” Positioning Predictive Services at strategic decision-making levels allowed for the “availability of centralized real time evaluations [that] would free local fire managers from...time-consuming predictive assessment[s] and allow them to focus on incident management and public safety.”

In this context, and to avoid completely reinventing Predictive Services, it seems wise for Phase II of the National Predictive Services review to remain true to the original program intent provided by the 2000 National Fire Plan. Working from this foundation, the Predictive Services Phase 2 (PSP2) Task Team can work to resolve the programmatic and organizational issues highlighted in Phase 1 of the review.

## **I. Foundational Elements: Operating Principles and the Predictive Services Mission**

Regardless of Predictive Services’ organization, staffing or oversight, necessary elements must remain consistent for the program to achieve the vision established under the 2000 National Fire Plan. These elements are detailed below:

Who is Predictive Services?

Decision framing for operational incident planning and management rests on a number of factors. Important among these factors are weather events creating potential incidents, critical weather influences upon the types and effectiveness of incident operations, the availability of management resources for conducting incident operations, the potential duration of incident operations and the capacity for sustaining operations through time.

Understanding these factors individually is not enough. Effective decision-framing must also include how critical factors interact and influence one another. To accomplish this, Predictive Services, as a program, *must “blend the functions” of intelligence, fire management analysis, and meteorological components working as “one cohesive group”* for the purpose of incident management decision support. This suggests a unit consisting of one or more intelligence coordinators, fire management analysts and meteorologists working as a team to achieve their collective purpose. Details of this organization will be defined later.

Working as “one cohesive group” deserves reflection. The quality of a team, if it’s truly working as a team, exceeds the capacity of the individuals collectively. For Predictive Services, the blend of functions achieves cohesiveness in a number of ways:

- Recognizing that environmental conditions and local processes make a “one-size fits all” methodology difficult and sometimes impossible, Geographic Area Predictive Services Units must strive for deliverables featuring a common output with common metrics and consistent meaning. This allows their outputs to combine into a National product which delivers a unified meaning and implies consistent decisions outcomes.
- The National Interagency Coordination Center (NICC) Predictive Services Unit facilitates this process through coordinating regular communication, aggregating Geographic Area inputs into national products, and acquiring/distributing data sets in support of National products. Geographic Area Predictive Services Units facilitate the process by effectively communicating and by the timely completion and delivery of Geographic Area inputs to National products.
- At the Geographic Area Coordination Center (GACC) level, Predictive Services Units provide a highly coordinated delivery of Geographic Area products and services that reflect the mindfulness and interaction of all the functional areas.



- Coordination, communication and cross-walking of skills create a working understanding of the functionality and purpose of each functional area. This provides a platform for each Predictive Services staff member to contribute value throughout the program.
- The National Predictive Services Program is defined by the overall coordination and seamlessness of NICC and GACC products and services.

### **What is the Predictive Services Mission?**

The Predictive Services Handbook, dated 2009, states the “Predictive Services program supports the wildland fire community and others with information and decision support products.” Broad and all-inclusive, as a mission statement it is unencumbered by scope, scale and specificity of purpose that would provide for a consistent vision. Again, reaching back to original intent, we can piece together greater definition:

The Predictive Services mission is to integrate climate, weather, fuels, situation and incident resource status information to enhance the ability of managers to make sound decisions for both short and long range strategic planning. Working as cohesive units situated at each of the Geographic Area and National Interagency Coordination Centers, Predictive Services will blend the functions of intelligence, fire management analysis and meteorology for delivering decision support products and services in support of Geographic Area and National decision-making:

- The principal mission of Predictive Services is to provide products and services to Geographic Area and National Multi-Agency Coordinating Groups supporting decision-making relative to timely and effective mobilization and placement of incident management resources.
- Predictive Services must coordinate with stakeholders and especially local unit managers to collect, assess and distribute information on observed and forecasted conditions that may influence local fire preparedness decisions and facilitate specific warnings about critical fire behavior or fuel conditions throughout the nation.
- Establish climatological assessments and conduct “real-time” evaluations that free local fire managers from time-consuming predictive assessment and allow them to focus on incident management and firefighter and public safety.
- As subject matter experts, Predictive Services staff will consult and collaborate with stakeholders and local units in developing, refining and evolving Fire Danger Operating Plans, building alignment among local, geographic area and national decision support systems so that cohesive preparedness planning is both possible and evident.

Nationally, Predictive Services best serves the agencies by its capacity to synthesize its functional areas as it energizes and supports decision-making relative to wildland fire management preparedness, planning and resource mobilization:

- The meteorological function of Predictive Services provides the expertise to interpret and analyze existing weather forecasts and climate outlooks as inputs to products that assess the specific timing and location of significant events that influence wildland preparedness planning. Knowledge obtained from the outputs form the basis of collaborative consultation with other Predictive Services functions and Geographic Area and National specialists.
- In consultation with meteorologists, the Fire Analyst function assesses meteorological influences on the fire environment and subsequent implications to new and existing incidents as well as the operational effectiveness of incident responders and resources.

- The Intelligence function consults with meteorologists, fire analysts and operations specialist to assess management implications relative to current resource availability and work force resiliency into the future.
- Collectively, the cohesive Predictive Services Unit provides management with a comprehensive decision frame and a “bottom line” for potential management realities and outcomes.

The scope of the Predictive Services mission creates opportunities for “spin off” products or technologies that serve other specific programs and missions. Delivering this mission, by necessity, touches a broad array of data that opens up collaboration with existing systems (like Fire Danger Operating Plans) or contributing to the development of new products for use in land management planning, such as prescribed fire. By virtue of its mission, Predictive Services establishes itself as a leader in operational decision support.

### **Moving Predictive Services into the Future**

Clarifying mission and functionality has little meaning if future program capacity isn’t considered. PSP2 addressed this issue through a series of logical statements:

- The interagency wildland operational landscape is dynamic and is universally perceived as changing in unprecedented ways;
- Given changes in the landscape, management must change strategies and implementation tactics to successfully accomplish land and resource management objectives.
- Changes in management, strategy and tactics point to a corresponding shift in decision-framing so that the decision environment can be properly assessed.
- Therefore, decision-support products and services *must be evolved to adequately construct the proper decision frame.*

For a decision-support organization, the management decision-making is the catalyst for change in products and services. Management is where decisions are made and where decision implications play out. If Predictive Services is to evolve, management must provide the necessary oversight to ensure the scope and integrity of decision-support products and services meet the intended need.

## **II. Predictive Services National Program: Oversight, Governance, Staffing and Leadership**

Alternatives for organizing the National Predictive Services Program were discussed and evaluated for the effectiveness in providing products and services, for the efficiency of communications and outreach, and for alignment with management structures that exist within the Interagency Wildland Fire Community. PSP2 designed program alternatives to illustrate definitive differences in management philosophy and structure rather than as an all-encompassing list of possibilities. Program oversight is designed for “best-fit” into each alternative management structure.

The PSP2 Task Group recognizes and encourages the Fire Management Board (FMB)’s opportunity to “pick and choose” specific attributes of the presented alternatives to form the framework for a preferred and final alternative.



**Program Oversight & NWCG Relationships**

The National Predictive Services Sub-Committee (NPSS) was originally established to provide program oversight. Subordinate to the NWCG Fire Environment Committee (FENC), NPSS was “not well accepted and lacked the ability to directly oversee the program. Eventually this oversight group dissolved...” (PS Phase 1 Program Review Report, 19). Discontinuities in management and supervision also contributed.

Given these issues, the PSP2 Task Group chose to emphasize management’s role in constituting a program oversight board. Composed principally of management stakeholders and supervisors, the Predictive Services Oversight Group (PSOG) will panel and review program changes and updates. Details are provided for each alternative.

Rather than reconstitute NPSS as an independent NWCG entity, Predictive Services will hold membership positions on FENC and appropriate sub-committees. Dialogue with the current FENC chair supports this arrangement for maintaining program connections with NWCG.

**Existing Program Staffing**

Awareness for the existing program staffing offers a better understanding of the changes being proposed in each alternative. Historically, the staffing “template” for a Predictive Services Unit included a (Meteorologist) Program Manager, a staff Meteorologist, a Fire Analyst and an Intelligence Coordinator. Funding for these positions was allocated at the National Office level and distributed regionally among the agencies. In time and in some cases in coordination with partners, staffing and funding decisions evolved Geographic Area to Geographic Area. See the table below:

***Existing Predictive Services Position Staffing***



Location	Position	Count	Comments
Alaska	Fire Analyst	1	Processing position in HR
Alaska	Intel CORD	1	
Alaska	Meteorologist	1	Shared position--2 half-time employees
Eastern Area	Fire Analyst	1	Vacant; not funded.
Eastern Area	Intel CORD	1	
Eastern Area	Meteorologist	1	Remote employee.
Great Basin	Intel Asst	1	
Great Basin	Intel CORD	1	
Great Basin	Meteorologist	3	1 position is shared; 2 half-time employees. One remote employee.
NICC	Fire Analyst	1	
NICC	Intel Asst	1	
NICC	Intel CORD	1	
NICC	Meteorologist	2	
Northern Rockies	Fire Analyst	1	Vacant; not funded.
Northern Rockies	Intel Asst	1	
Northern Rockies	Intel CORD	1	
Northern Rockies	Meteorologist	2	
Northwest	Fire Analyst	1	
Northwest	Intel CORD	1	
Northwest	Meteorologist	2	
No Cal	Fire Analyst	1	
No Cal	Intel Asst	1	
No Cal	Intel CORD	1	
No Cal	Meteorologist	3	Cal-Fire pays for one meteorologist position under agreement.
So Cal	Intel Asst	1	
So Cal	Intel CORD	1	
So Cal	Meteorologist	4	Cal-Fire pays for one meteorologist position under agreement. BLM position vacant--\$15k contribution for services.
Rocky Mt	Intel CORD	1	
Rocky Mt	Meteorologist	2	
Southern Area	Intel CORD	1	
Southern Area	Meteorologist	2	
Southwest	Intel CORD	1	
Southwest	Meteorologist	2	

**Shifting Program Emphasis**

Phase 1 of the Predictive Services Program Review indicated that “greater integration of all fire environment attributes into a decision support system [is] the highest ranked [priority].” Further, that “the importance of the fire analyst positions is growing.”

More and more, fire management relies on the ability to move high value resources for higher priorities elsewhere. This has changed the scope and resolution of the wildland decision frame. In addition to repositioning resources in anticipation of an event, understanding operational implications associated with the timing and intensity of a given fire environment, the ability to marshal effective operational capability and the return provided by that investment, influences strategic decision-making. Fire management analysis and situation/resource analytics are now and will increasingly become critical components of strategic decision-framing, as full partners with fire potential forecasting.



---

**Management Considerations Common to All Alternatives**

Program/Unit leadership is shifted from a Meteorologist to the Fire Analyst:

- Severe resource shortages frequently shift the focus of resource allocation decisions to assessing “critical missions” to supplement incident prioritization processes that already occur. The assessment determines whether further investment of firefighting resources for accomplishing a critical mission can accelerate meeting incident objectives and release a greater return of resources that can be shifted to higher priority incidents. This requires significant knowledge of fire operations and an understanding of the implications of specific allocation decisions.
- Phase 1 indicated that “meteorologists or intelligence officers...lack prerequisite experience, knowledge and training.
- Phase 1 also suggests that “there are no consistent lines of supervision” and that personnel are generally supervised by the GACC Center Manager. Span of control issues may present themselves.
- Fire Analysts are organic to the agencies. Individuals qualify for the position generally possess operational experience and are well-versed in agency management, administrative policy, supervisory processes and culture.
- To support this emphasis, the Fire Analyst position is required for all Units.

The Intelligence function is expanded to include an Intelligence Lead and Assistant in all Geographic Areas, in addition to the Fire Analyst position.

- Integration of resource intelligence and other operational factors, as well as predictive capability, is perceived as a growing need.
- The intent is to increase the real-time data gathering, assessment and operational guidance of the Intelligence function in support of strategic decision-making.

Funding for Fire Analysts and an expanded Intelligence role may not be readily available. Developing necessary skill sets and individuals will require investments in time, dollars, positions and people.

Agency Research and Cooperators provide support to Predictive Services for Research & Development. See Section V for a more detailed discussion.

Factors for estimating alternative staffing costs include the following:

- Wages are based on 2018 OPM General Schedule. Cost-to-Government often significantly exceeds the base schedule due to employee benefits and other reasons. For this reason, GS/Step 10 grades adjusted for Washington D.C. locality pay rates (2.29%) are utilized for all grade levels to emulate potential expenditures associated with the costs of individual employee benefits.
- An average Lodging/PerDiem rate of \$250/day was utilized to estimate annual travel costs. Travel days were applied consistently and allowed for at least two work weeks of travel for all employees. Number of days was adjusted upward for individuals in management/supervisory positions.
- Office space estimates 64 square feet per full-time employee and 36 square feet per seasonal employee. Costs for work space are based on the national average for GSA-leased space, calculated at \$30/square foot.
- Data/Software/Hardware costs are loosely based on budget experience at a Geographic Area Coordination Center and depict supplemental funding for data acquisition and support for technical products and services.





**Alternative 1: Predictive Services is Fully Integrated as a Functional Unit of the National Coordination System.**

**DESCRIPTION:**

Predictive Services is integrated as a functioning unit of the National Coordination System; specific units are assigned to each of the Geographic Area Coordination Centers and the National Interagency Coordination Center:

- As a unit, Predictive Services provides intelligence that informs operational decision-making.
- As a national program, GACC and NICC Predictive Services Units function as one cohesive, interactive and mutually-supporting network.
- Geographic Area input to national products will have equal weight with other local work priorities in order to ensure the integrity of national situational awareness.
- The NICC Predictive Services Unit will facilitate coordination and communication nationally. Data and technology support to national products and services will be similarly coordinated, procured and distributed from the national level.

**LEADERSHIP:**

National/Geographic Area Coordination Center Managers will provide first-line leadership, guidance, oversight and supervision for their respective Predictive Services Units. Service-First/Operating Agreements will delegate supervisory authority to the Coordination Center Manager for Predictive Services staff.

**GOVERNANCE:**

Predictive Services Units are subject to local operating agreements or Service-First Agreements that govern their respective GACC or NICC. Products, services and operating procedures unique to a specific Predictive Services Unit will be addressed and documented in the local operating agreement.

National expectations and operating procedures for NICC and GACC Predictive Services Units will be documented in Chapter 10 (Preparedness) and Chapter 19 (Coordination) of the Interagency Standards for Fire and Aviation Operations (Redbook). Instructions for use and submission of National Predictive Services Products will be documented in Chapter 60 of the National and Geographic Area Interagency Mobilization Guides.

**LOCAL PROGRAM OVERSIGHT:**

Coordination Center Managers will provide first-line oversight for all administrative, staffing, organizational and operational planning and implementation. Changes to local products and services are developed and implemented under the guidance and approval of the Coordination Center Manager in coordination with their respective Coordinating Group.

**NATIONAL PROGRAM OVERSIGHT:**

The Predictive Services Oversight Group (PSOG) will constitute under the Fire Management Board as an executive oversight board that will:

- Facilitate communication with Center Managers, the Coordinating Group Advisory Council, and the National Multi-Agency Coordinating Group, who are the principal stakeholders for the National





Predictive Services program, and who have well-defined communication pathways to interagency fire leadership at the field level.

- Function as a review board for all change processes for all national program operational processes, products and services, coordinating concurrence with the principal stakeholders.
- Serve as a deliberative body to review and resolve national issues for which Predictive Services program staff has failed to reach consensus.
- Assign sub-groups of Predictive Services and other staff with specific tasks in service to national program needs.

PSOG will consist of an FMB Liaison, the NICC Center Manager (or delegate), a GACC Center Manager, the NMAC Chair (or delegate), the CGAC Chair (or delegate), an agency fire operations representative and one representative each from the meteorologist, fire analyst and intelligence working groups. Associate representatives from NWCG, research and other stakeholder groups will serve in an advisory capacity. The FMB will provide PSOG executive oversight.

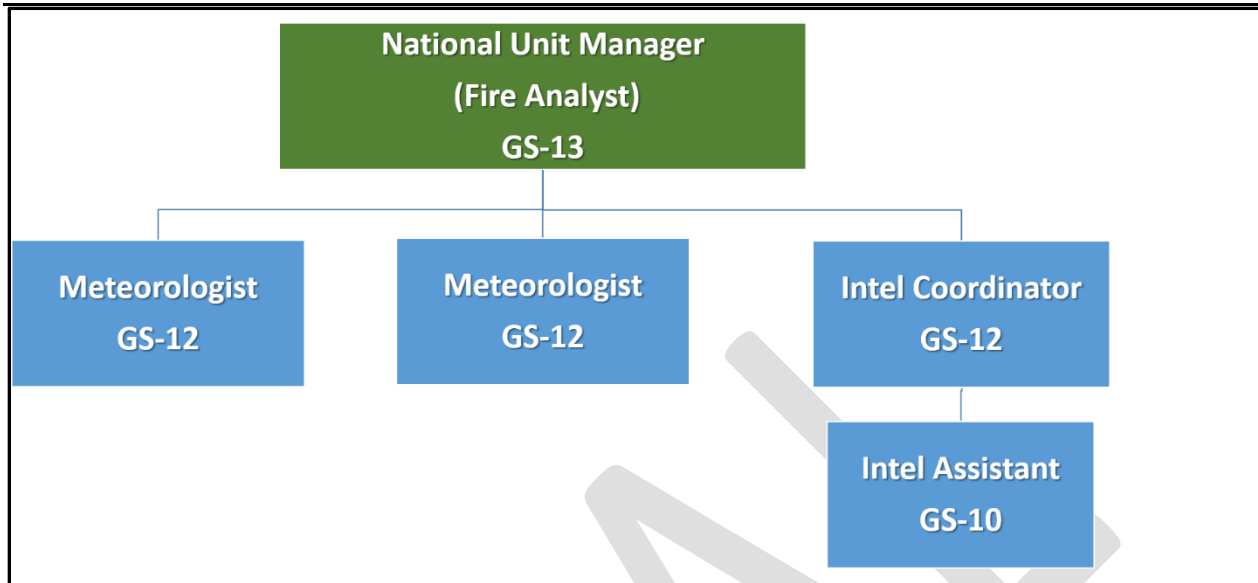
National Predictive Services Staff Group: All staff from NICC/GACC Predictive Services Units are expected to engage in productive dialogue and build consensus on national issues, product development and program process and procedure. Decisions reached by this group will be submitted to the National Center Managers Group for coordination and concurrence.

National Predictive Services Working Groups: Intelligence, Fire Analyst and Meteorologist working groups are similarly expected to meet and dialogue on issues relevant to their specific functional areas in support of larger program issues.

Staffing: National Predictive Services Unit (NICC)

- The National Predictive Services Unit Manager (Fire Analyst) is staffed as a GS-13; the position supervises the National Unit staff. The position coordinates with the Predictive Services Unit Managers at the GACCs.
- The National Unit staff consists of two GS-13 Meteorologists, a GS-12 Intelligence Coordinator and a GS-10 Intelligence Assistant.

***Alt. 1: National Unit Table of Organization and Budget Estimate***



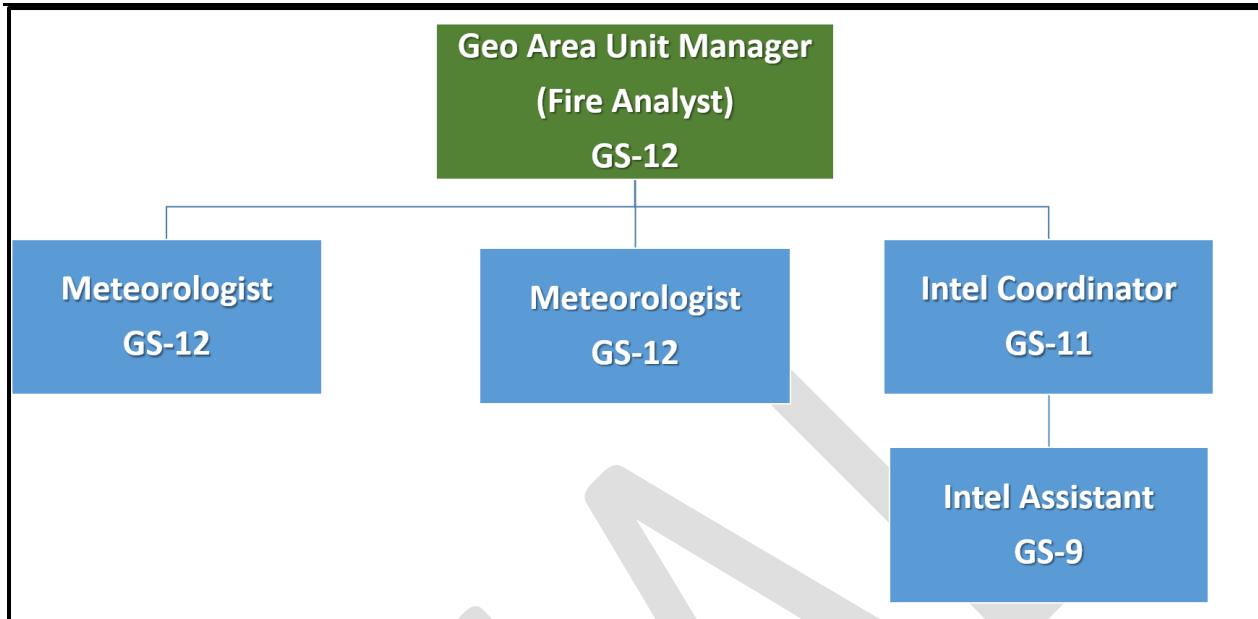
National Unit Positions	Grade	Annual Wage	Travel Days
Program Manager (Fire Analyst)	13	\$ 126,062.00	20
Meteorologist	13	\$ 126,062.00	15
Meteorologist	13	\$ 126,062.00	10
Intelligence Coordinator	12	\$ 106,012.00	15
Intelligence Assistant	10	\$ 80,505.00	10
	<b>Unit Sub-Total</b>	<b>\$ 564,703.00</b>	<b>70</b>

National Unit Staffing Items	Annual Cost
Personnel Wages	\$ 564,703.00
Personnel Travel	\$ 17,500.00
Office Space	\$ 9,000.00
Data/Software/Hardware Support	\$ 15,000.00
<b>Unit Total</b>	<b>\$ 606,203.00</b>

Staffing: Geographic Area Predictive Services Units (GACCs)

- The Geographic Area Predictive Services Unit Manager (Fire Analyst) is staffed as a GS-12; the position supervises the Geographic Area Unit staff. The position is supervised by the GACC Center Manager and coordinates with the GACC Staff.
- The Geographic Area Unit staff consists of two GS-12 Meteorologists, a GS-11 Intelligence Coordinator and a GS-9 Intelligence Assistant.

**Alt. 1: Geographic Area Unit Table of Organization & Staffing Estimate**



Geo Area Unit Positions	Grade	Annual Wage	Travel Days
Program Manager (Fire Analyst)	12	\$ 106,012.00	20
Meteorologist	12	\$ 106,012.00	15
Meteorologist	12	\$ 106,012.00	10
Intelligence Coordinator	11	\$ 88,450.00	15
Intelligence Assistant	9	\$ 73,105.00	10
<b>Unit Sub-Total</b>		<b>\$ 479,591.00</b>	<b>70</b>

Geo Area Staffing Items	Annual Cost
Personnel Wages	\$ 479,591.00
Personnel Travel	\$ 17,500.00
Office Space	\$ 9,000.00
Data/Software/Hardware Support	\$ 10,000.00
<b>Unit Total</b>	<b>\$ 516,091.00</b>

### Alternative 2: Predictive Services is a National Stand-Alone Program

DESCRIPTION: Predictive Services is a unified national program with Geographic Area Units organized and supervised by a National Program Manager:

- National products/centralized product delivery is emphasized. Data for national products are collected, collated and published by National Program Staff.
- The National Predictive Services Unit is co-located at the NICC. Geographic Area Units are co-located at the GACCs.



- Geographic Area products are closely coordinated to best provide a uniform look and utility for all Predictive Services products.
- Geographic Areas retain a single meteorologist on staff. Additional Fire Analyst and meteorologist positions are added to the National Program Unit to provide short/long term analysis and product support.
- Geographic Area staff serve as an interface for local stakeholders, for intelligence feeds into the national network and to inform GMAC decision-making through scheduled briefings and ad hoc products and services not otherwise produced.
- All data acquisition and support needs are serviced through the national office.

**LEADERSHIP:** The National Predictive Services Program Manager supervises the Geographic Area Program Managers and coordinates products/services with the NICC Center Manager and NMAC. Geographic Area Program Managers fulfill a corresponding role at their level. The National Program Assistant supervises staff in the National Program Unit. The National Program manager reports to the Predictive Services Oversight Group.

**GOVERNANCE:** Predictive Services obtains governance through a Service-First Agreement authorized under the Fire Management Board. National expectations and operating procedures for Predictive Services will be documented in Chapter 10 (Preparedness) and Chapter 19 (Coordination) of the Interagency Standards for Fire and Aviation Operations (Redbook). Instructions for use and submission of National Predictive Services Products will be documented in Chapter 60 of the National and Geographic Area Interagency Mobilization Guides.

*Products, services and operating procedures unique to a specific Geographic Area will be addressed and documented in an operating agreement with the National Predictive Services Program.*

**NATIONAL PROGRAM OVERSIGHT:** The Predictive Services Oversight Group (PSOG) will constitute under the Fire Management Board as an executive oversight board that will:

- Coordinate products and services with principal stakeholders.
- Function as a review board for all change processes for all national program operational processes, products and services, coordinating concurrence with the principal stakeholders.
- Serve as a deliberative body to review and resolve national issues.
- Assign sub-groups of Predictive Services staff with specific tasks in service to national program needs.

PSOG will consist of an FMB Liaison, the NICC Center Manager (or delegate), a GACC Center Manager, the NMAC Chair (or delegate), the CGAC Chair (or delegate), an agency fire operations representative and the Predictive Services National Program Manager. Associate representatives from NWCG, research and other stakeholder groups will serve in an advisory capacity. The FMB will provide PSOG executive oversight.

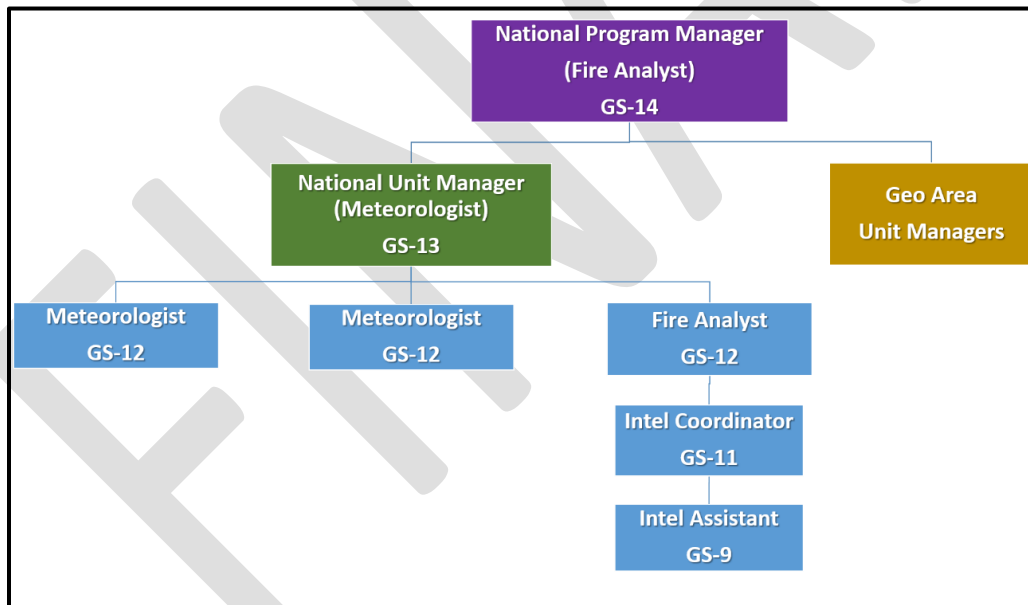
PSOG will host the necessary conferences and/or staff conference calls to provide for program-wide dialogue, to serve staff awareness and align and coordinate delivery of products and services.

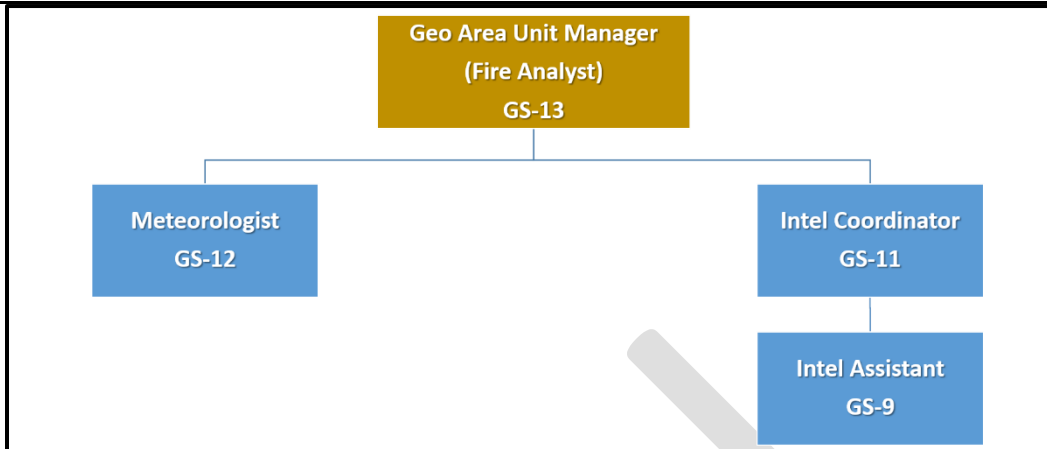
**Working Groups:** Functional Area Working Groups (Intel, Fire Analysis, Meteorology) will charter to PSOG and will address functional area needs as they respond to larger program issues.

**Staffing:**

- The National Program Manager (Fire Analyst) position as a national program manager is staffed as a GS-14.
- The Assistant National Program Manager (Meteorologist) is staffed as a GS-13 and is the first line supervisor for the National Program Unit.
- National Unit Staff includes two GS-12 Meteorologists, a GS-12 Fire Analyst and a GS-12 Intelligence Coordinator and GS-10 Intelligence Officer to provide Geographic Area coordination and support daily operations. An additional GS-12 Fire Analyst and GS-12 Meteorologist staff a long term analysis unit in support of strategic planning and to provide additional Geographic Area staffing as needed.
- The Geographic Area Manager (Fire Analyst) position is staffed as a GS-12 and is responsible for supervising the Geographic Area Unit and coordinating with the GACC Manager and GMAC Chair.
  - Geographic Area staff includes one GS-12 Meteorologist, one GS-11 Intelligence Coordinator and one GS-9 Intelligence Assistant.
  - Geographic Area staff provide expertise and coordination to the GMAC, GACC and Local Units.

**Alt. 2: National Program Table of Organization & Staffing Estimate**





National Unit Positions	Grade	Annual Wage	Travel Days
Program Manager (Fire Analyst)	14	\$ 148,967.00	20
Assistant Manager (Meteorologist)	13	\$ 126,062.00	15
Meteorologist	12	\$ 106,012.00	10
Meteorologist	12	\$ 106,012.00	10
Fire Analyst	12	\$ 106,012.00	15
Intelligence Coordinator	12	\$ 106,012.00	15
Intelligence Assistant	10	\$ 80,505.00	10
	<b>Unit Sub-Total</b>	<b>\$ 779,582.00</b>	<b>95</b>
Geo Area Unit Positions	Grade	Annual Wage	Travel Days
Program Manager (Fire Analyst)	13	\$ 126,062.00	20
Meteorologist	12	\$ 106,012.00	10
Intelligence Coordinator	11	\$ 88,450.00	15
Intelligence Assistant	9	\$ 73,105.00	10
	<b>Unit Sub-Total</b>	<b>\$ 393,629.00</b>	<b>55</b>

National Unit Staffing Items	Annual Cost
Personnel Wages	\$ 779,582.00
Personnel Travel	\$ 23,750.00
Office Space	\$ 12,600.00
Data/Software/Hardware Support	\$ 20,000.00
<b>Unit Total</b>	<b>\$ 835,932.00</b>
Geo Area Staffing Items	Annual Cost
Personnel Wages	\$ 393,629.00
Personnel Travel	\$ 13,750.00
Office Space	\$ 7,200.00
Data/Software/Hardware Support	\$ 5,000.00
<b>Unit Total</b>	<b>\$ 419,579.00</b>

### Alternative 3: National Weather Service Provides Predictive Services Meteorologists



**DESCRIPTION:** The National Weather Service (NWS) provides fire weather forecasting services and meteorological inputs into Predictive Services products and services at each of the GACCs and NICC:

- NICC and GACC Predictive Services Units are integrated operational units of the National Coordination System.
- The NWS staffs one meteorologist position at each of the GACCs and NICC. An additional NWS meteorologist will staff NICC/GACC Units as necessary in support of fire season operations.
- The Wildland Agencies continue to host all other Predictive Services positions.

**LEADERSHIP:** National/Geographic Area Coordination Center Managers will provide first-line leadership, guidance, oversight and supervision for their respective Predictive Services Units. Operating Agreements with National Weather Service/local Weather Forecast Offices designate leadership/authorities for utilizing NWS employees as integral members of a Predictive Services Unit.

**GOVERNANCE:** Predictive Services Units are subject to local operating agreements or Service-First Agreements that govern their respective GACC or NICC. National expectations and operating procedures for NICC and GACC Predictive Services Units will be documented in Chapter 10 (Preparedness) and Chapter 19 (Coordination) of the Interagency Standards for Fire and Aviation Operations (Redbook). Instructions for use and submission of National Predictive Services Products will be documented in Chapter 60 of the National and Geographic Area Interagency Mobilization Guides. The National Weather Service Annual Operating Plan will document national operating standards for fire weather forecasts and forecast products associated with Predictive Services Unit operation.

Products, services and operating procedures unique to a specific Predictive Services Unit will be addressed and documented in the local operating agreement.

**LOCAL PROGRAM OVERSIGHT:** As the first and principal user group for locally-served Predictive Services products and services, Coordination Center Managers will provide first-line oversight for all administrative, staffing, organizational and operational planning and implementation. Changes to local products and services are developed and implemented under the guidance and approval of the Coordination Center Manager in coordination with the local Coordinating Group.

NWS employee oversight and performance will be coordinated with the appropriate NWS supervisor or representative.

**NATIONAL PROGRAM OVERSIGHT:** The Predictive Services Oversight Group (PSOG) will constitute under the Fire Management Board as an executive oversight board that will:

- Facilitate communication with Center Managers, the Coordinating Group Advisory Council, and the National Multi-Agency Coordinating Group, who are the principal stakeholders for the National Predictive Services program, and who have well-defined communication pathways to interagency fire leadership at the field level.
- Function as a review board for all change processes for all national program operational processes, products and services, coordinating concurrence with the principal stakeholders.
- Serve as a deliberative body to review and resolve national issues for which Predictive Services program staff has failed to reach consensus.





- Assign sub-groups of Predictive Services staff with specific tasks in service to national program needs.

PSOG will consist of an FMB Liaison, the NICC Center Manager (or delegate), a GACC Center Manager, the NMAC Chair (or delegate), the CGAC Chair (or delegate), an agency fire operations representative and one representative each from the meteorologist, fire analyst and intelligence working groups. Associate representatives from the NWS, NWCG, research and other stakeholder groups will serve in an advisory capacity. The FMB will provide PSOG executive oversight.

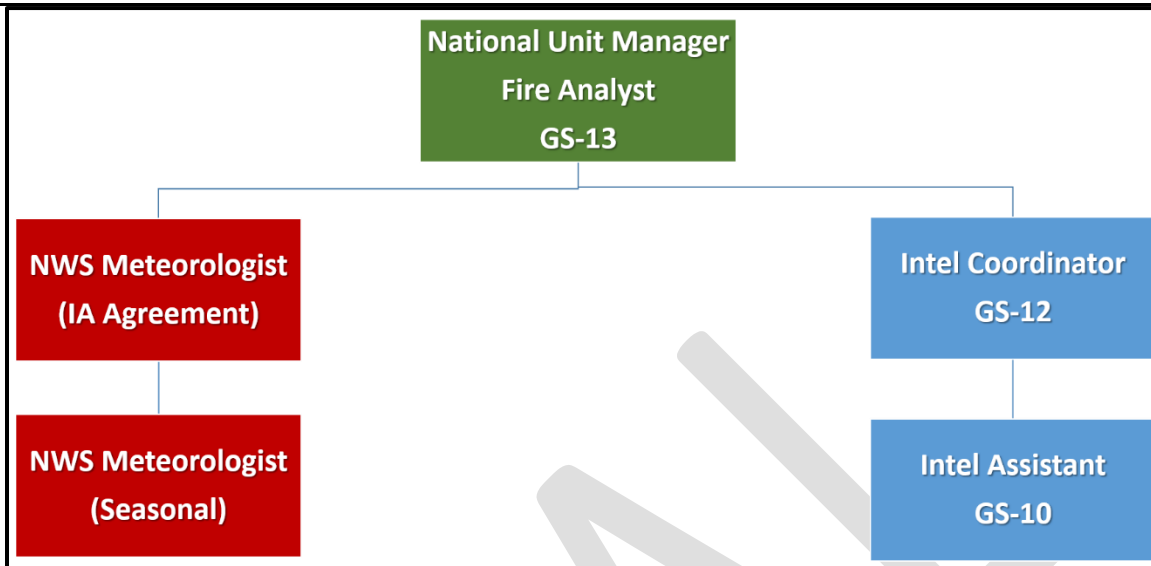
National Predictive Services Staff Group: Dialogue on national issues, product development and program process and procedure will occur on a regular basis involving Predictive Services staff from all units and functional areas and in coordination with Coordination Center Managers. Their purpose is to build consensus on program-wide issues. NWS forecasters involved in the Predictive Services Program will also be a part of this staff function.

National Predictive Services Working Groups: Self-governing Intelligence, Fire Analyst and Meteorologist working groups, will form from GACC and NICC Predictive Services staff. This includes NWS forecasters working in concert with the Meteorology Program Coordinator. The groups will address functional area needs as they respond to larger program issues, with guidance from PSOG and in coordination with Center Managers.

Staffing: National Predictive Services Unit (NICC)

- The National Predictive Services Unit Manager (Fire Analyst) is staffed as a GS-13; the position supervises the National Unit staff. The position coordinates with the Geographic Area Predictive Services Unit Managers at the GACCs.
- The National Predictive Services Units includes:
  - NWS meteorologist to provide forecasting services throughout the year.
  - NWS provides additional forecaster capability to provide 7-day coverage through the operational field season.
  - A GS-12 Intelligence Coordinator
  - A GS-10 Intelligence Assistant.

***Alt. 3: National Unit Table of Organization & Staffing Estimate***



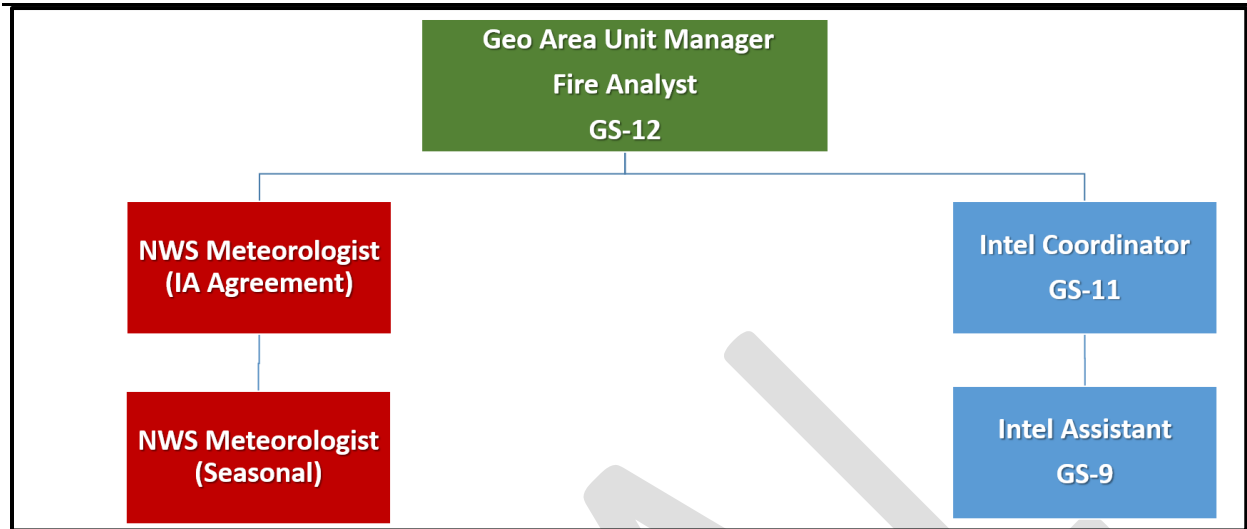
National Unit Positions	Grade	Annual Wage	Travel Days
Program Manager (Fire Analyst)	13	126062	20
NWS Meteorologist (Reimbursable Agreement)	13	\$ 126,062.00	10
NWS Meteorologist (Seasonal: fire-funded)	12	\$ -	0
Intelligence Coordinator	12	\$ 106,012.00	15
Intelligence Assistant	10	\$ 80,505.00	10
	<b>Unit Sub-Total</b>	<b>\$ 438,641.00</b>	<b>55</b>

National Unit Staffing Items	Annual Cost
Personnel Wages	\$ 438,641.00
Personnel Travel	\$ 13,750.00
Office Space	\$ 8,280.00
Data/Software/Hardware Support	\$ 15,000.00
<b>Unit Total</b>	<b>\$ 475,671.00</b>

**Staffing: Geographic Area Predictive Services Units (GACCs)**

- The Geographic Area Predictive Services Unit Manager (Fire Analyst) is staffed as a GS-12; the position supervises the Geographic Area Unit staff. The position is supervised by the GACC Center Manager and coordinates with the GACC Staff.
- The Geographic Area Predictive Services Units includes:
  - NWS meteorologist to provide forecasting services throughout the year.
  - NWS provides additional forecaster capability to provide 7-day coverage seasonally through the operational field season.
  - A GS-11 Intelligence Coordinator
  - A GS-9 Intelligence Assistant.

**Alt. 3: Geographic Area Table of Organization & Staffing Estimate**



Geo Area Unit Positions	Grade	Annual Wage	Travel Days
Program Manager (Fire Analyst)	12	\$ 106,012.00	20
NWS Meteorologist (Reimburseable Agreement)	12	\$ 106,012.00	10
NWS Meteorologist (Seasonal: fire-funded)	12	\$ -	0
Intelligence Coordinator	11	\$ 88,450.00	15
Intelligence Assistant	9	\$ 73,105.00	10
	<b>Unit Sub-Total</b>	<b>\$ 373,579.00</b>	<b>55</b>

Geo Area Staffing Items	Annual Cost
Personnel Wages	\$ 373,579.00
Personnel Travel	\$ 13,750.00
Office Space	\$ 8,280.00
Data/Software/Hardware Support	\$ 10,000.00
<b>Unit Total</b>	<b>\$ 405,609.00</b>

#### Alternative 4: National Weather Service Forecasters Support Wildland Meteorologists

DESCRIPTION: The National Weather Service (NWS) provides support to the wildland agency Meteorologist located at each of the GACCs and NICC; the principal duty of the NWS meteorologist is to provide seven-day operational coverage during periods of critical activity. A Wildland Agency Meteorologist provides principal input into Predictive Services products and services, serves as the Weather Program Coordinator that coordinates with NWS weather forecast offices for recruiting/training NWS forecasters/IMETS that will provide program support and to ensure consistent quality control of Predictive Services products.

NICC and GACCs host Predictive Services Units as integrated functions within the National Coordination System.



**LEADERSHIP:** National/Geographic Area Coordination Center Managers will provide first-line leadership, guidance, oversight and supervision for their respective Predictive Services Units. Operating Agreements with National Weather Service/local Weather Forecast Offices designate leadership/authorities for utilizing NWS employees as temporary members of a Predictive Services Unit.

**GOVERNANCE:** Predictive Services Units are subject to local operating agreements or Service-First Agreements that govern their respective GACC or NICC. National expectations and operating procedures for NICC and GACC Predictive Services Units will be documented in Chapter 10 (Preparedness) and Chapter 19 (Coordination) of the Interagency Standards for Fire and Aviation Operations (Redbook). Instructions for use and submission of National Predictive Services Products will be documented in Chapter 60 of the National and Geographic Area Interagency Mobilization Guides. The National Weather Service Annual Operating Plan will document national operating standards for NWS forecasters and forecast products associated with Predictive Services Unit operation.

Products, services and operating procedures unique to a specific Predictive Services Unit will be addressed and documented in the local operating agreement.

**LOCAL PROGRAM OVERSIGHT:** As the first and principal user group for locally-served Predictive Services products and services, Coordination Center Managers will provide first-line oversight for all administrative, staffing, organizational and operational planning and implementation. Changes to local products and services are developed and implemented under the guidance and approval of the Coordination Center Manager in coordination with the local Coordinating Group.

NWS employee oversight and performance will be coordinated with the appropriate NWS supervisor or representative.

**NATIONAL PROGRAM OVERSIGHT:** The National Predictive Services Oversight Group (PSOG) will constitute under the Fire Management Board as an executive board that will:

- Facilitate communication with Center Managers, the Coordinating Group Advisory Council, and the National Multi-Agency Coordinating Group, who are the principal stakeholders for the National Predictive Services program, and who have well-defined communication pathways to interagency fire leadership at the field level.
- Function as a review board for all change processes for all national program operational processes, products and services, coordinating concurrence with the principal stakeholders.
- Serve as a deliberative body to review and resolve national issues for which Predictive Services program staff has failed to reach consensus.
- Assign sub-groups of Predictive Services staff with specific tasks in service to national program needs.

PSOG will consist of an FMB Liaison, the NICC Center Manager (or delegate), a GACC Center Manager, the NMAC Chair (or delegate), the CGAC Chair (or delegate), an agency fire operations representative and one representative each from the meteorologist, fire analyst and intelligence working groups. Associate representatives from NWCG, research and other stakeholder groups will serve in an advisory capacity. The FMB will provide PSOG executive oversight.

**National Predictive Services Staff Group:** Dialogue on national issues, product development and program process and procedure will occur on a regular basis involving Predictive Services staff from all units and functional areas and in coordination with Coordination Center Managers. Their purpose is to build



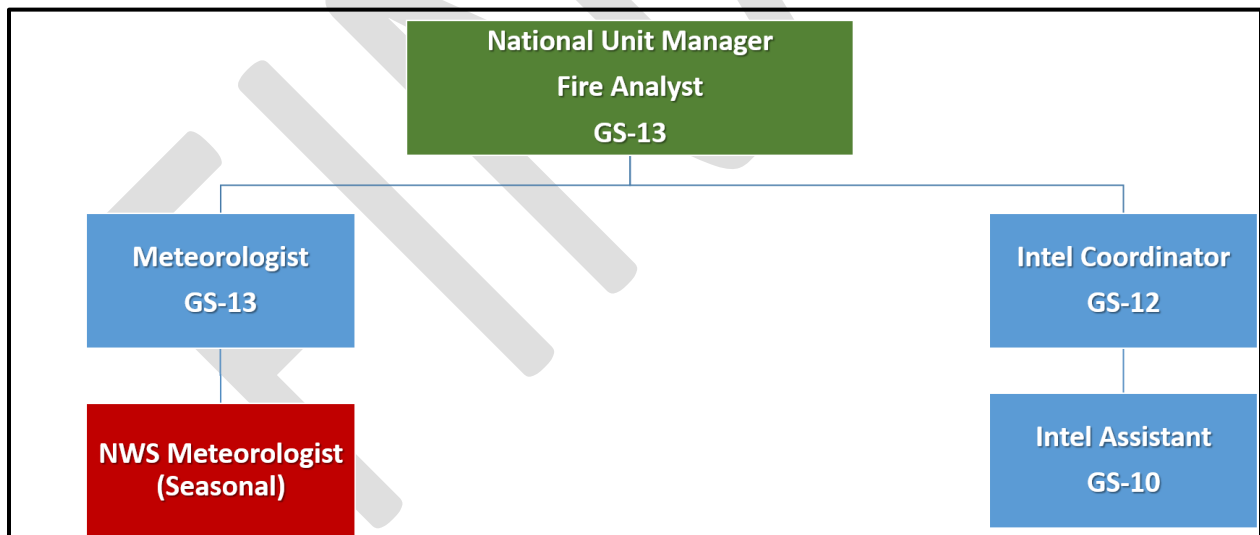
consensus on program-wide issues. NWS forecasters involved in the Predictive Services Program will also be a part of this staff function.

National Predictive Services Working Groups: Self-governing Intelligence, Fire Analyst and Meteorologist working groups, will form from GACC and NICC Predictive Services staff. This includes NWS forecasters working in concert with the Meteorology Program Coordinator. The groups will address functional area needs as they respond to larger program issues, with guidance from PSOG and in coordination with Center Managers.

Staffing: National Predictive Services Unit (NICC)

- The National Predictive Services Unit Manager (Fire Analyst) is staffed as a GS-13; the position supervises the National Unit staff. The position coordinates with the Geographic Area Predictive Services Unit Managers at the GACCs.
- The National Predictive Services Units includes:
  - A GS-13 Wildland Agency Meteorologist to staff products and briefing services.
  - NWS provides additional forecaster capability to provide 7-day coverage seasonally through the operational field season.
  - A GS-12 Intelligence Coordinator
  - A GS-10 Intelligence Assistant.

**Alt. 4: National Unit Table of Organization & Staffing Estimate**



National Unit Positions	Grade	Annual Wage	Travel Days
Program Manager (Fire Analyst)	13	\$ 126,062.00	20
Meteorologist	13	\$ 126,062.00	15
NWS Meteorologist (Seasonal: fire-funded)	12	\$ -	0
Intelligence Coordinator	12	\$ 106,012.00	15
Intelligence Assistant	10	\$ 80,505.00	10
	<b>Unit Sub-Total</b>	<b>\$ 438,641.00</b>	<b>60</b>

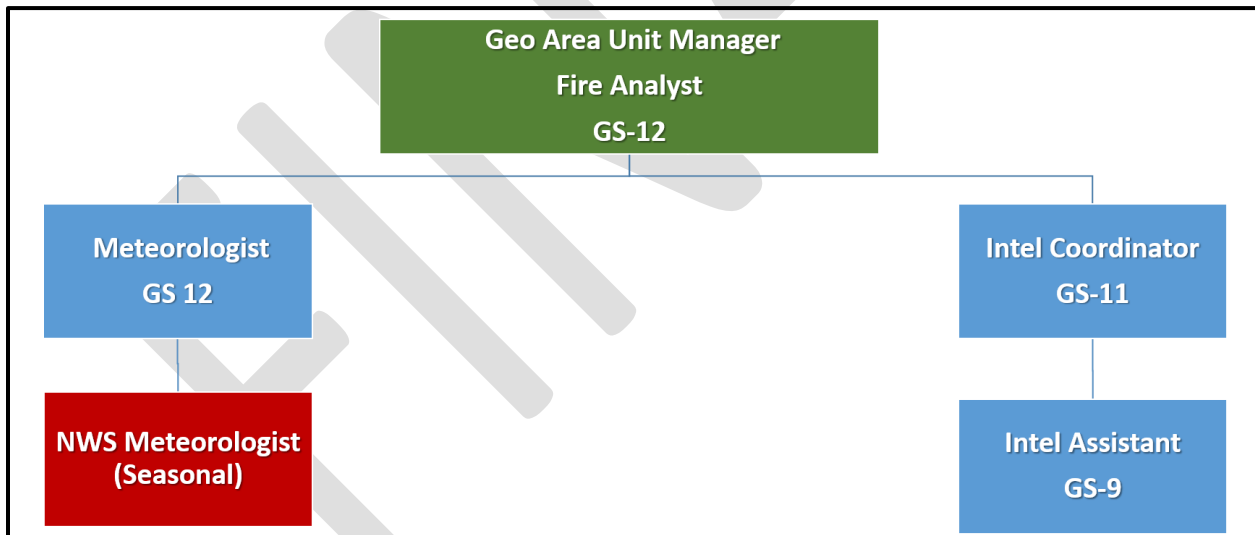


National Unit Staffing Items	Annual Cost
Personnel Wages	\$ 438,641.00
Personnel Travel	\$ 15,000.00
Office Space	\$ 8,280.00
Data/Software/Hardware Support	\$ 15,000.00
<b>Unit Total</b>	<b>\$ 476,921.00</b>

Staffing: Geographic Area Predictive Services Units (GACCs)

- The Geographic Area Predictive Services Unit Manager (Fire Analyst) is staffed as a GS-12; the position supervises the Geographic Area Unit staff. The position is supervised by the GACC Center Manager and coordinates with the GACC Staff.
- The Geographic Area Predictive Services Units includes:
  - A GS-12 Wildland Meteorologist to staff products and briefing services.
  - NWS provides additional forecaster capability to provide 7-day coverage through the operational field season.
  - A GS-11 Intelligence Coordinator
  - A GS-9 Intelligence Assistant.

**Alt. 4: Geo Area Unit Table of Organization & Staffing Estimate**



Geo Area Unit Positions	Grade	Annual Wage	Travel Days
Program Manager (Fire Analyst)	12	\$ 106,012.00	20
Meteorologist	12	\$ 106,012.00	10
NWS Meteorologist (Seasonal: fire-funded)	12	\$ -	0
Intelligence Coordinator	11	\$ 88,450.00	15
Intelligence Assistant	9	\$ 73,105.00	10
<b>Unit Sub-Total</b>		<b>\$ 373,579.00</b>	<b>55</b>



Geo Area Staffing Items	Annual Cost
Personnel Wages	\$ 373,579.00
Personnel Travel	\$ 13,750.00
Office Space	\$ 8,280.00
Data/Software/Hardware Support	\$ 10,000.00
<b>Unit Total</b>	<b>\$ 405,609.00</b>

### III. Evaluating Management Alternatives

#### Discussion

Six separate criteria provide context for evaluating the alternatives. Emphasis is placed on strategic concerns as they relate to complexities associated with program management and the ability to transition the program nationally.

PSP2 was specifically tasked to analyze for the following items:

- Estimated cost of implementing each alternative
  - Costs shown for each alternative represent program costs; expenditures associated with implementation are not represented.
  - Program costs reflect the totals from the TO Staffing Estimates provided for each alternative. This includes all Predictive Services Units located at all Coordination Centers.
- Rationale for why one alternative is preferable to others.
  - Evaluation criteria address issues that influence program direction and management. The preferred alternative is discussed in the next section.
- Steps that would be needed in order to fully implement each alternative; similarly, estimated timeframe for effective implementation of each alternative.
  - Program alignment, work force issues, stakeholder concerns and principal implementation requirements provide an overview of issues that would inform implementation steps and timelines.

A detailed assessment of implementation tasks, costs and timeline can be conducted when a preferred alternative, or alternatives, is/are selected.

#### Comparing Alternatives

	Number of Positions : Estimated Cost of the Proposed Organization
Alternative 1	55 Positions (+8 over existing TO) : Estimated Program Cost = \$ <b>5,767,113.00</b>
Alternative 2	47 Positions (+0 over existing TO) : Estimated Program Cost = \$ <b>5,031,722.00</b>
Alternative 3	35 Positions (-12 under existing TO) : Estimated Program Cost = \$ <b>4,531,761.00</b>
Alternative 4	42 Positions (-5 under existing TO) : Estimated Program Cost = \$ <b>4,533,011.00</b>





<b>Efficiencies/Benefits Gained by the Proposed Organization</b>	
Alternative 1	Provides clear leadership and governance. National oversight is provided that supports cohesiveness among functional areas and improves communication and coordination between GACCs and NICC.
Alternative 2	Program decision making is streamlined. Clear lines of communication are supported within the National Predictive Services Program.
Alternative 3	Provides clear leadership and governance. National oversight is provided that supports cohesiveness among functional areas and improves communication and coordination between GACCs and NICC. Meteorology expertise is centered in a meteorological organization. Meteorologists are all aligned under a single agency. Improved ability to shift meteorologists around Geographic Areas to meet workload demands. Provides opportunity to redirect positions/funds in support of other program areas. Emphasizes interagency partnerships and cooperation.
Alternative 4	Provides clear leadership and governance. National oversight is provided that supports cohesiveness among functional areas and improves communication and coordination between GACCs and NICC. Reduces unit staffing to one agency meteorologist. NWS provides additional staffing as needed; this also provides some ability to shift capacity to area of need. Provides a more limited opportunity for redirecting funds. Emphasizes interagency partnerships and cooperation.
<b>Alignment of the Proposed Alternative with Existing Management Structures</b>	
Alternative 1	Most closely aligns with existing program.
Alternative 2	Least alignment with existing management structures. The National Predictive Services program is an autonomous service-oriented organization. Geographic Area Predictive Services Units report directly to the National Program Manager co-located at NICC. The National Program Manager reports to PSOG.
Alternative 3	Shifts meteorologist positions into the National Weather Service. One full-time (NWS) meteorologist on staff with additional meteorologist as needed.
Alternative 4	Reduces meteorologist staff to one agency position for each unit. Additional staffing provided by NWS as needed.
<b>Leadership Orientation (National/GACC/Local/Other)</b>	
Alternative 1	NICC/GACC Center Managers are first line managers for Predictive Services Program. PSOG provides national oversight.
Alternative 2	National Program Manager provides overall direction to the Predictive Services program. The National Program Manager is directed by PSOG.
Alternative 3	NICC/GACC Center Managers are first line managers for Predictive Services Program. PSOG provides national oversight.



Alternative 4	NICC/GACC Center Managers are first line managers for Predictive Services Program. PSOG provides national oversight.
<b>Agency/Workforce Issues that may Complicate Program Management</b>	
Alternative 1	Shifts unit leadership to the Fire Analyst position; this may require PD development/classification.
Alternative 2	Reorganizes and separates program leadership and communication paths from what currently exists. Nationally oriented; requires significant communication to sustain information sharing and program awareness with stakeholders, partners at Geographic Area, Local Units.
Alternative 3	Shifts meteorology positions from wildland agencies to NWS. Requires additional agreements/funding to implement. Complexities may result from additional agency involvement.
Alternative 4	Reduces number of meteorologist positions. Requires additional agreements/funding to implement. Complexities may result from additional agency involvement.
<b>Stakeholder/Cooperator Interaction and Communication</b>	
Alternative 1	No change. PSOG “startup” will require a communication plan to ensure awareness and buy-in from stakeholders.
Alternative 2	Re-alignment into a “stand-alone” nationally oriented program risks isolating Geographic Area and Local Unit programs and concerns.
Alternative 3	Brings an additional partner into the communication network. Requires interagency agreements to implement. Broadens stakeholder group and may also create controversy with existing partners.
Alternative 4	To a lesser degree than Alternative 3, brings an additional partner into the communication network. Requires interagency agreements to implement. Broadens stakeholder group and may also create controversy with existing partners. .

<b>Principal Implementation Requirements</b>	
Alternative 1	Stand up PSOG. Realign unit management/leadership under the Fire Analyst position.
Alternative 2	Stand up PSOG. Realign unit management/leadership under the Fire Analyst position. Reorganize Predictive Services as a stand-alone organization, including budget, staffing and other administrative actions.
Alternative 3	Stand up PSOG. Realign unit management/leadership under the Fire Analyst position. Negotiate staffing processes and interagency agreements with NWS. Develop a



	Principal Implementation Requirements
	management plan for realigning meteorologist positions in the new organizational structure.
Alternative 4	Stand up PSOG. Realign unit management/leadership under the Fire Analyst position. Negotiate staffing processes and interagency agreements with NWS. Develop a management plan for realigning meteorologist positions in the new organizational structure.

#### IV. Preferred Management Alternative

All alternatives specifically address the following management concerns:

- National program status;
- Governance;
- Program guidance and management;
- Staffing
- Funding

PSP2 focused on these items as they provide the foundation for any management action. Any of the alternatives, if selected, meet the objectives of the PSP2 Task.

##### Preferred for Management Action

Based on stated management concerns and the alternative evaluation criteria (above), PSP2 offers the following alternatives for potential management action:

##### **Alternative 1: Predictive Services is Fully Integrated as a Functional Unit of the National Coordination System.**

This alternative places a Fire Analyst at NICC and all GACCs to support a shifting management emphasis. Additionally, the Fire Analyst position assumes leadership and supervision for the respective Predictive Services Units.

##### Rationale:

- Requires the fewest administrative steps to achieve organizational changes, and thus also takes the least time to implement.
- Fewer organizational changes preserve program continuity and familiarity with user groups.
- Predictive Services Units are integrated into the National and Geographic Area Coordination Centers; management, supervision and administrative organization and processes are well-defined.

**Alternative 3: National Weather Service Provides Predictive Services Meteorologists**

The National Weather Service staffs a full-time meteorologist position at the National and Geographic Area Coordination Centers and provides an additional forecast meteorologist to support peak activity. Fire Analysts are placed at NICC and all GACCs; this position assumes leadership and supervision for the respective Predictive Services Units.

**Rationale:**

- Shifts meteorologist positions into the National Weather Service, a meteorological organization.
- Reduces the overall number of interagency positions, given that NWS staffs almost 50% of the Predictive Services organization.
- Significantly “rebrands” Predictive Services with greater wildland agency emphasis on fire analysis and intelligence applications.
- Requires significant administrative work and time to implement and offers the greatest opportunity to redirect positions and funding to support changing program emphasis.
- Predictive Services Units are integrated into the National and Geographic Area Coordination Centers; management, supervision and administrative organization and processes are well-defined.

**Alternatives Not Selected****Alternative 2: Predictive Services is a National Stand-Alone Program**

Predictive Services is a unified national program with Geographic Area Units organized and supervised by a National Program Manager. Fire Analysts provide National, Geographic program leadership.

**Rationale for Non-Selection:**

- Significant departure from the existing organization.
- No significant savings in funding or positions.
- Isolates Predictive Services in its own organization with no real connection to coordination centers or units.

**Alternative 4: National Weather Service Forecasters Support Wildland Meteorologists**

The National Weather Service (NWS) provides support to the wildland agency Meteorologist located at each of the GACCs and NICC; the principal duty of the NWS meteorologist is to provide seven-day operational coverage during periods of critical activity. Fire Analysts provide National, Geographic program leadership.

**Rationale for Non-Selection:**

- Requires essentially the same amount of administrative work and time investment to implement as Alternative 3.



- Provides limited opportunity for redirection of funding and positions to support changing management emphasis.

## V. Program Administration

### Agency Sponsorship

PSP2 deferred agency sponsorship issues until a specific management alternative is chosen. The table below shows the distribution of existing Predictive Services positions by sponsoring agency:

**Agency Sponsorship of Specific Predictive Services Positions**

Position	CountOfPosition	Agency	Comments
Fire Analyst	1	BIA	Vacant: not funded
Fire Analyst	1	BLM	Classifying position currently
Fire Analyst	2	FS	
Fire Analyst	1	FS	Vacant: not funded
Fire Analyst	1	NPS	
Intel Asst	1	BLM	
Intel Asst	3	FS	
Intel Asst	1	NPS	
Intel CORD	1	BIA	
Intel CORD	3	BLM	
Intel CORD	6	FS	
Intel CORD	1	NPS	
Meteorologist	1	BIA	
Meteorologist	6	BLM	
Meteorologist	1	BLM	Shared position; 2 half-time Mets in place.
Meteorologist	1	BLM	Vacant: BLM contributes \$15k/year for products/services
Meteorologist	4	FS	
Meteorologist	2	FS	CalFire pays salary through FS Interagency Agreement.
Meteorologist	4	FWS	
Meteorologist	3	NPS	
Meteorologist	1	NPS	Remote Worker
Meteorologist	1	NPS	Shared position; 2 half-time Mets in place.

The next table provides a total count of positions sponsored by agency:

**Total Agency Sponsorship of Existing Predictive Services Positions**



Agency	Number of Positions	Comments
BIA	3	1 Fire Analyst position vacant/unfunded.
BLM	13	\$15k payment for services in lieu of 1 vacant BLM Meteorologist position.
FS	19	2 FS Meteorologist positions funded by CalFire under agreement. 1 Fire Analyst position vacant/unfunded.
FWS	4	
NPS	8	

Finally, distribution of current funding support for wages only, by agency, is shown below. Wages are estimated based on OPM General Schedule, Step 10 Wages adjusted for Washington DC Locality Pay Rates as this best estimated expenditures associated with actual cost-to-Government. Unfunded positions are included in the number of positions shown below:

**Distribution of Predictive Services Funding by Agency**

Agency	Number of Positions	Sum Of Annual Wages
BIA	3	\$165,556.00
BLM	13	\$1,056,819.00
FS	17	\$1,506,375.00
FWS	4	\$394,984.00
NPS	8	\$785,280.00
CalFire (FS Agreement)	2	\$211,229.00
<b>Total for Wages Only:</b>		<b>\$4,120,243.00</b>

A cursory glance suggests the National Park Service employs a disproportional number of Predictive Services positions relative to the other smaller DOI agencies. *As an integrated unit of the National Coordination System, agency apportionment for Predictive Services positions is best organized in association with its parent coordination center.*

**Research and Development**

Phase 1 of this program review concluded that “Predictive Services personnel are not scientists... [There is a need to]...clearly define their role and responsibility in supporting research, interpreting research, and applying new information as appropriate. [There is a need to]...strengthen and maintain the role of *predictive services staff as operational support staff that can provide support to research* [author’s italics].”

Relative to its mission, Predictive Services’ role is to provide project intent, guidance and subject matter expertise for the researchers who develop, document and test new products. Budgeting and work planning will be negotiated as appropriate. Predictive Services Unit leadership, in coordination with PSOG and stakeholders, will reach out to research partners with proposals to initiate budget and work processes.



Where applicable, new product development will be a line item budgeted into the Predictive Services program of work at the appropriate organizational level. PSOG will oversee and approve development and implementation of National Predictive Services products. Geographic Areas will be responsible for oversight and implementation of local products.

Where applicable, management can facilitate Predictive Services relationships by reaching out to agency researcher organizations to communicate intent and lay the foundations for annual work planning and product development/maintenance. Specific opportunities for expanding research support to Predictive Services is provided below. Other opportunities may exist.

#### Opportunities: NWCG Relationships

As stated earlier, Predictive Services will maintain connection to NWCG through FENC and other appropriate NWCG committees and sub-committees. Given a changing decision environment, it's imperative that Predictive Services expand its vision beyond historical relationships to NWCG. For example, Risk Management, Cohesive Strategy and landscape fuels treatment all have associations with wildland fire management that influence decision frames. These may create new venues for products and services and most certainly will influence existing ones.

#### Opportunities: U.S. Geological Survey

U.S.G.S. is currently represented in the NWCG Fire Environment Committee and has connections with Forest Service Research. About half of its current research activities are funded through interagency agreements and cost shares.

#### Opportunities: U.S. Forest Service Research, Development and Applications (RD&A)

RD&A sponsors and guides the development and application of wildland scientific knowledge; develops decision support tools; and provides science application services to the interagency wildland fire community. RD&A has working relationship with the Forest Service Research Rocky Mountain Center (RMC); RMC has been dedicated to providing research support to Predictive Services. The full extent of this relationship has yet to be explored.

#### Opportunity: Diversified Focus for Research and Practical Applications

Predictive Services research efforts have principally focused on fire weather and fire danger applications which, while applicable, substantiate only a fraction of the overall subject matter that frames management decisions. Fire behavior and sensing applications have been recently developed that can be leveraged by Predictive Services to expand their suite of products and services. Virtually no emphasis has been given to resource capability, allocation or utilization, despite its contributions to incident cost and firefighter exposure.

#### Opportunities: Decision Science

Decision-making as a science in itself has not been investigated, even though decision support has always been central to the Predictive Services mission. Products and services tend to follow traditional patterns in which data is transmitted in "stove-piped" form to managers who then collate to derive meaning and identify probable outcomes. Greater efforts to understand management decision processes, to synthesize



data and subsequent products and services relative to management implications in order to evolve Predictive Services as an intelligence unit providing true decision support.

### Program Identity and Labeling

Part of the PSP2 task is to review the program name for its continued validity and application. Presently, the label of “Predictive Services” tends to be applied to the meteorology section of the program; the Intelligence Section has largely drifted into a separate identity and the Fire Analysts are too few to really have an identity of their own. Maintaining the label carries with it the task of “rebranding” the name in its original and more inclusive intent.

An option is to shift focus to the program mission (decision support) and its principal assessment landscape (fire environment): Fire Environment Decision Support or Fire Environment Decision Support Services.

Another option embraces the range of services provided: Wildland Intelligence and Decision Support.

## VI. Next Steps

FMB Tasking Memorandum No. 17-001 directs PSP2 to complete the following actions:

The following items display those task completed by PSP2 at this stage:

- Cost estimate of implementing each alternative
  - PSP2 has estimated the cost of each alternative should they be implemented, though perhaps not the investment cost of implementation.
- Rationale for why one alternative is preferable to others
  - PSP2 allowed two preferred alternatives to facilitate discussion on a preferred management direction.
- Steps that would be needed in order to fully implement each alternative
  - Highlighted in alternative evaluation but not comprehensively analyzed. PSP2 deferred this step until a specific alternative is chosen.
- Estimated timeframe for effective implementation of each alternative
  - PSP2 has estimated for each alternative should they be implemented, though not comprehensively.
- Who should have primary responsibility for implementing?
  - Not complete.
  
- For FMB:
  - Review of recommended alternatives and approve a course of action.
  - For selected alternative, develop intent for implementation.
  - Review/revise/approve charter for PSOG.
  - Recruit PSOG membership and stand up the group.



- Develop communications plan for release of information for public review.
- Develop communication plan and timeline for release of final report.
- Question: How does the ongoing 7-Day Product discussion fit into this report, if at all?

FINAL