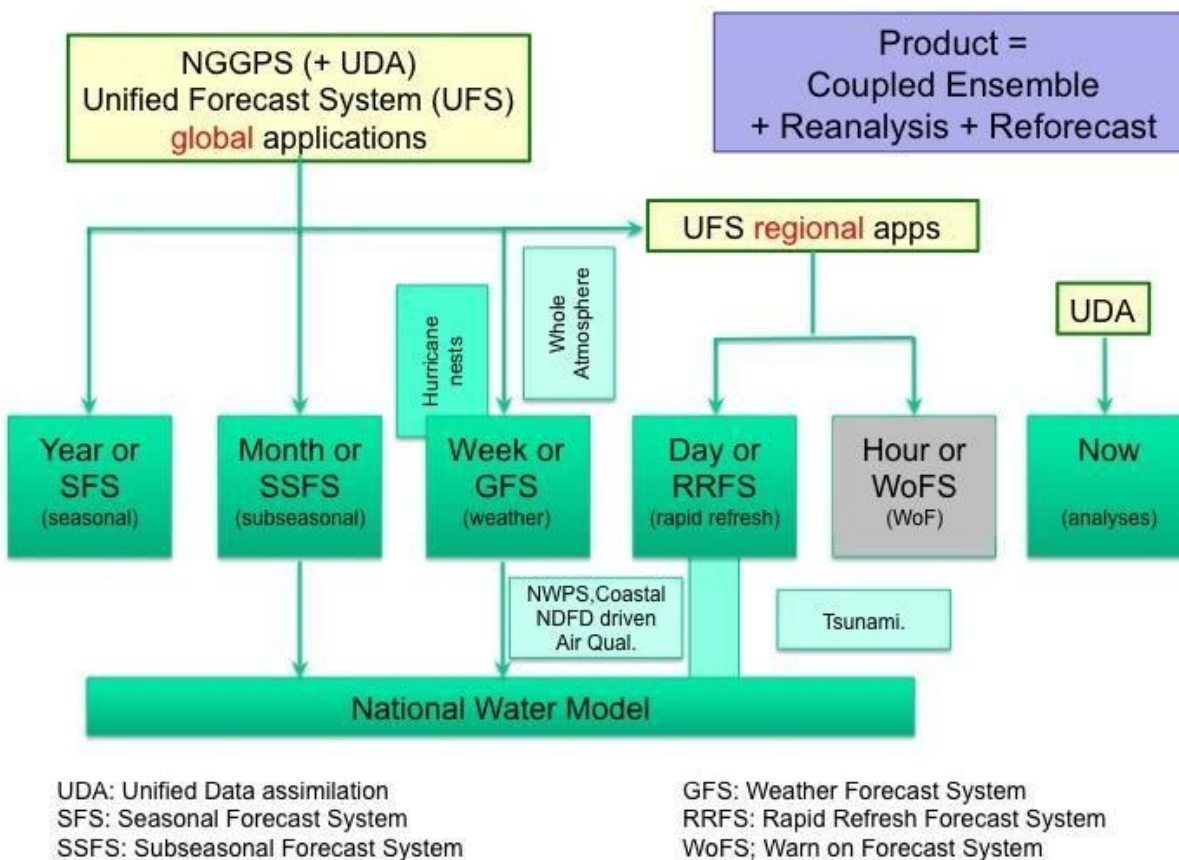


## Unified Forecast System Technical Oversight Board Charter

### 1. Background

During NWS 2016-2017 Strategic Implementation Plan (SIP) coordination activities, a Governance Working Group was established and was charged with making recommendations on the functions, roles, and responsibilities for governance of the community-based Unified Forecast System (UFS). The UFS is planned to be an integrated modeling system that unifies scales from climate (1 year outlook) to convection-resolving weather (hour outlook), and integrates environmental subcomponents for atmosphere, oceans, land, ice, hydrology etc. in a scientifically sound, and economically justifiable way with associated unified data assimilation to most efficiently support NOAA’s operational mission (see figure below).



**Figure 1: High-level UFS Design**

The UFS requires the use of components, services, and scientific capacity developed across federal/multi-agency investments in research and development of Earth system observation, simulation and prediction. This is a community of, primarily, federal (including, federally funded research and development centers and federal contractors) and academic experts who span the range of capabilities needed to support the end-to-end functionality of the NCEP Production Suite.

UFS governance is accomplished through a UFS Steering Committee (UFS SC) supported by the SIP Working Groups as needed. The UFS SC is charged by and reports to a Technical Oversight Board. Membership of the

Technical Oversight Board is composed of partner organizations and will coordinate and inform NOAA NWS and OAR program leadership of the potential for improving UFS capabilities based on community or partner technology contributions.

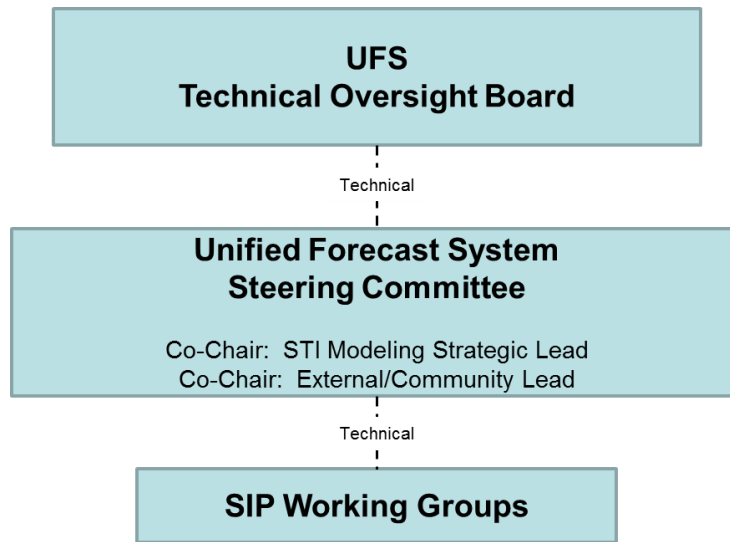
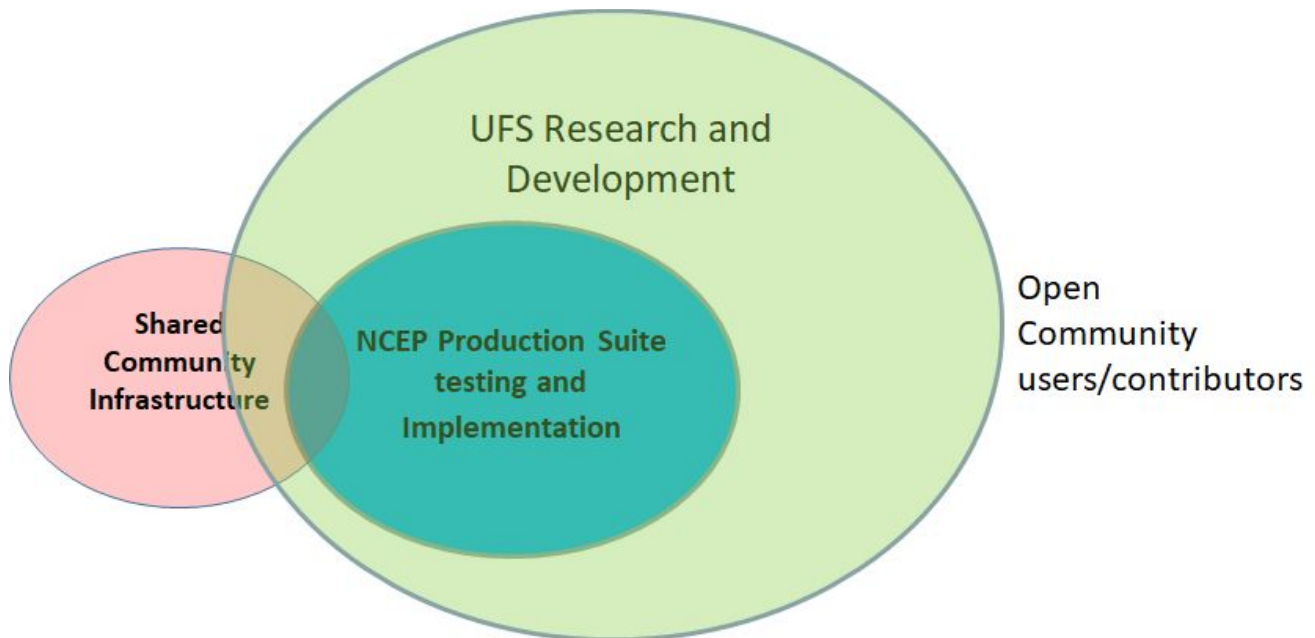


Figure 2: UFS Governance Structure

UFS governance functions at the interface of NCEP, NOAA laboratories and programs, and the broader research and development community, with the goal of providing end-to-end modeling capacity bridging research and operations.



**Green-Blue: Research to Operations Interface**  
**(The ultimate focus of the TOB co-chairs will be here)**

### Figure 3: Research to Operations Interface(s) with the modeling community

Hence, what is being governed is a community-based, unified, coupled modeling system (the UFS) suitable for application in NCEP's Production Suite. The role of the UFS Technical Oversight Board in governing the UFS is described below.

#### 2. Roles and Responsibilities

**UFS Technical Oversight Board:** The Technical Oversight Board will charge and guide the activities of the UFS SC. The Technical Oversight Board will provide oversight to the UFS SC, including review and action, as appropriate, on UFS SC recommendations. The Technical Oversight Board membership will advise NWS and OAR program leadership on recommended direction and technical aspects of UFS planning as follows:

- Coordinate across agencies/organizations and, from a technical perspective, approve UFS strategic direction and plans recommended by the UFS Steering Committee
- Define explicit technical goals and objectives to focus and prioritize the effort
- Recommend best practices/process/governance to ensure the definition and implementation of a solid transition to operations process
- Ensure optimum internal/external member participation on UFS technical bodies (Technical Oversight Board and Steering Committee) and recommend internal/external partnerships to ensure broad multi-agency participation where needed
- Establish and reinforce agreements and support appropriate communication of UFS plans and strategy, both internally and externally to NOAA
- Recommend resolution of resourcing issues larger than a single execution authority (e.g., OAR Lab Directors and NWS Center Directors) when necessary; program managers with relevant resources retain execution decision authority for resources under their purview, but TOB recommendations/approvals should serve as validation of technical recommendations to respective directors and program managers

The Technical Oversight Board provides a forum comprised of directors and program managers from across NOAA and its community partners with resource equity in UFS activities. As such, Technical Oversight Board commitments should serve as validation of technical recommendations to respective directors and program managers on which they may base execution or resource allocation decisions. Note that final decision authority on plans, priorities, and goals relating to NWS operational capability for provision of products and services rests with the NWS director.

See Appendix B for a depiction of the Technical Oversight Board role in the coordination process.

#### **UFS Technical Oversight Board Co-Chairs:**

- Direct and schedule UFS Technical Oversight Board activities
- Utilize UFS Technical Oversight Board input and findings to inform overall NWS and OAR programmatic planning of the UFS

**Administrative Support of UFS Technical Oversight Board:** To be provided by NGGPS Program Office

- Assist in scheduling of UFS Technical Oversight Board activities/meetings
- Assist in meeting coordination (including agendas, presentation material, minutes)
- Coordination of other administrative actions as needed

**3. Composition**

The UFS Technical Oversight Board membership will include a balance of organization leadership, including representation from Research and Operational Laboratories/Centers and appropriate Program Offices.

UFS Technical Oversight Board Membership: The NOAA NWS OSTI Director and the NOAA OAR OWAQ Director will serve as Co-Chairs and will establish UFS Technical Oversight Board membership. All agencies contributing resources to the UFS will have representation on the Technical Oversight Board. The NGGPS Program Manager will serve as an Ex-Officio member.

Membership (by organization) is listed in Appendix A

Membership Term: The NOAA NWS OSTI Director, the NOAA OAR OWAQ Director, and NGGPS Program Manager will serve in their respective roles as permanent members. The UFS Technical Oversight Board Co-Chairs will review/modify remaining membership semi-annually as needed.

There is no dedicated funding associated with the UFS Technical Oversight Board for federal employees. Compensation for other participants will be considered on a case-by-case basis and provided, as applicable, in accordance with relevant contracts.

**4. Duration**

This Charter will be in effect from the date of approval by the Technical Oversight Board Co-Chairs until terminated by same. Reviews of this charter may be conducted as deemed necessary by the UFS Technical Oversight Board Co-Chairs/Technical Oversight Board at any time. The latest date of amendment constitutes the new effective date unless some later date is specified.

**5. Signatures**

//Dr. John V. Cortinas Jr. / Nov 29, 2019//  
\_\_\_\_\_ Date \_\_\_\_\_  
Technical Oversight Board Co-Chair

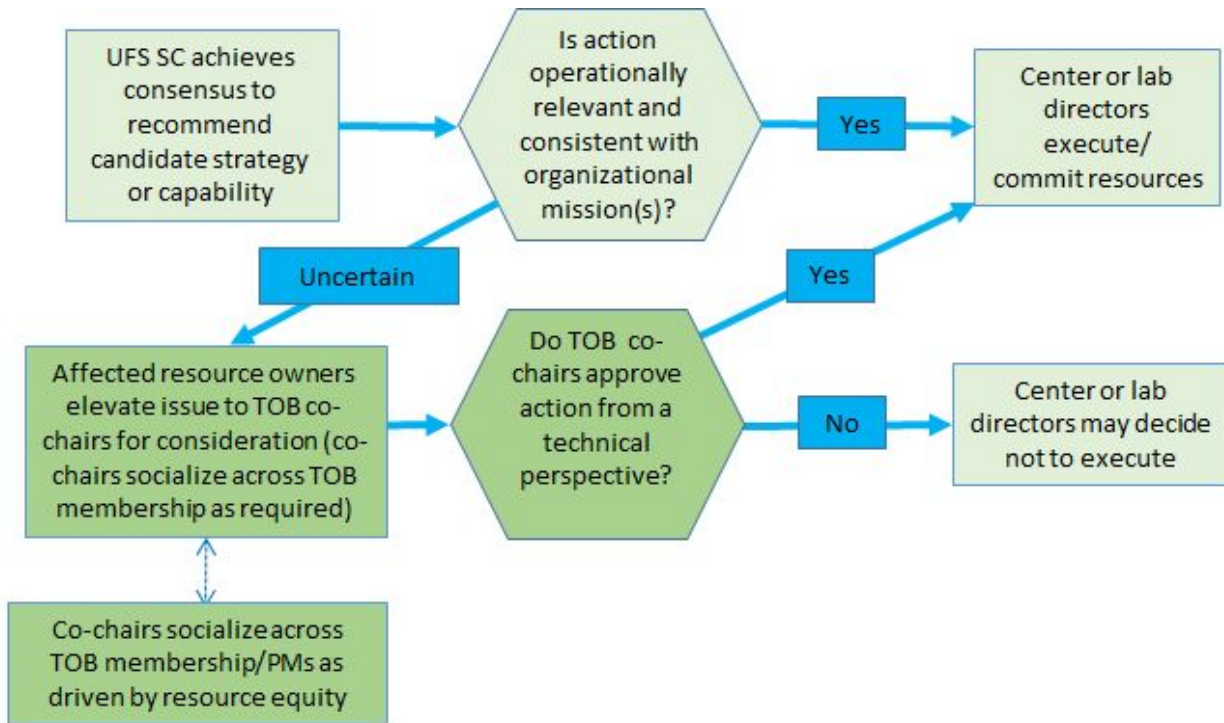
//Dr. Ming Ji. / Nov 28, 2019//  
\_\_\_\_\_ Date \_\_\_\_\_  
Technical Oversight Board Co-Chair

## Appendix A – UFS Technical Oversight Board Membership

ORGANIZATION / POSITION
Board Members
NWS/STI Director (Co-chair)
OAR/OWAQ/WX Director (Co-chair)
NWS/NCEP Director
NWS/EMC Director
NWS/SWPC Director
OAR/ESRL Director
OAR/GFDL Director
OAR/AOML Director
OAR/ARL Director
OAR/GLERL Director
OAR/NSSL Director
OAR/CPO Director
NOS/CSDL Director
NASA/GSFC/GMAO
NASA/GSFC/ESD
NCAR Director
NWS/OWP Director
NAVY/NRL Stennis
NAVY/NRL Monterey
NWS/OCF Director
JCSDA Director
NESDIS/STAR Director
FAA/Aviation Weather Research Program Director
NOAA/OCIO
NWS/STI NGGPS Program Manager (Ex-Officio Member)

### Appendix B – UFS Technical Oversight Board Role in Coordination Process

(TOB actions depicted in dark green)



**Note that relevant PMs retain ultimate execution authority for their program’s resources (TOB provides a coordination forum for technical validation of proposed UFS initiatives)**