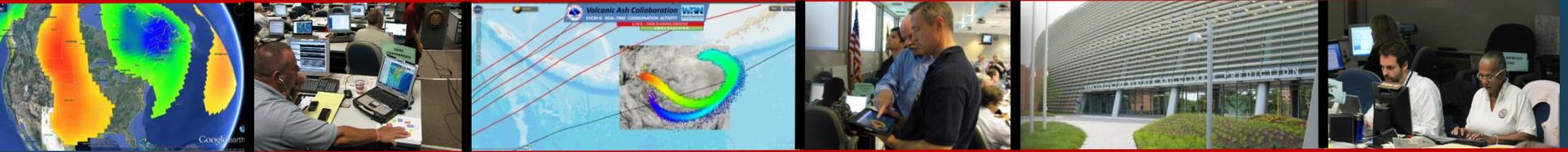


# Advancing Climate Model Applications for Decision Makers Through Geospatial Data Sharing and Collaboration Creating an Environment for Improved Decision Support Services



Building Trusted Data Exchanges Between Multiple Agencies at the Federal, State,  
Local & Tribal Levels for Improved Climate, Weather and Water Services

October 23, 2013

**38<sup>th</sup> NOAA Climate Diagnostic and Prediction Workshop,**  
**Session 2: Long-Range Forecasts of Hurricanes and Severe Weather**  
**NOAA Center for Weather and Climate Prediction (NCWCP) College Park, MD**

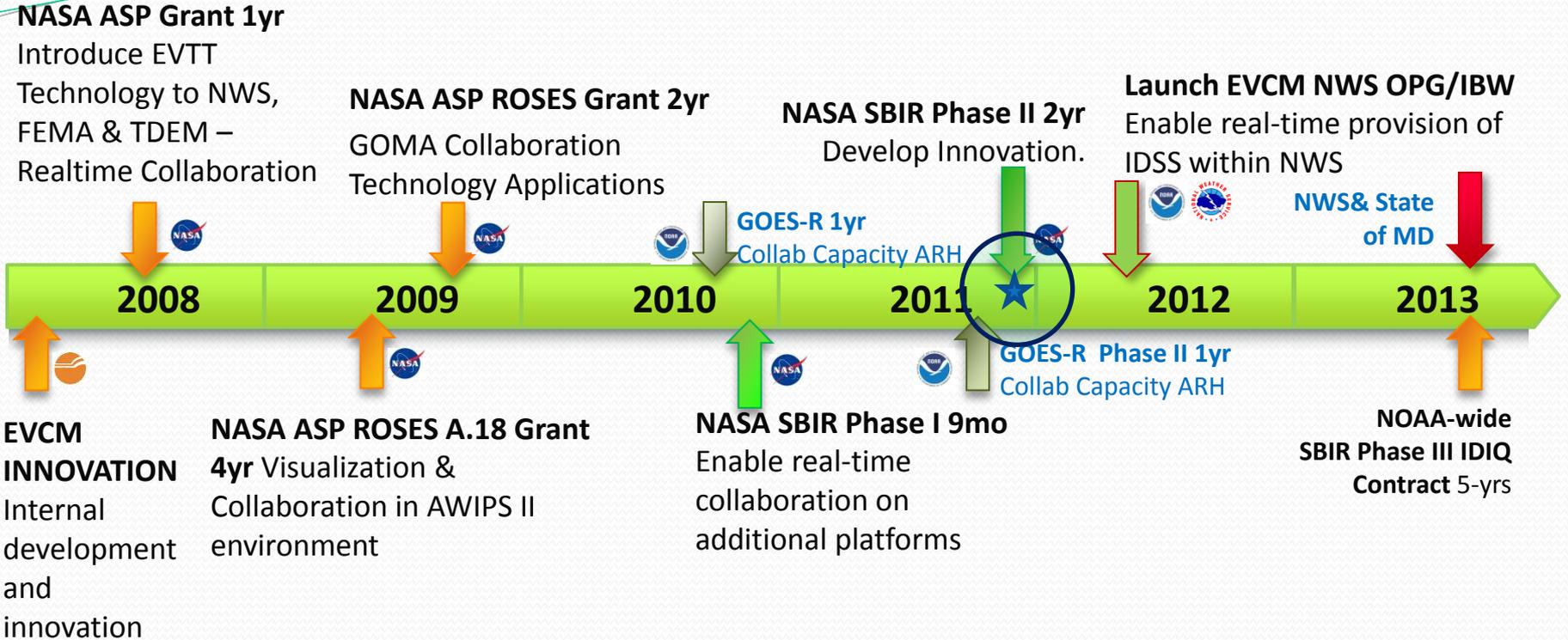
Dave Jones  
Founder & CEO  
[dave@stormcenter.com](mailto:dave@stormcenter.com)



**NOAA 38<sup>th</sup> Climate Diagnostic and Prediction Workshop**  
**October 23, 2013**

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# StormCenter Collaboration Technology Evolution



★ Down-selected to Federal Government-wide sole source contract vehicle (NNX12CA85C)



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# Hurricane Irene – Maryland Threat

Distributed Real-Time Collaboration Improved Impact-based Decision Support



# Distributed Geospatial Data Access & Sharing



StormCenter Collaboration Support



NWS LWX IMET Support



EVCM Display/Projection Computer



EVCM Montgomery Co.



Governor, Lt. Governor & MD State Police Commander



Collaboration on SEOC Commander's Computer



EVCM Baltimore City



EVCM Anne Arundel Co.



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# Distributed Geospatial Data Access & Collaboration

Integrating into Workflows and Decision Making Processes

## Russian volcano erupts, prompts airspace warnings in Alaska's Western Aleutians

Laurel Andrews | October 20, 2013

Email Print Like 85 Tweet 28 +1 3 - + Text Size



The Klyuchevskoy volcano on Oct. 19, 2013. All told, seven volcanoes were listed as "active or restless" on Russia's Kamchatka Peninsula and Northern Kuriles Islands on Sunday.

Courtesy Demyanchuk Yu, IVS FEB RAS, KVERT

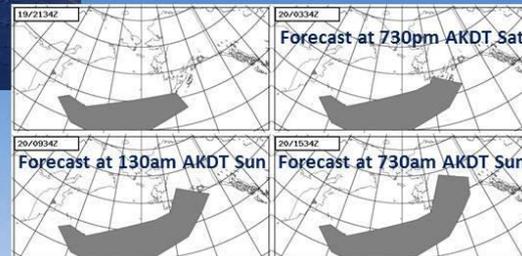


Alaska



## Ash From Klyuchevskoy Volcano Over Aleutian Islands

- Klyuchevskoy volcano is on the Kamchatka Peninsula of Russia
- Eruption has brought volcanic ash aloft over Bering Sea and the Aleutian Islands
- Volcanic ash becoming more diffuse with time
- Air travel may be impacted
- Ash *not* expected to fall over the Anchorage area at this time



VOLCANIC ASH ADVISORY  
DTG: 20131019/2134  
VNOIC: ANCHORAGE  
VOLCANO: KLYUCHEVSKOY 1000-26  
AREA: KAMCHATKA  
SUMMIT ELEV: 15584ft (4750m)  
ADVISORY NUM: 20131014

INFO SOURCE: MT-SAT/GDES/POES/WVO/KVERT/PILOT REPORT  
ERUPTION DETAILS: ERUPTION CONTINUING  
REMARKS: VA BECOMING DIFFUSE WITH TIME. ASH TOPS LIKELY VARY  
THRU OBSERVED AREA. PIREPS CONFIRM VA AT FL330 NEAR  
130M AT 1845Z.  
NEXT ADVISORY: WILL BE ISSUED BY 20131020/0334Z

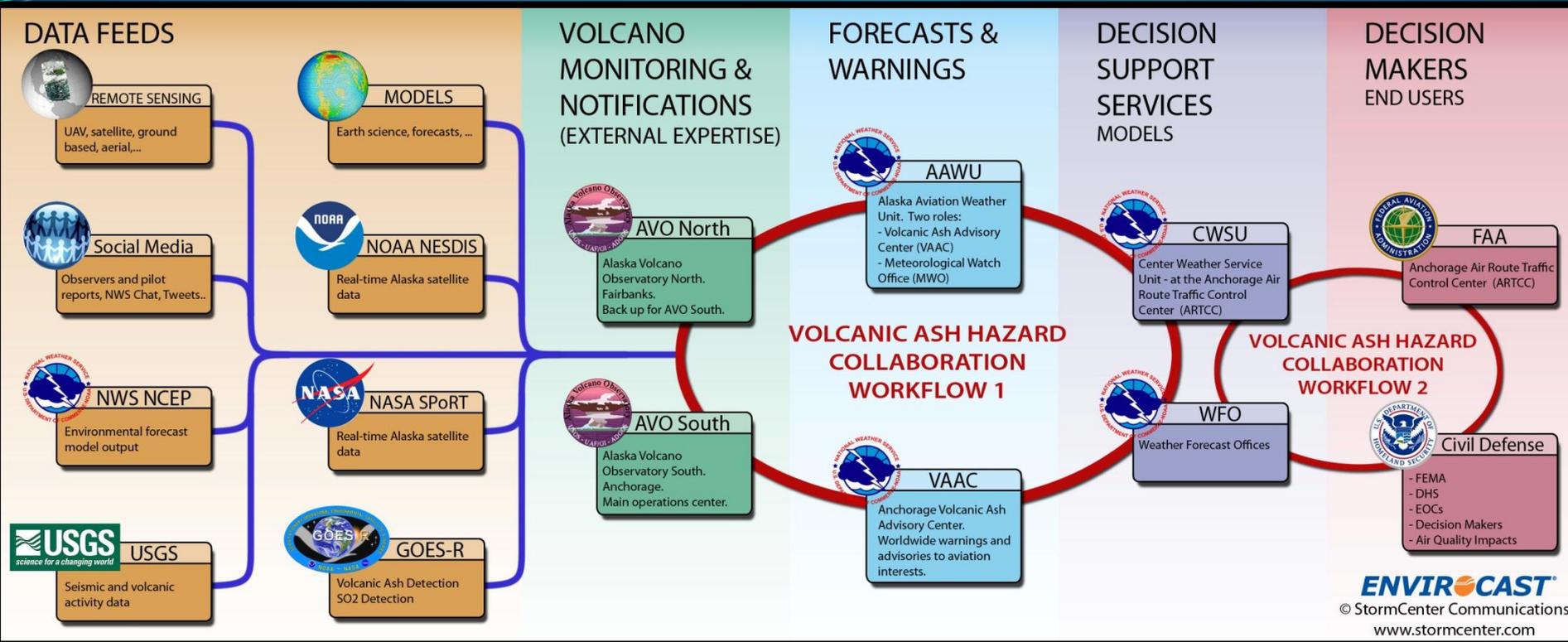


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# Distributed Geospatial Data Access & Collaboration

Integrating into Workflows and Decision Making Processes



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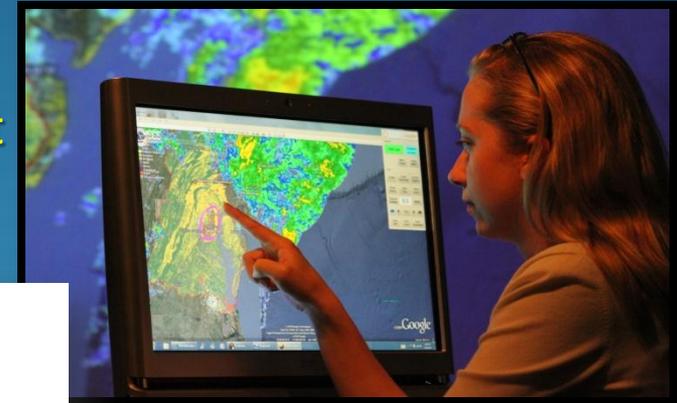
# NWS Alaska Region



## Anchorage and Washington VAAC

- Improving VAAC coordination and joint product generation for improved air safety

Official language from IAVWOPSG/7 -Bangkok, Thailand  
March 18-22, 2013



### Sample message to initiate collaborative session

**TO:** All collaboration participants during XXXX volcano event  
**FROM:** XXXXX VAAC  
**SUBJECT:** Collaborative Decision Analysis and Forecast Session – yyyyymmdd hhmm UTC

A CDAF session is scheduled for yyyyymmdd hhmm UTC. The session is expected to last no longer than xx minutes.

The purpose of the session is to ensure proper situational awareness of xxxx volcano eruption and its impacts. Please be ready to share information concerning xxxx eruption. Format must be in .kml and may reside on a web page or on your local drive.

Telcon information: 1-888-999-9999 passcode 12345#

Start EVCM session: join xxxx folder and yyyyymmdda session

Wait for the collaborative session leader to join for further instruction

Thank you.



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# Data Sharing and Collaboration with Mobile Devices

Texas Division of  
Emergency Management



Same Data Appears on Same Map at the same time for  
immediate situational awareness &  
Improved Information Dissemination

## Situational Awareness



## Parking Lot Mobile



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# Accelerating Research to Operations (R2O)

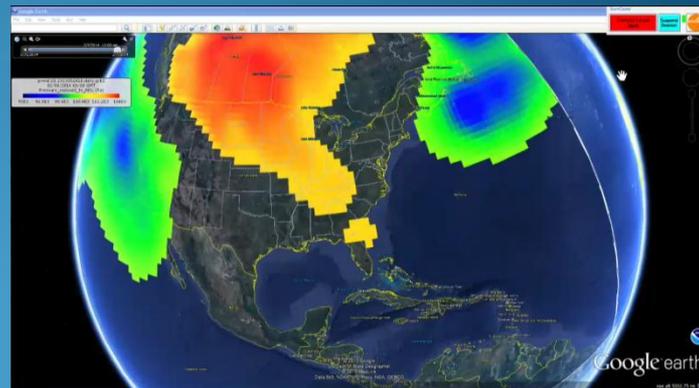
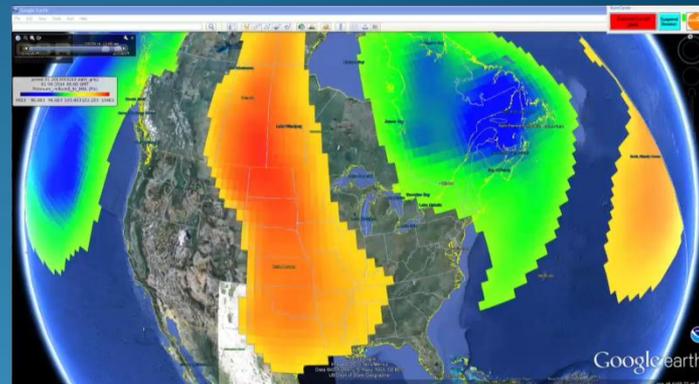


## Real-Time Collaboration Sessions

- NWS SRH, FEMA Region VI, Texas DEM, NOAA GSD
- Miami WFO (MFL), others
- Testing of Data Access and Sharing
- Jack Settlermaier – Digital Techniques Meteorologist
- Access and Sharing of CFSv2 output

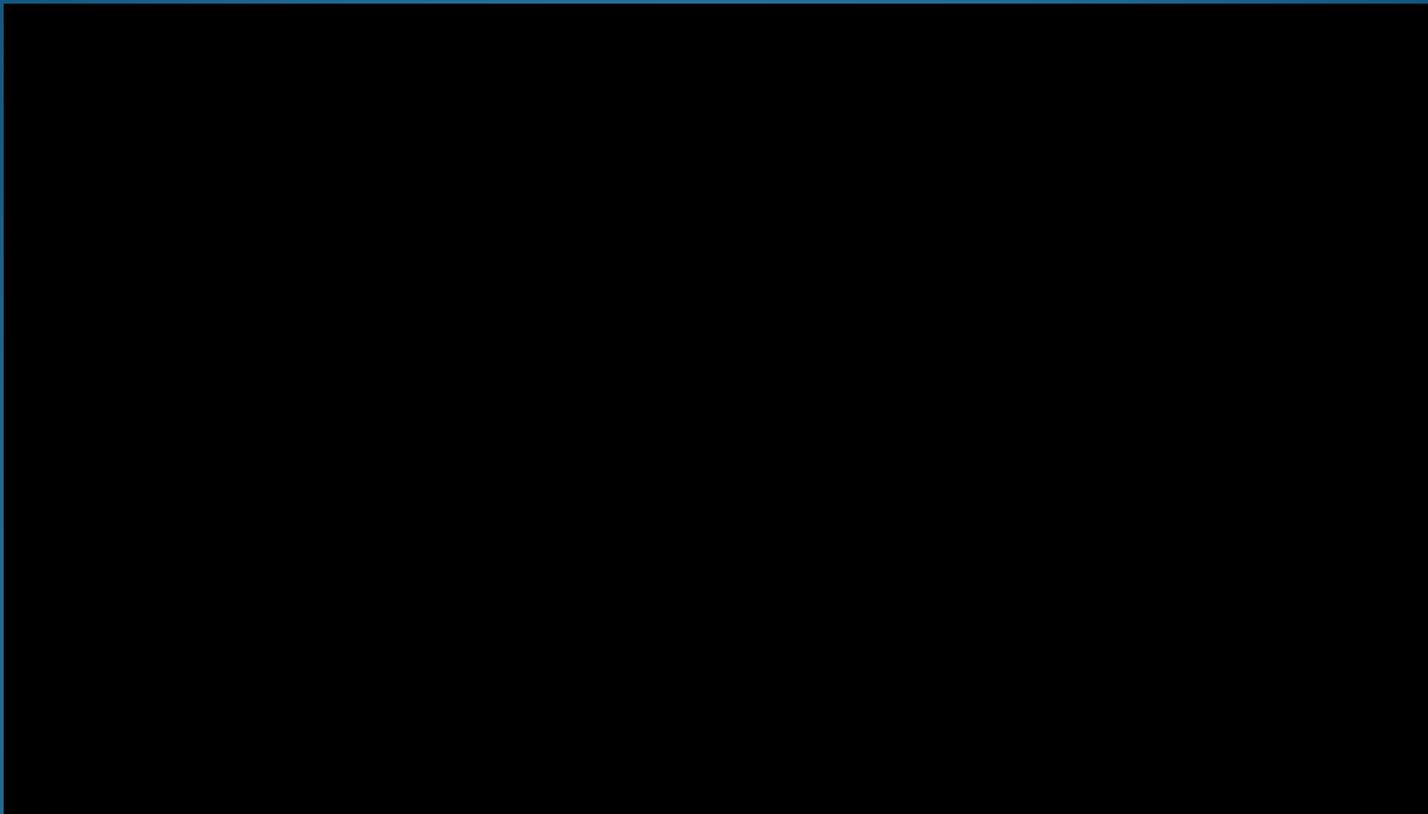
- CFSv2 output shared collaboratively LIVE
- Decision Makers can begin to see model forecasts
- Opportunity to introduce Climate Forecasts

**Decision makers want something to see...  
...as long as uncertainty is communicated**



# LIVE Collaboration Session (May 30, 2013)

Participants: NWS SRH, FEMA Region VI, Texas Division of Emergency Management, StormCenter



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# Long Range Forecasts

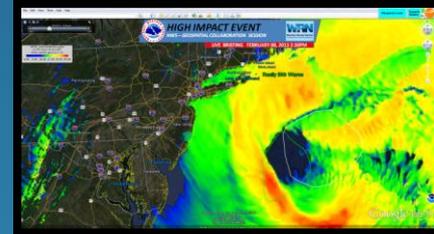
## Data Sharing & Collaboration

- **Hurricane Forecasts using CFSv2**
  - Opportunity to show CFSv2 improvements
  - Opportunity to compare to climatology & seasonal forecasts
  - Opportunity to communicate basic skill & uncertainty in model predictions
- **Severe Weather Forecasts using CFSv2**
  - Emergency Managers and Decision Makers desire extended outlooks
  - As long as amount of uncertainty is communicated
  - Ability to share model output in a collaborative environment sparks discussion
- **Vision for Geospatial Data Sharing and Collaboration**
  - Ability to access and share disparate datasets proving to be valuable
  - Ability to connect researchers & operational users
  - Mechanism to deliver a seamless suite of forecasts (Hours to Months)
  - Passing of leadership enables all credentialed collaborators to share data into the session

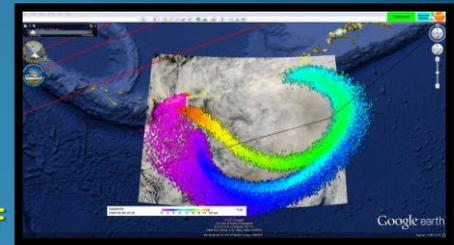
GOES



HRRR



MODIS/PUFF



Data Sharing & Collaboration can Enhance Science Discussions and Provide a Means to Test Products with Decision Makers



# Special Thanks to Jack Settelmaier (NWS SRH)

- Advanced the ability for all participants to sample various NOAA data sources and model outputs
- Introduced FEMA to long-range climate model predictions
- Introduced State of Texas to long range forecasts
  - While suffering through a serious drought
  - Providing “heads up” to potential events 2+ weeks advance
- A leader in using and exposing CFSv2 and other model output (such as HRRR) to decision makers



**Collaboration Allows Testing of Products with Developers & Decision Makers**



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