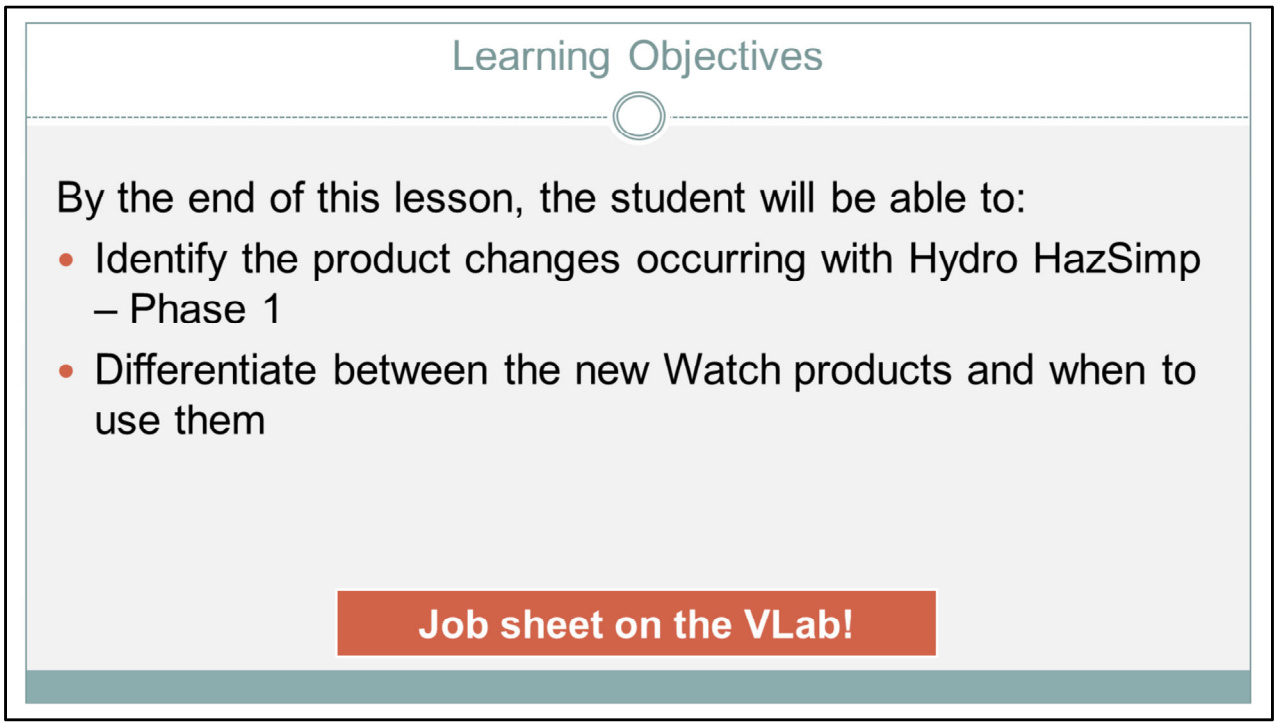
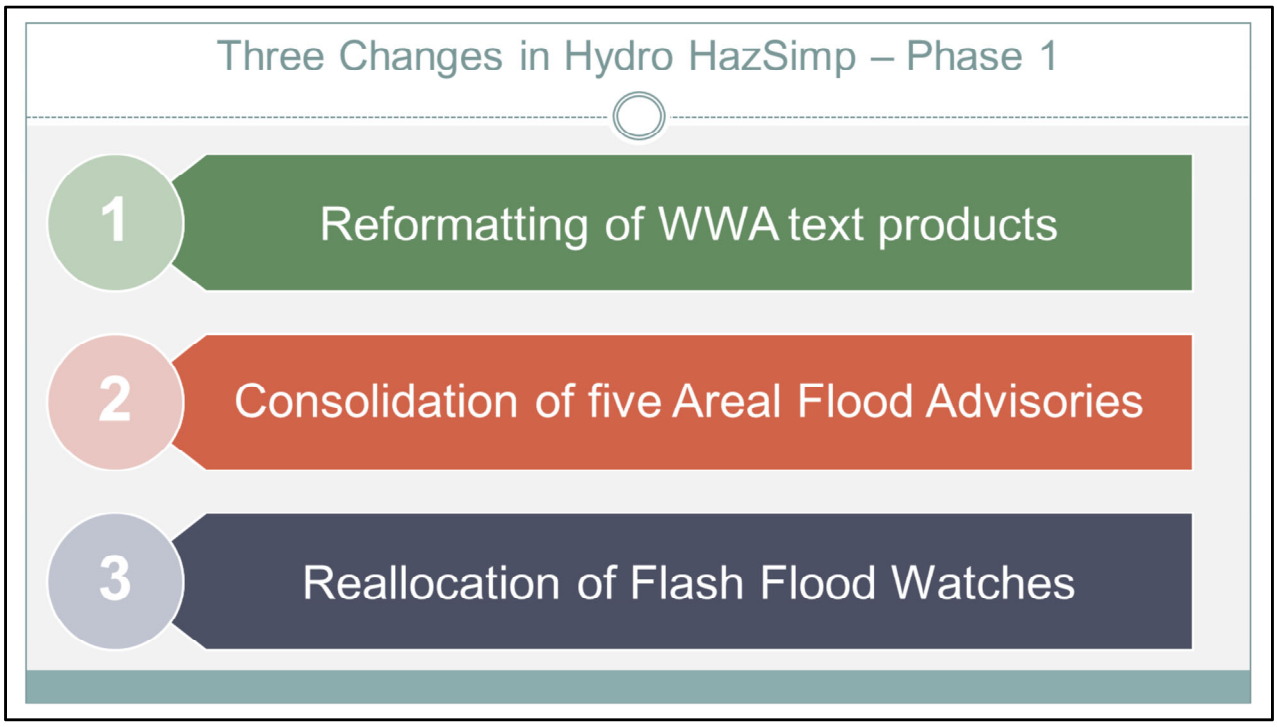
Hi, my name is Jill Hardy and welcome to this lesson about the implementation of hydro hazard simplification, or haz simp for short.

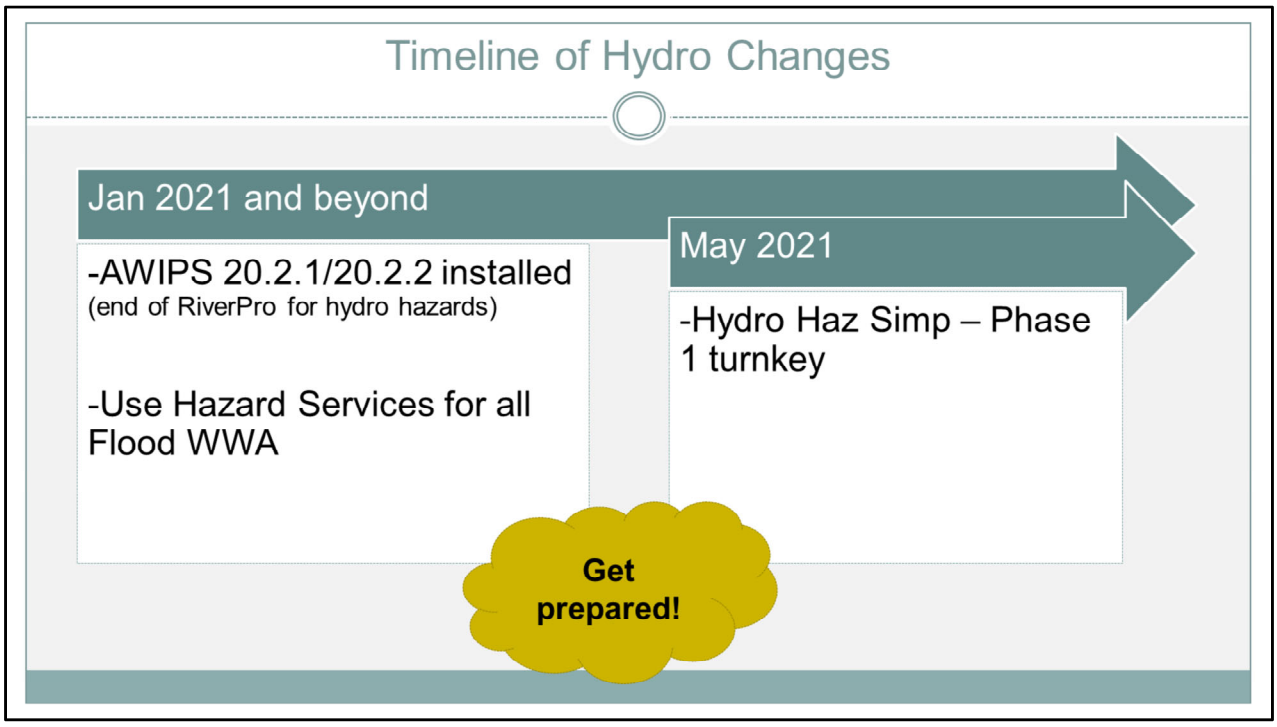


Here are the learning objectives. This short lesson will discuss each of changes occurring with Hydro HazSimp – Phase 1, as well as what they will mean for hydro operations.

Additionally, there is a job sheet available on the VLab to guide you through practicing these changes in Hazard Services. The link is available in the Resources tab.



Let's begin with a summary of the three major changes occurring with Hydro HazSimp – Phase 1.
First, there's reformatting of the Watch, Warning, Advisory text products.
Second, the consolidation of the 5 Areal Flood Advisories into one Flood Advisory.
And finally, there's the reallocation of Flash Flood Watches and Flood Watches.



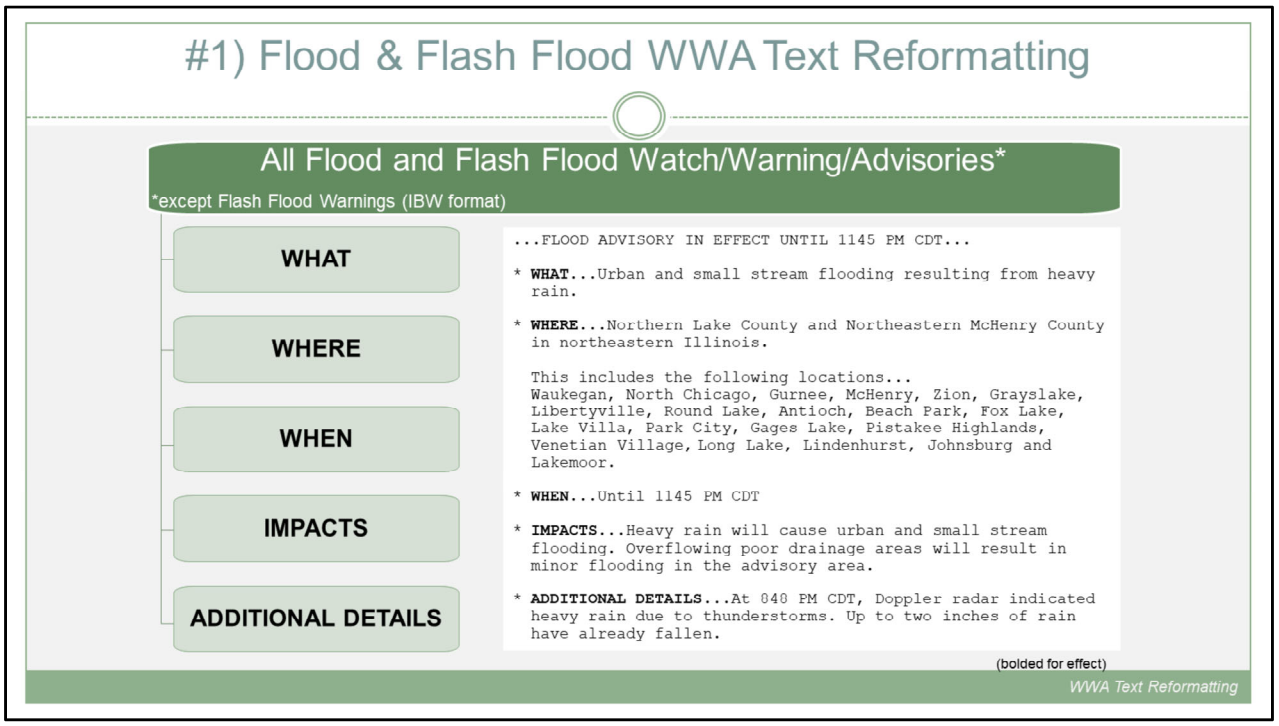
Before I go on, I want to briefly mention the timeline of some of these changes.

In January 2021, AWIPS build 20.2.1 and 20.2.2. will begin their rollout and will be installed at your office sometime over the next several months. Talk to your AWIPS Focal Point to find out when.

This build ends the use of RiverPro for watch, warning, and advisory generation. You will then use Hazard Services for all Flood Watch/Warning/Advisory products.

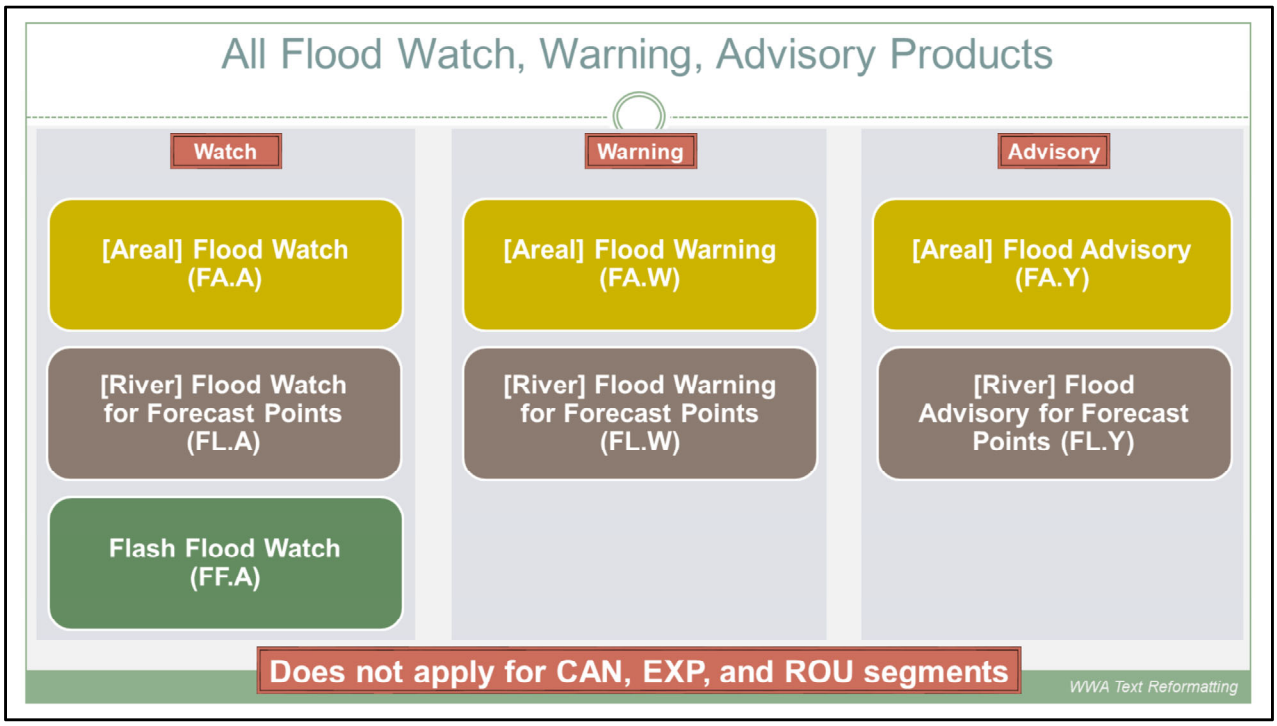
The Hydro Haz Simp – Phase 1 turnkey is currently scheduled for May 2021. So there will be several months where you will be using Hazard Services to issue hydro hazards, but not yet with the Haz Simp changes.

During this time, talk to your Hazard Services and Hydro Focal Points about the upcoming changes, get acquainted with issuing flood products with Hazard Services in practice mode, and get some practice with the Haz Simp changes using our job sheet on the VLab.



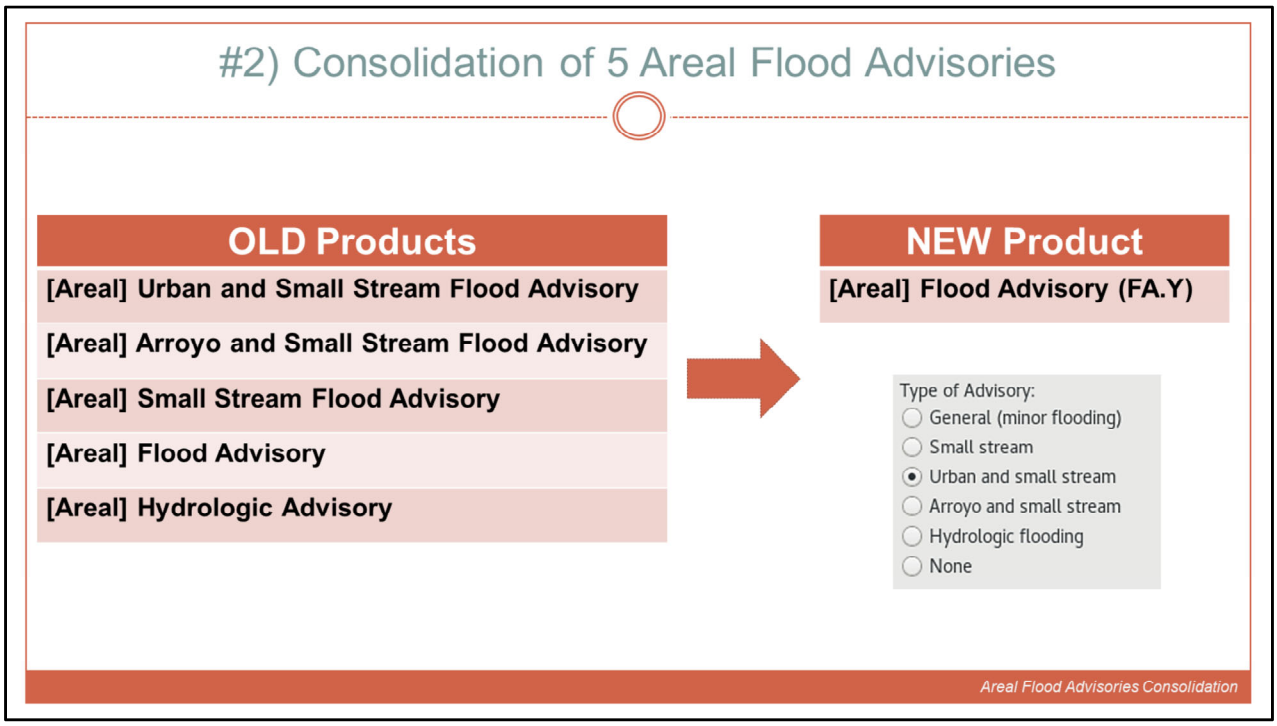
Alright, so first, all flood and flash flood Watch/Warning/Advisory products are being reformatted into the WHAT, WHERE, WHEN, IMPACTS, and ADDITIONAL DETAILS format. The exception to this is Flash Flood Warnings, which will remain in the impact-based warning (or IBW) format that was implemented in 2019 and early 2020.

I wanted to begin here because you will see these changes appear in text examples throughout the lesson. Here is an example of how a Flood Advisory will look with this new reformatting. Move onto the next slide when you are ready.



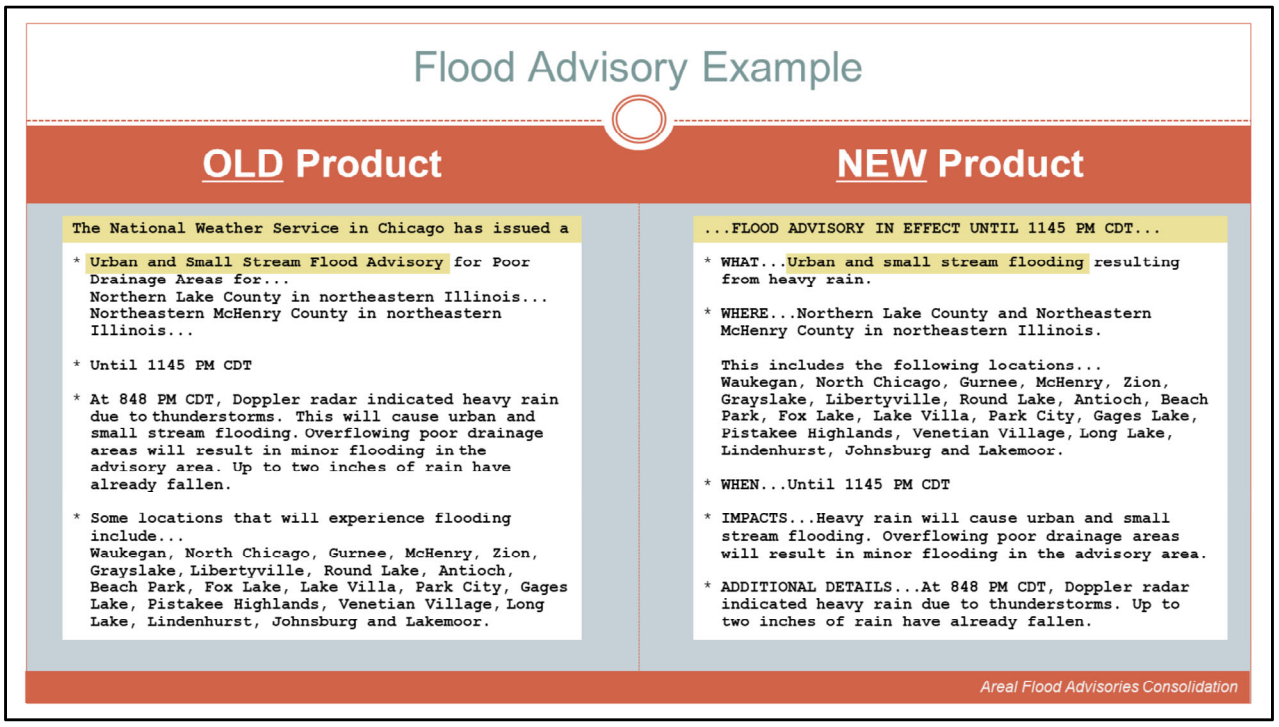
And just to reiterate, ALL of these products will now follow the What, Where, When bulleted format.
The only caveat is that this bulleted format does not apply for cancellations (CAN), expirations (EXP), or routine (ROU) segments.

Keep in mind that the long-term goal of Haz Simp is to simplify these products even more. Until then, carry on!



The next change is also pretty straightforward. Instead of having the 5 different Areal Flood Advisory options, you will simply have one generic Areal Flood Advisory product.
The purpose is to reduce confusion by simplifying into one product that relays the advisory-level threat of flooding.

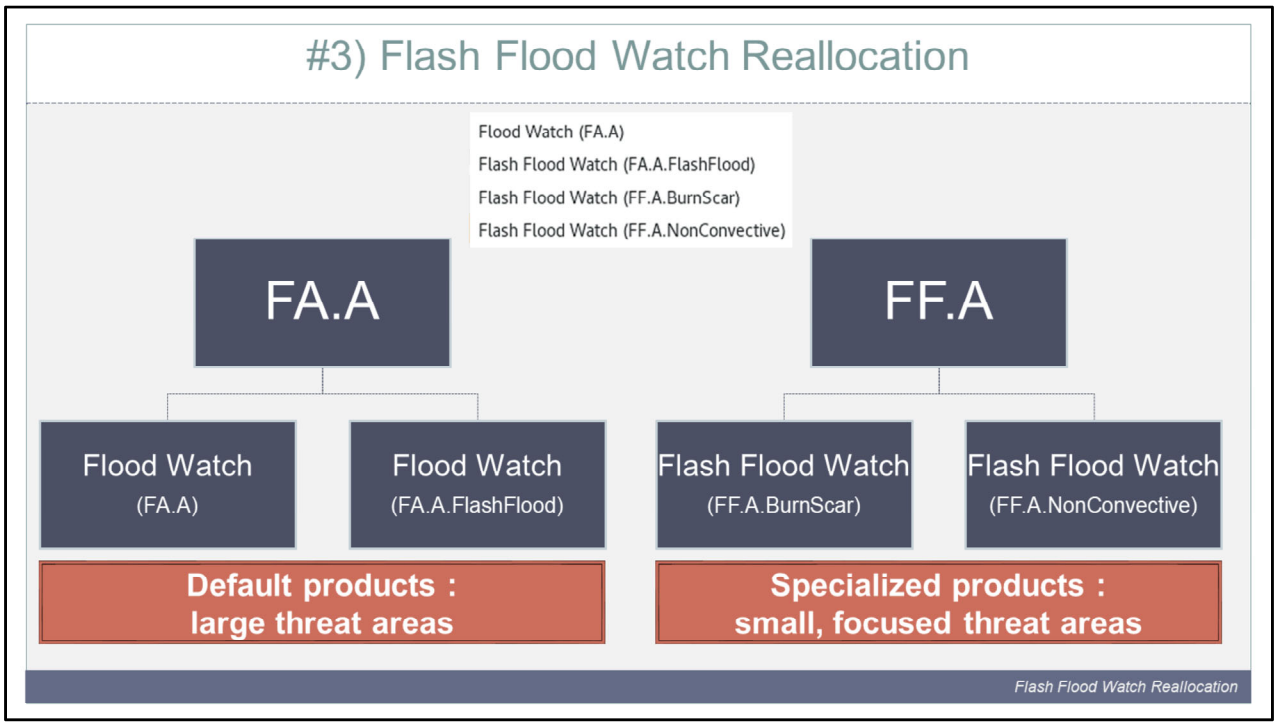
But don't worry…You still have the option to specify the type of flooding in the Hazard Services GUI, as shown here.



Here is a side-by-side of the old Urban and Small Stream Flood Advisory on the left and the new Flood Advisory on the right.

Note that the headline has changed from “The National Weather Service has issued” to “FLOOD ADVISORY IN EFFECT UNTIL”.

The type of flooding that you selected will show up in the WHAT bullet. Here, it was for “urban and small stream flooding resulting from heavy rain”.

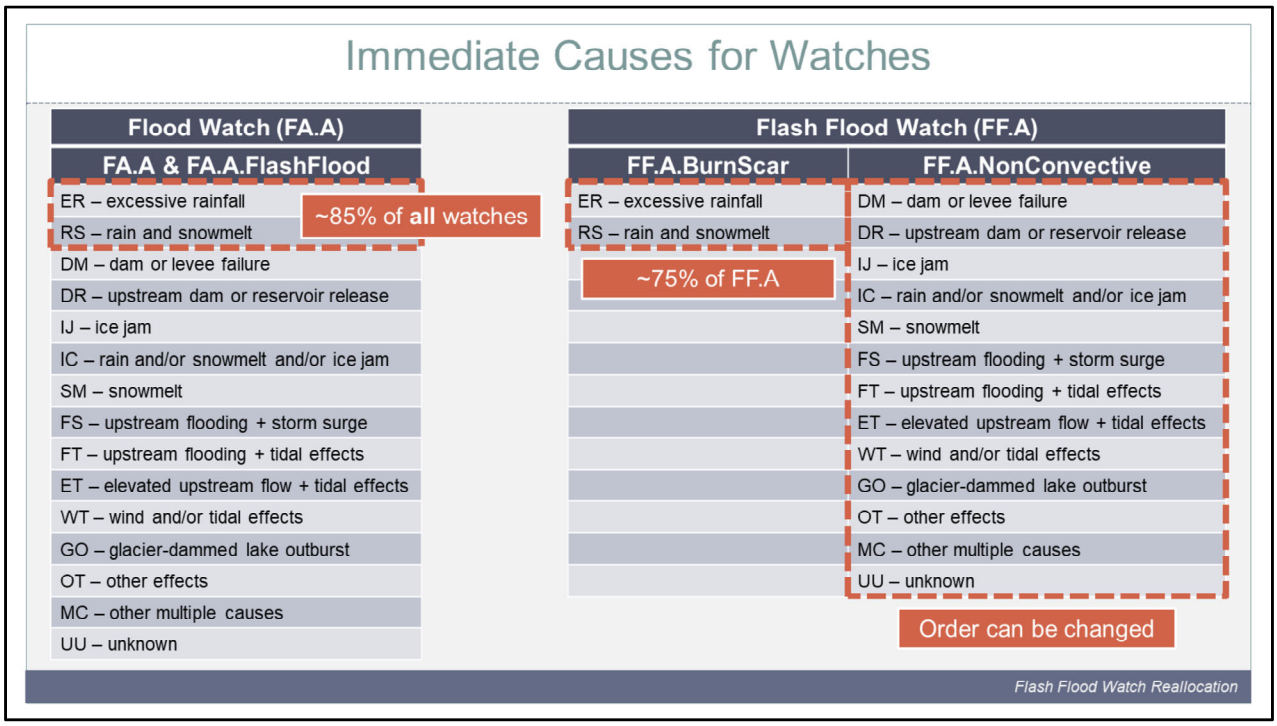


The final change is likely the one that will take the most getting used to and we'll spend the rest of the lesson on it. This is the reallocation of Flash Flood Watches.

In Hazard Services, there will be 4 watch options to choose from. They are shown here. The first two fall under the Flood Watch product, carrying the FA.A phenomenon/significance, or phensig, code. The second set falls under the Flash Flood Watch product, carrying the FF.A phensig code.

The easiest way to think about it is this: The FA.A products are your default watch products, used for large threat areas. Choose which one to use depending on whether you want to emphasize the threat of flooding or flash flooding across the area. The two FF.A products should be reserved as specialized products, for smaller, more focused threats due to less common situations, like burn scars and dam breaks.

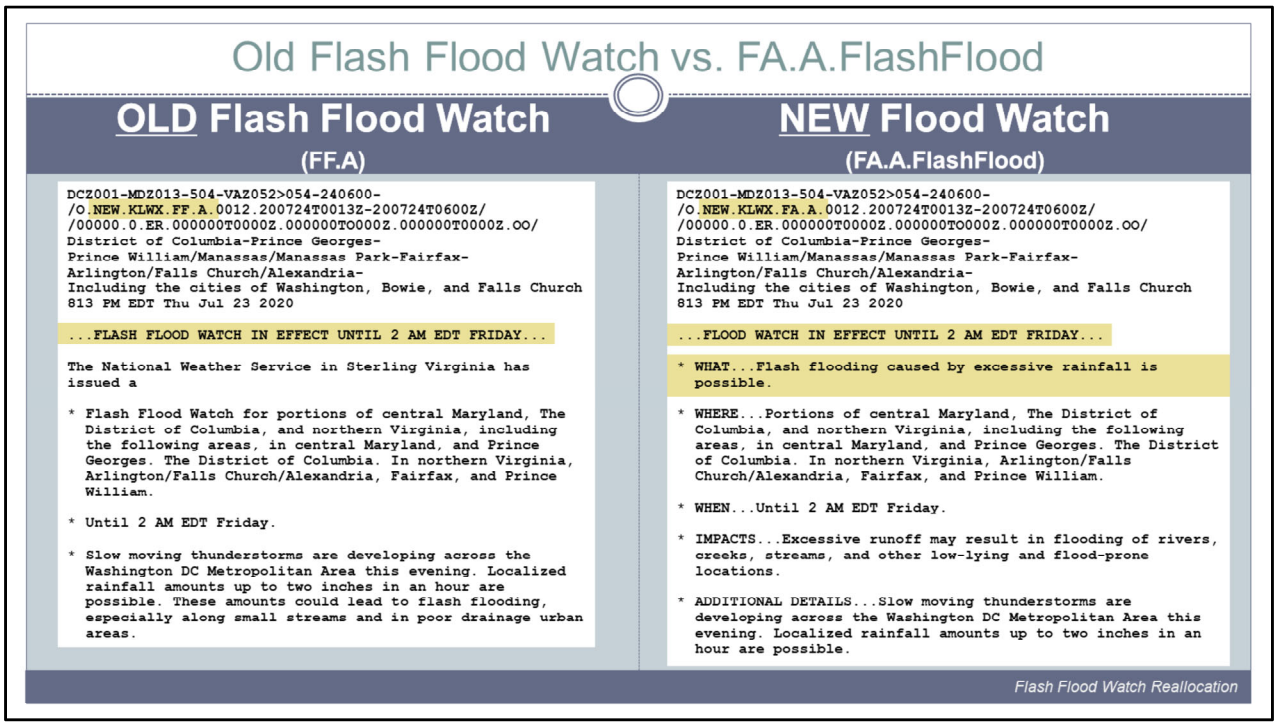
Let's dive a little deeper.



After the implementation of Phase 1, Hazard Services will be set up to accommodate this reallocation by emphasizing different immediate causes based on the product type.

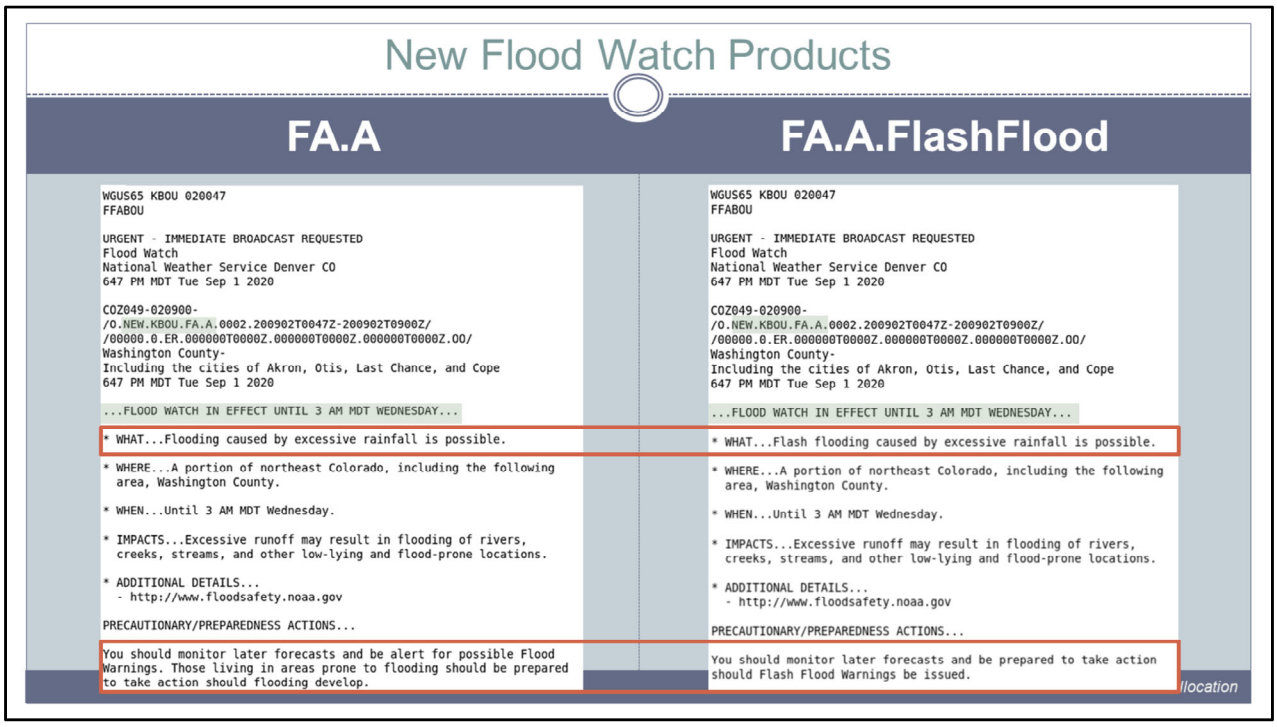
For both of the FA.A Flood Watch products, all of the immediate causes will be provided in order to give you the utmost flexibility in your default watch products. Excessive rainfall (ER) and rain and snowmelt (RS) are listed first because they make up about 85% of all watches, and will likely be your go-to choices most of the time.

For the burn scar Flash Flood Watch, only ER and RS will be given. Burn scar Flash Flood Watches make up about 75% of the FF.A category. The final product, the non-convective watch, takes out the ER and RS immediate cause, leaving just the non-convective causes to choose from. This list is ordered with the most commonly used causes first, but your AWIPS or Hazard Services focal point can make local overrides to meet your office needs.



Here is a side-by-side of the old Flash Flood Watch on the left and the new Flood Watch on the right, using the FA.A.FlashFlood sub-type. The immediate cause is Excessive Rainfall which, again, is likely to be your most common situation.

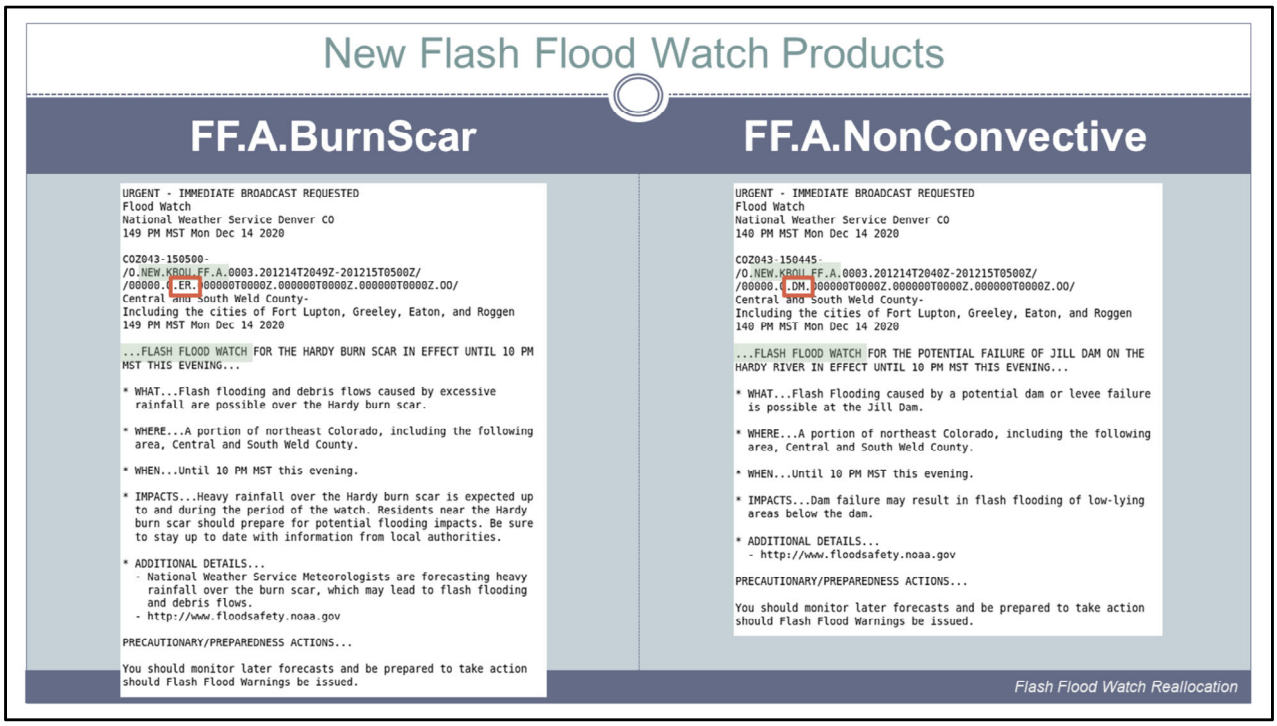
Note that the VTEC code has changed from FF.A to FA.A. Additionally, the new headline reads “FLOOD WATCH IS IN EFFECT” instead of flash flood watch. But now, the WHAT bullet is used to describe the flash flood threat, including the cause….”**Flash** flooding caused by excessive rainfall is possible.”



Now here is a side-by-side of the two new Flood Watch products. Again, the difference is whether you want to emphasize the threat of flooding or flash flooding.

First, the similarities: Notice that they both carry the FA.A phensig code, and have the same headline.

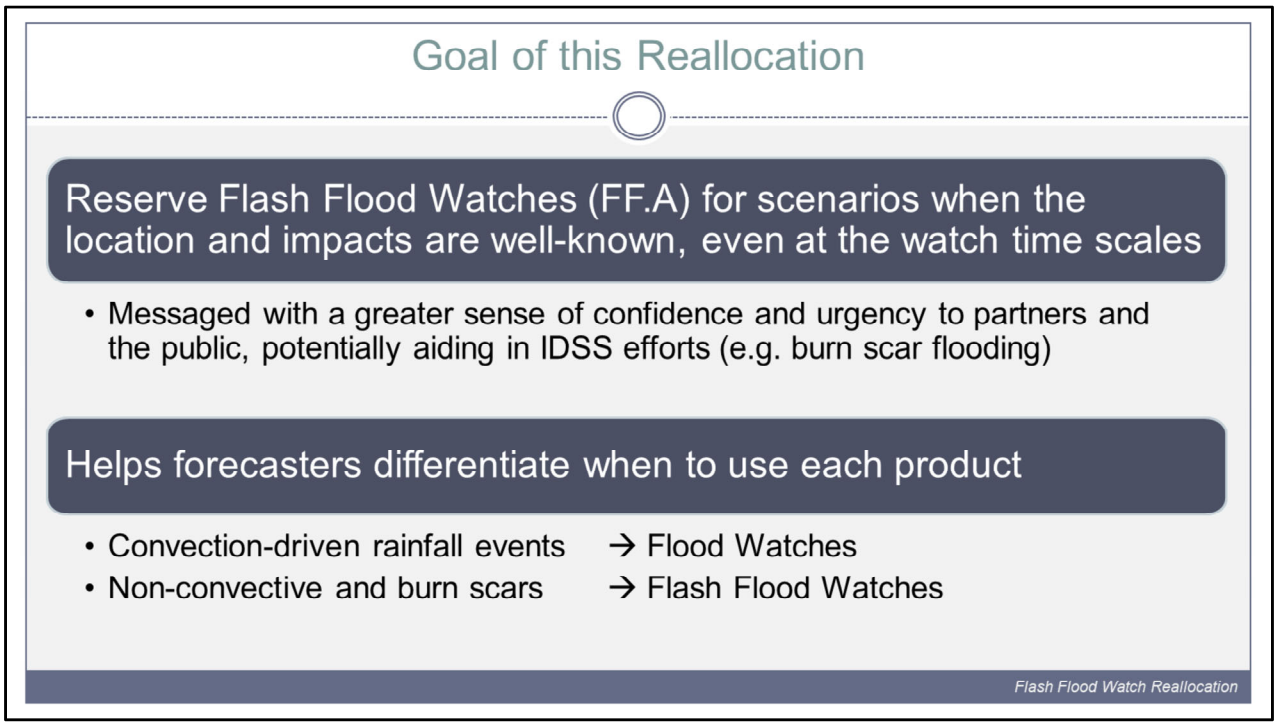
They differ in the WHAT bullet (which describes flooding versus flash flooding), and in their default Calls-to-Actions.



Finally, here is a side-by-side of the two new Flash Flood Watch products, with BurnScar on the left and NonConvective on the right.

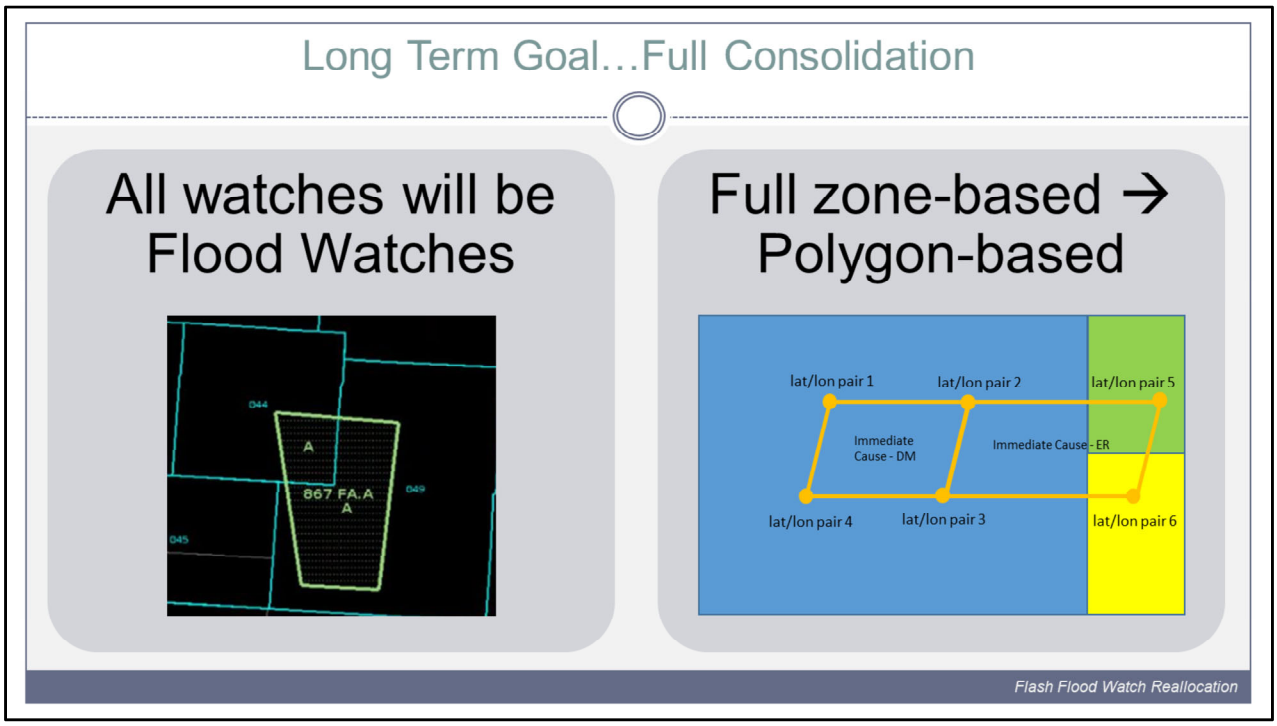
These two carry the FF.A phensig code and have “FLASH FLOOD WATCH” in the headline.

They obviously differ quite a bit, since they’re meant to be used for specialized cases, but one thing to point out is the immediate cause. Remember, BurnScar can only be excessive rainfall or rain and snowmelt. Here, it is ER. For this NonConvective example, we issued for a dam break, or DM. Take your time looking at these examples and move onto the next slide when you are ready.



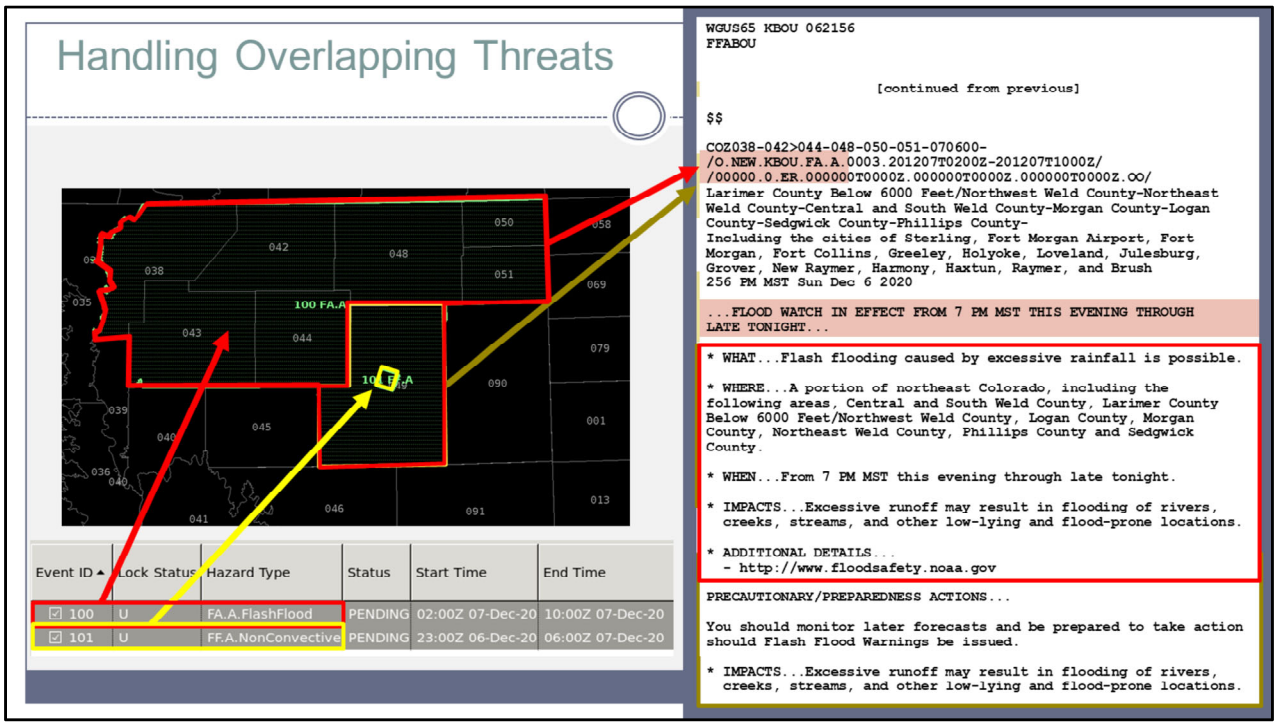
So you might be asking "What's the reason for changing all of this?" And the goal is this:

1) Reserve Flash Flood Watches for scenarios when the location and impacts are well-known, even at the watch time scales. For instance, burn scar causes make up about 75% of Flash Flood Watches. These events can be messaged with a greater sense of confidence and urgency to partners and the public, potentially aiding in IDSS efforts.
2) Additionally, this structure hopefully makes it easier on you, the forecaster, to differentiate when to use each product. It's easy to remember that convection-driven rainfall events are always Flood Watches, while non-convective and specialized burn scar areas are Flash Flood Watches.



As a brief aside, I'm calling this topic a watch "reallocation" because the long-term goal is a full "consolidation" of all watches into Flood Watches. Additionally, they will switch from being full forecast zone-based to polygon-based products.

While Hazard Services has already implemented preliminary polygon usage for watch generation, the full capability to issue polygon-based watches is still a longer-term goal that will likely take some time to develop.

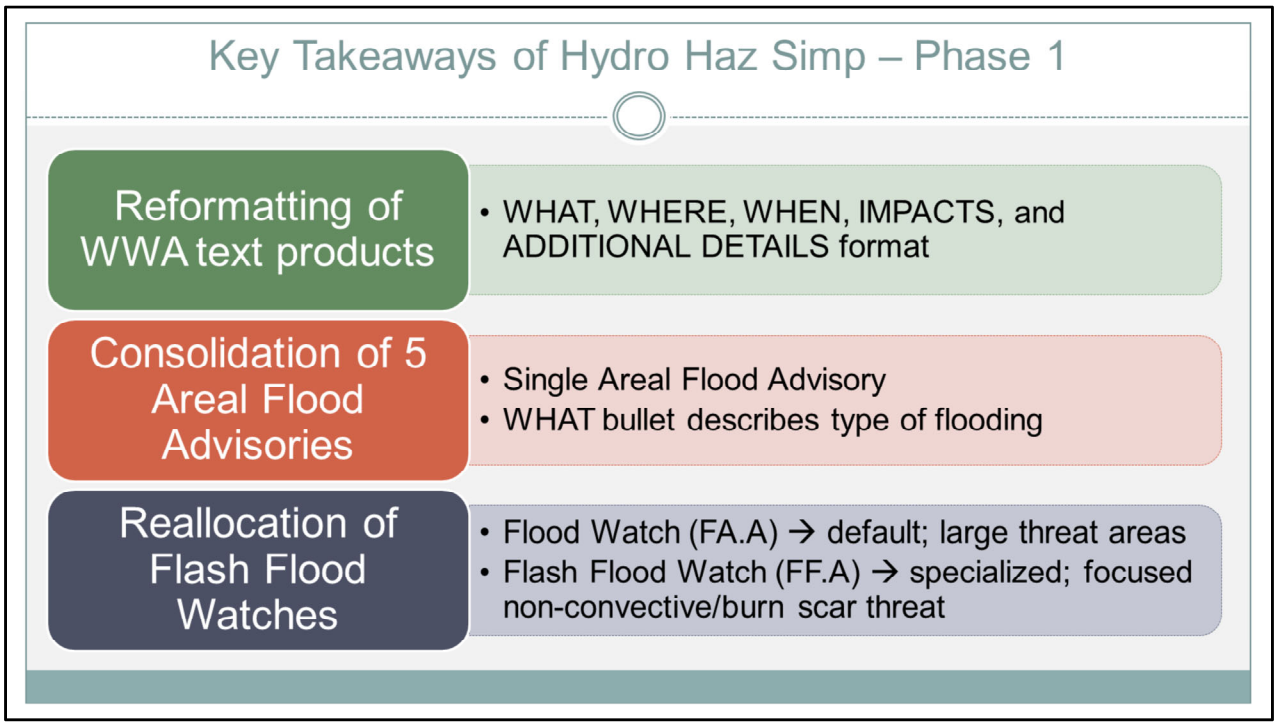


Until that full consolidation can occur, you may have situations where overlapping threats have immediate causes that warrant both Flood and Flash Flood Watches. Take, for instance, this scenario: all zones are expecting flash flooding due to excessive rainfall, but there's also an embedded dam break.

In this case, you would issue a broad FA.A Flood Watch (event #100) for the risk of flash flooding caused by excessive rainfall over the area. But you would also embed a FF.A Flash Flood Watch (#101) due to the potential for flash flooding caused by a dam failure. Since the dam failure has a known location with known impacts, you can relay that higher confidence and urgency via the Flash Flood Watch product.

The result would be a single Flood Watch that consists of two segments. The first segment describes the zone with the overlapping hazards. In this example, it is zone 49 that has both a FF.A for a dam break and a FA.A for excessive rainfall. Both threats are described in the segment headline, and then each gets a bulleted section describing the details.

The second segment discusses the rest of FA.A flood watch for the remaining zones, with just one headline and one bulleted section.



Okay, let's summarize the key takeaways.

First, the reformatting of all of the Flood WWA text products (except FFWs) creates an easier-to-read WHAT, WHERE, WHEN bulleted format.
Next, consolidating into a single Areal Flood Advisory reduces the number of products while still providing the WHAT bullet as a place to describe the type of flooding forecasted.
Finally, the FA.A Flood Watches will be the default hazards issued since they should be used for larger threat areas. The Flash Flood Watches should be used for specialized cases where focused non-convective or burn scar threats are known. This will hopefully help forecasters not only easily differentiate when to use the products, but also to reserve the stronger messaging for times when the location and impacts are better known at the watch scale.

Future phases of the Hydro Haz Simp project will further consolidate flood products and messaging, so stay tuned for those changes at a later date!

This concludes this lesson. Move onto the next slide to take the quiz when you are ready.