

The Progression map is one of 5 primary maps that a GISS will create on an incident. Specifications for the Progression map can be found in GSTOP, Chapter 6, page 67.

Lesson Objectives:

- Explain the purpose and use of a Progression map.
- Describe the standard features displayed on a Progression map.



In this lesson we'll:

Explain the purpose and use of a Progression map.

And describe its standard features.

Lesson Objectives:

- Give examples of optional features that might be included on a Progression map.
- Describe how a Progression map differs from other fire incident maps.
- Show examples of Progression maps



We'll also describe:

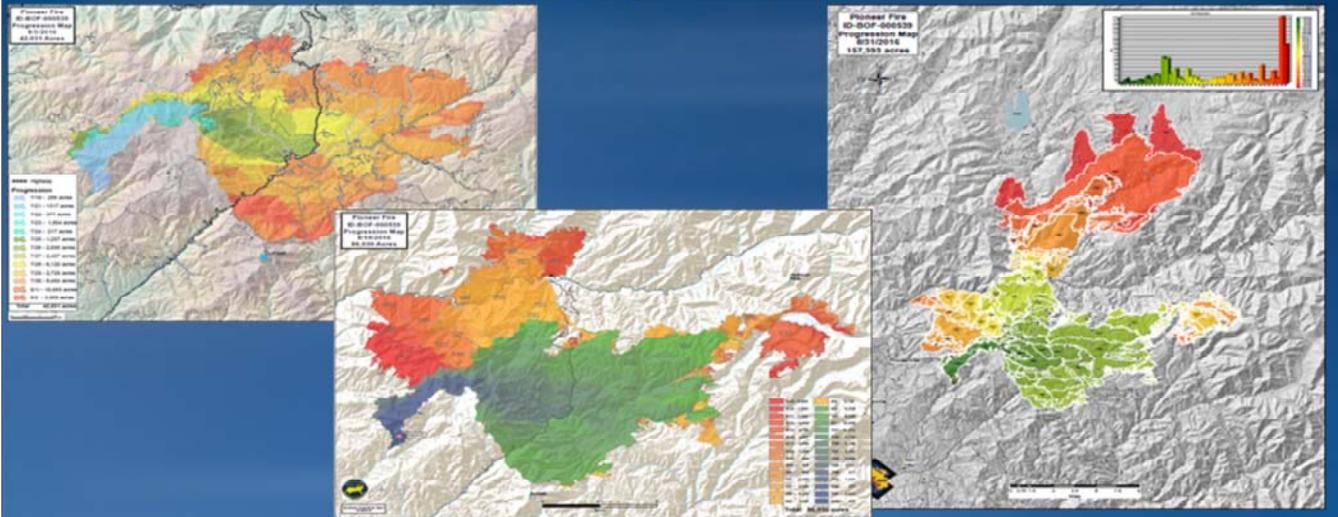
Optional features that may appear on a Progression map.

Describe how it differs from other incident maps.

And show several examples.

Progression Map: *Purpose*

Graphically display the spread of an incident across the landscape over time.



The purpose of a Progression map is to graphically display the spread of an incident across the landscape over time.

These 3 examples from the Pioneer fire show not only changes in incident growth, but also the cartographic choices made to display that information.

From left to right the Progression maps are from August 2, 19, and 31. Note that all three maps follow GSTOP standards.

The authors have kept the title box in the same location, but have adjusted the appearance and location of the legend, acreage summary, and other elements.

Progression Map: *Uses*

- Visualize incident growth
- Fire behavior analysis
- WFDSS decision update
- Public information



The Progression map helps fire managers visualize incident growth over time. Agency administrators use this information to evaluate threats to resources, infrastructure, and the public; as an indicator for changing incident management level; and in discussions with other agency administrators.

Fire behavior analysts use fire progression, observed fire behavior, and weather trends as they predict future fire growth. These predictions help the Operations section and Incident Commander make strategic and tactical decisions.

The Wildland Fire Decision Support System is used to document the incident management decisions of agency administrators. The Progression map can inform adjustments to management objectives as an incident moves into areas with different land management plan requirements.

The Progression map is often shared at public meetings. The Public Information Officer, and other meeting presenters, use the map to provide the public with information on where and when the fire affected areas they are concerned about.

Progression Map *Cartographic Elements:*

STANDL (Required):

- **Scale bar**
- **Title – including operational period**
- **Author**
- **North Arrow**
- **Date of preparation**
- **Legend**

SGD (Recommended):

- **Source**
- **Graticule/grid**
- **Datum**



The Progression map must contain all components of STANDL (Scale bar, Title, Author, North Arrow, Date/Time, Legend).

The SGD components (Source statement, Graticule or grid, and coordinate datum) are not required but are recommended.

If a latitude/longitude graticule or grid is displayed, a datum must be specified so that coordinates can be used properly. The SITL will confirm which lat/long format to use for the graticule, and which datum is appropriate.

Progression Map: *Standard Data Features*

- Point of Origin
- Shaded relief or topography base
- Important landmarks
- Progression sequence symbolized with a date-based color ramp



Operational features typical of an IAP map (drop points, fire lines, division breaks, etc.) are not shown on the Progression map.

Standard data features for a Progression map include:

- The point of origin.
- A shaded relief or topography basemap.
- Key geographic features like mountains, valleys, rivers, major roads, and towns that provide geographic reference.
- The sequence of progression polygons that have been symbolized with a date-based color ramp.

Progression Map: *Standard Data Features*

- Legend showing each progression period's date and color
- Table summarizing growth acres and total acres by date
- Legend may be combined with table

Date	Growth Ac	Total Ac
2017-06-05	87	87
2017-06-07	413	500
2017-06-09	2,690	3,190
2017-06-10	1,416	4,606
2017-06-11	759	5,365

Highway	
Progression	
	7/19 - 256 acres
	7/21 - 1317 acres
	7/22 - 377 acres
	7/23 - 1,504 acres
	7/24 - 217 acres
	7/25 - 1,257 acres
	7/26 - 2,695 acres
	7/27 - 2,407 acres
	7/28 - 6,120 acres
	7/29 - 2,729 acres
	7/30 - 8,484 acres
	8/1 - 10,655 acres
	8/2 - 3,959 acres
Total	42,031 acres



The progression map should also contain:

- A legend showing each progression period's date and color.
- A table summarizing growth acres and total acres by date.
- The legend and summary table may be combined, if desired.

Progression Map: *Optional Features*

- Vicinity map
- Hydrography – rivers and lakes
- Administrative boundaries
- Wilderness boundaries
- Ownership or land status
- Latitude/Longitude graticule



The Progression map may also include these optional features:

- A vicinity map inset may help users reference the incident's location in a broader context.
- Including hydrographic features, like rivers and lakes, can also help users reference the incident's location to known features.
- Administrative and ownership boundaries help managers relate the incident's location to the lands they are responsible for. A cost share agreement is often in place on multi-jurisdiction incidents, and the Progression map helps the Finance section and administrators determine payment proportions.
- Wilderness and land status boundaries helps managers see where the incident has affected points of concern.
- A latitude/longitude graticule may be included for reference to coordinates.

Progression Map: *Design Criteria*

- Review map requirements with SITL
- Topographic or shaded relief base
- Change DRG background colors to transparent
- Do not show features from operational map like drop points, fire lines, and division breaks



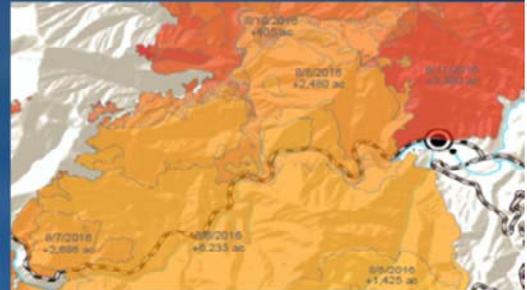
Consult with the Situation Unit Leader to determine which data elements and colors should be used on the Progression map.

A topographic basemap or shaded relief provides good topographic reference. When using topographic DRGs as the basemap, turn the green and white background colors to transparent so that they do not interfere with the progression's color ramp.

The Progression map does not include operational map features like drop points, fire lines, division breaks, and so on. This is the main way in which the Progression map differs from the IAP, Briefing, and other maps made for operational purposes.

Progression Map: *Design Criteria*

- Cool to warm color ramp
- Need at least five periods to show trend
- May not be appropriate to display all periods
- Label polygons with time period



When selecting a color ramp for the Progression map, choose cooler colors to represent the earlier periods, and warmer colors to represent the most recent dates.

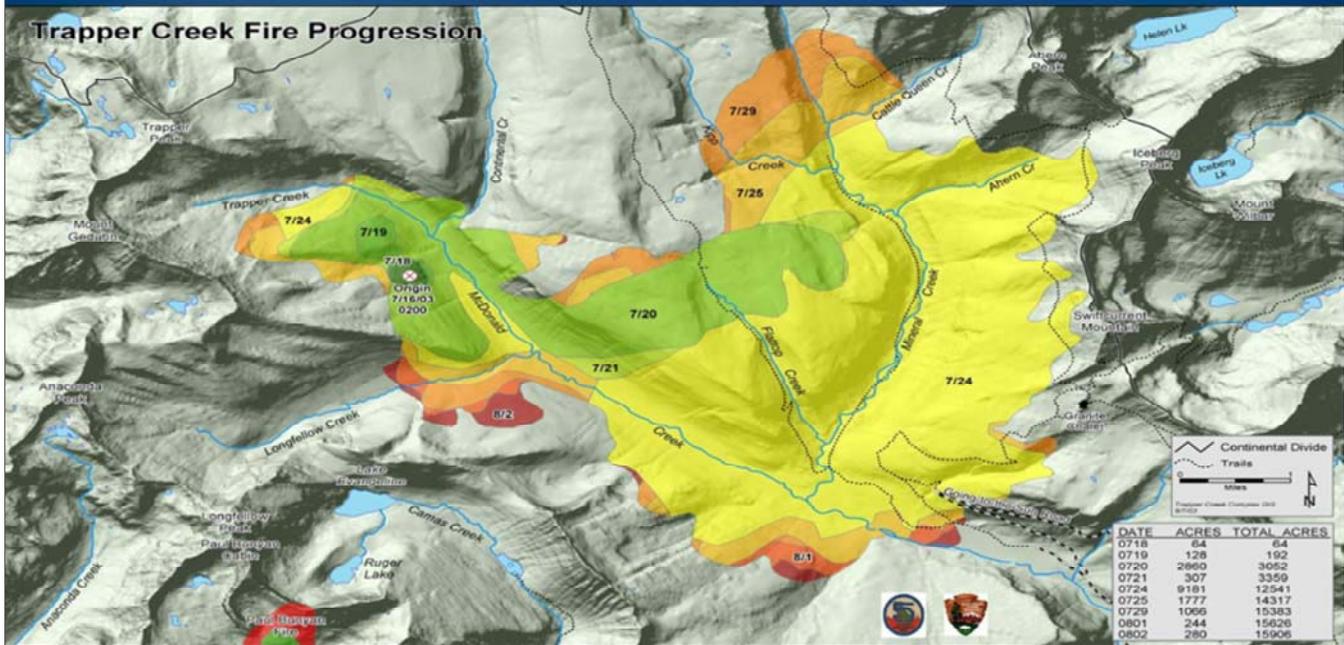
The Progression map is generally not produced during the first several days of an incident, as the Situation Unit Leader will have higher priority maps for you to work on. After five days or so, there will be sufficient perimeter data available to show trends in incident growth. This is when the Progression map is first requested.

The Progression map is not normally updated as a daily product, and it may not be necessary to show each time period on the map. For fires of long duration...months instead of days or weeks...you may be requested to group periods of days together.

It may help users interpret the Progression to add date labels to

representative polygons.

Progression Map Example



Let's review the cartographic and data elements of this Progression map from Glacier National Park.

The Standard elements include:

- The scale bar, north arrow, incident name, author and date are shown in the information box
- The map's title is shown in the upper left corner
- A summary table includes the date for each progression period, the acres for that period, and a running sum of acres

The data elements include:

- The point of origin
- A shaded relief background helps users visualize topography

- Key geographic features like lake and stream names are included
- The color ramp runs from cool to warm with the fire's spread
- Each progression period's date is shown

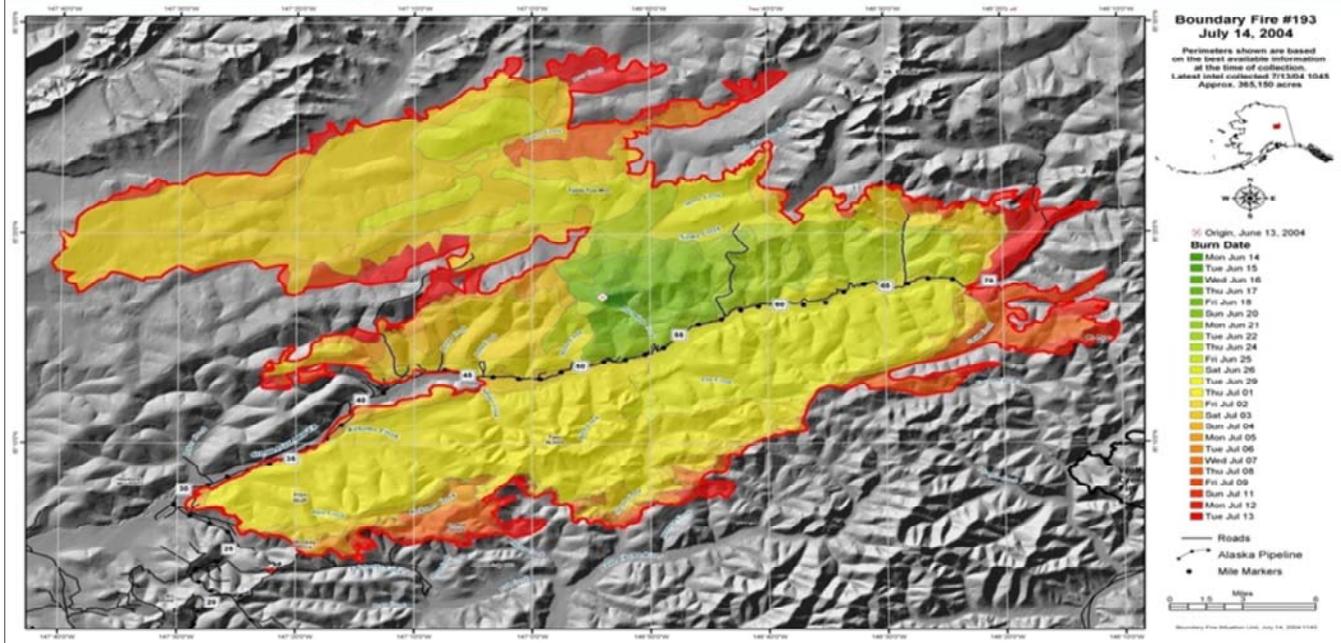
Optional elements include:

- Line symbology for trails and continental divide are in the information box
- Significant landmarks are named
- A nearby fire is named

What's missing:

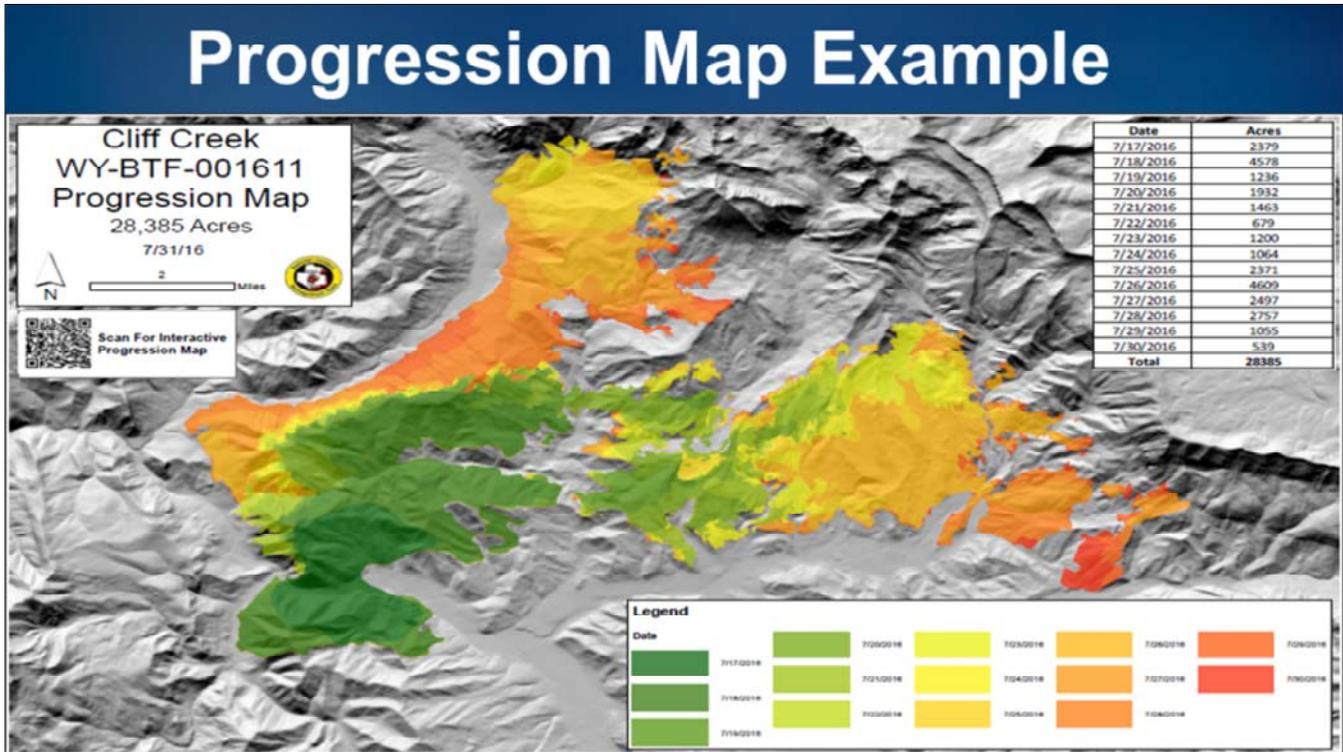
- A vicinity map may help users locate the incident within a broader regional context
- The map would be improved by the addition of a legend displaying each date and its corresponding color patch

Progression Map Example



GISS have considerable flexibility when designing a Progression map as long as it effectively displays how the incident has spread over the landscape with time.

This example includes a vicinity map inset to help users locate the incident within the state of Alaska.



This example from the Cliff Creek fire shows 14 days of incident growth.

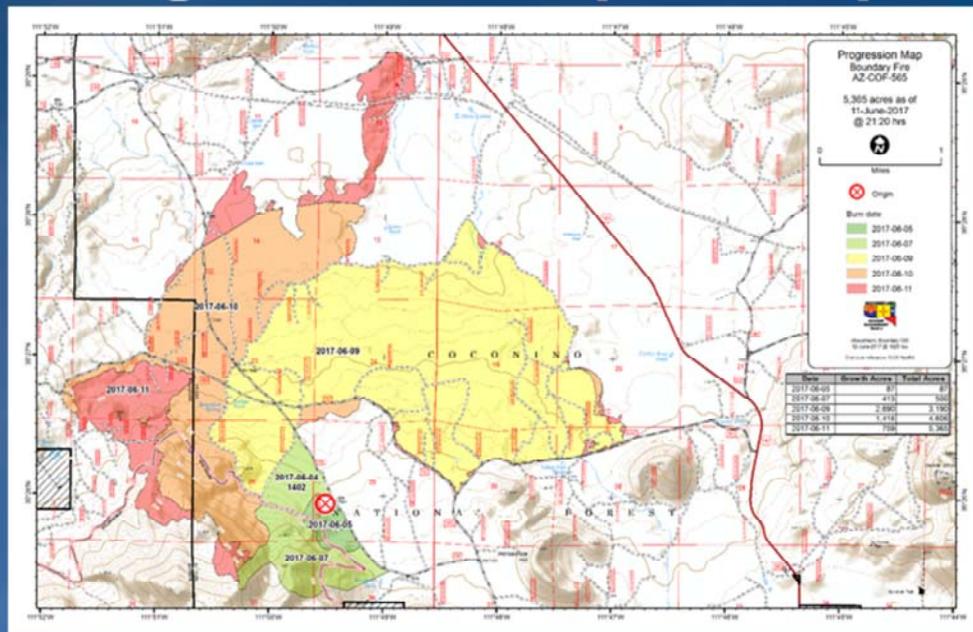
The title shows most of the STANDL elements.

A legend and acreage summary table for each progression period are shown.

A QR code permits users to download the map to a computer or mobile device.

The map could be improved by including the point of origin, as well as labeled landmarks and hydrography for reference.

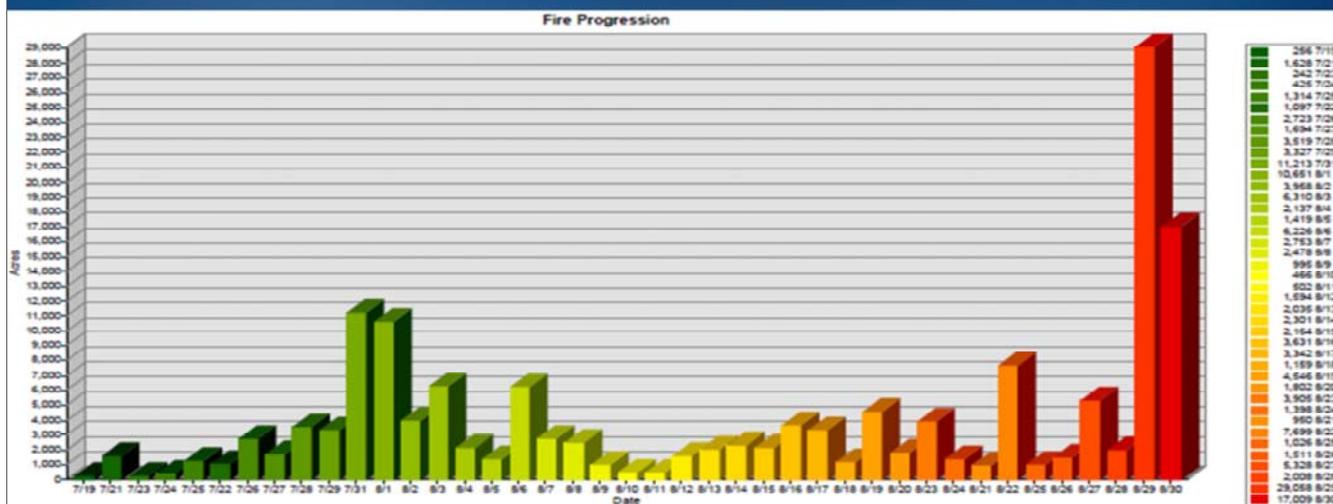
Progression Map Example



This example includes both a shaded relief layer and a topographic basemap.

The shaded relief helps visualize topography, and the topographic basemap includes many labeled features that help put the fire area in context.

Progression Map Example



GISS may be asked to display progression in a variety of ways depending on the map's purpose or audience.

Here's an example where a bar chart was used to demonstrate the magnitude and timing of an incident's growth.

Progression Map: *Lesson Review*

- Explain the purpose and use of a Progression map.
- Describe the standard features displayed on a Progression map.



Let's review. In this lesson we discussed:

The purpose and use of a Progression map

And, described its standard features.

Progression Map: *Lesson Review*

- Give examples of optional features that might be included in a Progression map.
- Describe how a Progression map differs from other fire incident maps.
- Show examples of Progression maps



We also:

Listed optional features that may appear on a Progression map

Described how Progression maps differ from operational incident maps

And showed several examples of Progression maps