



Towards Providing Forecasters with Better Detection and Analysis of Severe PyroCumulonimbus (PyroCb) Events

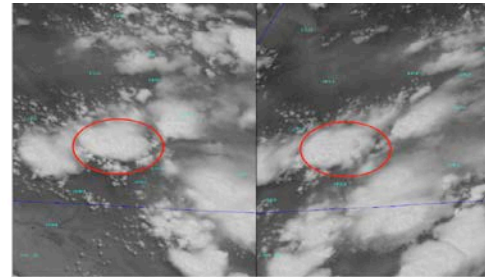


June 28, 2013

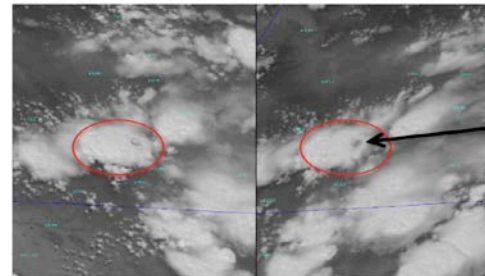
West Fork,
Colorado fire

PyroCb
smoke plume
explodes
through top
of existing Cb

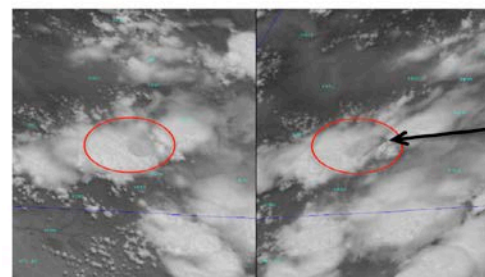
Question:
where will
the PyroCb
smoke travel
over the next
24-48 hours
at these high
altitudes?



Before PyroCb
Plume Injection



Initial PyroCb
Plume Injection



Plume Spreads
Above Cb

GOES-15

GOES-13

Visible channel images showing the penetration of an existing cumulonimbus (Cb) cloud by a PyroCb plume

- Improve detection of explosive fire PyroCb events in which the plume reaches the Upper Troposphere / Lower Stratosphere
- Estimate PyroCb plume heights and calculate associated forward trajectories for the next 24-48 hours
- Explore lightning activity associated with PyroCb events, as this can spawn new fires and indicate strengthening of the event
- With undergraduate students to help collect and prepare ancillary data, prepare and update a PyroCb blog post for each event
- Transition methodology to NWS forecasters
- Investigate the impact of PyroCb smoke on cloud properties over time

GOES-R data will improve the real-time detection and analysis of explosive fire and PyroCb events

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