CASE STUDY OF YELLOWSTONE'S 1988 FIRES

OPENING REMARKS: THE 1988 YELLOWSTONE FIRES AS A FIRE BEHAVIOR CASE HISTORY

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ABSTRACT

Case studies or case histories "provide a systematic way of looking at events, collecting data, analyzing information, and reporting the results." The value of documented case studies or histories of wildland fires has been repeatedly emphasized by both fire managers and fire researchers alike. Time and time again they have proven valuable as training material and as sources of research data, and they also provide a mechanism for formalizing the basis for experienced judgment.

Several issues of *Fire Management Today* in recent years have been devoted to the subject of wildland fire behavior case studies. For example, a standard approach to case history or study report preparation was suggested by M.E. Alexander and D.A. Thomas in the Fall 2003 issue of *Fire Management Today*, which has since been recommended by the Wildland Fire Lessons Learned Center. A case history or study report should consist of five main parts: 1) Introduction, highlighting the significance of the fire; 2) Fire chronology and development; 3) Details of the fire environment (i.e., fuels, weather and topography); 4) Analysis of fire behavior; and 5) Conclusions or concluding remarks, including recommendations, lessons learned, etc.

The Yellowstone fires of 1988 are widely regarded as one of those benchmark or landmark fire seasons with far-reaching consequences. Several popular-style books exist, yet a single comprehensive case study or history document that would serve to assist those that follow in learning lessons from this landmark event and its associated experiences, unfortunately does not currently exist.

This session of the conference focusing on fire behavior, weather, and fuels, including crown fire modeling, long-range fire behavior, weather forecasting, and fuels management, has been specifically organized by the author and co-moderator C.J. Bushey along the lines of a fire behavior case history or study. As a prelude to the session, this opening presentation will overview the existing literature (e.g., books, journal articles, agency publications, and conference papers) on these topics as it pertains to the fires in the Greater Yellowstone Area and the northern Rocky Mountains during the 1988 fire season as well as making reference to the following 17 presentations that this session comprises:

- The 1988 Fire Season in the U.S. Northern Rocky Mountains—Chuck Bushey
- What Fuel Types Burned During the 1988 Yellowstone Fires?—Don Despain
- The Chronology of the 1988 Yellowstone Fires—Bob Mutch
- Synoptic Weather Patterns and Conditions during the 1988 Fire Season in the Greater Yellowstone Area—Rick Ochoa
- Trends in Fire Weather and Fire Danger in the Greater Yellowstone Area—Chuck McHugh
- The Old Faithful Inn Fire Run in Retrospect—Dave Thomas
- Observations and Reflections on Predicting Fire Behavior during the 1988 Yellowstone Fires—Dick Rothermel
- Burn Mapping Comparisons on Yellowstone 1988 Fires—Donald Ohlen and Don Despain
- Wildland Fire Legacies: Temporal and Spatial Constraints of Historic Fires to Current Fire Behavior—Roy Renkin, Don Despain, and Carrie Guiles
- The 1988 Yellowstone Fires and Crown Fire Modeling in BehavePlus—Tobin Kelley and Patricia Andrews
- Recent Advances in Modelling Crown Fire Initiation and Rate of Spread—Marty Alexander and Miguel Cruz
- Assessing Discontinuous Fire Behaviour and Uncertainty Associated with the Onset of Crowning—Miguel Cruz and Marty Alexander
- Spatial and Temporal Evolution of Atmospheric Boundary-Layer Turbulence during the 1988 Yellowstone Fires—Warren Heilman and Xindi Bian
- Yellowstone and Beyond: Pyrocumulonimbus Storms Sent Smoke to the Stratosphere and Around the Globe—Michael Fromm, Rene Servranchx, Dan Lindsey, Brian Stocks, and Dennis Quintilio
- Predicting Yellowstone: Decision-Support of the Past, Present, and Future—Tim Brown and Tom Wordell
- Could Fuels Management Have Altered the Outcome of the 1988 Yellowstone Fires?—Ron Wakimoto
- Closing Remarks: What Did We Learn and What Must We Do To Avoid Relearning It?—Bob Mutch

There is little doubt that we are continuing to learn, and relearn, from case histories or studies. However, as George Santayana has pointed out, "Those who cannot remember the past are condemned to repeat it."

keywords: case study, fire environment, fire history, fire management, fire weather, fuels, lessons learned.

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