

Mission: *Better collaboration  
between fire science and fire management*



**ALASKA  
FIRE SCIENCE  
CONSORTIUM**

<http://akfireconsortium.uaf.edu>

Photo by Rob Allen



**Bonanza Creek LTER**  
Institute of Arctic Biology, University of Alaska Fairbanks

2018 Bonanza Creek LTER Symposium – Pikes Waterfront Lodge

# Co-producing knowledge on fire, fuels, and vegetation succession in Alaskan boreal forests

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**Management agencies driven by  
issues, often short term perspective**



**Researchers driven by Big Questions,  
often long term perspective**



**Management agencies mostly lack funding mechanisms and staff capacity for studies**



**But they have lots of practical first-hand experience in their areas of expertise and often are closely connected to the stakeholder public.**



**Mgmt agencies have internal pressures which may limit research objectivity as well**



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# Management agencies need guidance and science input for:

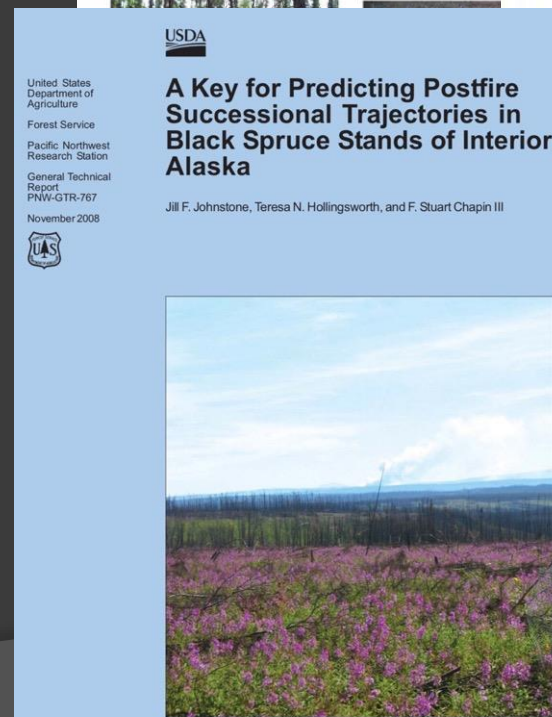
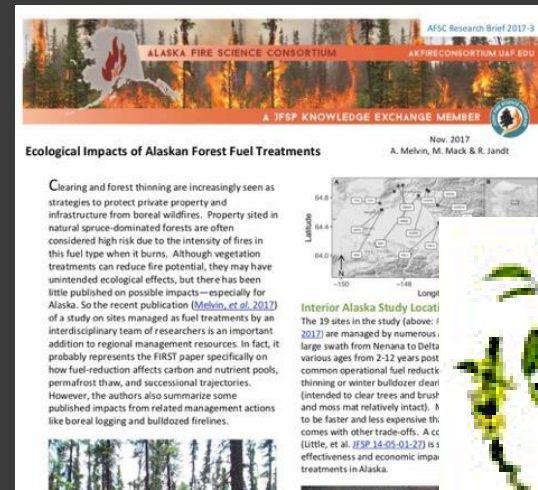


- Understanding environmental changes they have observed
- Adopting new technology and new ecological understanding
- Environmental analyses
- Long-term land management planning
- Scenarios and decision-making
- Communicating non-partisan science



# Examples of knowledge co-production with LTER science

- Melvin et al.: Effects of fuel treatments
- Spellman & Mulder: Invasive plants
- Johnstone et al.: Successional trajectories



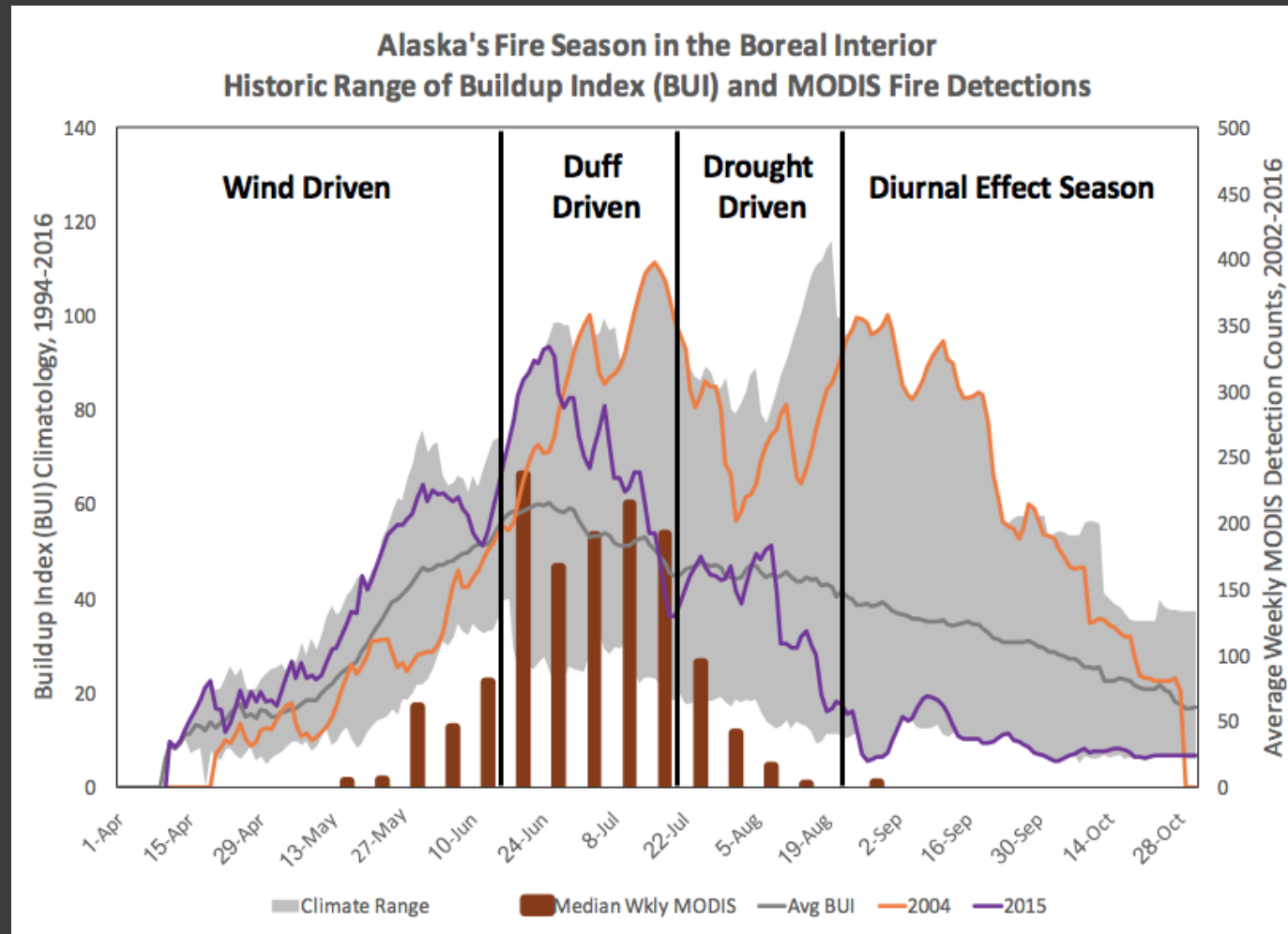


# Examples of Challenges to Useful Co-production



- ◎ Spatial fuels layers:
  - Managers: LandFire (WFDSS)
  - Academics: Other vegetation layers
- ◎ Language disconnects:
  - English vs. metric units
  - Fire weather indices vs. temp, precip
  - Fuel types vs. vegetation composition
  - Experiential benchmarks vs. variability

# Example of science communication from Chris Moore & Robert Ziel





# Tools for knowledge co-production

- ⦿ Attending each other's meetings
- ⦿ Involving managers in development
- ⦿ Working with boundary organizations and boundary individuals
- ⦿ Joint field site visits (including access to public lands)
- ⦿ Delivery of information directly to managers
  - No substitute for face-to-face
  - Research briefs
  - Media & press releases



# BNZ LTER Initiatives

- Fire effects on
  - Vegetation succession
  - Permafrost & subsurface responses
  - Carbon pools, balance
  - Hydrology
  - Habitat for wildlife, fisheries
- Landscape feedbacks to fire
  - Vegetation effects on fuel and flammability
  - Changing drainage and fuel moisture
- Long-term datasets to extend our understanding





# Questions?



Photo: USFS PNW, Erickson Ck, 2003