

## **ANNOUNCEMENTS**

### **Past, Present and Future Challenges to Natural and Managed Ecosystems**

Sagebrush, Salmon, and Syrah in a Non-Stationary Environment

**2015 Northwest Scientific Association Annual Meeting  
1-4 April 2015, Richland, Washington**

The Northwest's diverse ecosystems reflect the disruptions, upheavals, and disturbances of the past and present, including volcanism, earthquakes, mountain building, glaciation, cataclysmic flooding, erosion and sedimentation, wildfires, and climatic extremes. These processes shape the Pacific coastal areas, mountain ranges, rivers, grasslands, and sagebrush steppe that comprise the landscapes we inhabit and manage. Past climate and geologic processes are also responsible for providing the framework of soils, water, and topography that support Northwest agriculture. Pivot circles of potatoes, geometric patchworks of forests, orchards and vineyards, and seemingly limitless expanses of dryland grains and legumes are spread across Northwest horizons. These combinations of geography, climate, soils and geomorphology are the chief components of terroir or 'specificity of place' and impart unique characteristics to produce such as wine grapes.

The diversity of resources and ecosystem services in the region are integral to sustaining the region's economy, culture, and way of life. But, the resilience of the Northwest's managed and natural ecosystems will be tested this century by unprecedented combinations of climate change, and associated floods, droughts, wildfires, insect infestations, invasive species, and changes in water availability and storage, as well as rapid changes in land and resource use. Adapting to the potential impacts of these changes presents a wide range of challenges to our ecosystems and our society.

As temperatures warm as much as 3-8°F by the end of the century and patterns of precipitation change across the Northwest, researchers, resource managers, and industry all need better information to aid in mitigating the effects of climate change and in developing adaptation strategies that best conserve our resources and ecosystems. Our insight into how future climate and associated disturbances will influence both managed and natural ecosystems relies not only on modeled predictions of changing temperature and precipitation, but also on our current understanding of how past disturbances and climates have shaped the state of our resources today. A number of issues are common across disciplines and stakeholder interests:

A reliable water supply is crucial for energy production, agriculture, and functional ecosystems in the Northwest. Water storage and availability will change under predicted future climates; we must continue to support both healthy fish populations and aquatic diversity and maintain extensive irrigated agriculture critical to the Northwest economy while providing for projected increases in businesses and population in the Pacific Northwest.