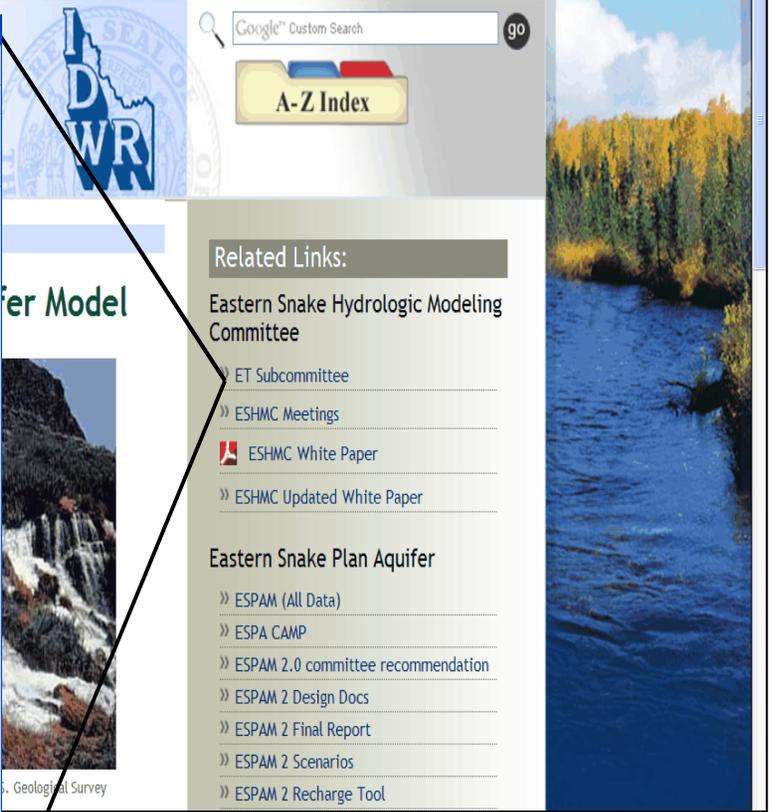
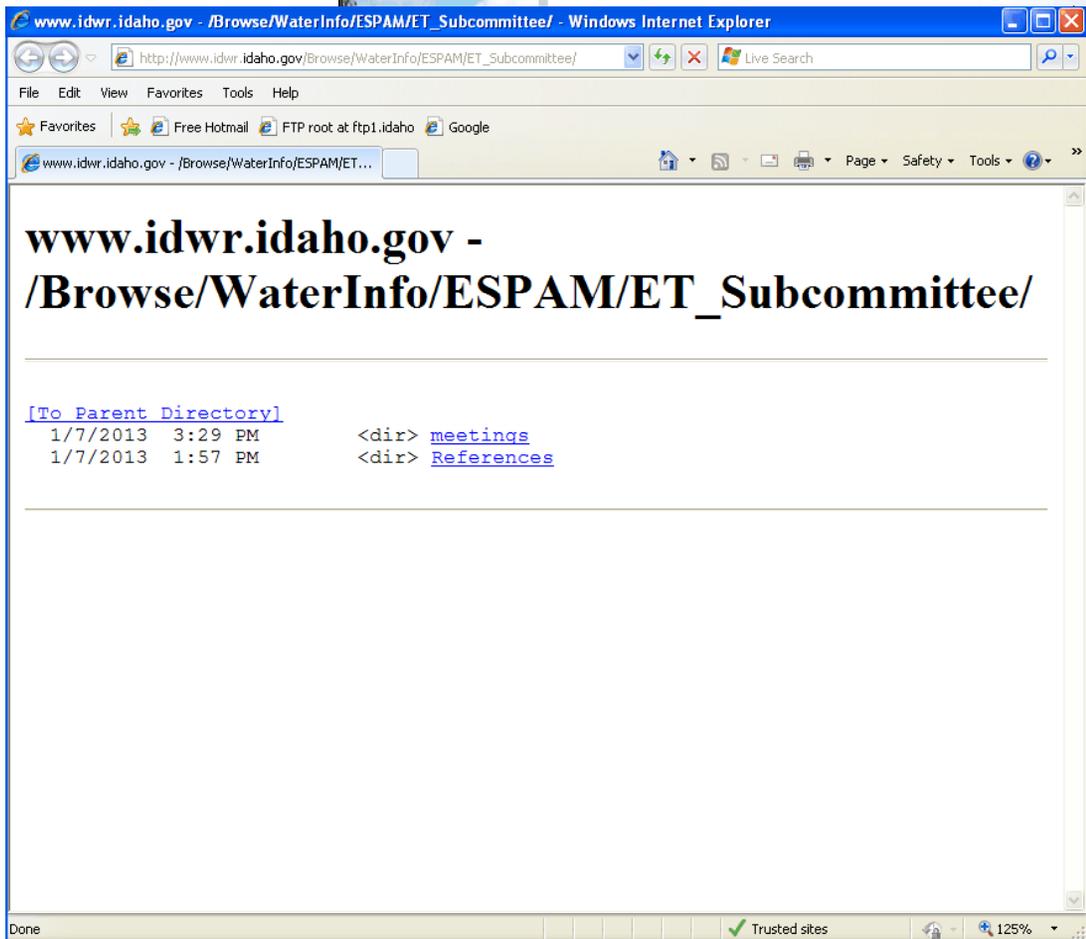
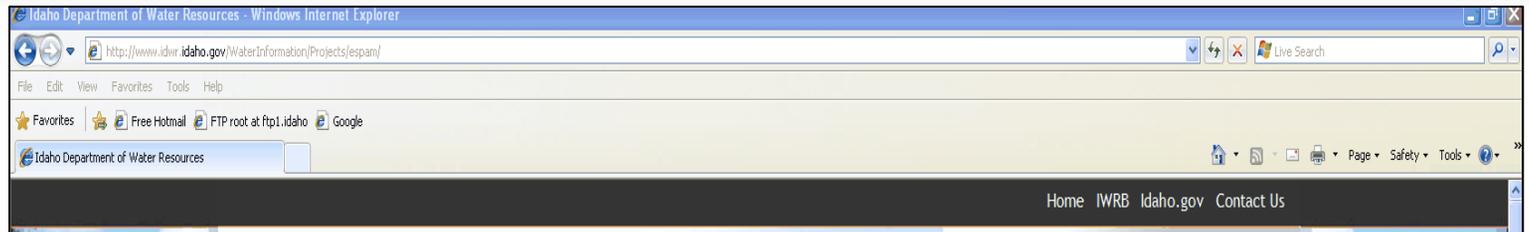


ET Subcommittee – Moving Forward with NDVI

Presented by Mike McVay

January 8, 2013





ET Subcommittee Re-Cap

1. Year 2011 chosen as next METRIC contract with Dr. Allen.
2. Subcommittee voted to drop the use of Tradition ET method ($K_c * \text{Crop Mix}$ method).
 - a. Due largely to poor crop mix data.
3. Year 2011 chosen as next METRIC by Dr. Allen.
4. Want to use best ET estimate, but not several methods together.
5. NDVI strongest candidate for estimating ET.
 - a. Remote sensing method.
 - b. Relatively quick and easy.
 - c. Early/Late season wetting is an issue (Corey Burnett's thesis w/ Dr. Allen addresses).
 - d. Need to investigate using both AVHRR and Landsat NDVI estimates.

Non-METRIC ET Years

1980 – 1983 **weather data?**

1984 - too sparse

1985 - too sparse

1987 - not as populated as 1986, but possible for METRIC

1988 - no April-May for METRIC on path 40

1989 - no Sept-Oct for METRIC on path 40, poor on path 39

1990 - possible METRIC on 40, not on 39

1991 - no

1992 - possible METRIC for 40 and 39

1993 - possible for METRIC, no April-May on 39

1994 - no May-June for METRIC path 40

1995 - no

1997 - yes, iffy METRIC for June-July on 39

1998 - no May for METRIC on 40 and 39

1999 - no for METRIC in spring

2001 - yes for METRIC on both paths

2003 - iffy for METRIC for both paths (path 40 DONE through August (no images after that))

2004 - yes for METRIC on both paths

2005 - iffy for METRIC

2007 - possible, but challenging for METRIC on path 40

2011 - yes for METRIC on both paths

2012 - If coverage is available, do we want this year – dry summer (SMOKE?)

25 Years need a non-METRIC
method of determining ET
(temporary and permanent)

Satellite Options for NDVI

1. Advanced Very-High Resolution Radiometer (AVHRR).
 - a. Lower resolution (1 km), but may be able to correlate with METRIC years.
 - b. 14 Images per day.
 - c. Data available back to year 1979 (data may be different pre-1994).
 - d. Will need to filter non-linearity due to large pixels.
 - e. NDVI products available on USGS website (8 km).
2. Landsat.
 - a. Images every 16 days.
 - b. Modern Satellite begins year 1982.
 - c. Older Landsat data available for 1980-1981 (different bandwidths).
3. Other satellites?

FIN