



UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION



CPC Operational Outlooks

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NWS / NCEP / Climate Prediction Center**

**Climate and Severe Weather Workshop
College Park, MD
March 11-12 2014**



CPC Outlook Overview



Outlook	Variables	Type	Frequency	Release Date and Time	
Days 8-14	Temp/ Precip	Probabilistic	Daily	Daily	3 PM ET
Monthly	Temp/ Precip	Probabilistic	2x per month	3 rd Thurs of month / Last day of month	8:30 AM, 3 PM ET
Seasonal	Temp/ Precip	Probabilistic	1x per month	3 rd Thursday of month	8:30 AM ET
Monthly drought	Drought tendency	Categorical	1x per month	Last day of month	3 PM ET
Seasonal drought	Drought tendency	Categorical	1x per month	3 rd Thursday of month	8:30 AM ET
U.S. Hazards	Temps, precip, winds, etc.	Categorical	Daily	Monday - Friday	3 PM ET
Global	Precip.	Categorical	Weekly	Tuesday or	12 PM ET



Extended Range Outlooks 6-10 and 8-14 Days



Nevada
 Below: 3%
 Near: 17%
 Above: 80%

Arkansas
 Below: 32%
 Near: 36%
 Above: 32%

Wisconsin
 Below: 42%
 Near: 33%
 Above: 25%

W. New Mexico
 Below: 17%
 Near: 33%
 Above: 50%



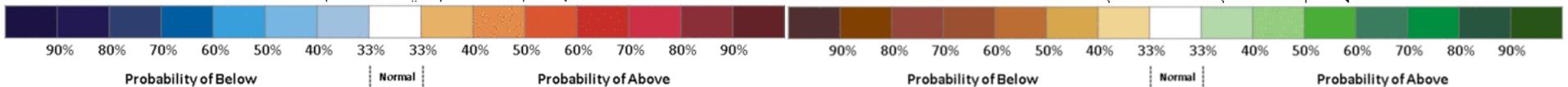
6-10 DAY OUTLOOK
 TEMPERATURE PROBABILITY
 MADE 10 MAR 2015
 VALID MAR 16 - 20, 2015

DASHED BLACK LINES ARE CLIMATOLOGY (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. UNSHADED AREAS ARE NEAR-NORMAL.



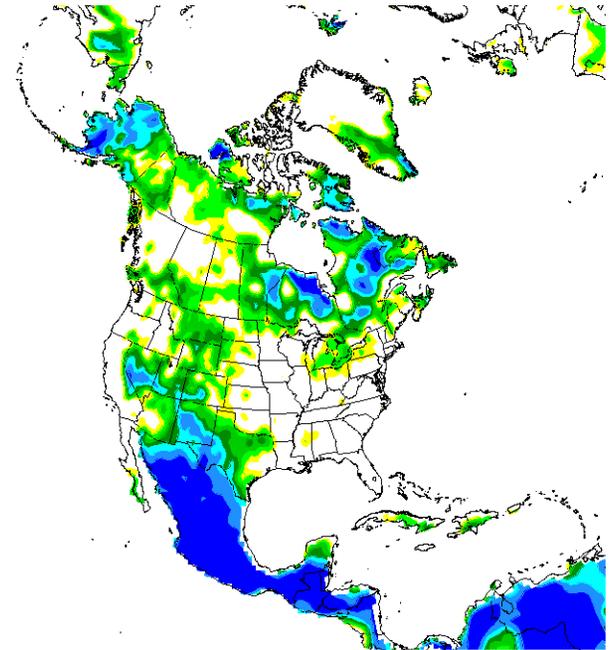
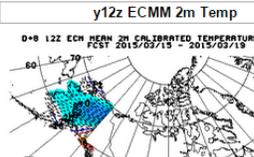
8-14 DAY OUTLOOK
 PRECIPITATION PROBABILITY
 MADE 10 MAR 2015
 VALID MAR 18 - 24, 2015

DASHED BLACK LINES ARE CLIMATOLOGY (TENTH OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. UNSHADED AREAS ARE NEAR-NORMAL.

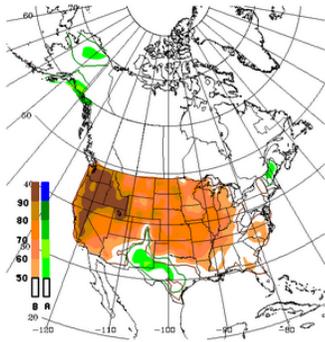




Extended Range Outlooks 6-10 and 8-14 Days



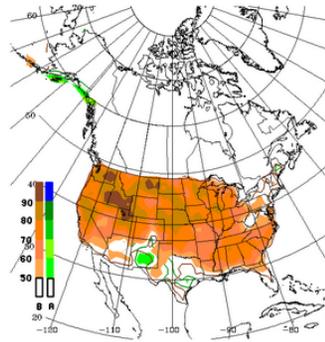
Operational GFS Maps



D+8 ANALOG PRECIPITATION PROBABILITIES FROM 12Z GFS
CPC MAP MADE MAR 10, 2015 CENTERED ON 03/18/2015

y12z
 y18z
 00z
 06z
 12z
 Animate
 Time Animation

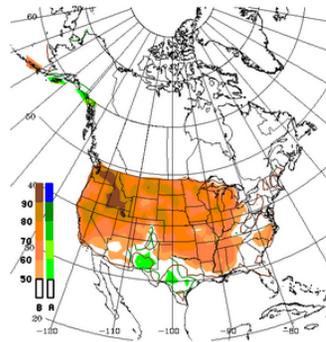
GFS Ensemble Maps



D+8 ANALOG PRECIPITATION PROBABILITIES FROM 06Z OFENSH
CPC MAP MADE MAR 10, 2015 CENTERED ON 03/18/2015

y12z
 y18z
 00z
 06z
 Animate
 Time Animation

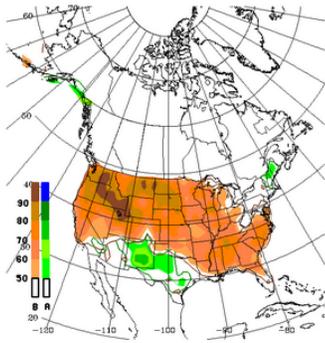
GFS SuperEnsemble



D+8 ANALOG PRECIPITATION PROBABILITIES FROM SUPER OFENSH
CPC MAP MADE MAR 10, 2015 CENTERED ON 03/18/2015

Time Animation

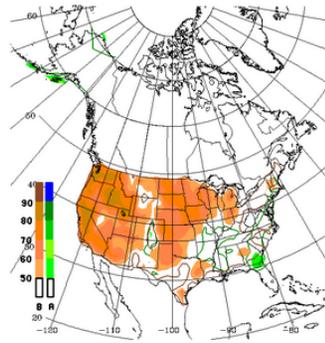
European Ensemble Maps



D+8 ANALOG PRECIPITATION PROBABILITIES FROM 00Z ECMWF
CPC MAP MADE MAR 10, 2015 CENTERED ON 03/18/2015

y12z
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 Animate
 Time Animation

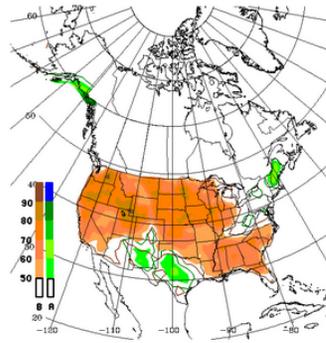
Canadian Ensemble Maps



D+8 ANALOG PRECIPITATION PROBABILITIES FROM 00Z CANM
CPC MAP MADE MAR 10, 2015 CENTERED ON 03/18/2015

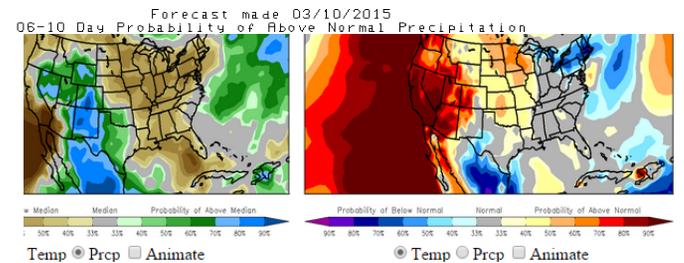
y12z
 00z
 Animate
 Time Animation

Operational European Maps



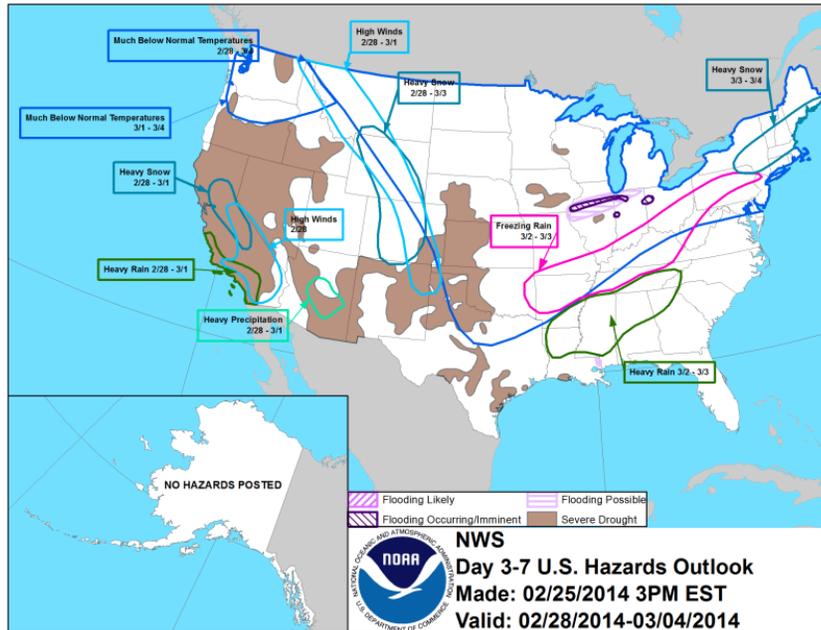
D+8 ANALOG PRECIPITATION PROBABILITIES FROM 00Z ECMWF
CPC MAP MADE MAR 10, 2015 CENTERED ON 03/18/2015

y12z
 00z
 Animate
 Time Animation

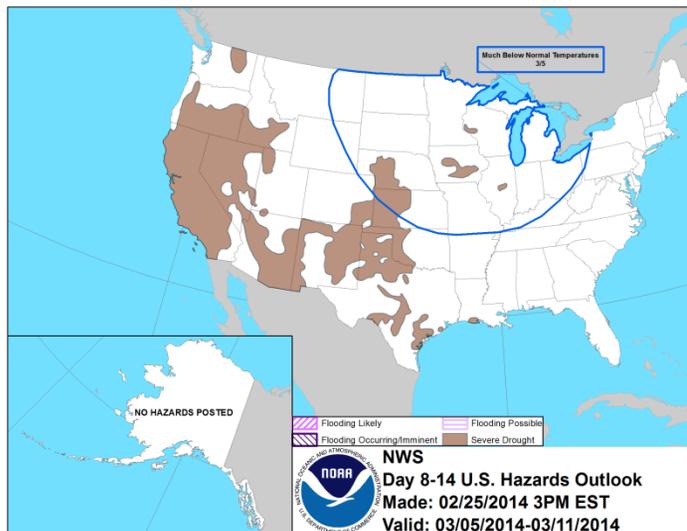




U.S. Hazards Outlook



- Both Days 3-7 and Days 8-14 maps produced.
- Hazards posted include those associated with temperature (much above/below, excessive heat), precipitation (heavy rain, heavy snow, ice, flooding), winds, waves, fire, severe weather and drought.
- Criteria for each hazard are specific in Station Duty Manual
- Collaborative effort with other NCEP Centers, RFCs, NWS Regions, WFOs.





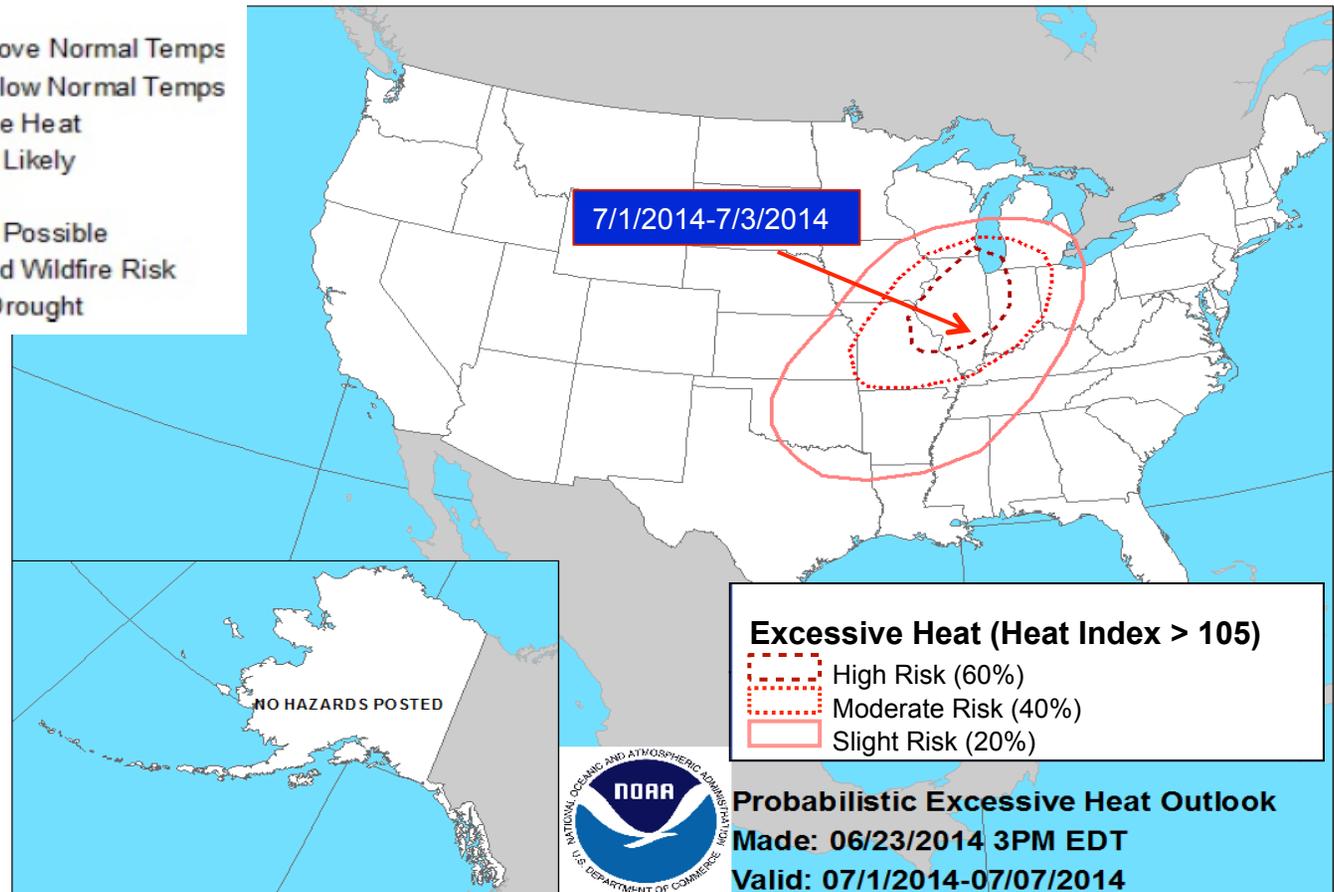
Upcoming Plans and Schedule



Excessive Heat: Experimental Week-2 excessive heat outlook being developed by end of FY15 Q4. Experimental products not issued until Spring 2016. Targets combined temperature and humidity.

Legend

High Winds	Much Above Normal Temps
Significant Waves	Much Below Normal Temps
Severe Weather	Excessive Heat
Heavy Rain	Flooding Likely
Freezing Rain	Flooding
Heavy Snow	Flooding Possible
Heavy Precipitation	Enhanced Wildfire Risk
	Severe Drought



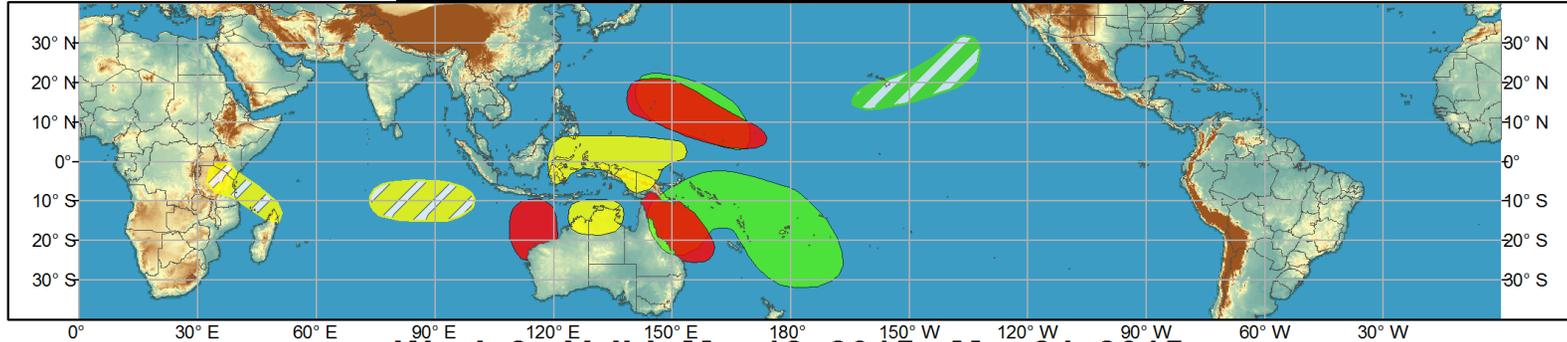


Global Hazards Outlook

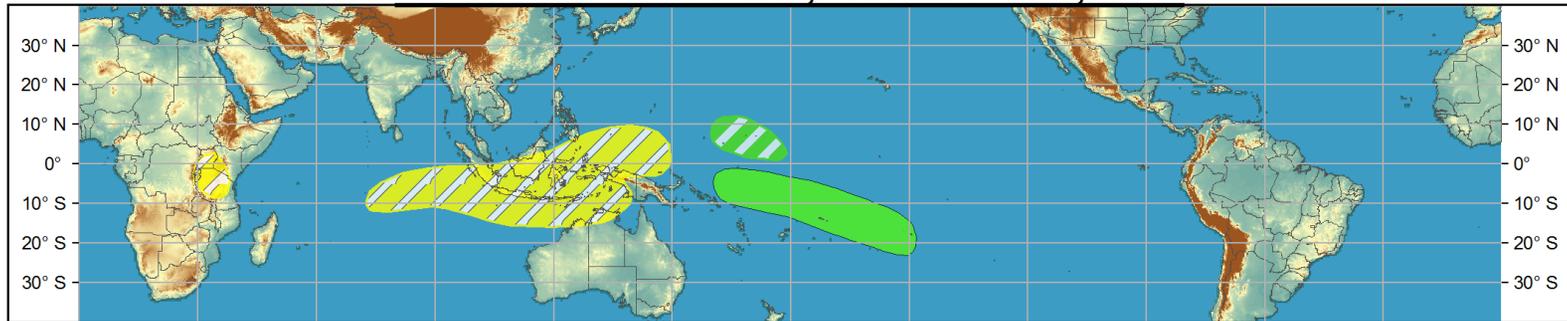


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Mar 11, 2015 - Mar 17, 2015



Week 2 - Valid: Mar 18, 2015 - Mar 24, 2015



Produced: 03/10/2015

Forecaster: Allgood

Confidence
High Moderate

- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

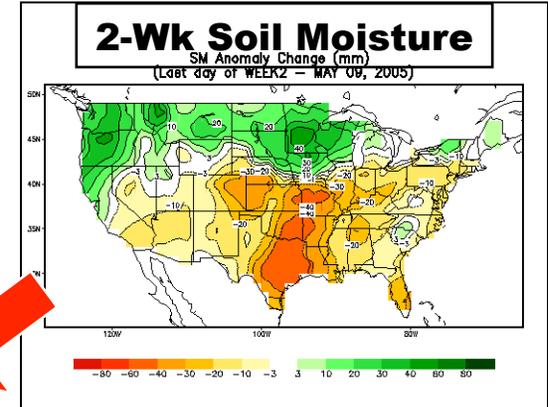
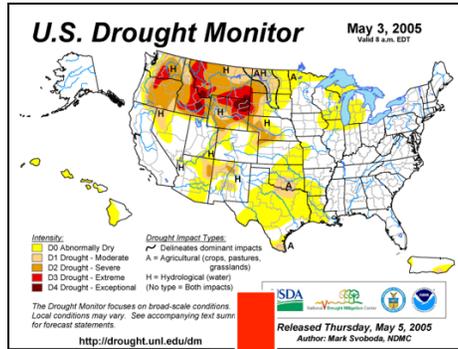
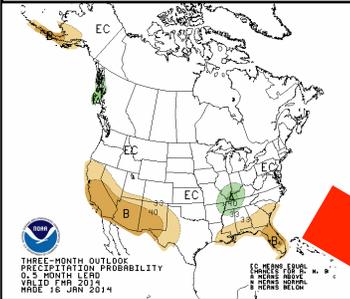
Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



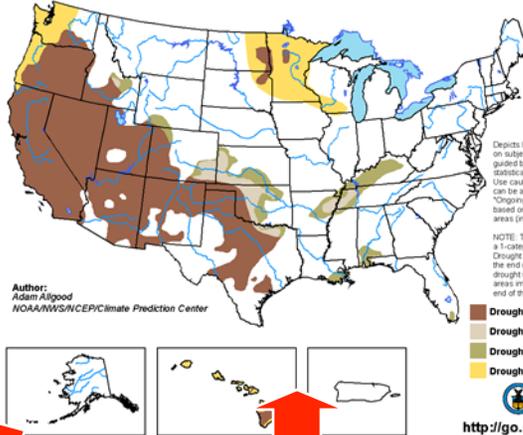


Seasonal Drought Outlook

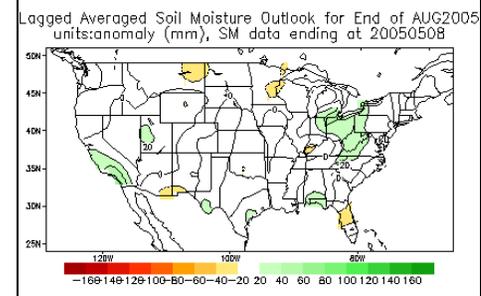
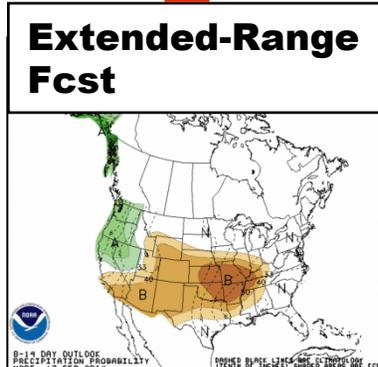
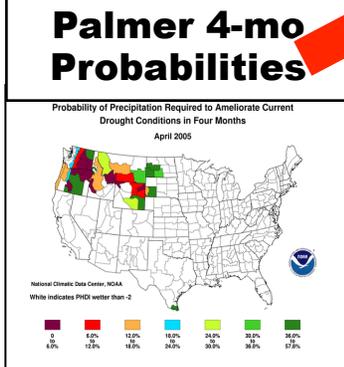
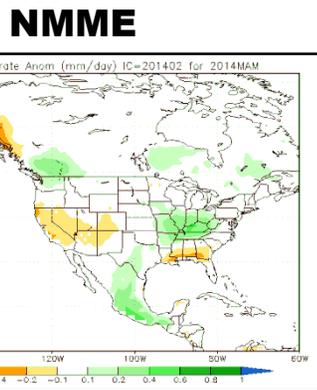
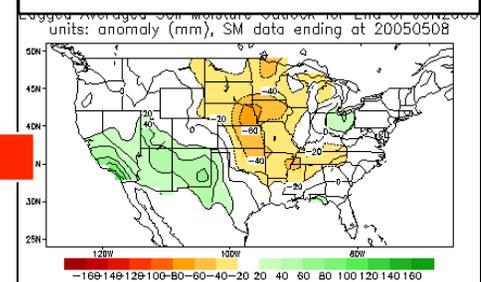
CPC Seasonal Outlook



U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

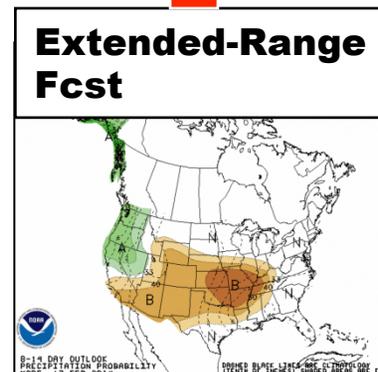
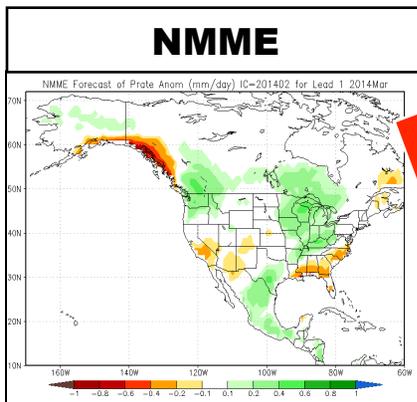
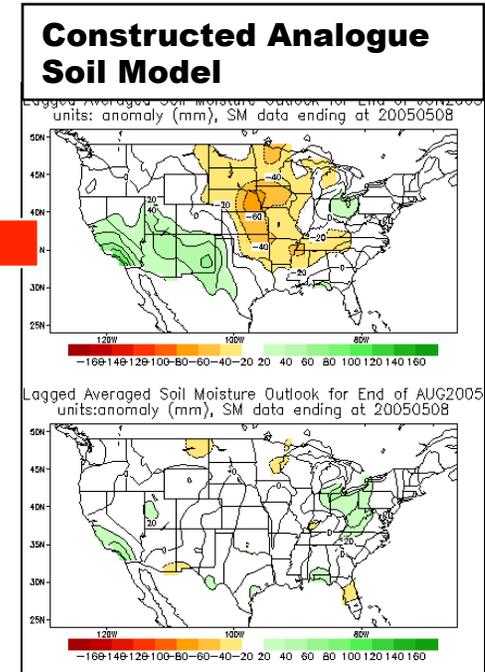
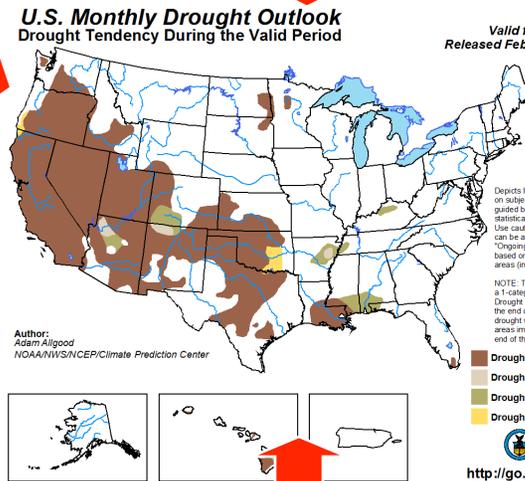
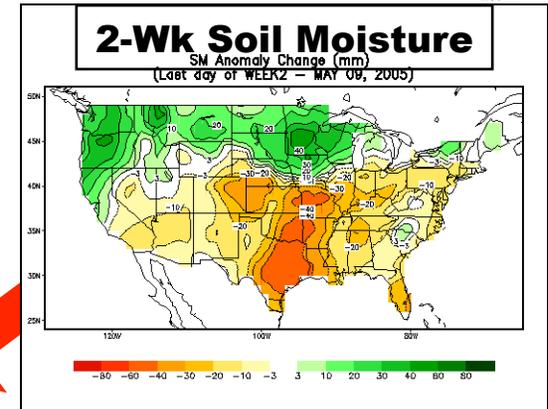
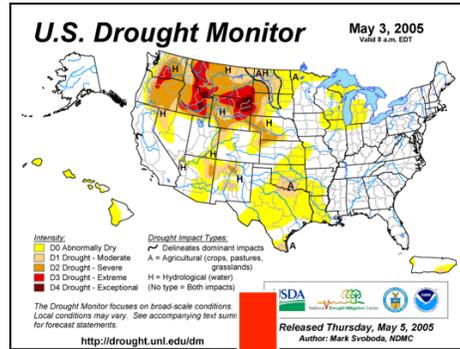
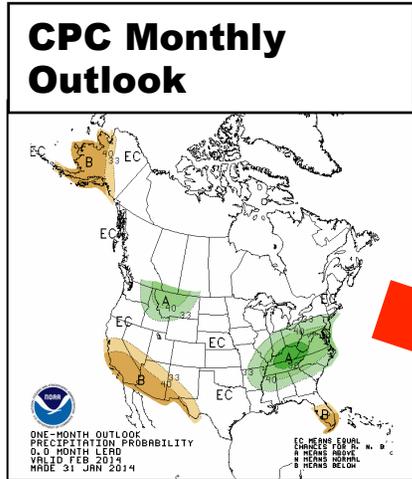


Constructed Analogue Soil Model





Monthly Drought Outlook





Monthly/Seasonal Outlooks

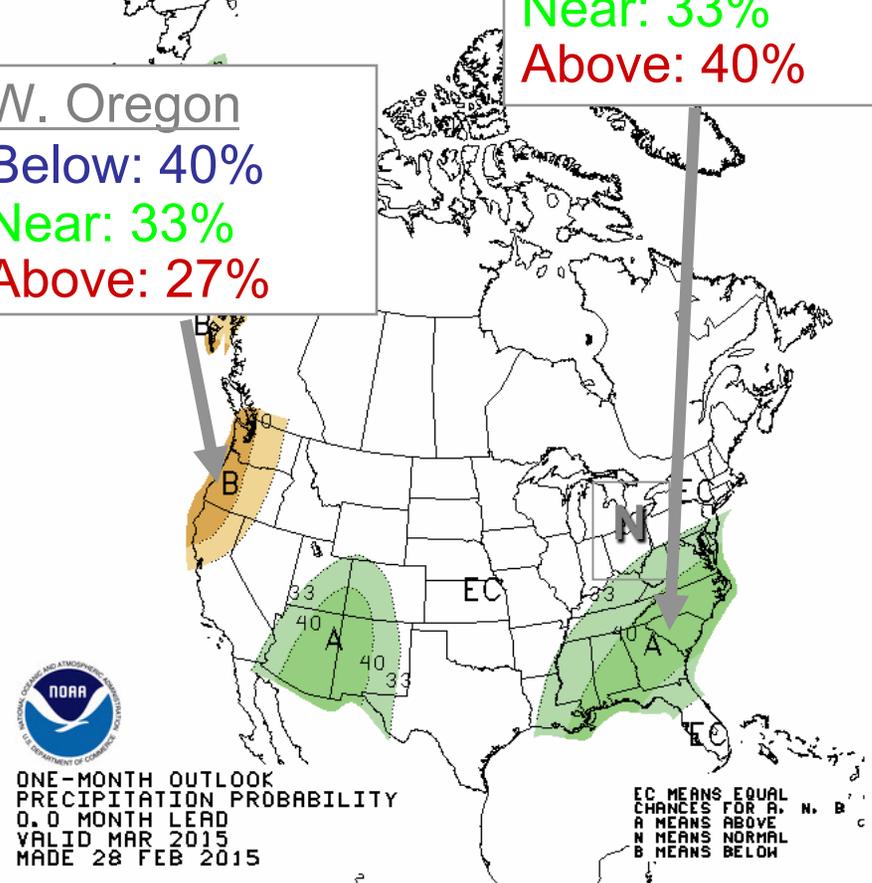
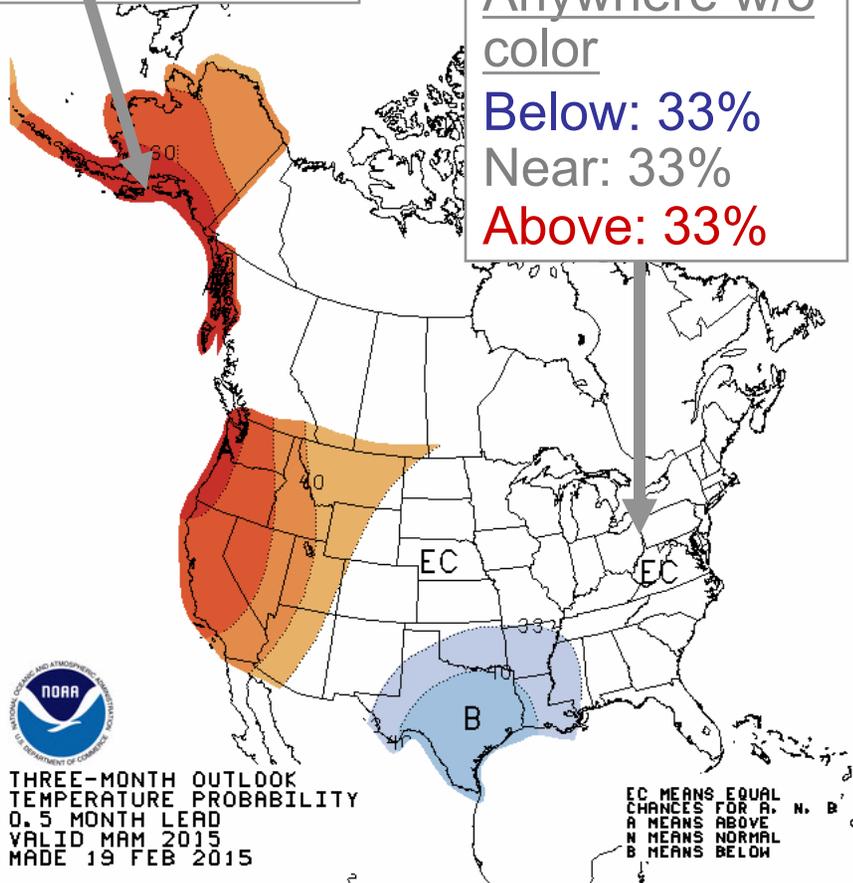
Seasonal and Monthly – 3rd Thursday of the month
 Monthly – Updated last day of month
 Mean Temperature/Accumulated Precipitation

S. Alaska
 Below: 7%
 Near: 33%
 Above: 60%

Anywhere w/o color
 Below: 33%
 Near: 33%
 Above: 33%

S. Carolina
 Below: 27%
 Near: 33%
 Above: 40%

W. Oregon
 Below: 40%
 Near: 33%
 Above: 27%





Monthly/Seasonal Outlooks

National Weather Service
Climate Prediction Center

Home Site Map News Organizational

HOME > NMME Forecasts of Monthly Climate Anomalies > 3-Month Mean Spatial Anomalies

NMME Forecasts of Monthly Climate Anomalies for April 2015 to October 2015

[NMME Forecasts of Monthly Climate Anomalies Home](#)

[View Forecasts by Model](#)

Three-month mean spatial anomalies

	Season 1	Season 2	Season 3	Season 4	Season 5
Global SST	●	●	●	●	●
Global prate	●	●	●	●	●
Global tmp2m	●	●	●	●	●
US prate	●	●	●	●	●
US tmp2m	●	●	●	●	●

Skill maps for 3-month means

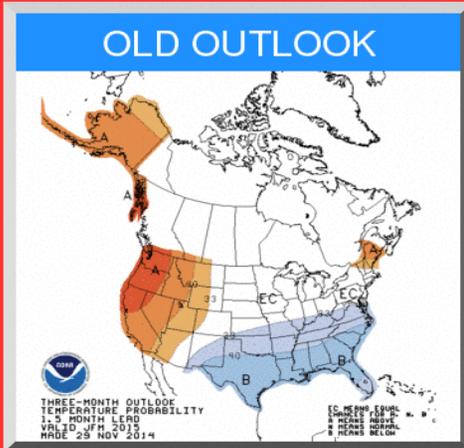
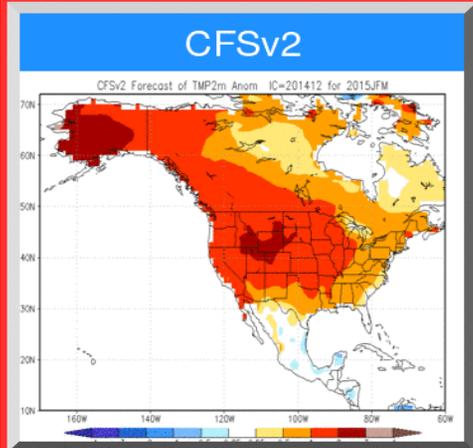
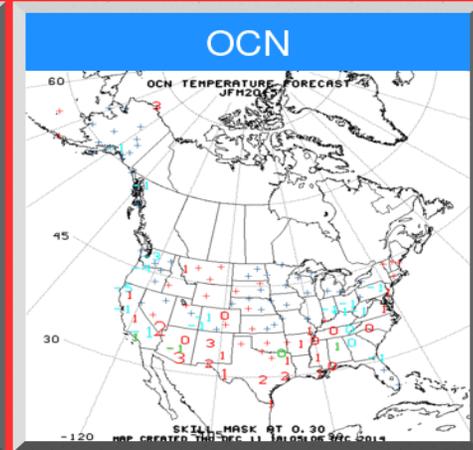
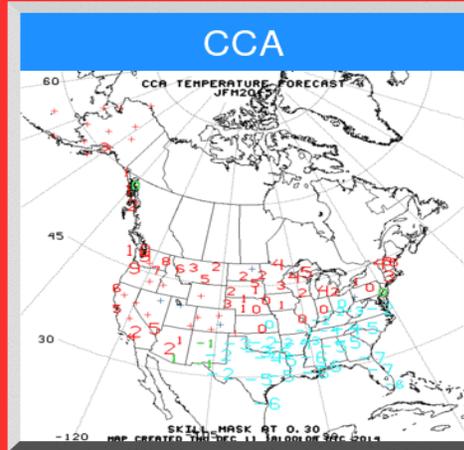
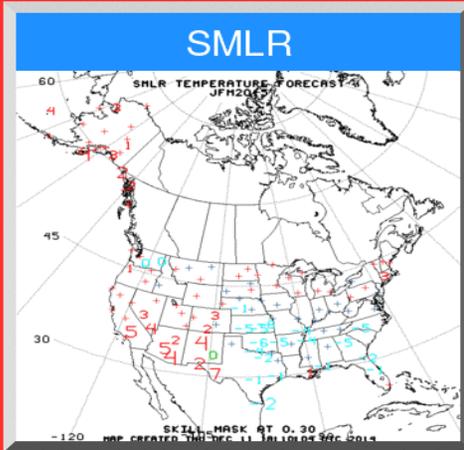
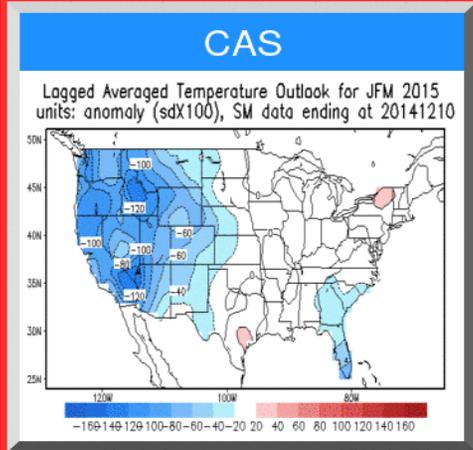
	Season 1	Season 2	Season 3	Season 4	Season 5
Global SST	●	●	●	●	●
Global prate	●	●	●	●	●
Global tmp2m	●	●	●	●	●
US prate	●	●	●	●	●
US tmp2m	●	●	●	●	●

[Anomalies with Skill Masks Applied](#)

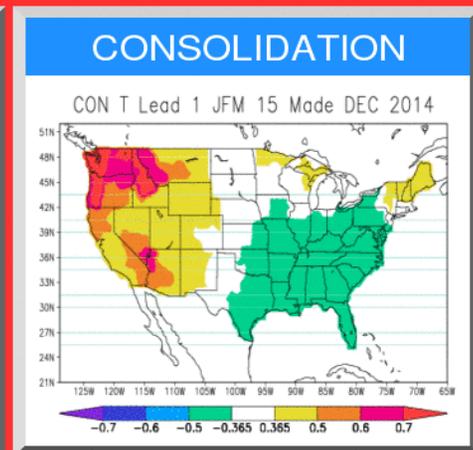
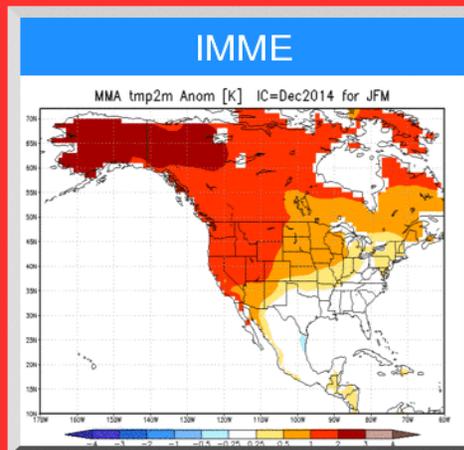
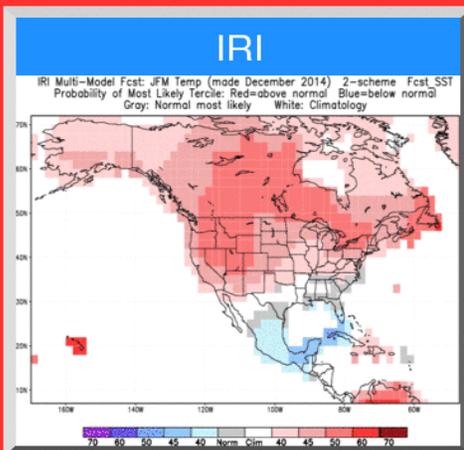
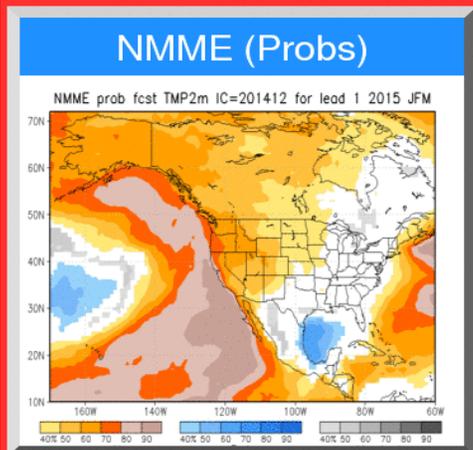
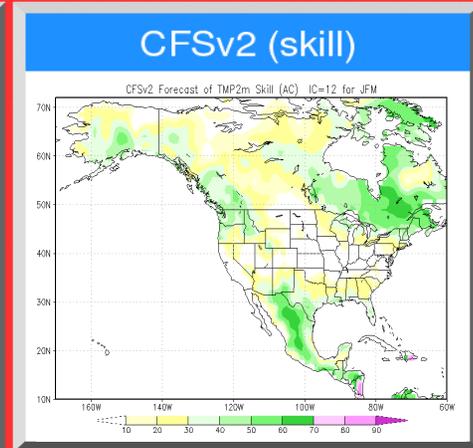
NOAA/ National Weather Service Disclaimer Privacy Policy

<http://www.cpc.ncep.noaa.gov/products/NMME/seasanom.shtml>

JFM Season [Temperature]

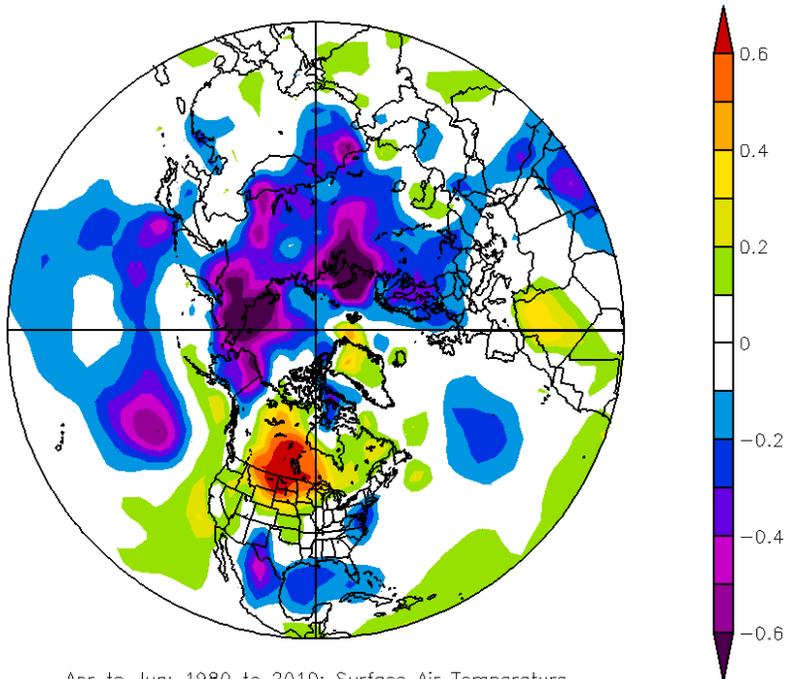


**** NEW OUTLOOK ****





Monthly/Seasonal Outlooks



Apr to Jun: 1980 to 2010: Surface Air Temperature
Seasonal Regression on Air Temperature w/ Dec to Feb PDO (index leads by 4 months)
NCEP/NCAR Reanalysis

NOAA/ESRL Physical Sciences Division

- Forecasters review tools and data.
- Collaboration meeting kicks off the process with each forecaster bringing his/her maps.
- Discussions about competing influences and data caveats.
 - What patterns matter most?
 - Data issues for models and statistical tools
- Lead Forecaster will flesh out full map series (26) and write discussion.
- Other products L3MTO and POE come from core maps.



Week 3-4 Outlooks

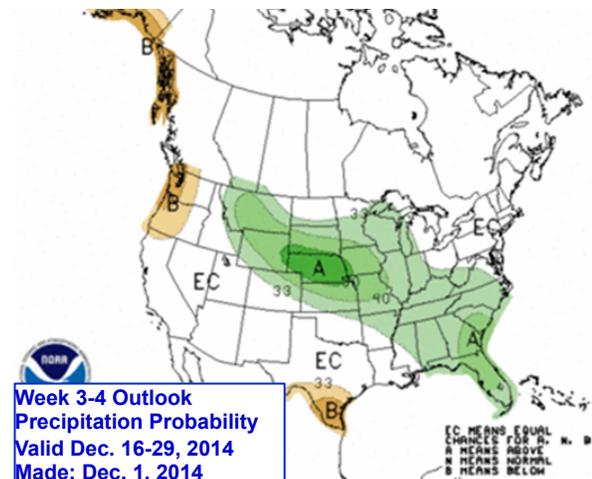
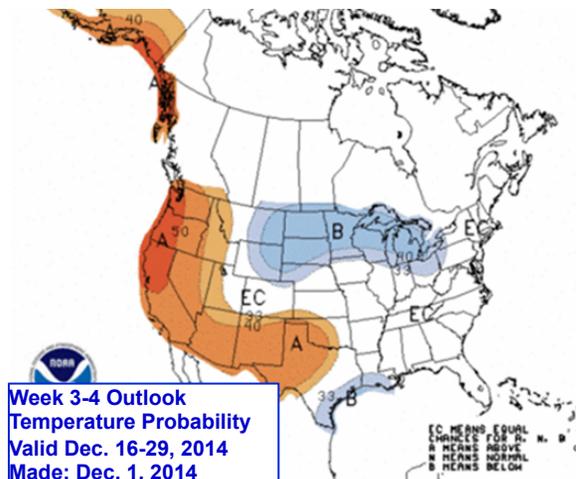
- Work is currently ongoing in areas listed below:

(1) Modification, enhancement and new development of empirical techniques (i.e., constructed analogue, regression, etc.) whose methodologies target MJO/ENSO, trends and blocking

(2) Analysis of dynamical model guidance from a number of operational **centers** including NCEP, ECMWF, JMA and Environment Canada

(3) Operational implementation at CPC of Coupled Linear Inverse Modeling (C-LIM) techniques from ESRL

- Outlooks will need to capitalize on forecasts of opportunity





Links with External Activities



World Meteorological Organization
Weather • Climate • Water

Home Secretary-General Weather Climate Water Environment

World Weather Research Programme (WWRP)

Programmes >> WWRP >

Subseasonal to Seasonal Prediction Project

Subseasonal to Seasonal Prediction Project

World Climate Research Programme

World Weather Research Programme

Sub-seasonal to Seasonal Prediction - Research Implementation Plan

Subseasonal to Seasonal Prediction Initiative Flyer (October 2012 version)

Search ..

- Links with broader initiatives are critical for CPC to deliver these services by leveraging advances in:

(1) Understanding and Predictability Research

(2) Modeling capacity

- ➔ S2S Prediction Project
- ➔ Earth System Prediction Capability
- ➔ NMME subseasonal database

National ESPC

EARTH SYSTEM PREDICTION CAPABILITY

Home

Home

What Is ESPC?

Governance

Focus Projects

Calendar/Events

Participation

Relevant Publications

The National Earth System Prediction Capability (ESPC) is a collaboration between the National Atmospheric Administration (NOAA), U.S. Navy, U.S. Air Force, Dept. of Energy (DOE), National Space Administration (NASA), and the National Science Foundation (NSF).

The Nation's security and economic well-being relies upon accurate global analysis and physical environment over timescales of a few days to a few decades. This need for better conditions and the recent extreme events affecting commerce, defense, infrastructure resources. The National ESPC will improve environmental predictions and help decision makers and planning issues by extending the National predictive capability from hours and days to decadal time periods through improved, coupled global environmental prediction.

The National ESPC vision is to establish a global physical earth system analysis and provide seamless predictions covering hours to decadal timescales including the atmosphere, ocean, and land.