Seasonal Bulletin on the Climate in WMO Region VI

- Europe and Middle East -

Winter 2011

Deutscher Wetterdienst

Last Change: Mon Apr 18 09:48:28 UTC 2011

The Seasonal Bulletin on the Climate in WMO Region VI will usually be delivered within 2 month after the end of a season.

Highlights:

Winter NAO was again negative and the winter was overall cold in Europe. In February 2011 NAO changed to a slightly positive value.

Related Links:

This is the Link to the Regional Climate Centre on Climate Monitoring in RA VI:

RCC-CM RA VI /

and partners producing further European monthly climate monitoring products including:

- anomalies for 42 climate indices from the ECA&D dataset

- Showcases of analyses of extreme weather or climate events

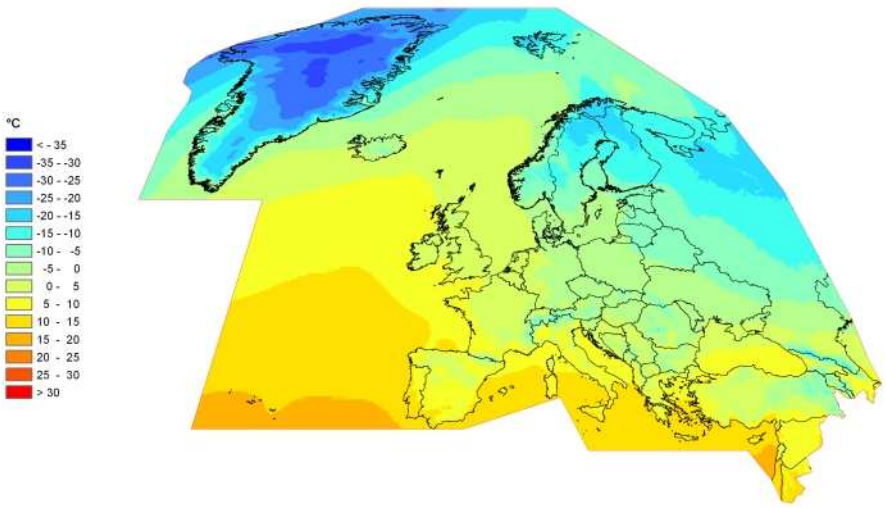
may be found under these links:

ECA&D monitoring products /

Temperature:

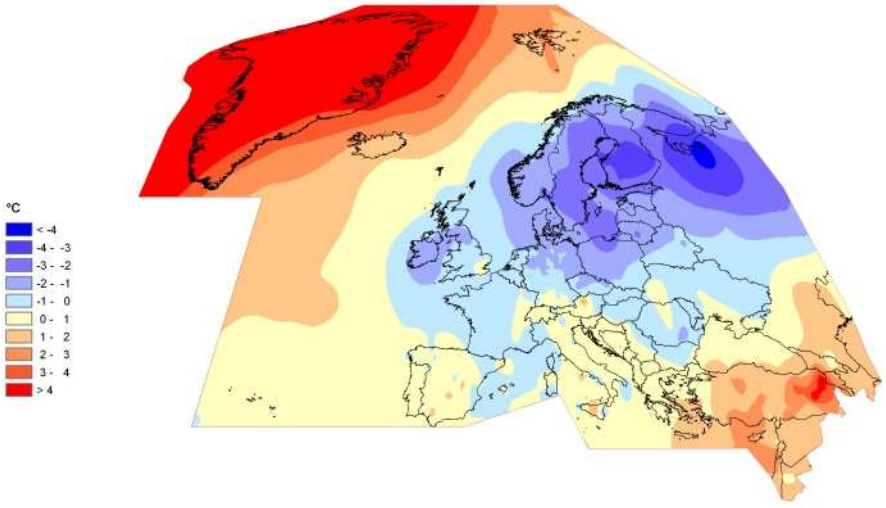
Mittlere Temperatur Winter 2010/11
Mean Temperature Winter 2010/11

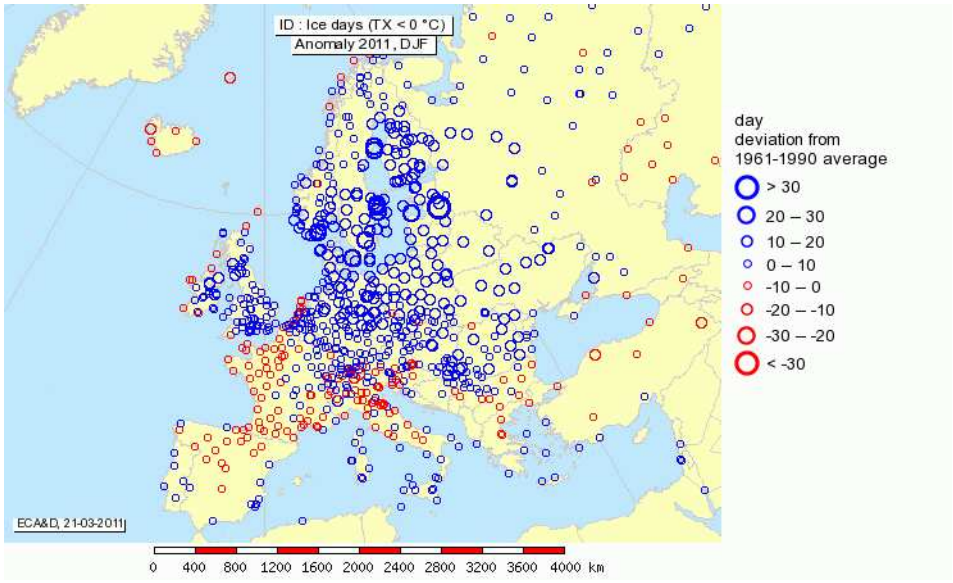
Datenbasis: CLIMAT und Schiffsmeldungen
Data basis: CLIMAT and ship observations
Stand/ last update : 11.03.2011



Temperaturabweichung Winter 2010/11 vom Normalwert 1961-1990
Temperature deviation Winter 2010/11 (reference period 1961-1990)

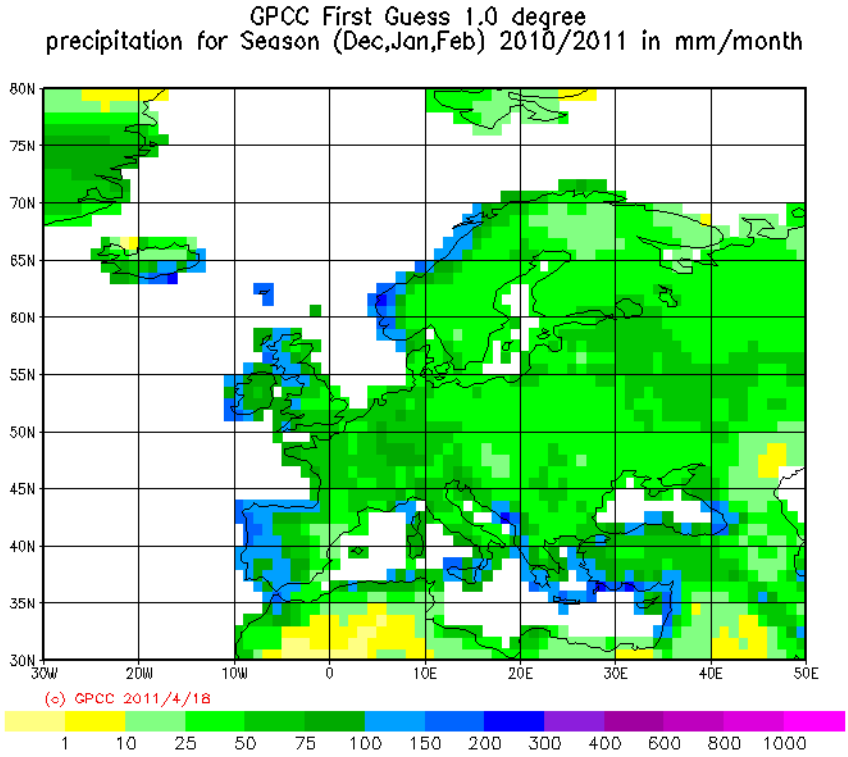
Datenbasis: CLIMAT und Schiffsmeldungen
Data basis: CLIMAT and ship observations
Stand/ last update : 11.03.2011

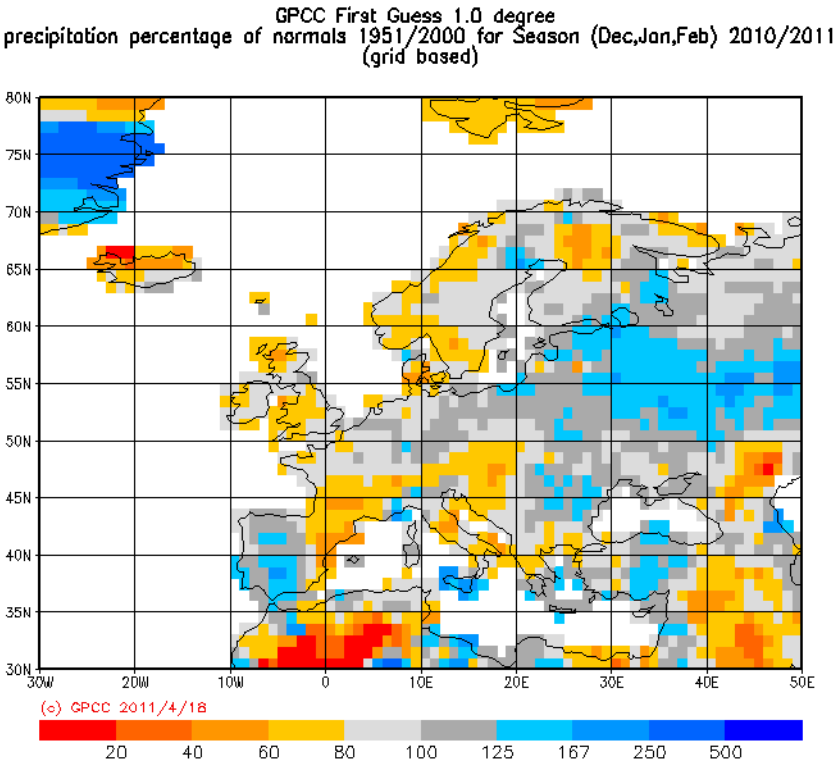


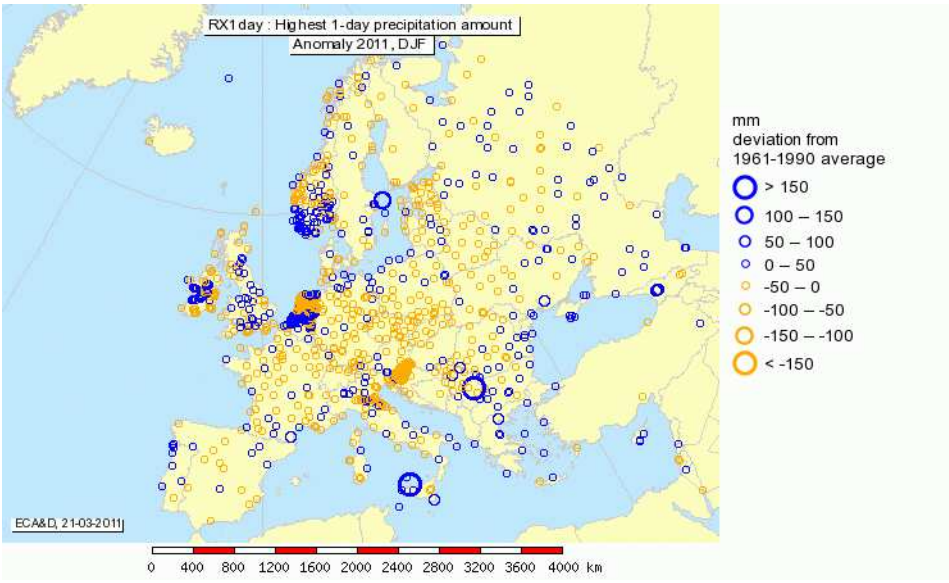


ID: Ice days (TX < 0 deg C), anomaly DJF 2011

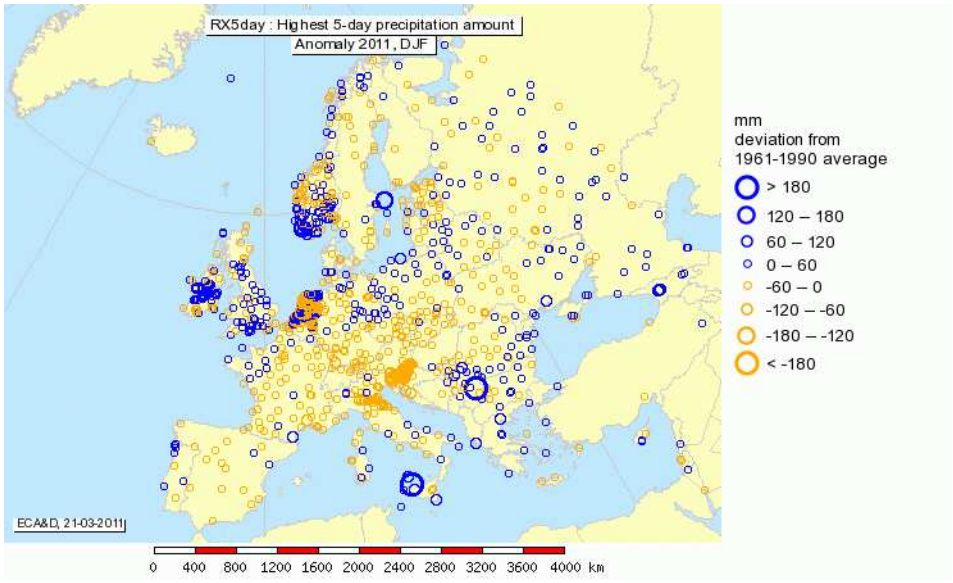
Precipitation:



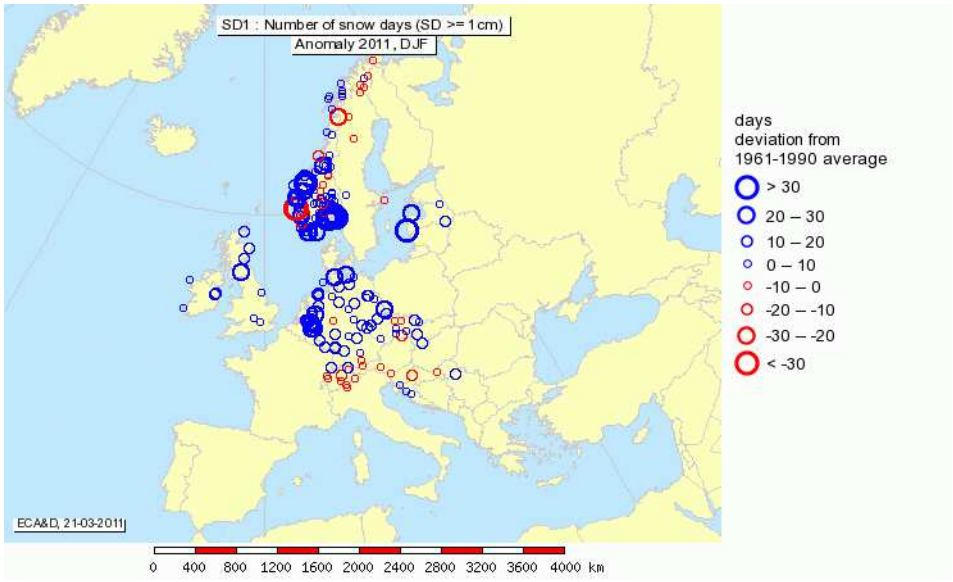




RX1day:Highest 1-day precipitation amount, anomaly DJF 2011



RX5day:Highest 5-day precipitation amount, anomaly DJF 2011

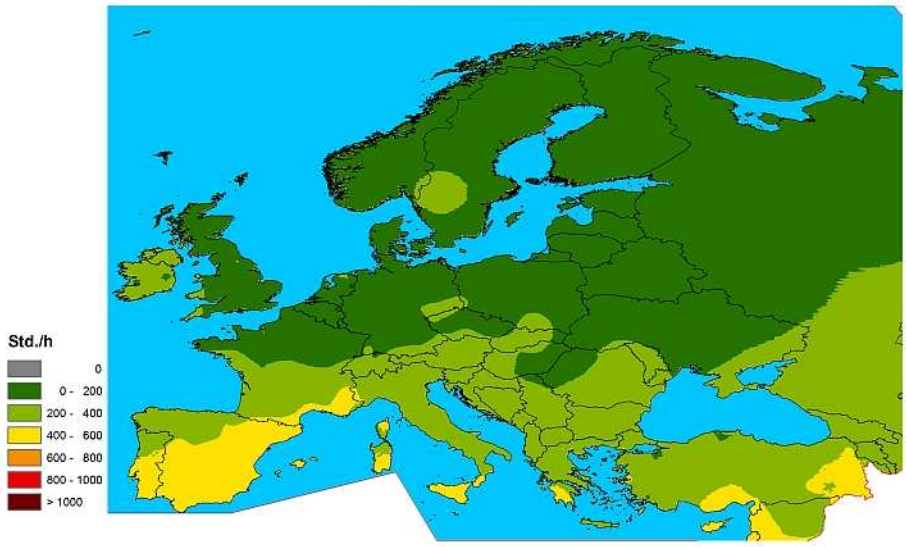


SD1: Number of snow days (SD >= 1cm), anomaly DJF 2011

Sunshine Duration and Cloud Cover:

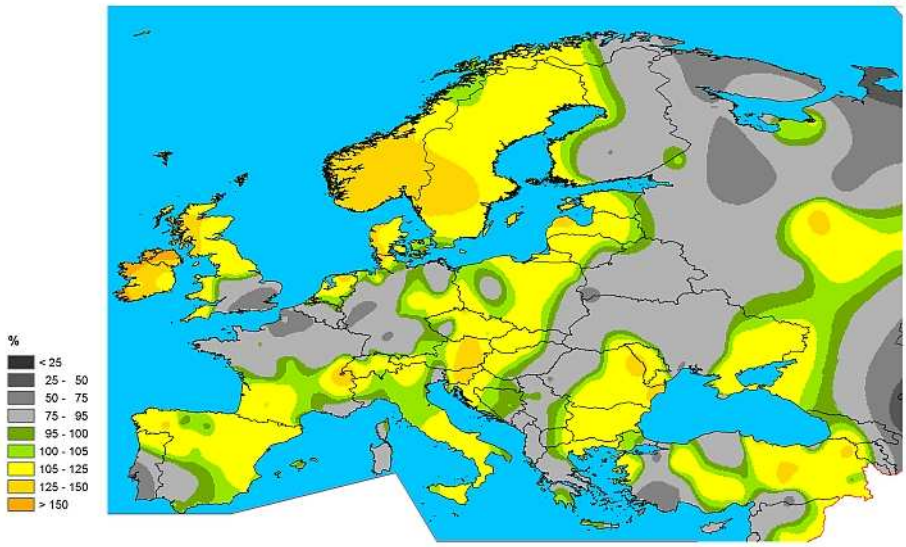
Sonnenscheindauer Winter 2010/11
Sunshine duration Winter 2010/11

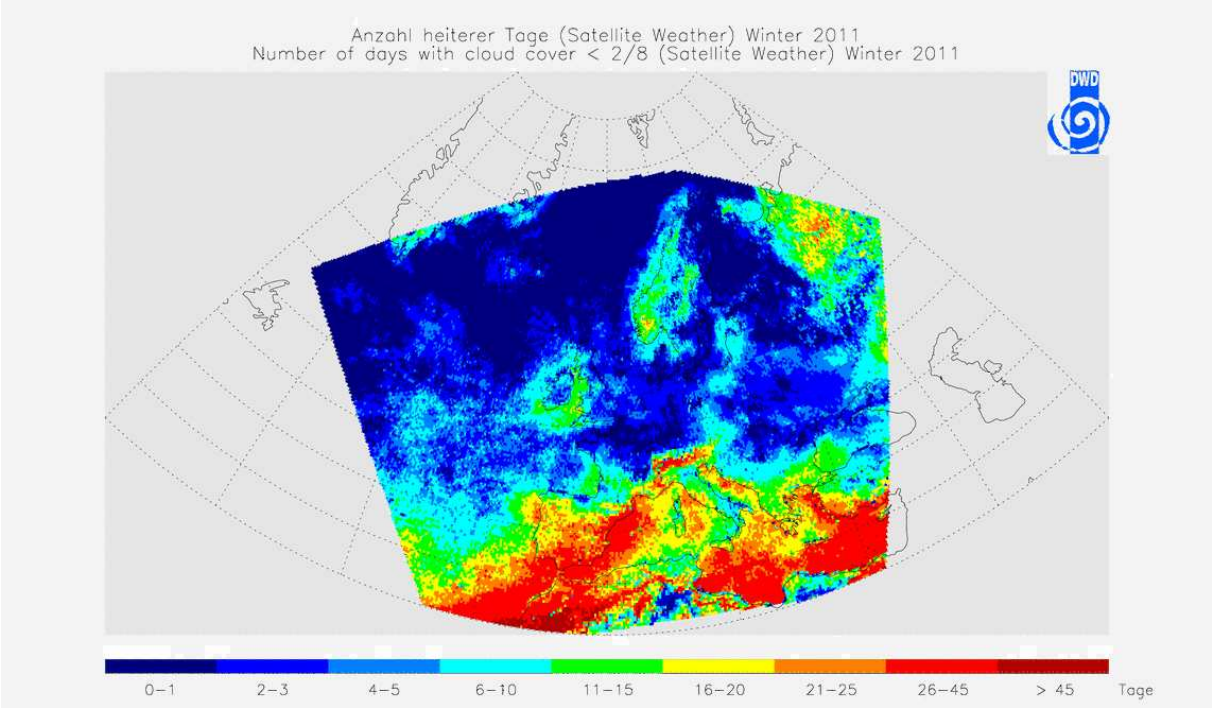
Datenbasis/Data basis: CLIMAT
Stand/ last update : 28.03.2011

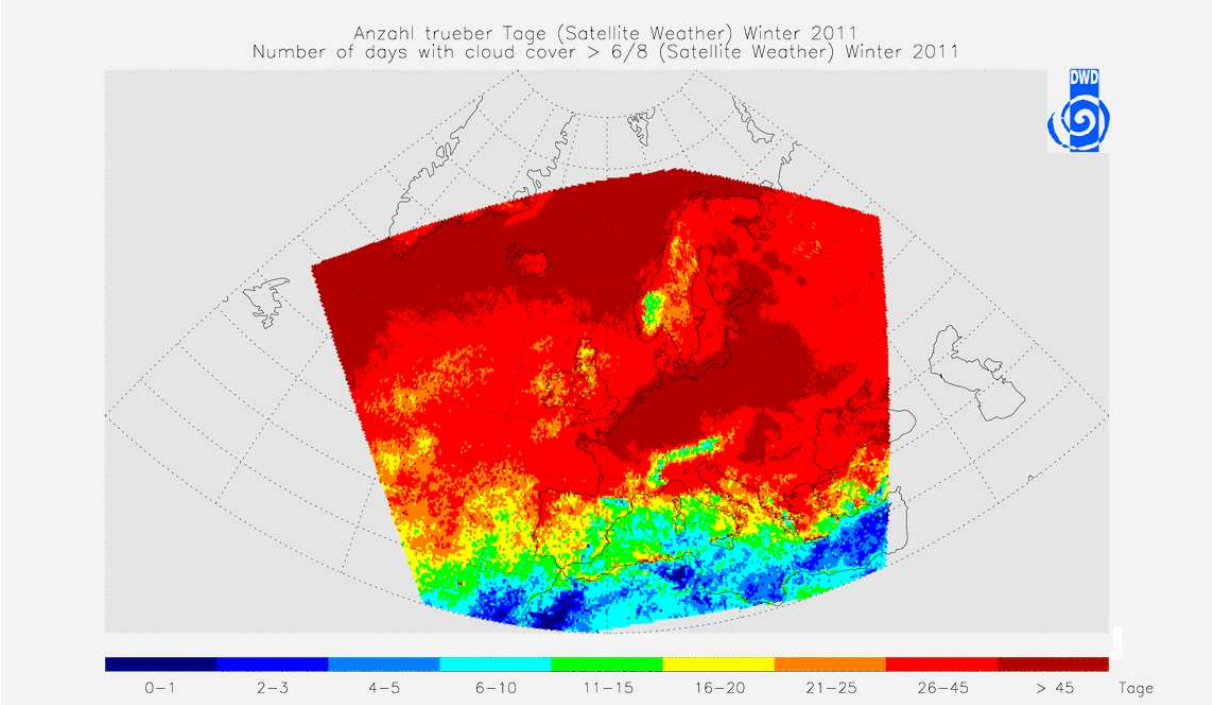


Sonnenscheindauer Winter 2010/11 in % vom Normalwert 1961-1990
Sunshine duration Winter 2010/11 in % of the 1961-1990 normal

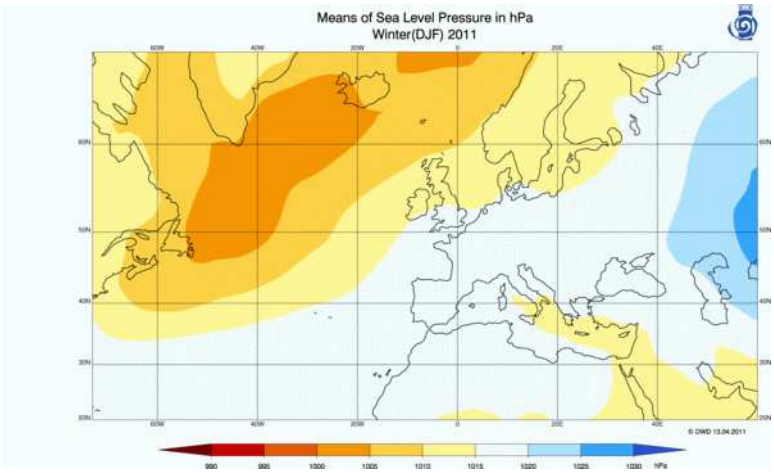
Datenbasis/Data basis: CLIMAT
Stand/ last update : 28.03.2011

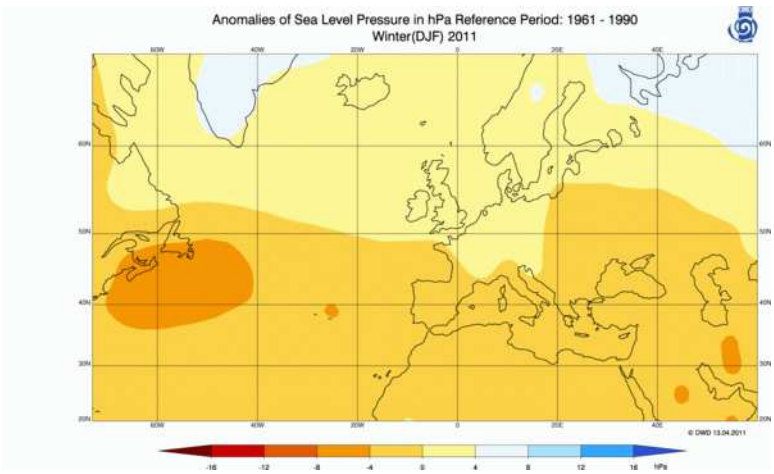






Air Pressure (surface):





Circulation Indices:

Circulation indices are a means to analyse the atmospheric large scale influences upon climate. One of the best known indices is the North Atlantic Oscillation (NAO).Another well known one is ENSO which is especially connected to the El Niño phenomenon.

Monthly values of different circulation indices relevant for Europe: North Atlantic Oscillation (NAO), East Atlantic Pattern (EA), East Atlantic/West Russia Pattern (EA/WR), European Zonal Index (ZI_EU)

(see www.cpc.noaa.gov/data/teledoc/telecontents.shtml and www.dwd.de/GWL for more information)

Index	Monthly Value	Mean Value	Reference Period	Producer
NAO	-1.06			cpc/noaa
EA	-0.30			cpc/noaa
EA/WR	-0.67			cpc/noaa
ZI_EU	7.2	11.9	1961-1990	dwd

Selected Significant Events

December 2010

Snow, storm and low temperatures over western and northern Europe

Since the end of last month large parts of Europe are snow covered. High wind speeds have caused snowdrift at the coast of the Baltic Sea. Low temperatures caused people dying in Poland. Traffic on streets, railways and air is sincerely influenced. Germany and Poland are mostly affected but also Denmark, Sweden, France and UK report problems.

Estonia reported record high snow depth between 37 and 60 cm on 10 December. The values were the highest since December 1965 or earlier. At many stations also wind speed was very high. The highest value was 26.1 m/s at Dirham.

The Czech Republich reported on 5 December that 68 of 151 stations recorded the lowest minimum temperatures since many years and on 4 December at 115 of 151 stations the maximum temperatures were below -10 deg C. The low temperatures ly in the east of the country.

Some examples:

Station	value (deg C)	former record	start of time series
Opava	-22.4	-19.0 (1980)	1876
Prerov	-19.1	-17.0 (1925)	1877
Brno Zabovresky	-9.3	-4.7 (1995/1989)	1968

Links:

Cesky Hydrometeorology Ustav Informacni Servis

Press release of Estonia 10.12.2010

Heavy rain on the Balkan Peninsula

Heavy rain caused rivers to overflow and flood areas of Albania, Bosnia, Serbia and Montenegro. In Albania's northern Shkoder region, 1,000 people were evacuated as water rose above 2m. Serbian authorities declared a state of emergency in the western town of Ljubovija where the Drina river overflowed and across Bosnia, hundreds of people were evacuated from villages that had been isolated, with no electricity, by the rising water.

St Mark's square flooded as Venice waters rise

On 3 December 2010 morning high tides in Venice reached 1.36 metres above sea level flooding more than half of the lagoon city including the central St Mark's Square. The water level marked a record high for Venice in 2010, according to the local tide-monitoring body, Istituzione Centro Previsioni e Segnalazioni Maree. The tide was pushed up by a combination of heavy rains and strong winds that have hit large parts of northern Italy.

Forest Fire in Northern Israel

In early December an extended forest fire in the Carmel mountains occurred which was well to be seen on MODIS satellite pictures of 3 December 2010.

The climatology department of the Israel Meteorological Service gave the following analysis: The deadly fire in the Carmel Mountains near Haifa, which took the lives of more than 40 people and caused extensive damage, was amplified by the hot and dry atmosphere. A red sea trough at low level, accompanied by high pressure at high level resulted in strong south easterly winds bringing relatively hot and extremely dry air. The event came after a totally dry November and only a few millimeters of rain in that area during October. Accumulated rainfall in the Haifa area from the beginning of season (which officially begins at 1st of August) was the lowest on record, at least in the last 70 years. That joins the very dry March and April to form a period of almost 9 months with hardly any rain (June to August is naturally a dry period and May and September usually have only minor amounts). All that contributed to the extreme dryness of the Carmel flora that became an "easy target" for the fire. November was also the warmest in the last 40 years all over the country and, with very high temperatures in the preceding months, made the period August to November as the warmest on record.

Deadly Forest Fire in Northern Israel

High several-day precipitation amounts on the Peninsula Iberica and a tornado in Portugal

During 5 December to 8 December 2010 warm and humid air brought high amounts of rain to Spain and the Canary Islands. 4-day totals ranged between 160 and 334 mm and daily totals of 100 mm or more occurred on the 7th and 8th in Andalucia (regions of Cordoba and Sevilla). The Guadaquivir river caused severe flooding in Lora del Rio near Seville where dozens of homes had to be evacuated and at leas two people died.

Portugal reported that a tornado on 7 December destroyed a hall (a metal construction) at an industrial site of Serta. The tornado is estimated as category EF3 of the Fujita scale.

Links:

Temporal Atlantico del 5 al 8 de Diciembre

Green Flood Alert in Spain Mon, 6 Dec 2010

Flooding in Southern Spain

Portugal: Boletim Climatologico Mensal de Dezembro 2010

Flooding in Ukraine

On 10 December 2010 severe rain and flooding forced hundreds from their homes in western Ukraine. The worst affected region was Zakarpattia.

Links:

Flood Ukraine 13 Dec 2010

Storm in the eastern Mediterranean caused severe damage to coastal areas - More snow in most of Europe

On 13 December 2010 the coasts of Lebanon, Israel and Egypt were severely hit by storm and heavy rain. Also the Red Sea region was affected. In Egypt at least 18 people came to death, mainly in the region of Alexandria when buildings were damaged. Ships in several ports were driven on shore, floodings and also sandstorms occurred. On the Greek island Samos coastal roads were closed due to fallen rocks.

In northern Greece and Macedonia snowfall occurred.

Also in Turkey snow fell widely spread so that much of the country was snow covered for 2 days.

Links:

Greece: weather news

IMS products of the NOAA National Ice Center - Daily global Snow Cover

Ongoing snowfall and cold over Europe

Belgium reports that the numer of days with snowfall since November 2010 was 21 on 21 December 2010 and thus exceeds the redords of the years 1919,1923 and 1925.

Greece reported very low temperatures and more snowfall between 15 and 18 December 2010. Some reported low temperatures (deg C) of 15 December in western Macedonia: -13.1 Blasten Kozani, -12.4 Delchev, -12.2 Variko Floriana, -10.8 Ptolemaida, -10.3 Florina.
On 1 December: -16.9 Florina, -14.7 Delchev, -12.5 Dama, -12.5 Grevav, -12.3 Ptolemaida,-6.3 Joannina, -6.1 Trikala.High amounts of daily precipitation were reported on 16 December for instance for Rethymnon (crete) with 41.2 mm. Larissa had 30 cm of new snow on this day. In Orestiada a snowstorm occurred.

Italy reported very low temperatures (in deg C) on 18 December in the region of Friul: -15.6 in Pradamo, -14.9 in Bicinicco, -14.3 in Palazzolo, -13.3 in Codroipo, -12.9 in Talmassons. There was a snowcover of 10 cm and more up to 30 cm (20 cm at Udine City).

Links:

Sneeuwpracht of witte ellende:en nieuw record

Greece: weather news

meteoWEB: In Friuli grande nevicata et gelo eccezionale

January 2011

Melting snow and rainfall causes floodings in Germany

After rising temperatures from 6 January on and worsened by additional rainfall especially in the middle of the month rivers in Germany overflowed their banks and streets and villages and cities were flooded. Most severely hit were the rivers Rhine, Mosel, Weser, Main, Donau, Oder, Elbe and Saale. On the Rhine a ship capsized near the Loreley and shipping was impossible for several weeks there. Shipping was also interrupted on the other rivers for several days. Events like these occur once within 5 years.Also Austria and the Czech Republic reported floodings.

Links:

News by **bfg** (Bundesanstalt für Gewässerkunde)

Austria: Unwetterbericht

Czech Republic: Ceski Hydrometeorologicky Ustav

February 2011

Storm over the British Isles, northern Germany, Denmark and southern Sweden, accompanied by heavy rain in England and Northern Ireland

A storm depression crossed the northern parts of Europe from the British Isles over the southern North Sea, northern Germany (Schleswig-Holstein), Denmark to southern Sweden quickly on 6 and 7 February 2011. It was accompanied by enduring rain in Northen Ireland and England, causing floods. At least one man came to death when his car was swept away. Windgusts of more than 30 m/s were reported from UK, the highest German report says 36.1 m/s at the Leuchtturm Kiel in the night of 7 to 8 February and the Danish reports give a gust of 36.5 m/s (Nissum Fjord) at the same time with maximum mean wind values between 25 and 30 m/s.

Links:

Driver drowns after escaping from flooded car as gales top 60mph

Stormlavtryk blæste Danmark omkuld

07.02.2011: Westwetterlage im Winter

Storm, heavy rain and snowfall cause havoc in Portugal

On 16 February the westcoast of the Peninsula Iberica was affected by a storm depression. Severe damages like destroyed house roofs and fallen trees as well as heavy precipitation was reported by Portugal. A tornado may have occurred. Also the Azores were affected by strong winds and waves at the coasts.

Links

Neve, chuva e vento fortes provocam estragos pelo continente e Açores

Duststorm in the Mediterranean Sea area

On 23 february 2011 a duststorm was detected by MODIS satellite images. Its origin is west of the Nile delta and it spreads northwards to Greece until Crete.

Links:

Earth Observatory: Dust plume over the Mediterranean Sea

Severe Weather: