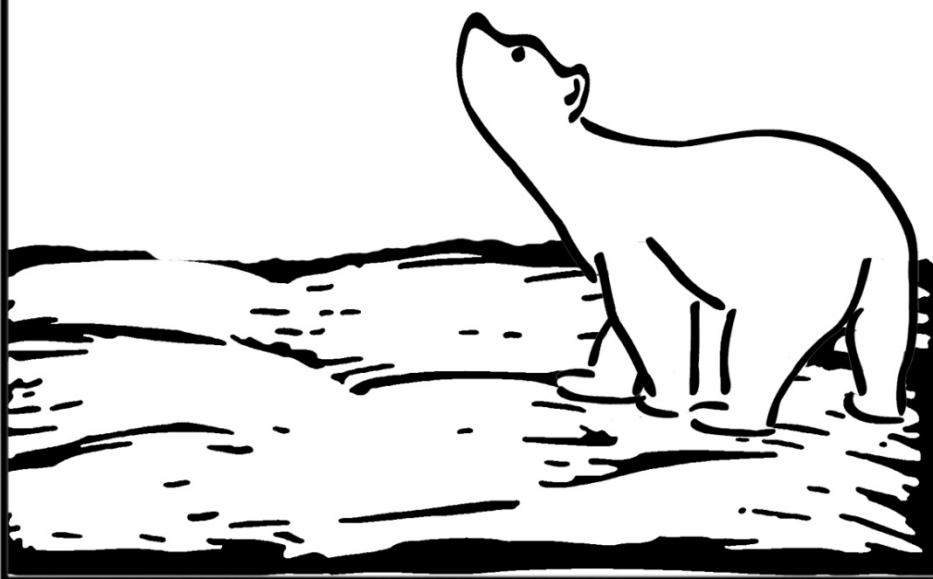





20 MARCH 2015  
SVALBARD, NORWAY



# 20 MARCH 2015

## SVALBARD, NORWAY



## SIRIUS TRAVEL

### Our Eclipse Destination on March 20, 2015

**Svalbard** (formerly known by its Dutch name **Spitsbergen**), is a Norwegian Archipelago in the Arctic Ocean. Situated north of mainland Europe, it is about midway between continental Norway and the North Pole. The name Spitsbergen was given by its discoverer, Willem Barentsz, in 1596 and means “pointed mountains” (from the Dutch *spits* – pointed and *bergen* - mountains). The name changed from the Spitsbergen Archipelago to Svalbard in 1925 with the Svalbard Treaty which granted Norway sovereignty.

On March 20, 2015 there will be a total solar eclipse visible from Svalbard. On that date, Sirius Travel has chartered a Boeing 737 to transport travelers from Oslo to Svalbard for the event!

### **Eclipse particulars for Longyearbyen, Svalbard (78.22°N 15.65°):**

**Eclipse begins:** 10:11:52.2 local time

**Start of totality:** 11:10:42.8

**End of totality:** 11:13:10.2

**Eclipse ending:** 12:12:20.8

**Altitude of Sun during totality:** 11.2 - 11.3 degrees

**Totality will last for 2 minutes 27.4 seconds**

In 2012, Svalbard had an estimated population of 2,642 with Longyearbyen its largest settlement. The climate of Svalbard is dominated by its high latitude, with the temperature on March 20 averaging at -18 to -12 °C (-1 to 10 °F). It also tends to be windy which will make the temperature feel cooler. The North Atlantic Current moderates Svalbard's temperatures, giving it up to 20 °C (36 °F) higher winter temperatures than similar latitudes in Russia and Canada. This keeps the surrounding waters open and navigable most of the year.

**OSLO, Norway:** (59° 57' 0" N, 10° 45' 0" E)

According to the Norse sagas, Oslo was founded around 1049 by King Harald Hardråd. Recent archaeological research however has uncovered Christian burials which can be dated to prior to AD 1000, evidence of a preceding urban settlement. This called for the celebration of Oslo's millennium in 2000. As of January 2014 the city of Oslo has a population of 634,000 and is the fastest growing major city in Europe.

Despite its high latitude, the climate is not severely cold due to the onshore air-masses in winter and the coastal location of the city. The temperature in March averages between -6 to 4°C (22 to 38°F) although temperatures have tended to be higher in recent years. Note that if it is a warmer year we can expect rain.

Oslo is a compact city and easy to move around by public transportation. It has been ranked as one of the world's greenest and livable cities.

**ICELAND**

Iceland is a Nordic island country between the North Atlantic and the Arctic Ocean. It has a population of 325,671 and an area of 103,000 km<sup>2</sup> (40,000 sq mi), making it the most sparsely populated country in Europe. The capital and largest city is Reykjavík; the surrounding areas in the southwest of the country are home to two-thirds of the population. Iceland is volcanically and geologically active. The interior consists mainly of a plateau characterized by sand and lava fields, mountains and glaciers, while many glacial rivers flow to the sea through the lowlands. Iceland is warmed by the Gulf Stream and has a temperate climate despite a high latitude just outside the Arctic Circle.

According to *Landnámabók*, the settlement of Iceland began in 874 CE when the Norwegian chieftain Ingólfr Arnarson became the first permanent settler on the island. In the following centuries, Scandinavians settled Iceland, bringing with them thralls of Gaelic origin. From 1262 to 1918, Iceland was ruled by Norway and later Denmark. The country became independent in 1918 and a republic in 1944.

The temperature in March averages between -2 to 4 °C (29 to 38 °F).

## **MEETING THE TOUR**

**OPTION A:** March 17, We will meet at the Reykjavik International Airport in the departure lounge for our IcelandAir flight 318 departing at 0735 (AM).

**OPTION B:** March 17, We will meet at the hotel in Oslo (Comfort Hotel Grand Central). Check in when you arrive and your Sirius guide will seek you out. (The guide will arrive with the group from Iceland around noon).

**OPTION C:** March 20, We will meet at the check in counter or in the departure lounge for our Jet Time charter flight to Svalbard at the Oslo Gardermoen Airport (OSL). Check in time begins at 3:15am.

## **ITINERARY FOR OPTIONS A, B, AND C**

### **Day 1, March 17, 2015: Reykjavik, Oslo**

A: Option A travelers will meet the tour in the Reykjavik airport departure lounge for our flight to Oslo.

B: Option B travelers will arrive independently in Oslo and meet at the hotel where they will connect with Sirius Travel and other travelers. Enjoy the remainder of the day at leisure in Oslo or resting in your hotel room. Overnight in Oslo at Comfort Hotel Grand Central.

### **Day 2, March 18, 2015: Full Day Oslo (B, D)**

A/B: Meet in the morning for an all-inclusive full day tour of Oslo. We will visit Frogner Park which houses the impressive sculptures by Gustav Vigeland followed by jaw-dropping views from the Holmenkollen ski jump. We will then enjoy a walking tour around the Viking ship museum, the Fram museum, and the Kon Tiki Museum. Welcome dinner at the hotel. Overnight Oslo at Comfort Hotel Grand Central.

### **Day 3, March 19, 2015: Full Day Oslo (B)**

A/B: After breakfast enjoy the day at leisure in Oslo. Travelers may wish to visit the Oslo Guidebureau to explore their guided town walks that range in topics from architecture to industrial history. Overnight Oslo at Comfort Hotel Grand Central.

### **Day 4, March 20, 2015: Oslo – Svalbard – Oslo**

#### **ECLIPSE DAY!!**

A/B: (B, L, D) Options A and B will be transferred from the hotel to the airport for our early morning charter flight (departure 5:15am). We will leave the hotel around 3am.

C: (L) Option C will join A and B this morning at the airport for the charter flight from Oslo to Svalbard. Check in time begins at 3:15am at the Oslo Gardermoen Airport (OSL).

A/B/C: Our flight is scheduled to arrive in Svalbard at 8:25am, more than 1.5 hours before the

eclipse begins. While in Svalbard all travelers (A, B, & C) will be provided with transport to and from the airport to our eclipse viewing site, a box lunch, and eclipse viewing glasses. Once the eclipse is finished, we will return to the airport and board our return flight, departing at 14:00 local time and arriving in Oslo at 17:10 local time.

C: Option C will end on our return to the Oslo airport.

A/B: transfer to the hotel for our celebratory eclipse dinner. Overnight Oslo at Comfort Hotel Grand Central.

**Day 5, March 21, 2015: Oslo – Reykjavik (B, D)**

B: Option B will end with the hotel checkout after breakfast at the hotel this morning.

A: Option A travelers will transfer to the airport after breakfast and leave Oslo for Reykjavik, Iceland. Dinner at the hotel. Overnight Icelandair Hotel Reykjavik Natura.

**Day 6, March 22, 2015: Reykjavik (B)**

A: Departing at 9am from our hotel, we will enjoy a full day “Golden Circle” tour of some of the best known natural phenomena surrounding Reykjavik. From spouting geysers, tumbling waterfalls, and ancient volcanoes, this full day excursion will introduce you to Iceland’s world-renowned pristine natural beauty surrounding the capital. Highlights will include Thingvellir (the oldest functioning parliament in the world), Geysir and Strokkur hot springs, the charming village of Hveragerdi, and Gullfoss waterfall. Overnight Icelandair Hotel Reykjavik Natura.

**Day 7, March 23, 2015: Reykjavik (B, L)**

A: Leave after breakfast for a half day city tour. Enjoy lunch at Kopar restaurant before leaving for an excursion to the world famous Blue Lagoon Spa. Surrounded by lava fields and snow-capped mountains, the Blue Lagoon is a geothermal spa outside the city where you can bathe in warm waters, have a water massage, or enjoy a spa treatment. Spa entrance fee is included but any additional services will be the responsibility of the individual. Overnight Icelandair Hotel Reykjavik Natura.

**Day 8, March 24, 2015: Reykjavik (B, D)**

A: Free day to enjoy Reykjavik and its surroundings. We will meet at a local restaurant for dinner together before the end of the tour. Overnight Icelandair Hotel Reykjavik Natura.

**Day 9, March 25, 2015: Tour ends (B)**

A: After breakfast and checkout, option A travelers will continue their onward journey home or elsewhere.

## Total Solar Eclipse of 2015 Mar 20

Ecliptic Conjunction = 09:37:18.2 TD (= 09:36:10.6 UT)

Greatest Eclipse = 09:46:46.8 TD (= 09:45:39.2 UT)

Eclipse Magnitude = 1.0446      Gamma = 0.9454

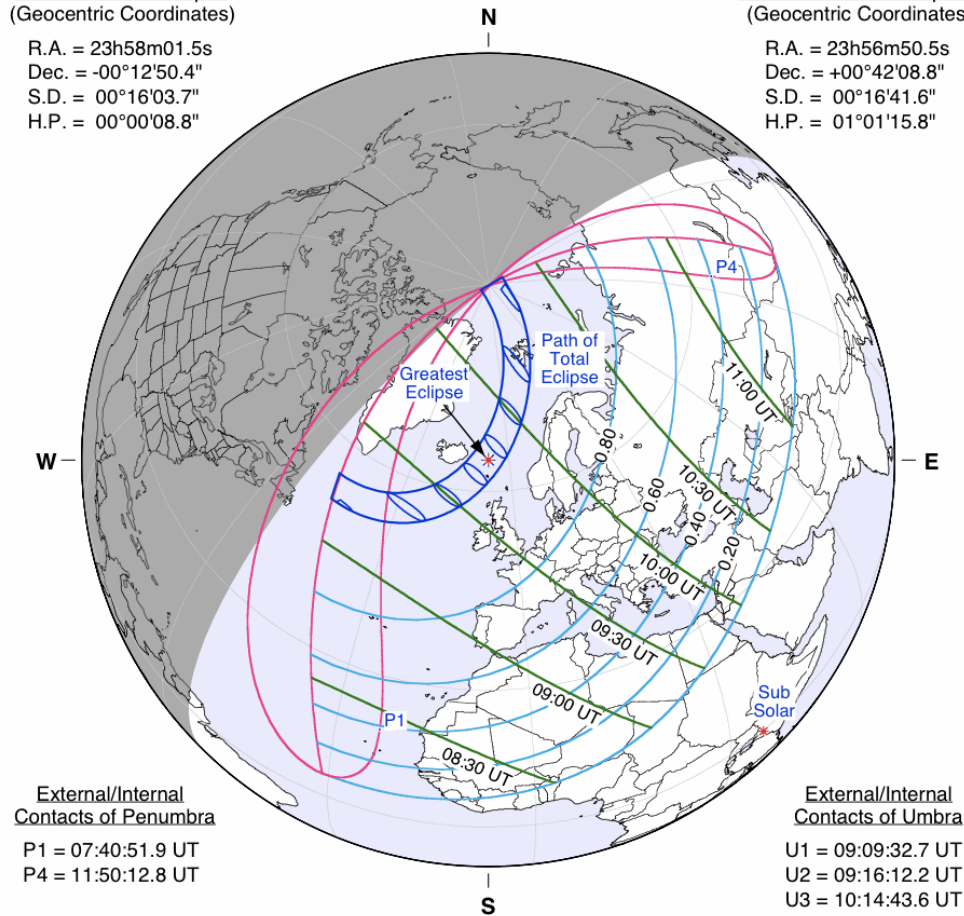
Saros Series = 120      Member = 61 of 71

### Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 23h58m01.5s  
Dec. = -00°12'50.4"  
S.D. = 00°16'03.7"  
H.P. = 00°00'08.8"

### Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 23h56m50.5s  
Dec. = +00°42'08.8"  
S.D. = 00°16'41.6"  
H.P. = 01°01'15.8"



### External/Internal Contacts of Penumbra

P1 = 07:40:51.9 UT  
P4 = 11:50:12.8 UT

### External/Internal Contacts of Umbra

U1 = 09:09:32.7 UT  
U2 = 09:16:12.2 UT  
U3 = 10:14:43.6 UT  
U4 = 10:21:22.3 UT

### Constants & Ephemeris

$\Delta T = 67.6$  s  
 $k1 = 0.2725076$   
 $k2 = 0.2722810$   
 $\Delta b = 0.0''$     $\Delta l = 0.0''$   
Eph. = JPL DE405

### Circumstances at Greatest Eclipse: 09:45:39.2 UT

Lat. = 64°25.9'N      Sun Alt. = 18.5°  
Long. = 006°38.8'W      Sun Azm. = 135.0°  
Path Width = 462.6 km      Duration = 02m46.9s

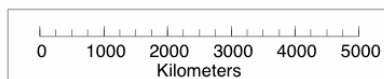
### Circumstances at Greatest Duration: 09:45:16.6 UT

Lat. = 64°17'N      Sun Alt. = 18.5°  
Long. = 006°54'W      Duration = 02m46.9s

### Geocentric Libration (Optical + Physical)

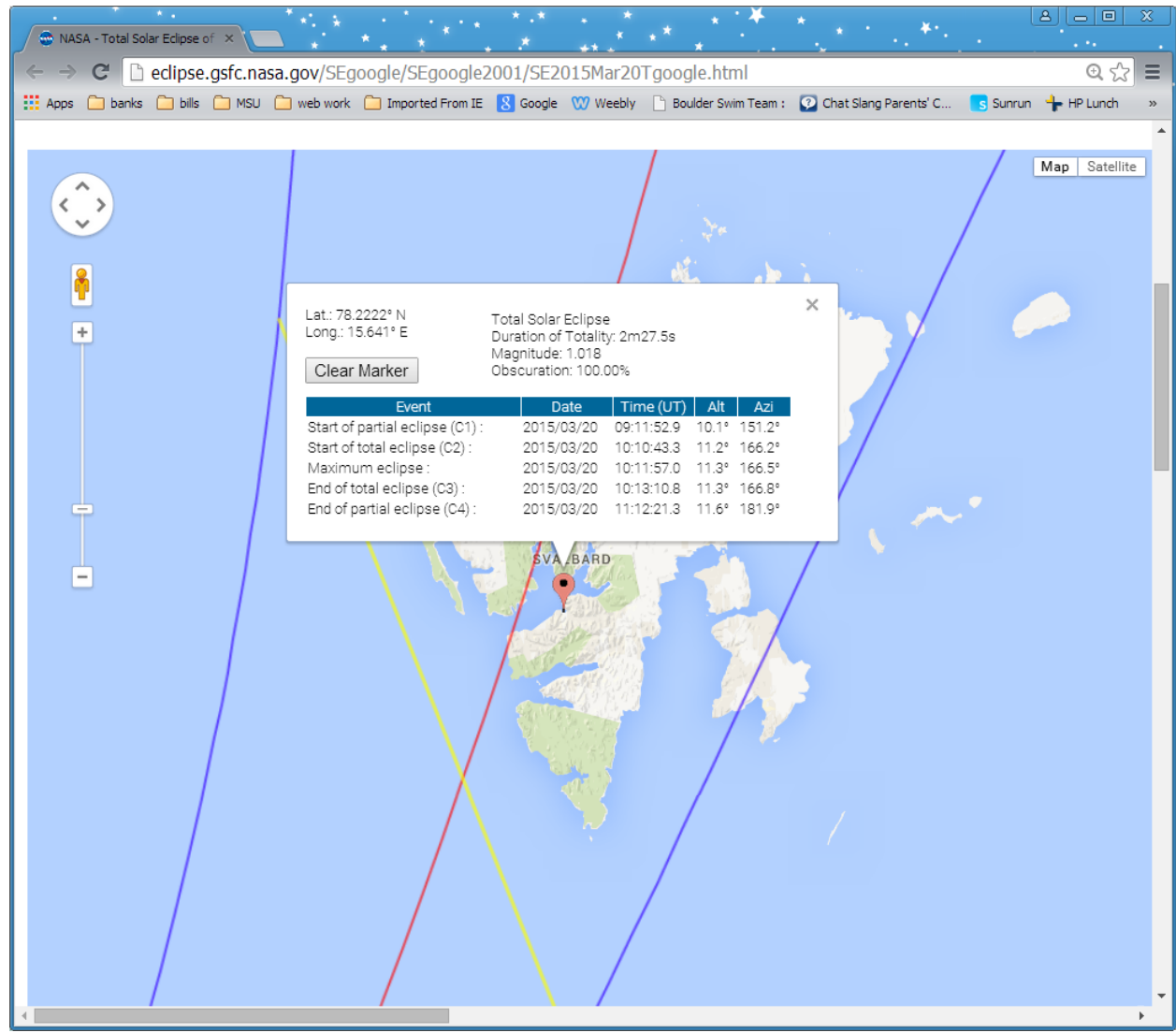
$l = 1.22^\circ$   
 $b = -1.22^\circ$   
 $c = -24.92^\circ$

Brown Lun. No. = 1141



F. Espenak, NASA's GSFC  
[eclipse.gsfc.nasa.gov](http://eclipse.gsfc.nasa.gov)  
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## Eclipse Tour 2015 – Svalbard, Norway



<http://eclipse.gsfc.nasa.gov/SEgoogle/SEgoogle2001/SE2015Mar20Tgoogle.html>

The marker on the map above indicates Longyearbyen, the main settlement on Svalbard and our location during the eclipse.

## **Tour Flight Information**

### **Option A: Flight from Reykjavik – Oslo – Reykjavik on March 17/21, 2015**

DEPART: March 17, 2015

IcelandAir flight 318 KEF - OSL

Depart Reykjavik 0735

Arrive Oslo 1105

RETURN March 21, 2015

IcelandAir flight 319 OSL - KEF

Depart Oslo 1405

Arrive Reykjavik 1545

### **Options A, B, and C – Eclipse Charter Flight Oslo – Svalbard - Oslo on March 20, 2015**

**\*\*\*\*DEPART FROM OSLO GARDERMOEN AIRPORT (OSL)\*\*\*\***

DEPART: March 20, 2015

JetTime flight number JTG841 OSL – LYR

Depart Oslo - 05:15 Local Time (Check in starting at 3:15am)

Arrive Svalbard - 08:25 Local Time

RETURN: March 20, 2015

JetTime flight number JTG842 LYR - OSL

Depart Svalbard 14:00 local Time

Arrive Oslo 17:10 local Time

## **HOTELS**

**OSLO** (Options A/B): March 17-20, 2015

**Comfort Hotel Grand Central**

Jernbanetorget 1

NO-0154 Oslo, Norway

Web: [www.comfortgrandcentral.no](http://www.comfortgrandcentral.no)

Tel: +47 22 98 28 00

**REYKJAVIK** (Option A): March 21-24, 2015

**Icelandair Hotel Reykjavik Natura**

Nauthólsvegur

Reykjavík, Iceland

Web: [www.icelandairhotels.com/en/hotels/natura](http://www.icelandairhotels.com/en/hotels/natura)

Tel: +354 444 4500



## **PACKING LIST SUGGESTIONS**

### **LAYERS LAYERS LAYERS**

Several breathable thermal layers finished off with water proofs will keep your core warm and the wind chill at bay. Two pairs of socks – one thin, one thermal, two pairs of gloves – a liner and a fleecy waterproof pair similar to ski gloves are recommended.

### **SUGGESTIONS FOR YOUR PACKING LIST**

#### **CLOTHING**

- down jacket recommended (there are some outstanding puffer coats out there that are lightweight, good for extreme cold, and packable)
- Waterproof outer layer
- windproof jacket/trousers (ski trousers are excellent)
- turtleneck or fleece sweater (underlayer)
- thick fleece or woolen sweater (overlayer)
- Synthetic/silk/wool long underwear (Cotton should not be the layer closest to your skin)
- 2 pairs woolen socks
- 2 pairs woolen gloves/mittens
- windproof gloves
- scarf/neckwarmer
- thick and warm headwear (hat with earwarmers)
- facemask
- really good winter boots with soft rubber soles. (It's important that you get soft rubber soles because even medium soles get really hard in the freezing cold. Make sure too that they have large spaces between the tracks, or the snow will get stuck in them and make them very slippery.)
- indoor footwear
- Other general clothing items like skirts/pants/shirts

#### **OTHER ITEMS**

- binoculars
- thermos flask, steel
- water bottle
- small rucksack
- feet/hand warmers that fit inside your boots/mittens
- sunglasses - the sun can be very bright off snow
- Swimsuit! - for those of you going to Reykjavik, we will need swimsuits for the Blue Lagoon. Also, there are pools/spas in our hotels.
- Power converter for Norway/Icelandic outlets (Norway and Iceland use 220 V electrical outlets, 50-60 Hz cycles with two round electric prongs (C & F type))

**During the winter**, use the warmest and best you have. Several layers, as well as windproof outer garments, are important. Bring extra warm clothes to be prepared for extreme weather conditions.

#### **Indoor footwear**

On Svalbard it is a tradition to take off your shoes when visiting someone's home, or upon entering accommodation sites, shops and offices.

## **WEATHER**

### **Reykjavik:**

The almanac for March indicates overall averages of -2 to 4 °C (29 to 38 °F) with anything from 10°F to 75°F possible. Winds average about 20mph. This will make the temperatures feel cooler. Also, if it is above freezing we can expect rain. A waterproof shell that fits over several layers is a good idea. Umbrellas will not work well if it is windy.

### **Oslo:**

The almanac for March indicates overall averages between -6 to 4°C (22 to 38°F) with anything from -9°F to 66°F possible. Winds average about 11mph.

### **Svalbard:**

The almanac for March 20 indicates averages of -18 to -12 °C (-1 to 10 °F) with anything from -18°F to 32°F possible. Winds average about 24mph but can vary widely.

## **TOUR CONTACT**

Tour leader: Victoria Sahami

Telephone: (+1) 303-886-5641

Email: [siriustravel@siriustravel.com](mailto:siriustravel@siriustravel.com)

Wifi walkie-talkie using an app called VOXER: **vsaham395**

### **References and notes:**

- The information given here for Svalbard, Oslo, and Iceland is garnered from a variety of websites (including Wikipedia and [www.svalbard2015.no](http://www.svalbard2015.no)) and extremely general. It is meant only to assist travelers in preparing for their trip. For more comprehensive information or details on any of our destinations, please refer to your choice of authoritative guides.
- Archived weather information was collected from [wunderground.com](http://wunderground.com)
- Eclipse particulars and maps originate from Nasa's eclipse site <http://eclipse.gsfc.nasa.gov/SEgoogle/SEgoogle2001/SE2015Mar20Tgoogle.html>