Tropical cyclone swaths

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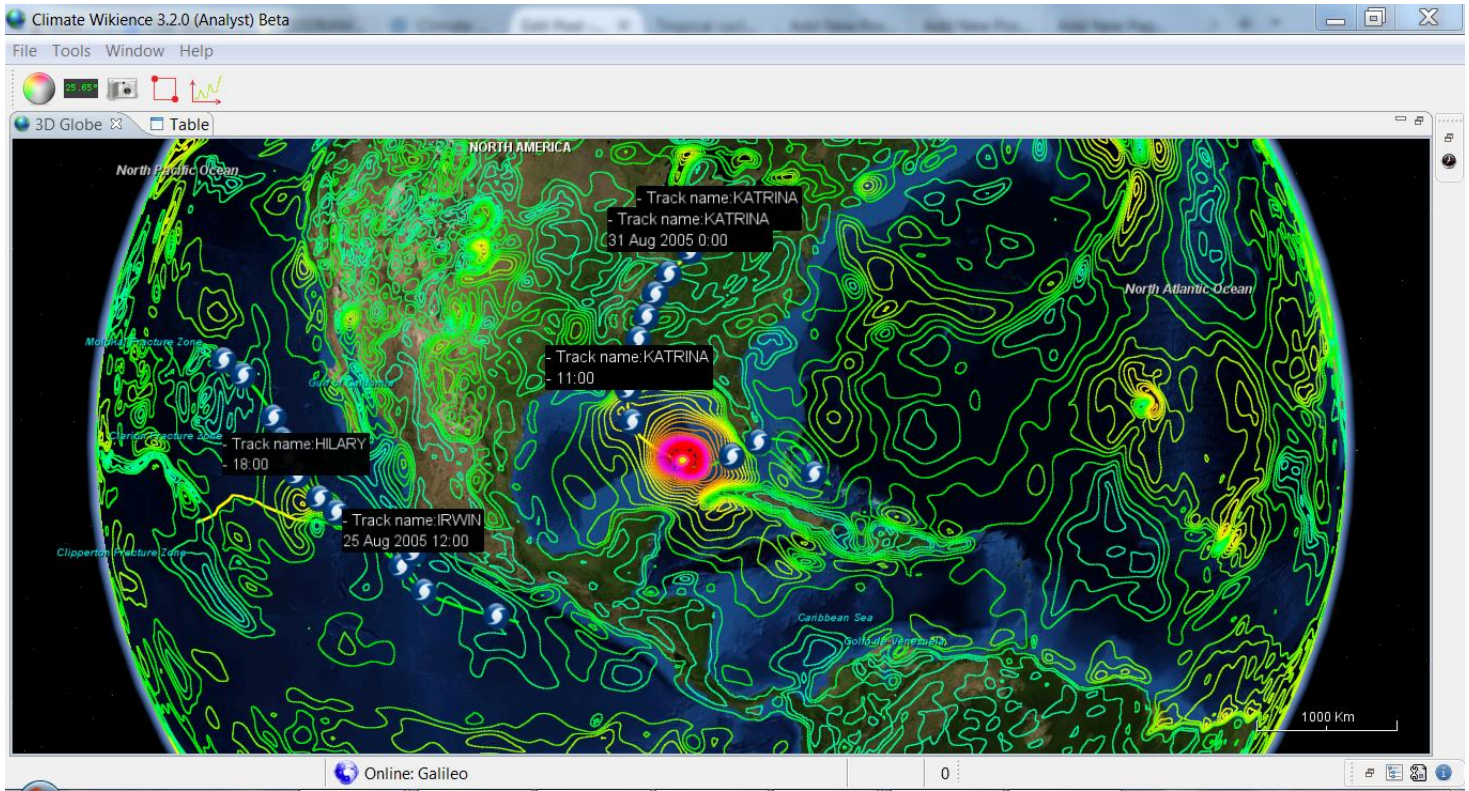
Source data

Wind speed and direction

	CFSR	CFSv2
Spatial resolution (bicubic interpolation):	0.25° × 0.25°, global	0.125° × 0.125°, global
Temporal resolution:	1 hour	1 hour
Temporal coverage:	1979 – 2009	2010 – 2014



28 of August, hurricane Katrina near its peak strength

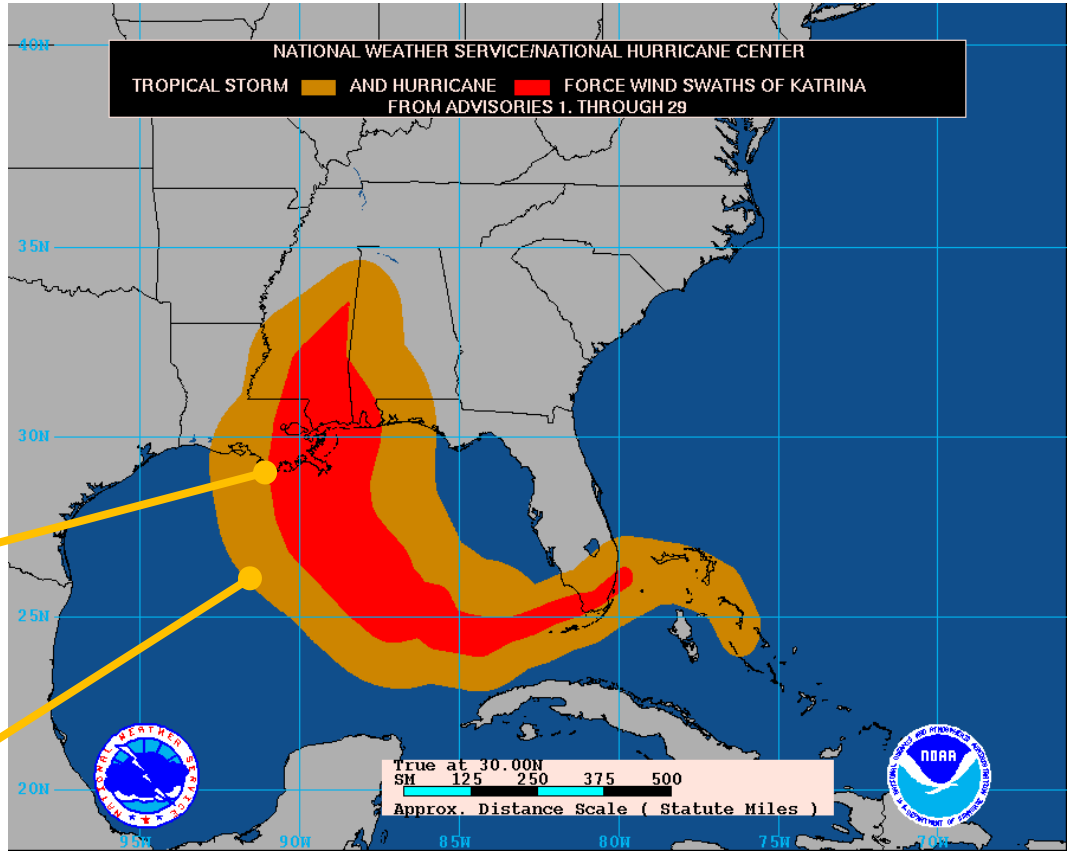
Swath composition

Saffir–Simpson hurricane wind scale

Category	Wind speeds
Five	≥70 m/s, ≥137 knots ≥157 mph, ≥252 km/h
Four	58–70 m/s, 113–136 knots 130–156 mph, 209–251 km/h
Three	50–58 m/s, 96–112 knots 111–129 mph, 178–208 km/h
Two	43–49 m/s, 83–95 knots 96–110 mph, 154–177 km/h
One	33–42 m/s, 64–82 knots 74–95 mph, 119–153 km/h

Related classifications

Tropical storm	18–32 m/s, 34–63 knots 39–73 mph, 63–118 km/h
Tropical depression	≤17 m/s, ≤33 knots ≤38 mph, ≤62 km/h



http://en.wikipedia.org/wiki/Saffir%E2%80%93Simpson_hurricane_wind_scale

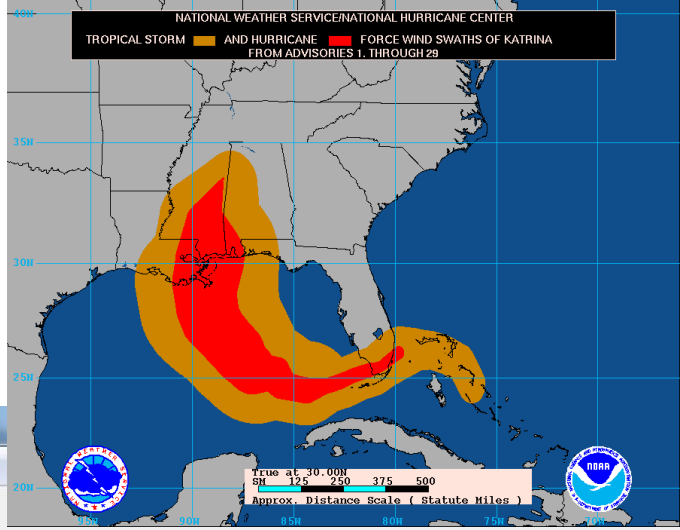
Costliest Atlantic Hurricanes

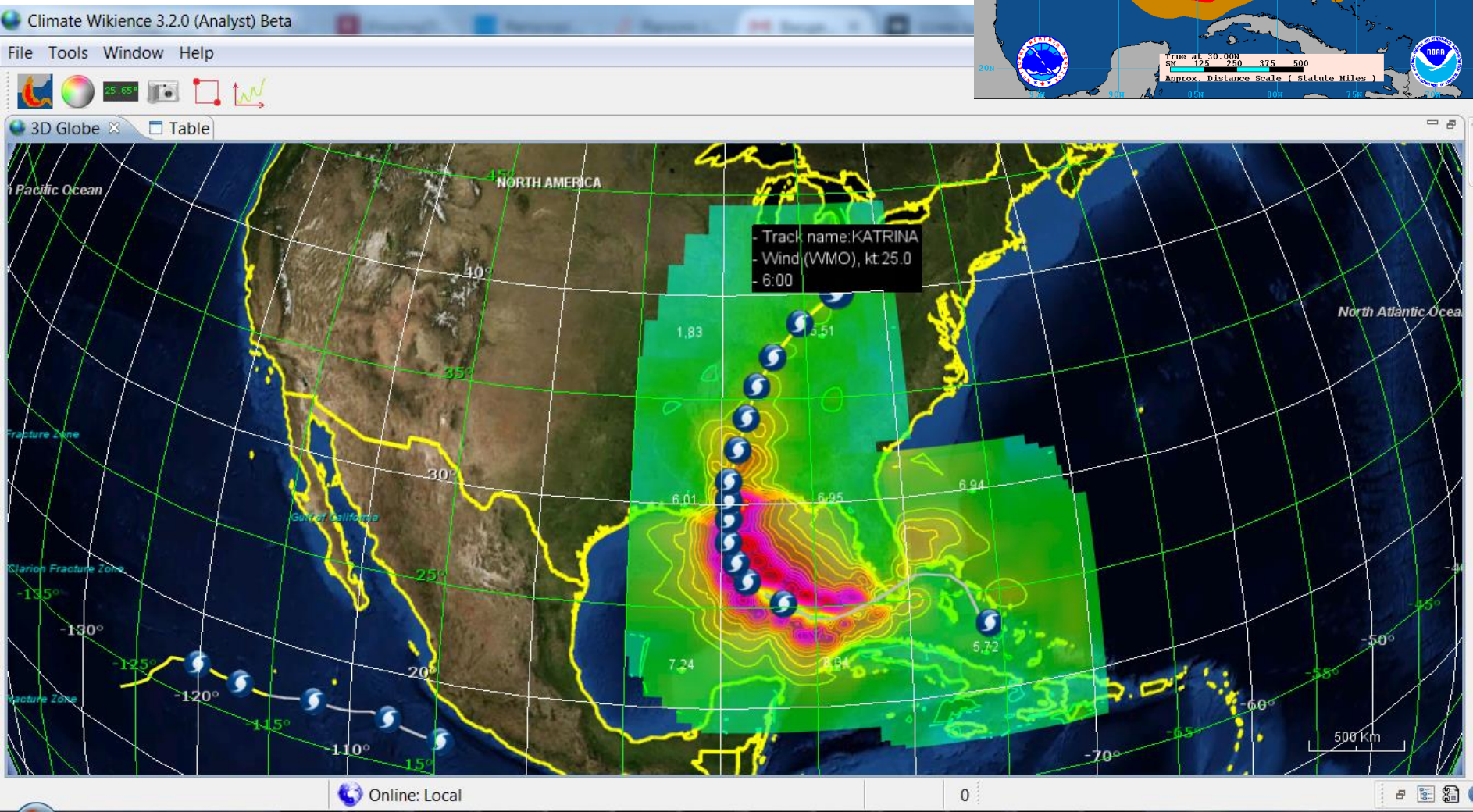
Name	Damage (Billions USD)	Deaths	Season	Storm classification at peak intensity	Areas affected	References
Katrina	$125.0	1,833	2005	Category 5 hurricane	The Bahamas · United States Gulf Coast	[1]
Sandy	$71.4	286	2012	Category 3 hurricane	The Caribbean · United States East Coast · Eastern Canada	[2][3][4]
Ike	$37.5	195	2008	Category 4 hurricane	Greater Antilles · Texas · Louisiana · Midwestern United States	[5][6][7]
Wilma	$29.3	23	2005	Category 5 hurricane	Greater Antilles · Central America · Florida	[8][9][10][11]
Andrew	$26.5	65	1992	Category 5 hurricane	The Bahamas · Florida · United States Gulf Coast	[5][12]
Ivan	$23.3	124	2004	Category 5 hurricane	The Caribbean · Venezuela · United States Gulf Coast	[5][13][14]
Irene	$16.6	56	2011	Category 3 hurricane	The Caribbean · United States East Coast · Eastern Canada	[15][16][17]

http://en.wikipedia.org/wiki/List_of_costliest_Atlantic_hurricanes

Katrina

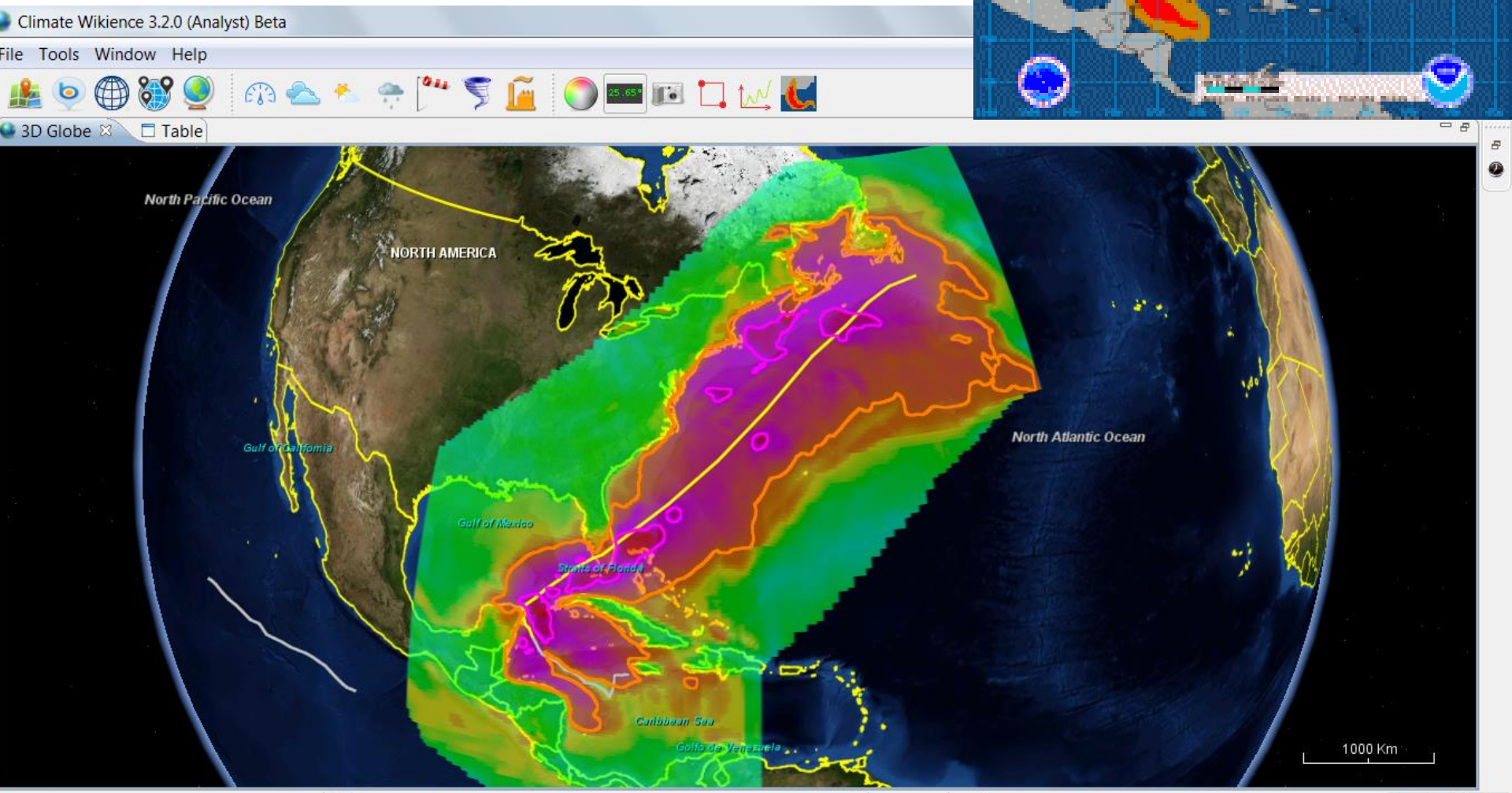
Most devastating Atlantic hurricane
Swath in HWind: only for 2 regions
All dates in HWind: YES





Wilma

Most powerful Atlantic hurricane
Swath in HWind: NO
All dates in HWind: NO (17-24 Oct VS 16-30 Oct.)



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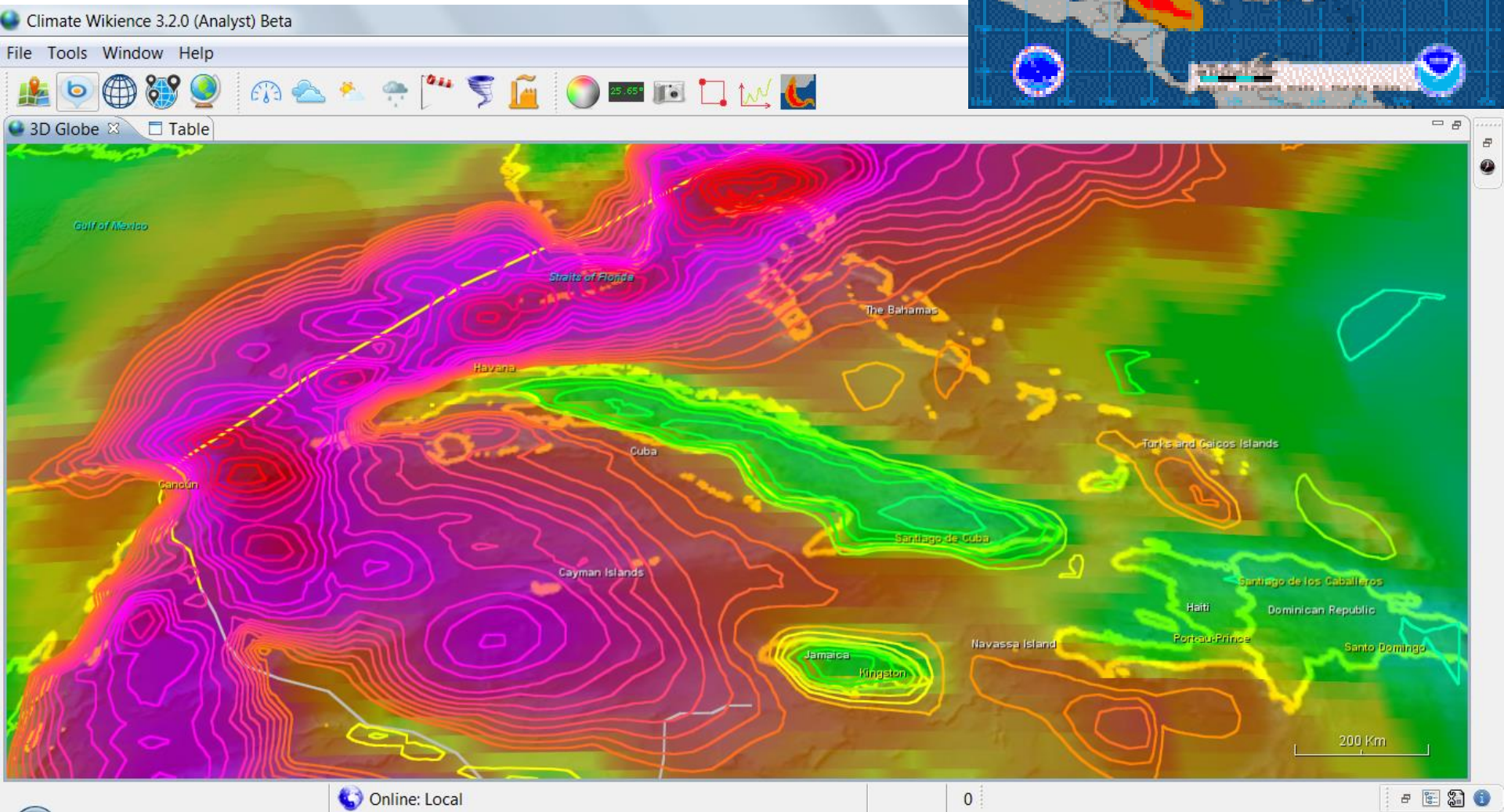


Costliest Pacific Hurricanes

Storm	Season	Cost (2015 USD)
Manuel	2013	$4.25 billion
Paul	1982	$3.81 billion
Iniki	1992	$3.03 billion
Beatriz	1993	$2.78 billion
"Mexico"	1959	$2.27 billion
Octave	1983	$1.21 billion
Agatha	2010	$1.19 billion
Aletta	1982	$1.12 billion
Odile	2014	$1.1 billion
Norman	1978	$1.08 billion
Olivia	1982	$794 million

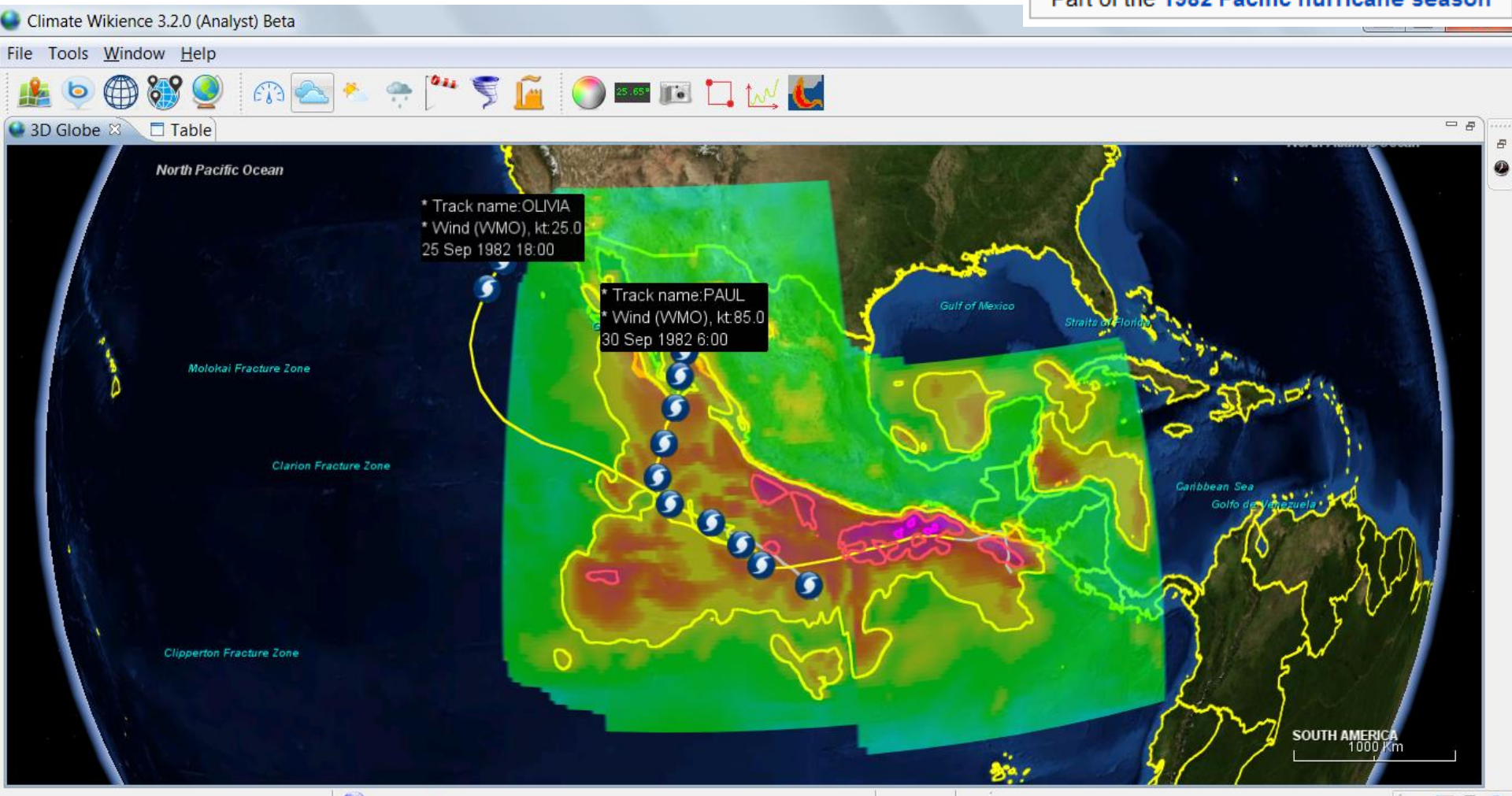
http://en.wikipedia.org/wiki/List_of_Pacific_hurricanes#Costliest_tropical_cyclones

Paul (Pacific)

HWind: NO (only after 1994)

Hard to separate Paul and Olivia, Paul swath caught a part of Olivia's

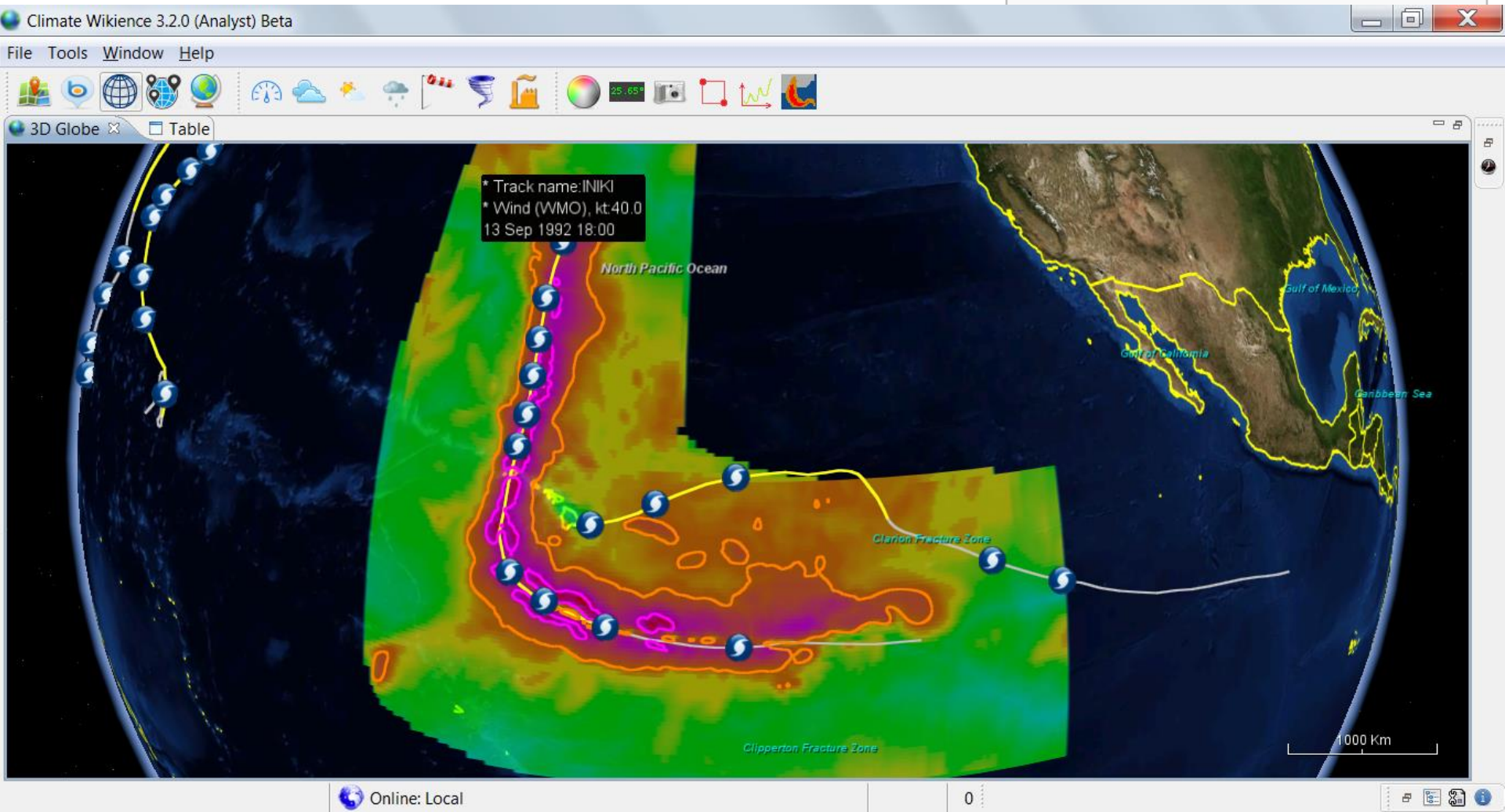
Formed	September 18, 1982
Dissipated	September 30, 1982
Highest winds	*1-minute sustained:* 110 mph (175 km/h)
Fatalities	1,696 total, 668 missing
Damage	$1.16 billion (1982 USD)
Areas affected	Guatemala, El Salvador, Baja California, Northwest Mexico, United States
Part of the **1982 Pacific hurricane season**	



Iniki (Pacific) stroke Hawaii

HWind: NO (only after 1994)

Formed	September 5, 1992
Dissipated	September 13, 1992
Highest winds	*1-minute sustained:* 145 mph (230 km/h)
Lowest pressure	938 mbar (hPa); 27.7 inHg
Fatalities	6 direct
Damage	$1.8 billion (1992 USD)
Areas affected	Hawai'i (particularly Kaua'i)
Part of the **1992 Pacific hurricane season**	



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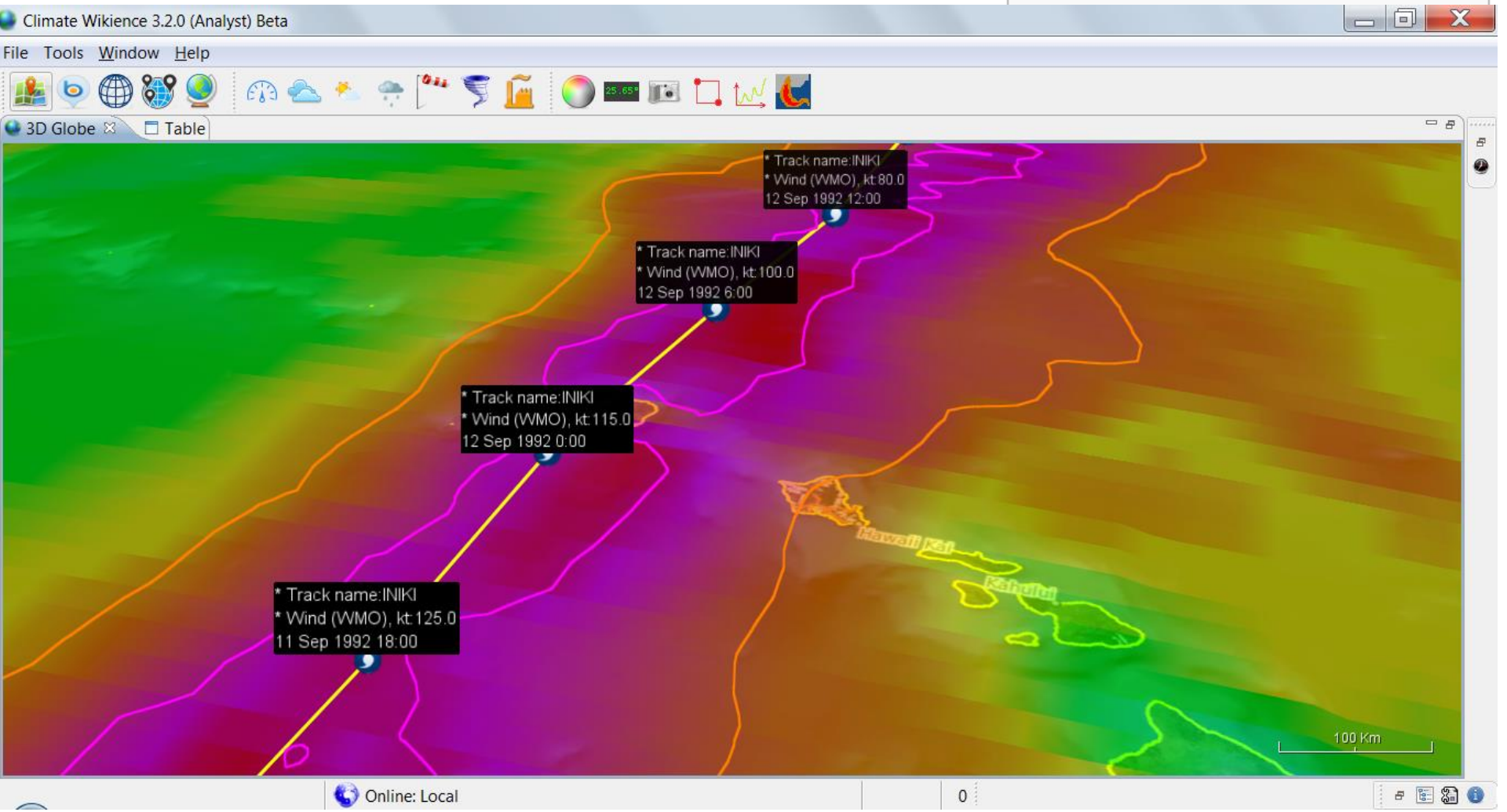
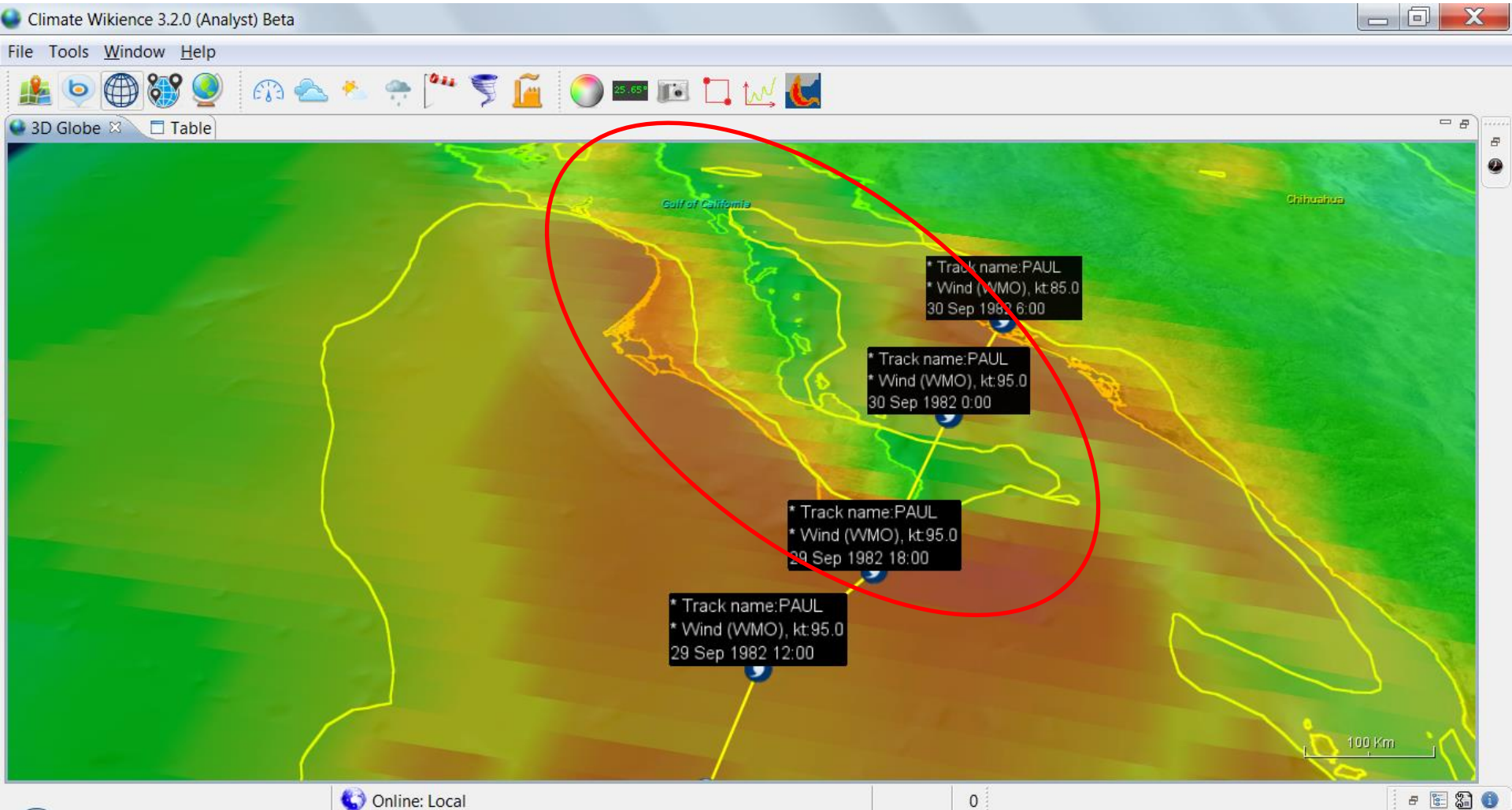


Peculiarities: swath smoothness

Possible reasons:

- real-world hurricane structure
- real-world less speed on land than ocean
- insufficient land data



Peculiarities: slower wind speeds

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Corresponds to ≈ 12 m/s in CFSR
(determined experimentally)