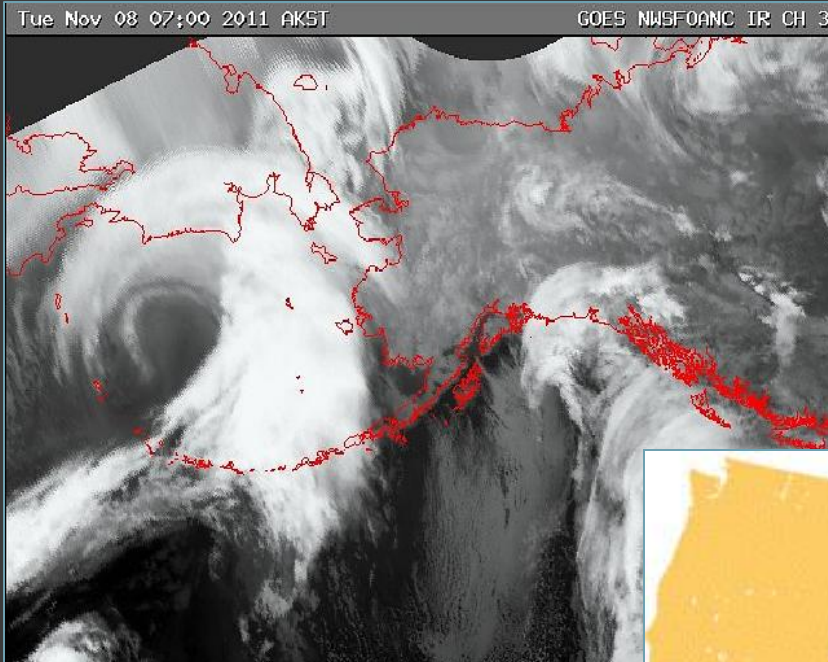


Bering Sea Storm, November 2011

Water Level & Tides in Western Alaska

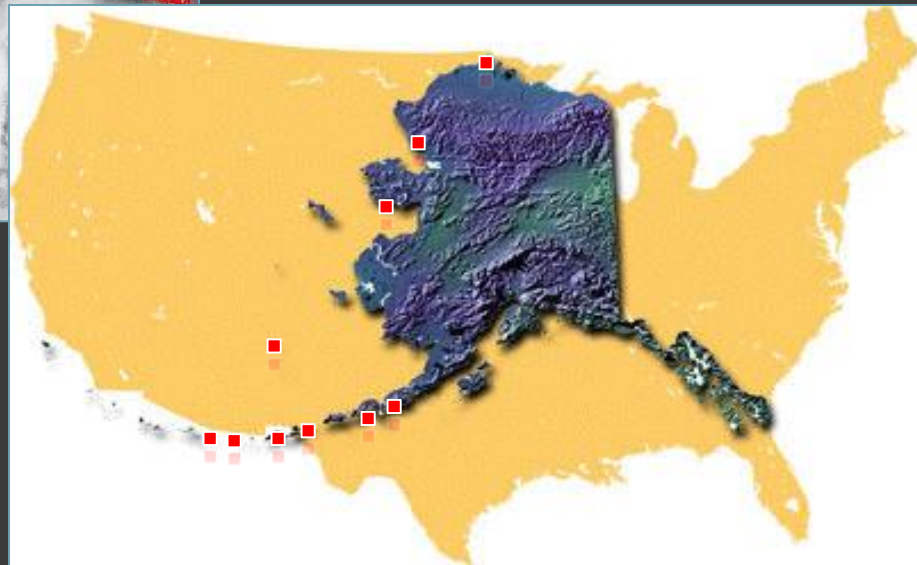
Aimee Fish, NOAA National Weather Service
Alaska Region
Alaska HSRP: May 2012

November 2011

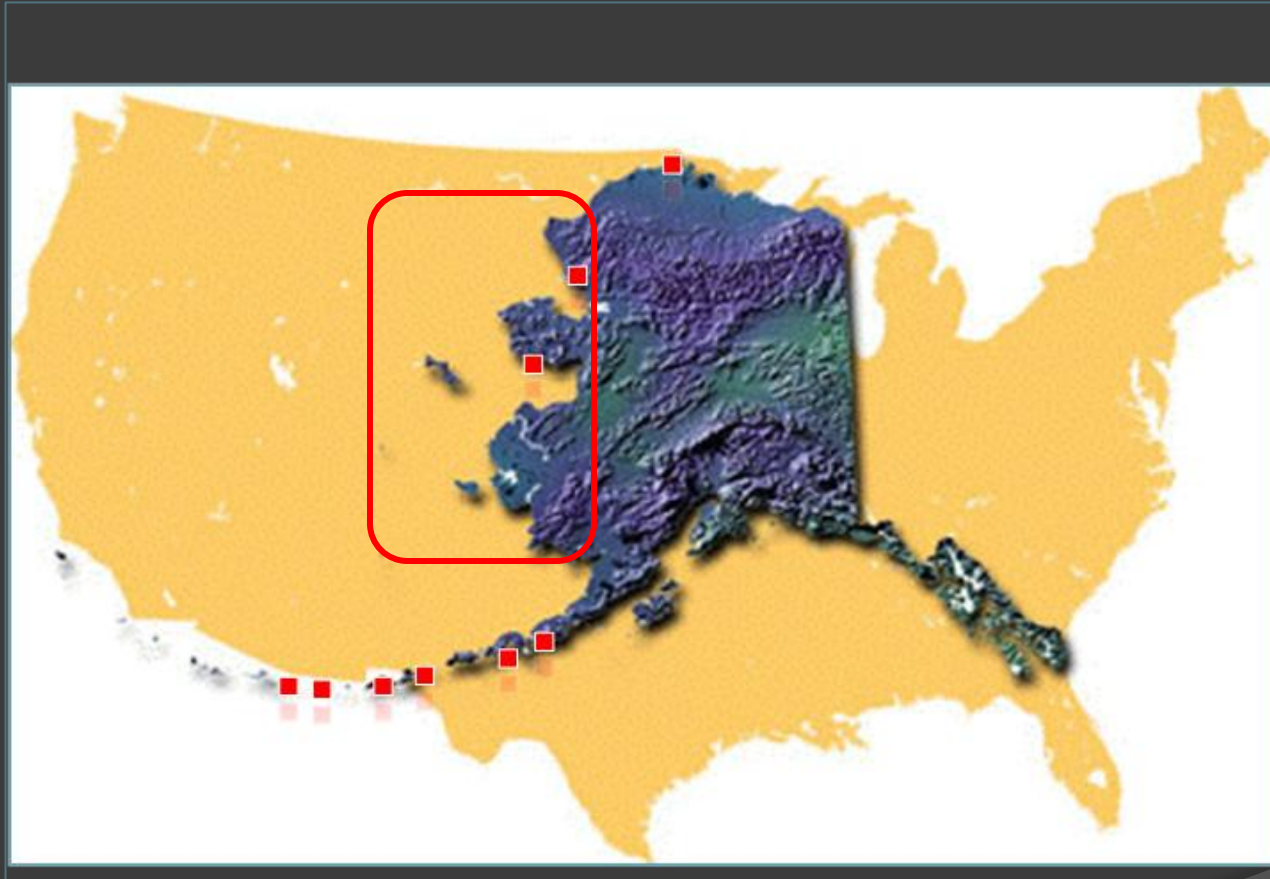


- >35 communities with damage
- ~1,000 miles of coastline
- Presidential Disaster Declaration
- Damage estimates are still coming in due to ice

- 40-foot seas
- Wind gusts to 93 mph
- Blizzard conditions
- Storm Surge



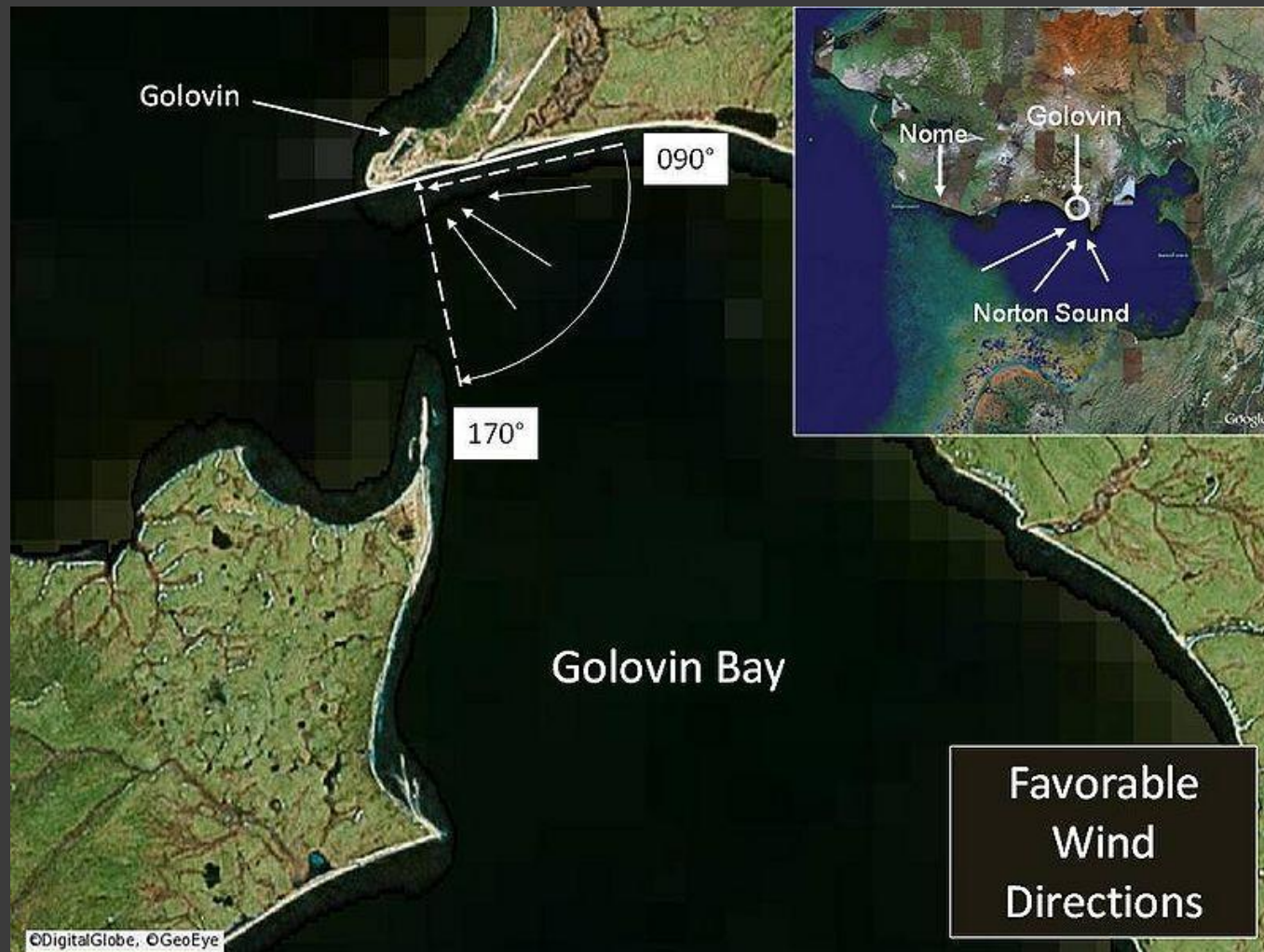
November 2011



Vulnerable to Storm Surge



Golovin, AK



Golovin, AK



MLLW



September 2005

Golovin, AK



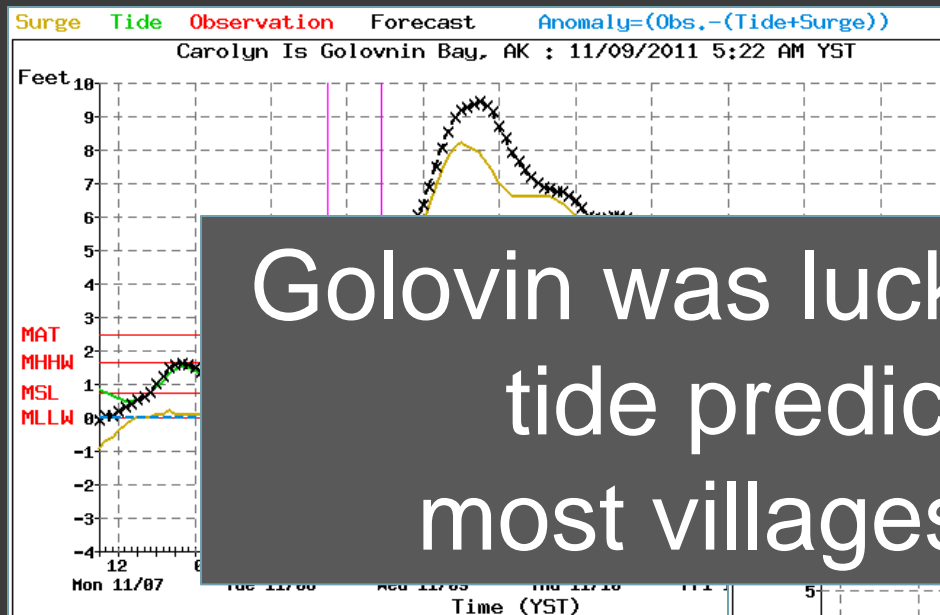
Community Decisions

November 2011

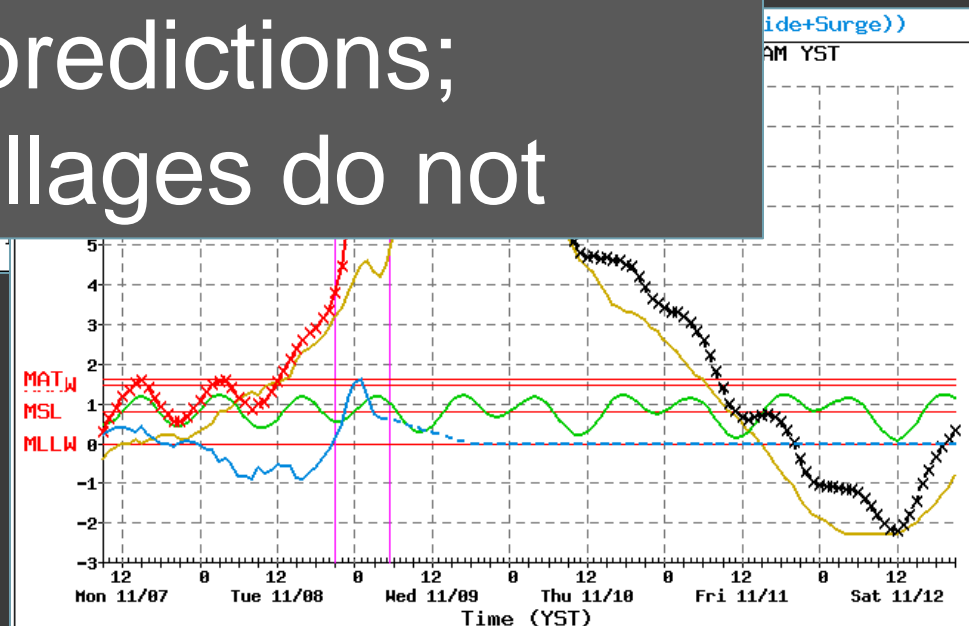
- ⦿ Evacuate due to surge? If so, when?
 - Blizzard
 - Cold and very windy
 - One private generator for evacuation area, little fuel
- ⦿ Water and Power station threatened?
 - Will the plants be inundated?
 - Should we shut down power and water?
 - When?
- ⦿ How bad will it be? 2004 or 2005?

Extra Tropical Storm Surge

Water Level forecast

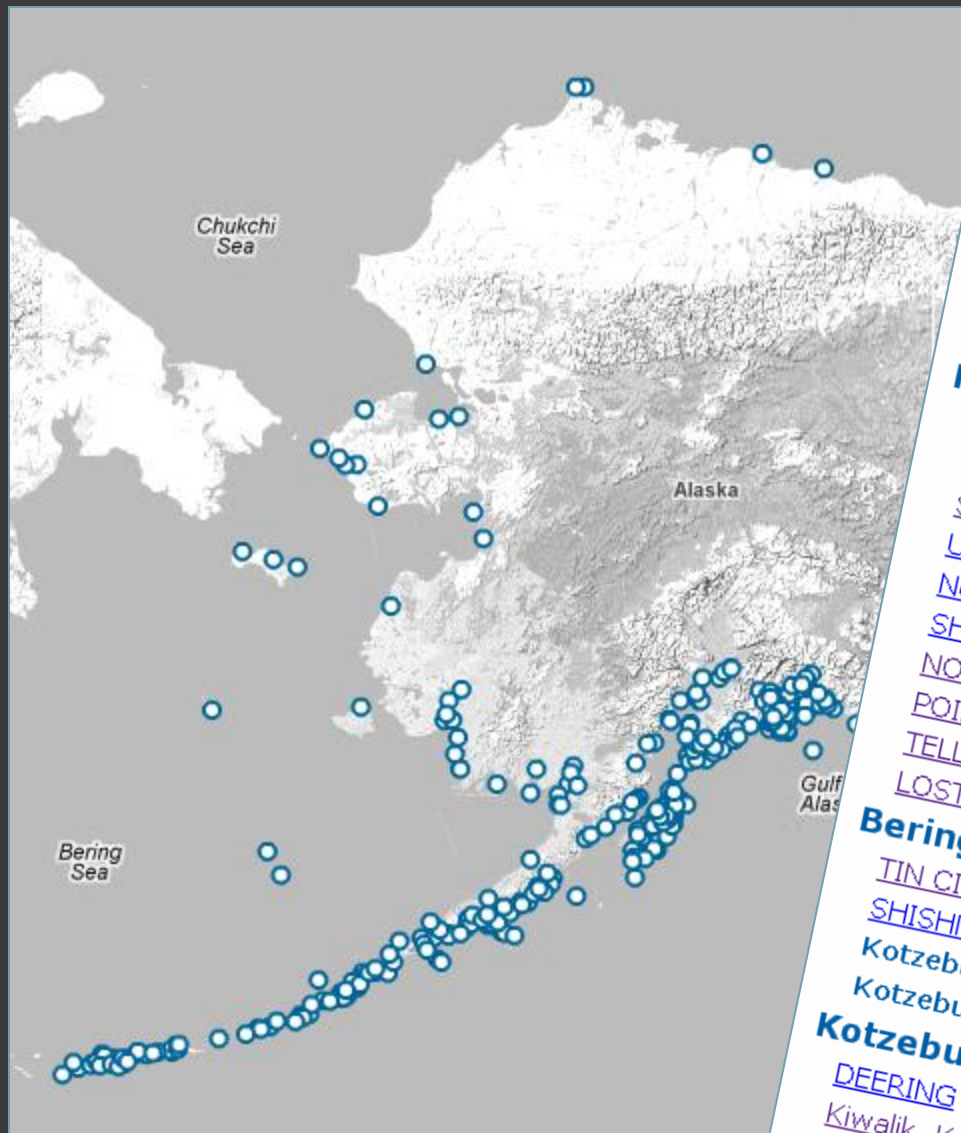


Nome



Questions from Villages:

- ⦿ How bad will it be?
- ⦿ How high will the water get?
 - Impossible to answer without tidal prediction
- ⦿ “When is high tide?”
 - Silence on the phone



Bering Sea

Zapadni Bay, St. George Island

VILLAGE COVE, ST. PAUL ISLAND

MEKORYUK, MEKORYUK RIVER ENTRANCE

St. Matthew Island

NUNAM IQUA (SHELDON POINT)

St. Lawrence Island

NORTHEAST CAPE, ST. LAWRENCE ISLAND

Fossil River entrance

Niyrapak Lagoon entrance

Norton Sound

Apoon Mouth, Yukon River

Pikmiktalik River entrance

ST. MICHAEL

UNALAKLEET

North Bay, Stuart Island

SHAKTOOLIK

NOME, NORTON SOUND

POINT SPENCER, PORT CLARENCE

TELLER, PORT CLARENCE

LOST RIVER, SEWARD PENINSULA

Bering Straits

TIN CITY, BERING SEA

SHISHMAREF INLET 2

Kotzebue Sound

Kotzebue Sound

Kotzebue Sound

DEERING

Kiwalik, Kotzebue Sound

CAPE KRUSENSTERN

What can we do?

- ⦿ Not feasible to install NWLONs in all villages
 - Grassroots water level observation program
 - Less expensive platforms
- ⦿ More Tidal Predictions
 - Lots of historic data, few predictions (e.g., Golovin: 9/16/1899 – 9/23/1899)
- ⦿ Relax criteria for Alaska!

Bad data worse than no data?

- Are predictions based on short observations better than no predictions at all?
- Data is “nourishment” for a forecast



Bad food worse than no food?



Yes!!

Bad food worse than no food?



No!!

Thank you!



Complex Coastline = Complex Forecast

