Changing Storm Tracks?

Aimee Fish
NOAA National Weather Service, Alaska Region
Coastal Hazards Workshop
May 30, 2011
Disclaimer

- NWS Forecasters: 0-7 day focus
- Not a climate expert

Gary wasn’t available!
Storm Frequency Climatology

(c) July, Aug, Sep

Oct, Nov, Dec
Storm Frequency Climatology

Jan, Feb, March
Storm Track and Climate Change

- Projected change in the track for Northern Hemisphere winter

A Review on Northern Hemisphere Sea-ice, Storminess and Teleconnection patterns: Observations and Projected Changes

Mesquita, Bader, Hodges, Miles Osterhus, Keenlyside 2011
Historic Bering/Chukchi Storms

Shaktoolik | City Office: (907) 955-3441 | Revised: October 2011

<table>
<thead>
<tr>
<th>STATUS</th>
<th>2nd class city</th>
<th>LAST FLOOD EVENT</th>
<th>2009</th>
<th>coastal</th>
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<tr>
<td>POPULATION</td>
<td>218</td>
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<tr>
<td>BUILDINGS</td>
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<tr>
<td>RIVER SYSTEM</td>
<td>Tagoomenik River</td>
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<td>COASTAL AREA</td>
<td>Norton Sound</td>
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<td>NFIP STATUS</td>
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<td>FLOODPLAIN REPORT</td>
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</table>

Comments:

Wave runup caused damages in 2005 and 2009. Worst event was in 1960 at old site (~4 miles south). Flooding is considerably less on the Tagoomenik River side.

Floodplain Manager | (907) 753-2610

2004

Storm Track Frequency

Storm Tracks/925 hPa Wind Vector/Magnitude Anomalies (m/s)

STORM TRACK KEY:
- < 972 mb
- 972 mb - 992 mb
- 992 mb - 1004 mb
- 1004 mb - 1012 mb
- > 1012 mb

1 2 3 4 5 6 7 8

Storm Track & 925mb wind
Storm Tracks -- GR2 -- OND -- 1974

Storm Track
1974: Not an active storm pattern, one doozy of a storm!

Atkinson Newtok study: No single large storm, but many “smaller” storms with eroding wave action caused damage

The sea ice question!