



Development of a Climatological Tropical Cyclone Rain Forecasting Tool (R-CLIPER)



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DATA (TMI CLIMATOLOGY):

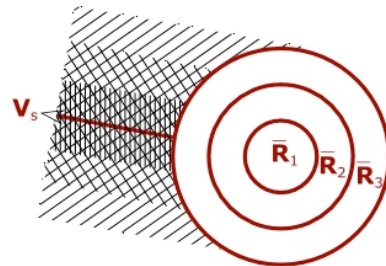
- ✓ TMI R estimates for **482** storms (December 1997-2002), globally, yielding **3979** events, from TD to CAT5 (Lonfat et al 2004).

1998-2002 TMI events by Intensity

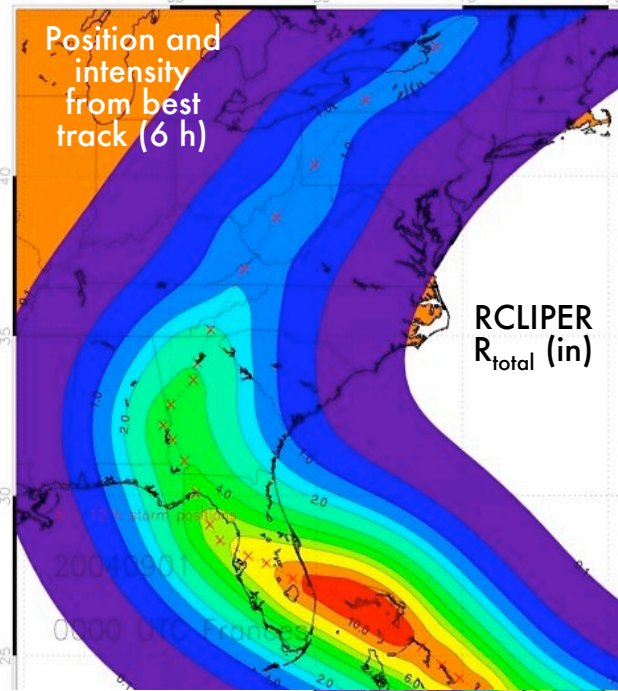
<u>Storm Intensity</u>	<u>Events</u>	<u>%</u>
TD/TS	2577	65
Category 1-2	966	24
<u>Category 3-5</u>	<u>436</u>	<u>11</u>
Total	3979	

METHOD:

- ✓ Develop R-CLIPER from TMI climatology for operational and model QPF comparisons.
- ✓ Project R-climatology on latitude-longitude grid along track, integrating R at each point to produce R_{total} for total integration time.
- ✓ Two versions:
 1. Operational model uses ATCF track out to 72 h (12-h resolution)
 2. Developmental model uses best track (6-h resolution)
- ✓ Grid resolution:
 1. Operational - $1/4^\circ$
 2. Developmental - $1/12^\circ$
- ✓ 10 min time steps for integration



Hurricane Frances 2004



WHERE ARE WE?

- ✓ R-CLIPER ran operationally 2002-2004 at NHC. Transition under JHT to operational use.
- ✓ For each of 2002-2004 seasons ran >500 R-CLIPER forecasts operationally in ATL, EPAC, and CPAC storms.
- ✓ R-CLIPER in 2005 adds 24-h, 48-h rain total.

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