Here: $\omega_\varepsilon(\eta) \to 0$ as $\eta \to 0$.
and $\operatorname{diam}(B_{mj}) \to 0$ as

so $\mathbb{P}(\ |\det \nabla f(t_{mj})| \le (C_N \ldots \omega_\varepsilon(\sqrt{N} \operatorname{diam} B_{mj})) \mid f(t_{mj}) = x)$

$= \int_{A_{mj}} P_{\nabla f(t_{mj}) \mid f(t_{mj})} \mathbb{1}[\ |\det\ || \le C_N \ldots \times \omega_\varepsilon(\sqrt{N} \operatorname{diam} B_{mj})]$

bounded.

$\to 0$

~~so $m_N \to 0$ as $m \to \infty$~~

so $\int_A P_{t_{mj}}(x)\,dx \le M_P \int_{A_{mj}} C_N \operatorname{diam}(B_{mj})^N C_\varepsilon^{N-}$

$A < \varepsilon$

constant s.t. $M_{\nabla f \mid f} \ge P_{\nabla f(t) \mid f(t)}\ \forall t$

$\le M_{\nabla f \mid f} \int \mathbb{1}[\det \cancel{\nabla f(\ldots)} | \le C_N (\max(1, C_\varepsilon)^{N-1}$

can drop dependence on mj as just an integral!

$\times\ \omega_\varepsilon(\sqrt{N} d_m)$

$\operatorname{diam}(B_{mj}) = d_m\ \forall mj$ by construction

so $\exists$ ~~eps~~ m' s.t. $\forall m \ge m'$, $A_{mj} < \delta$
using Lebesgue's cty thm to show it $\to 0$.