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Title	Distributions of Pack of in the Okhotsk Sea off Hokkaido Observed Using a Sea-Ice Radar Network, January - April 2003
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Masao ISHIKAWA, Toru TAKATSUKA, Takaharu DAIBO and Kunio SHIRASAWA 2003 Distributions of Pack Ice in the Okhotsk Sea off Hokkaido Observed Using a Sea-Ice Radar Network, January - April 2003. *Low Temperature Science*, **Ser. A., 62**. *Data Report*.

Distributions of Pack Ice in the Okhotsk Sea off Hokkaido Observed Using a Sea-Ice Radar Network, January - April 2003[*,**]

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(Received January 2004)

Abstract: Distributions of pack ice in the Okhotsk Sea off Hokkaido were observed using a sea-ice radar network at every 0900 JST (Japanese Standard Time) during the whole sea-ice season in 2003. Time series of daily ice distributions during the period from 9 January to 30 April 2003 are shown in Fig. 1. They are also shown in the web site at: http://www.hokudai.ac.jp/lowtemp/sirl/shome.html. In addition, pictures of radar images were taken at every three-hour interval throughout the whole sea-ice season for further studies in coastal sea-ice dynamics and movements. Time series of the daily ice concentration within about 50-km radar coverage from the coastline during the period from 1969 through 2003 is shown in Fig. 2. It appears that the daily ice concentration and period of the ice season decreased drastically since 1989.

要旨: 北海道大学流氷観測用レーダー網により北海道オホーツク海岸沖の2003年1月9日から4月30日までの毎日午前9時における流氷分布を観測した(第1図)。流氷分布図の作成は、レーダー画像処理装置を利用して以下の手順にしたがって行われた。(1)枝幸、紋別、網走、3局の各レーダー映像を画像処理装置のブラウン管面上で重ね合わせ、3局合成レーダー画像を作る。(2)波浪や雲からくる妨害信号を人手によって除去する。(3)氷縁や氷湖などを線でなぞり流氷域を明確にする。(4)地図画像上に重ね合わせ、流氷域に斜線を施して流氷分布図を完成させる。氷野内には大小無数の氷湖が存在する場合もあるが、作図に当たっては、氷縁と比較的巨大な氷湖に主眼をおいた。レーダー映像写真およびレーダー画像データは、流氷期間中3時間毎に保存されている。詳細な流氷分布の変化を追跡する場合には利用できる。また、1969年から2003年までに観測された流氷レーダーの範囲内の流氷量の変動を第2図に示す。毎日午前9時の流氷分布図から、レーダーの範囲(海域のみ)を100として流氷が占める割合(密接度、%)を流氷期間中積算した量をその年の「流氷量(%d)」と定義した。1989年より流氷量が顕著に減少している傾向が見られる。

Key words: Pack Ice, Okhotsk Sea, Hokkaido, Sea-Ice Radar Network, Radar Image, Ice Concentration

キーワード: 流氷, オホーツク海, 北海道, 流氷観測用レーダー網, レーダー画像、密接度

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[*] 北海道大学低温科学研究所業績 第3972号

[**] 北海道大学低温科学研究所 流氷研究施設 研究報告 第173号

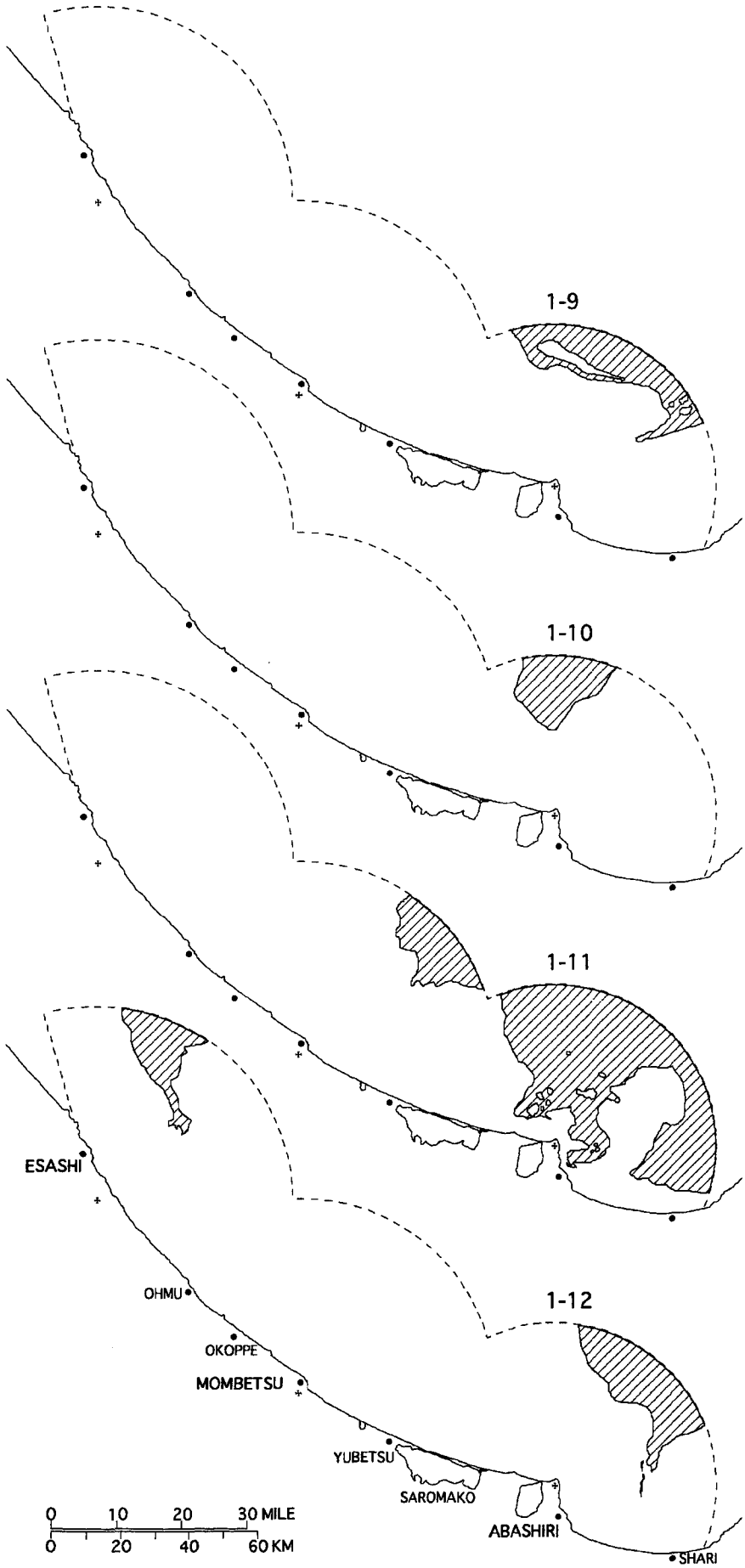
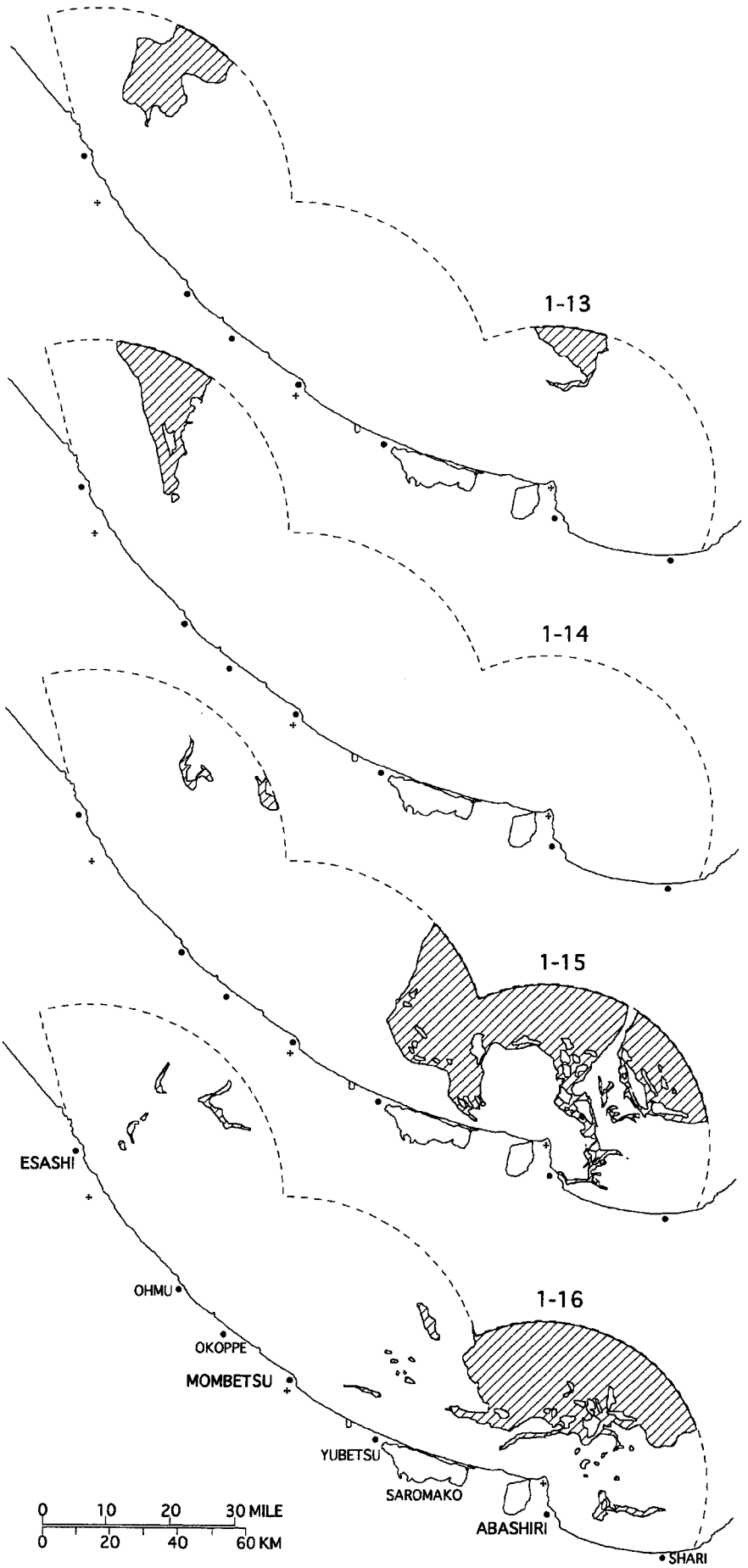


Fig. 1 Distributions of pack ice in the Okhotsk Sea off Hokkaido observed by a sea-ice radar network at 0900 JST during the period from 9 January to 30 April 2003.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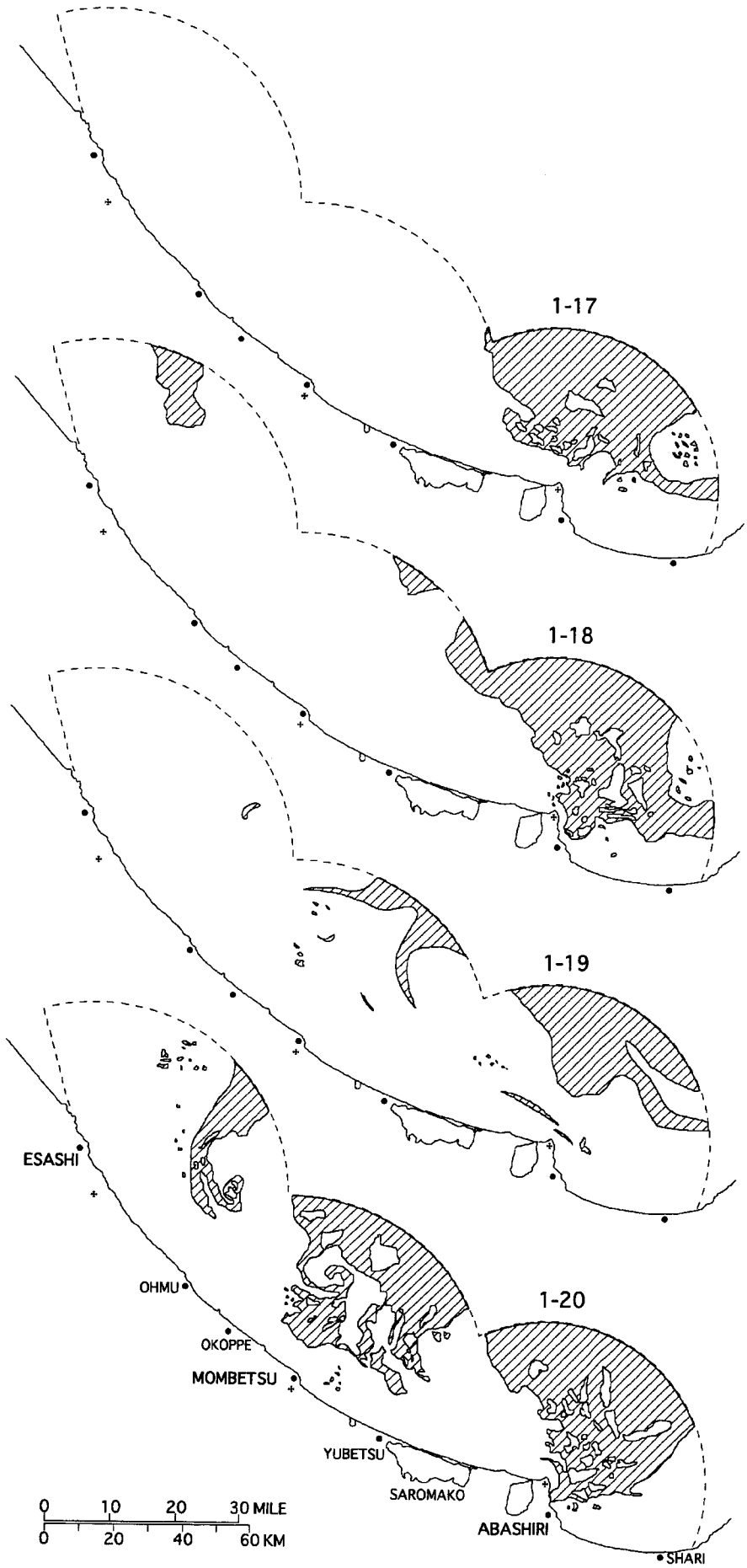
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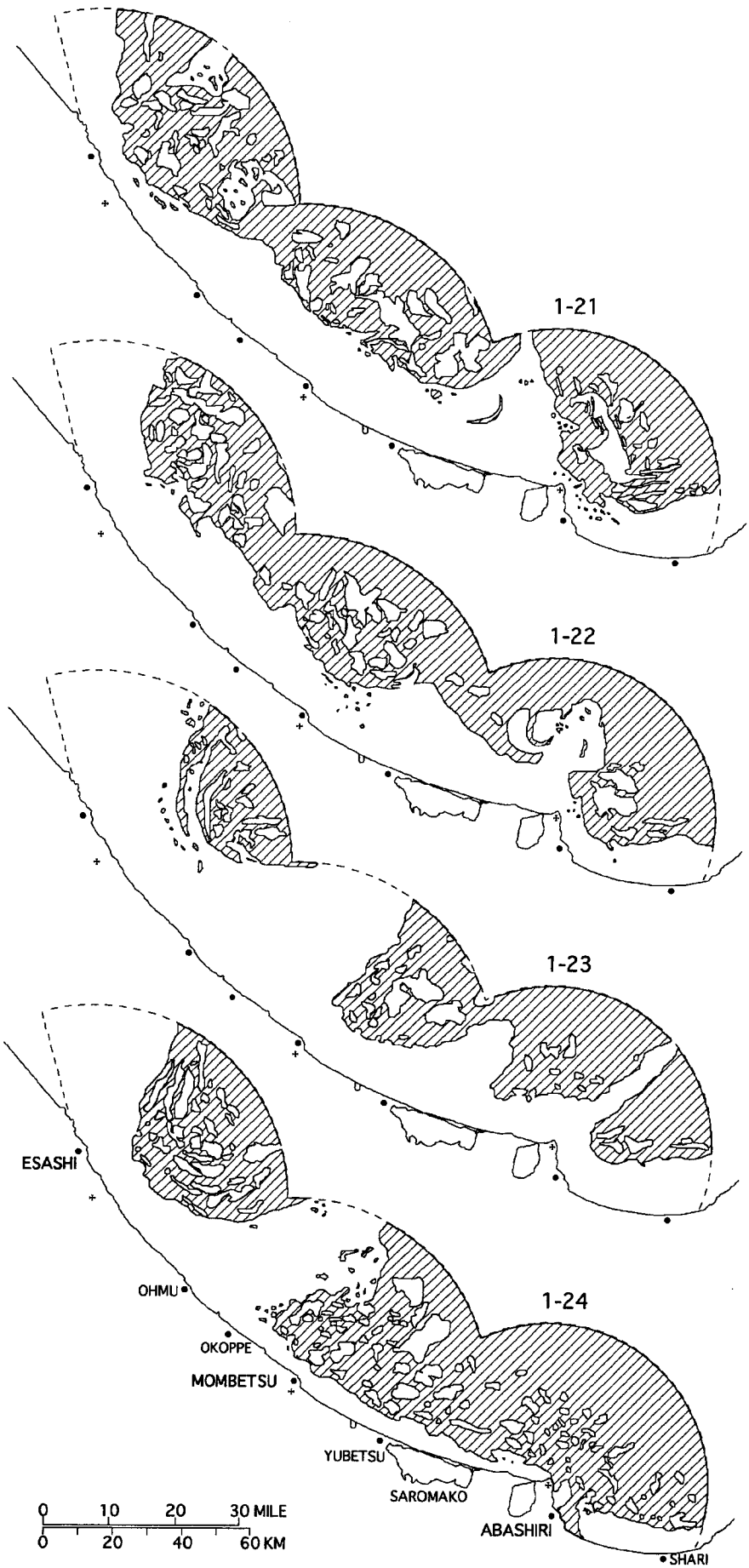
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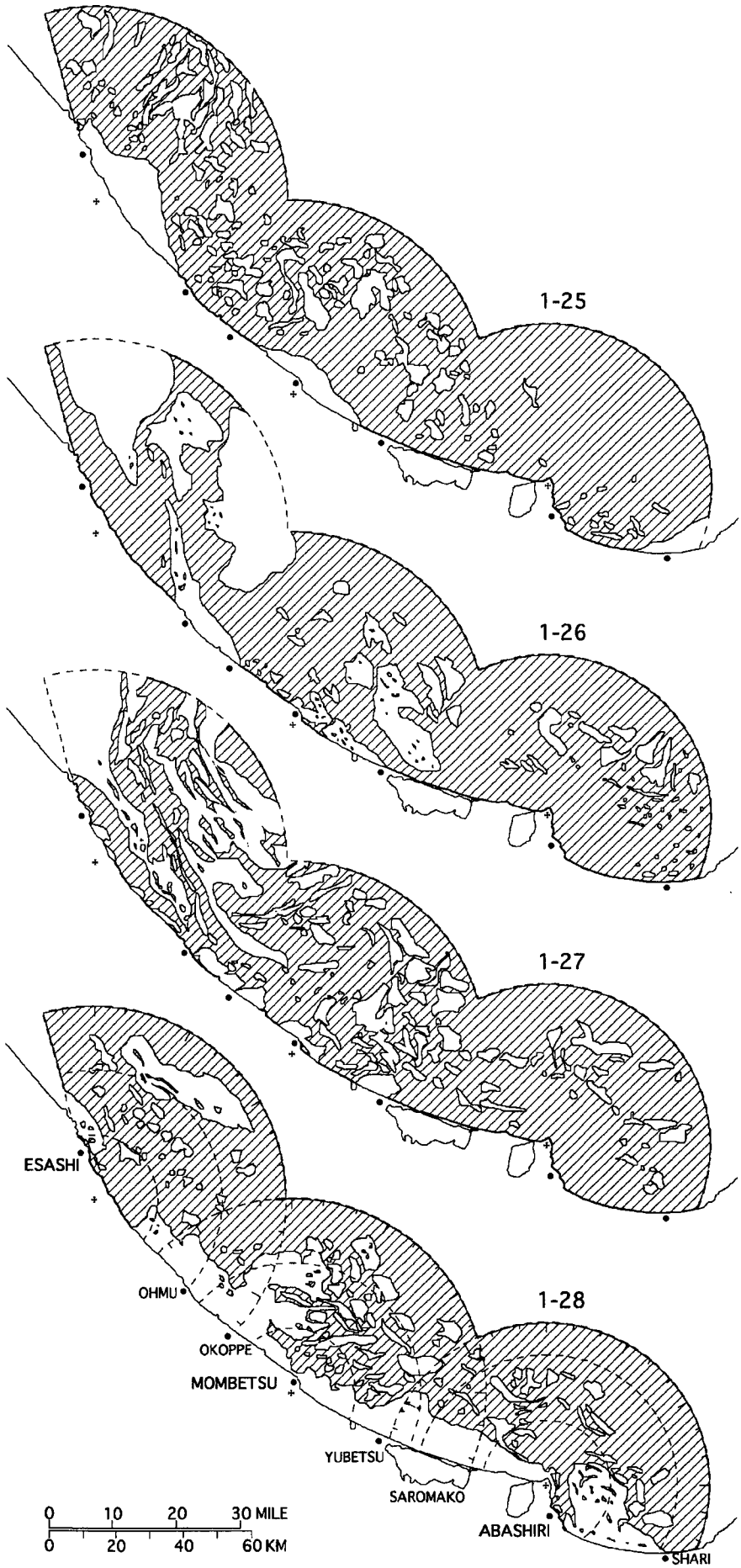
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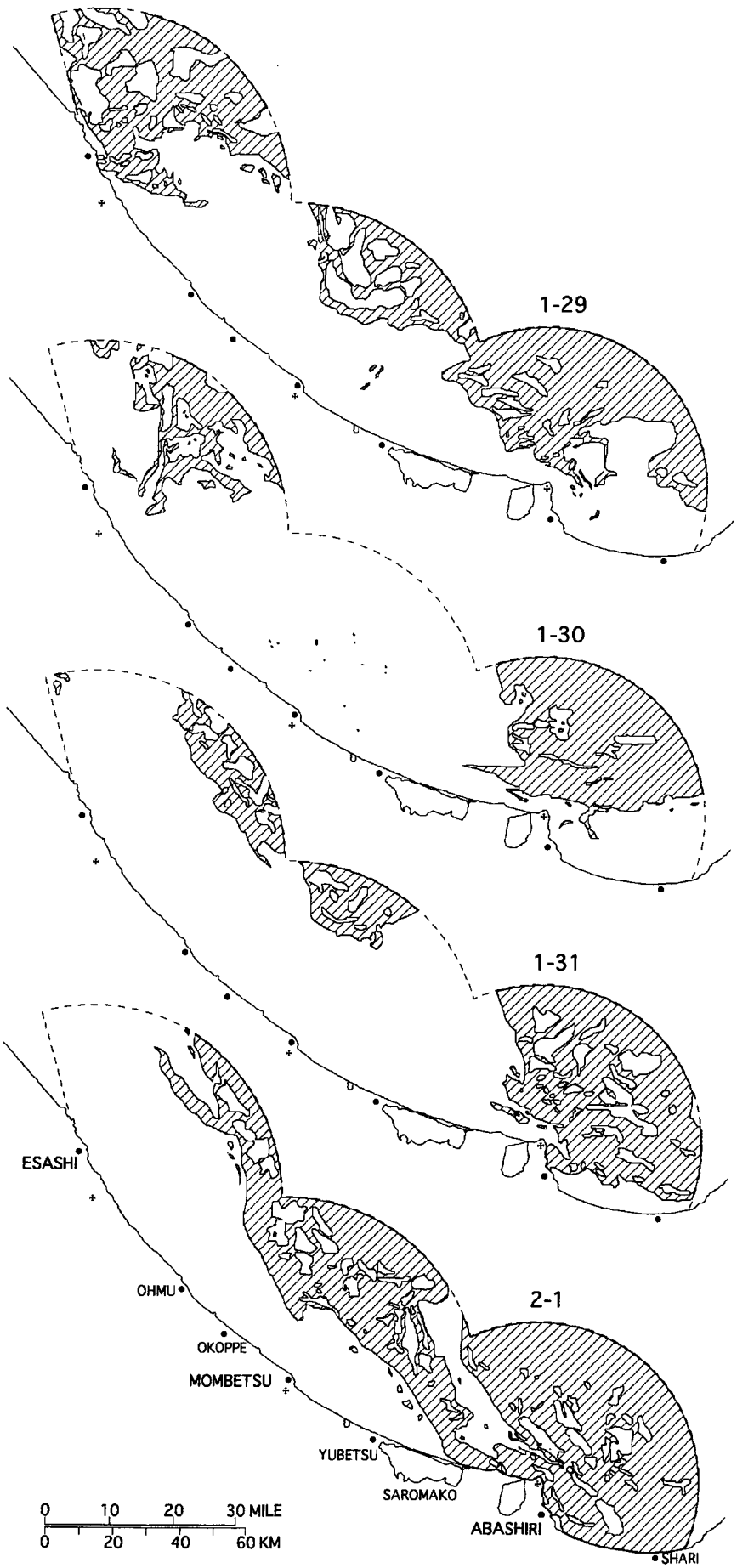
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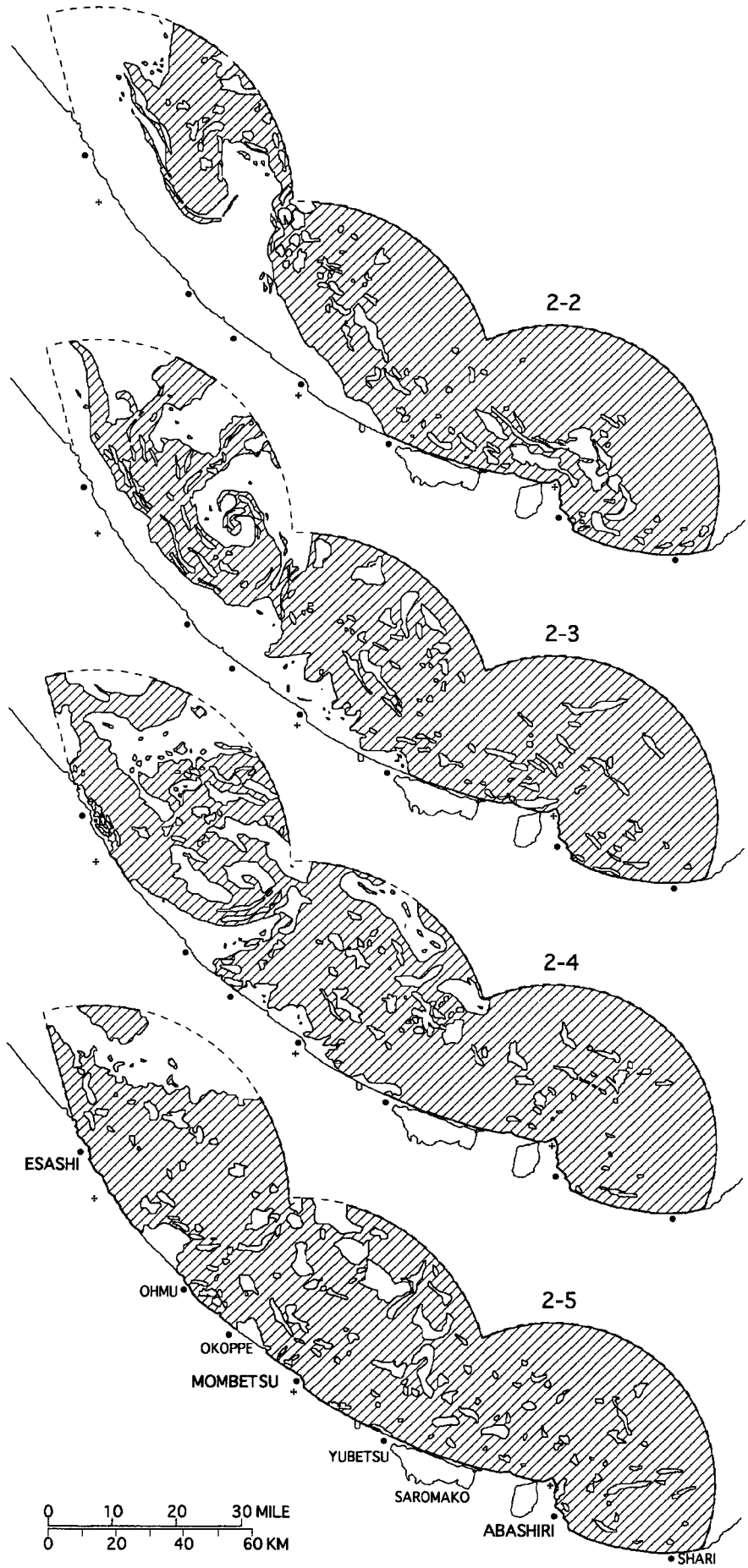
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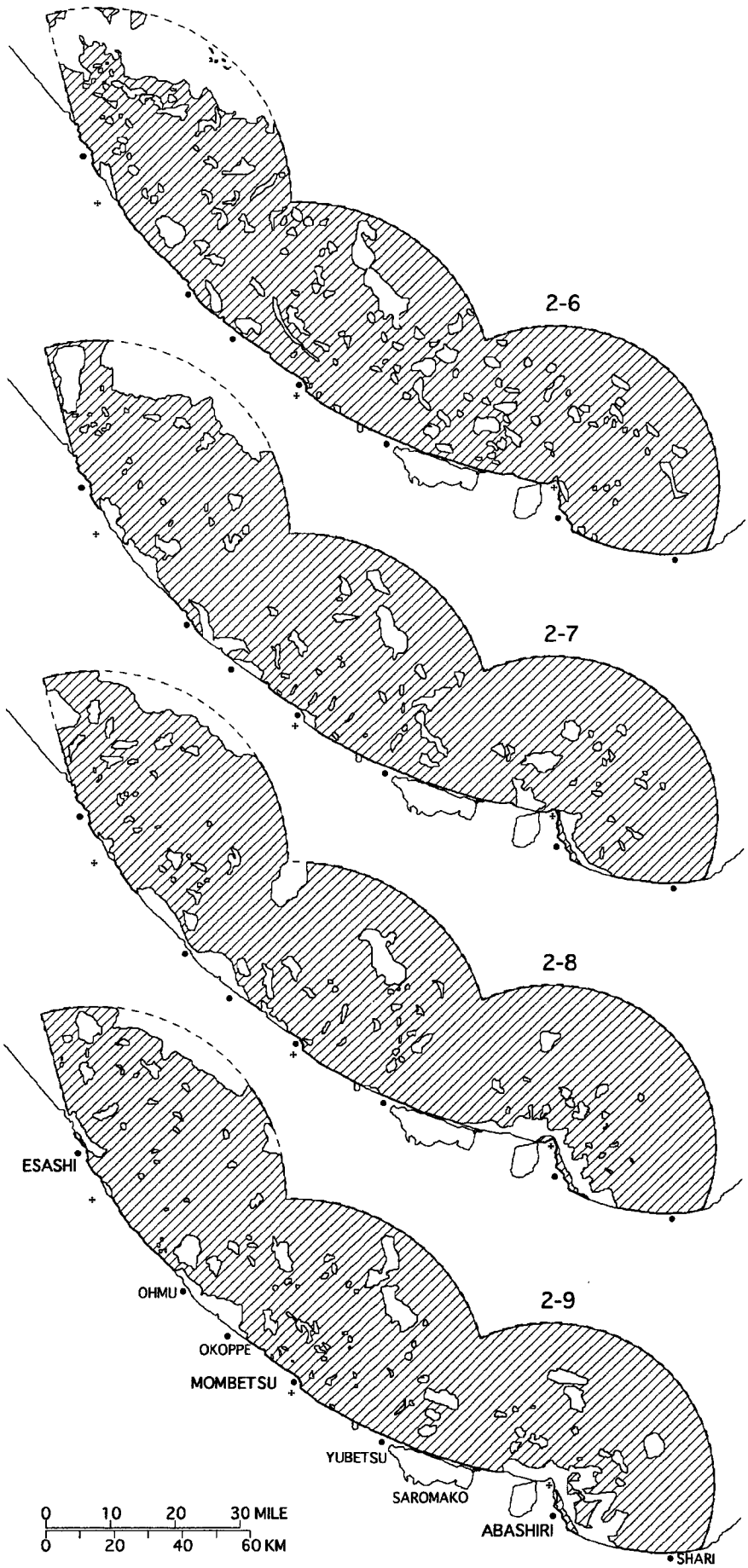
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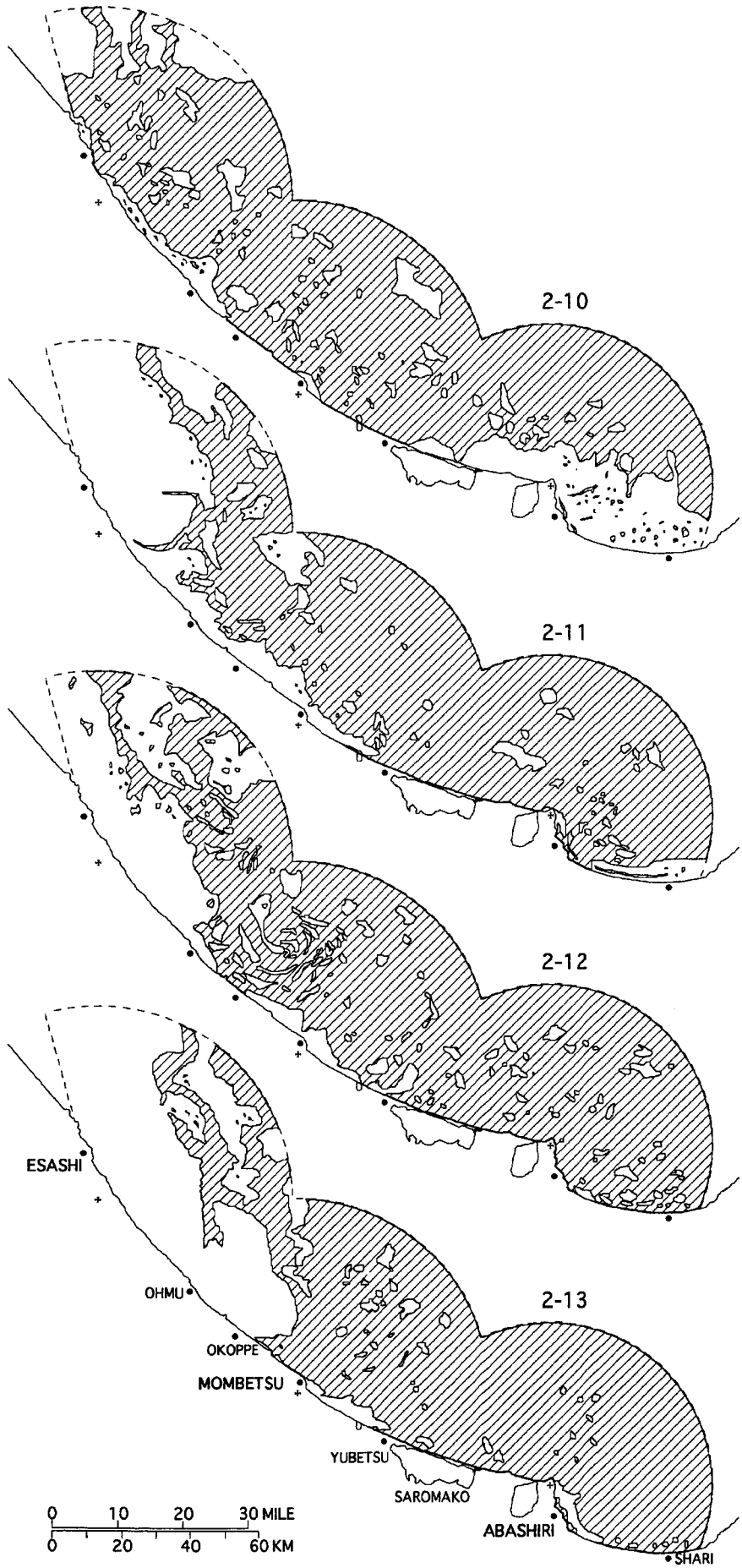
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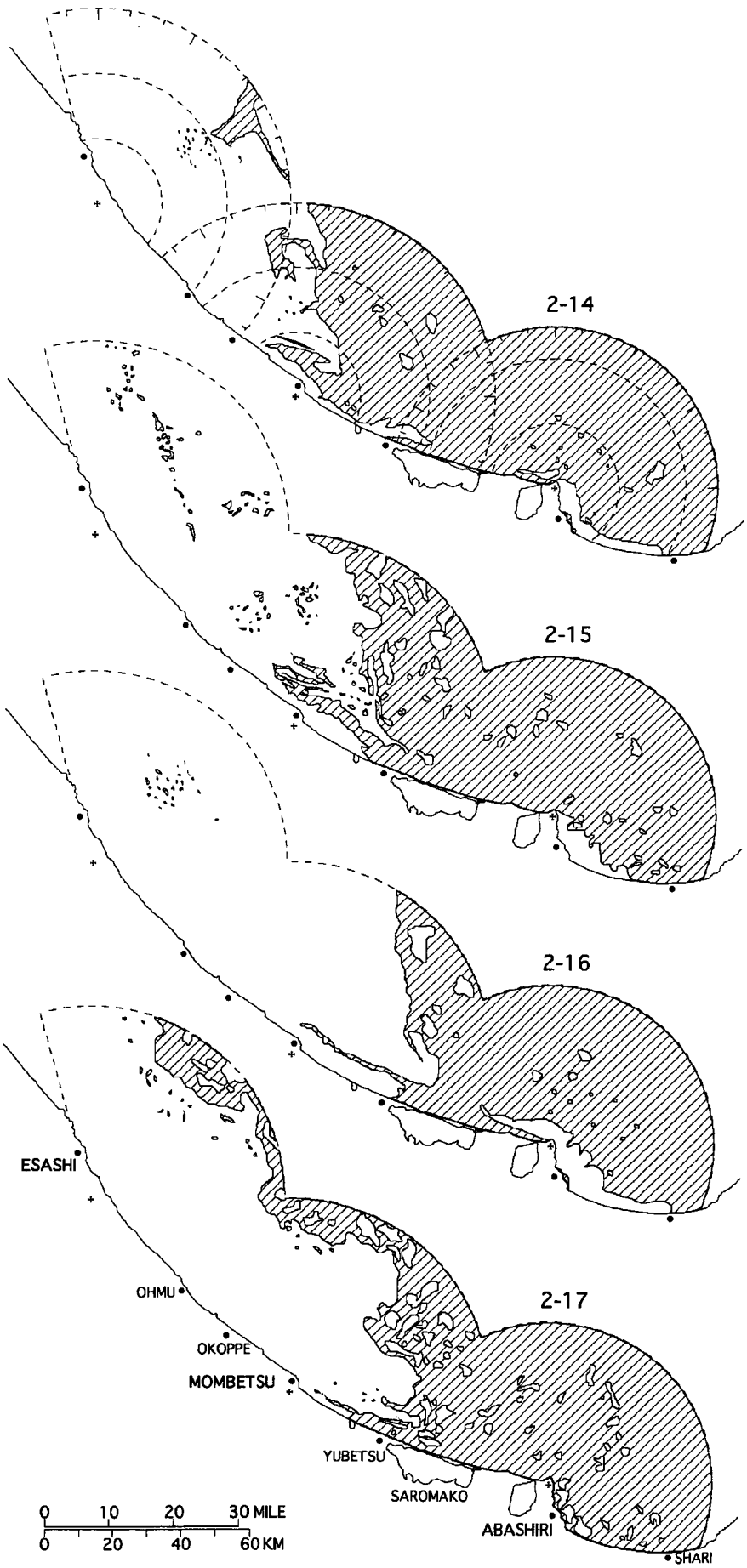
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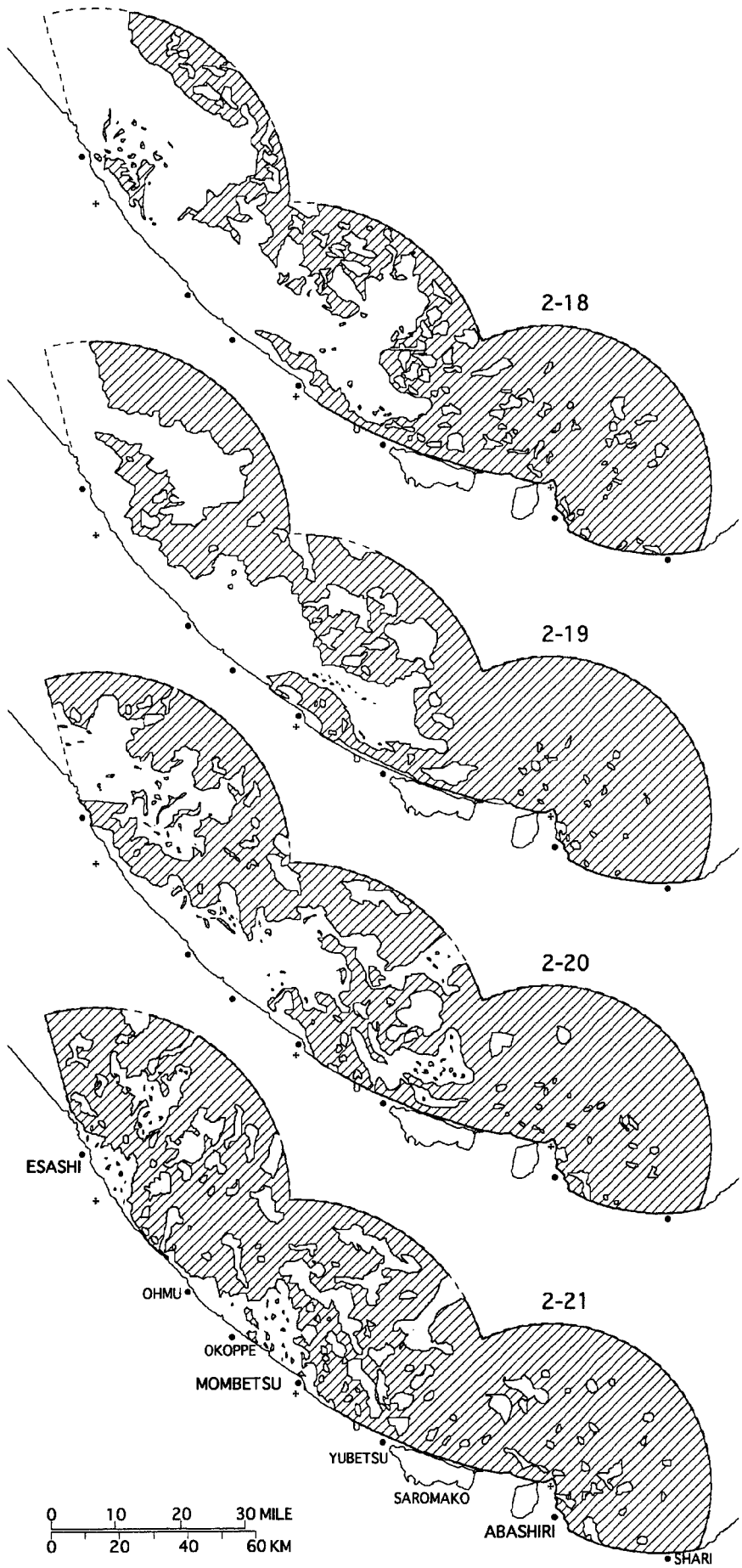
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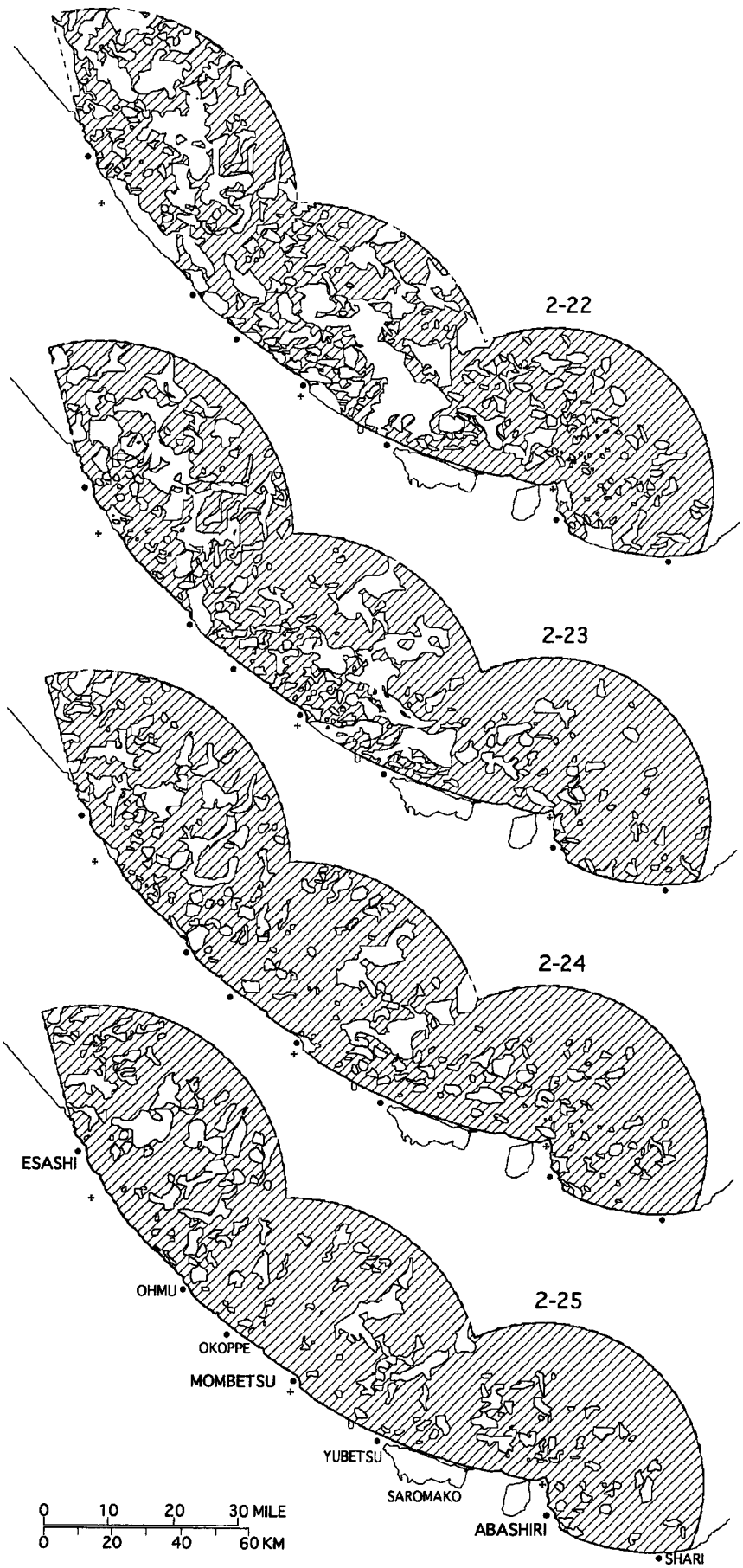
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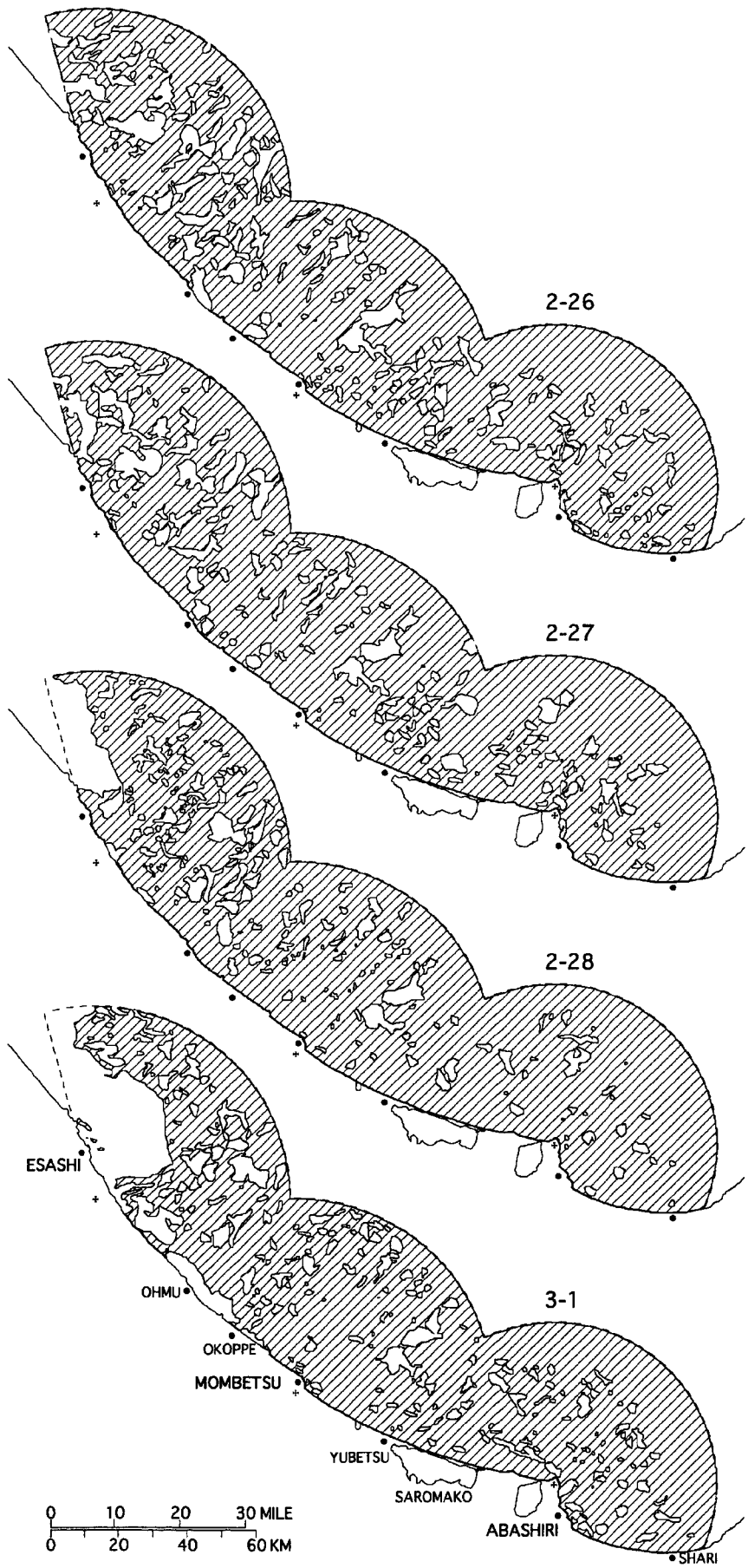
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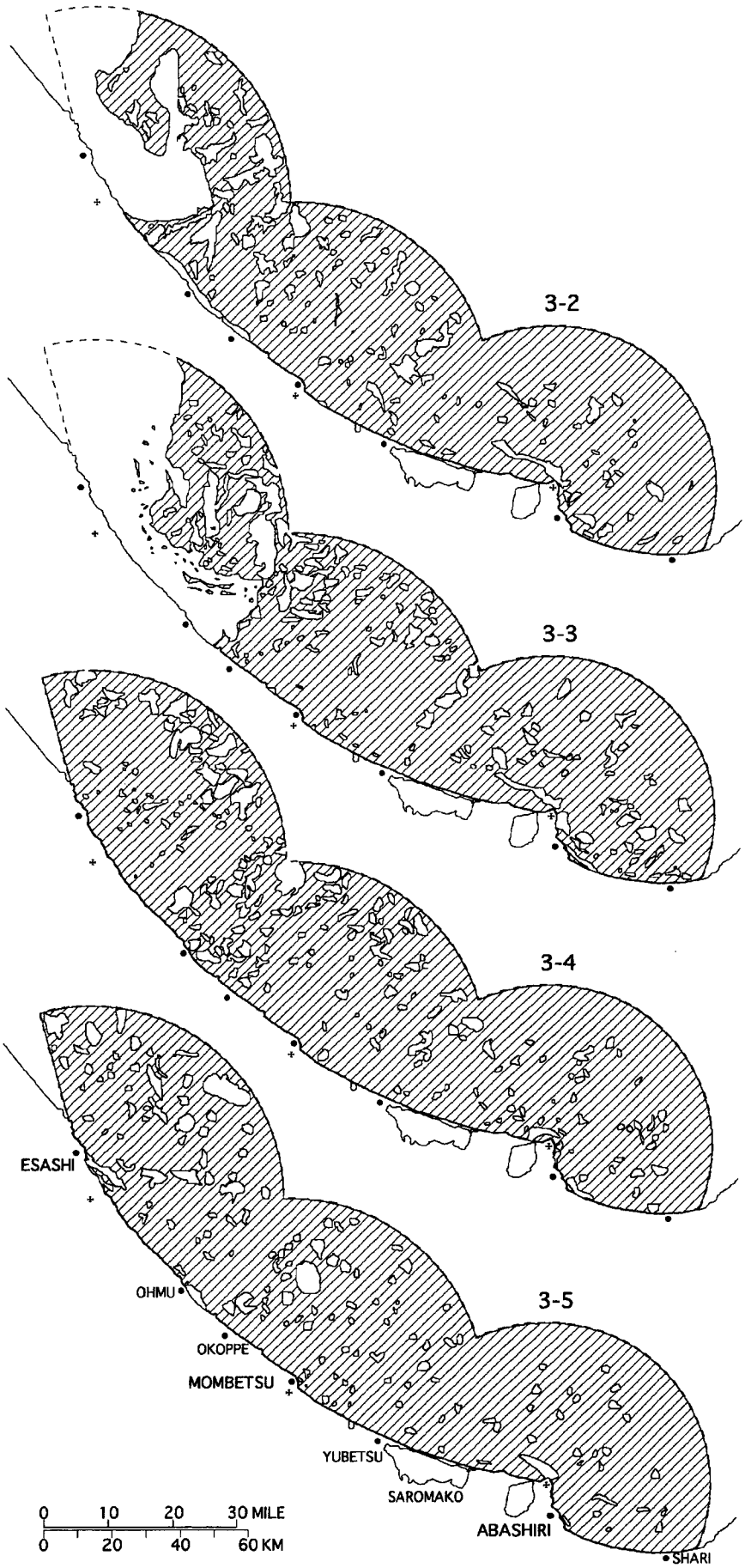
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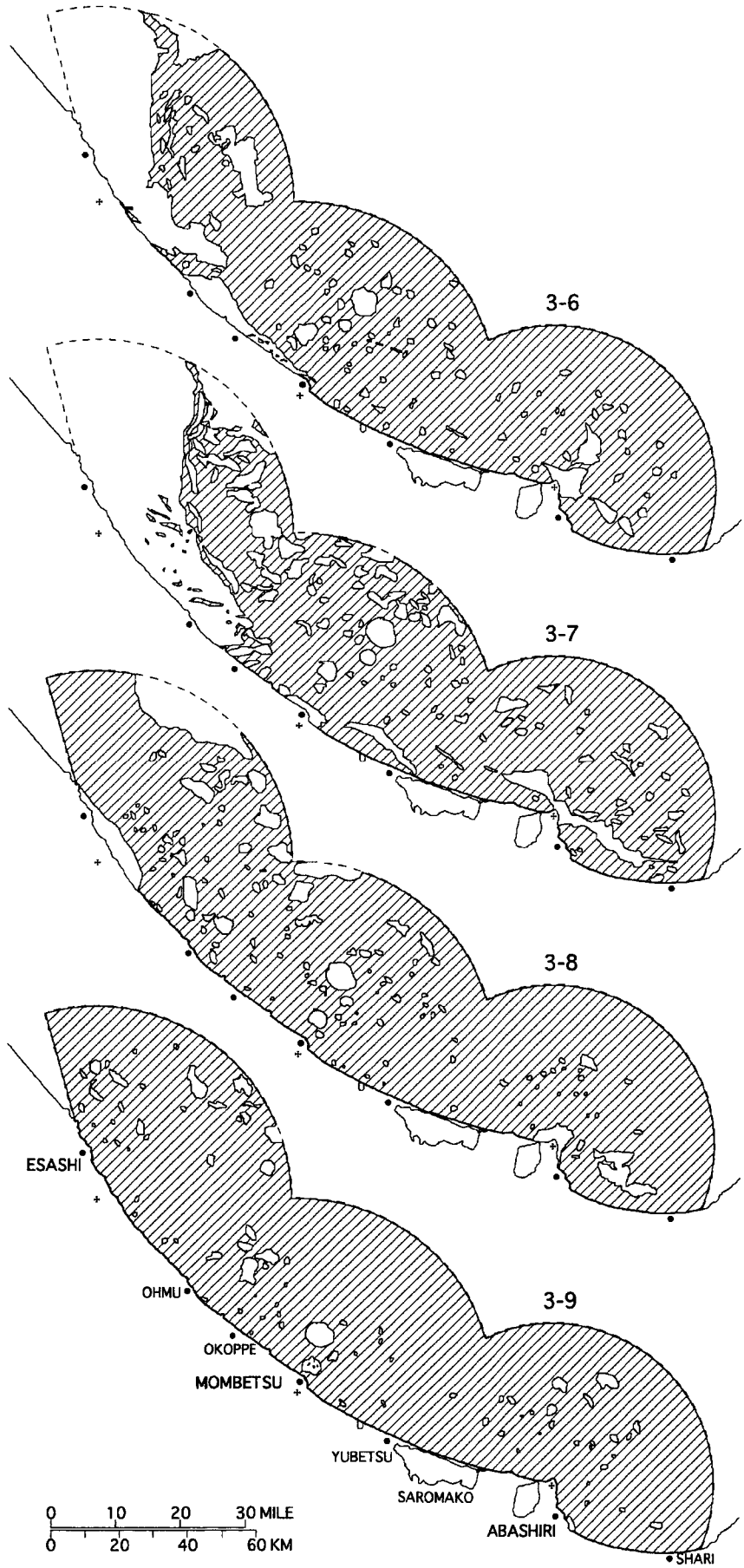
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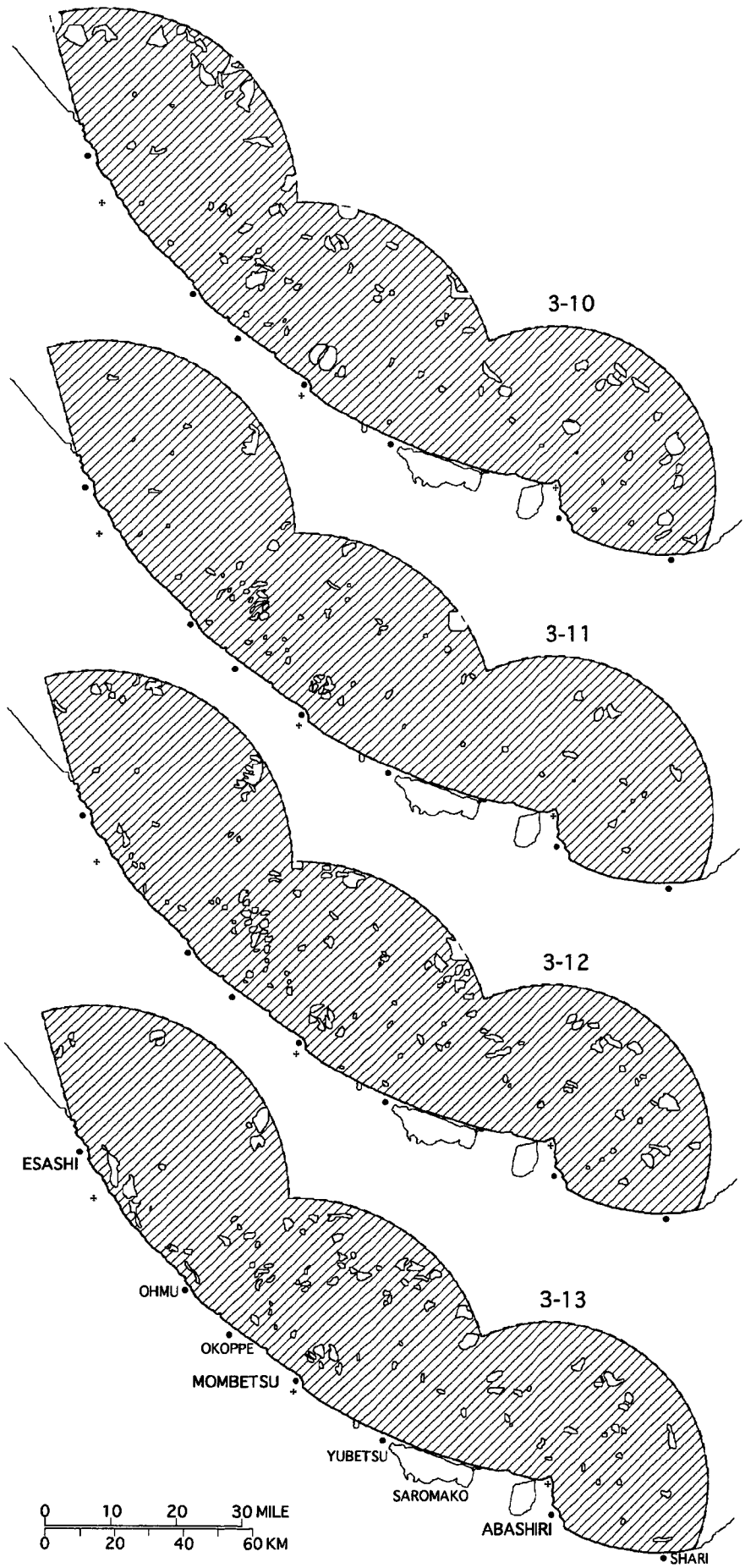
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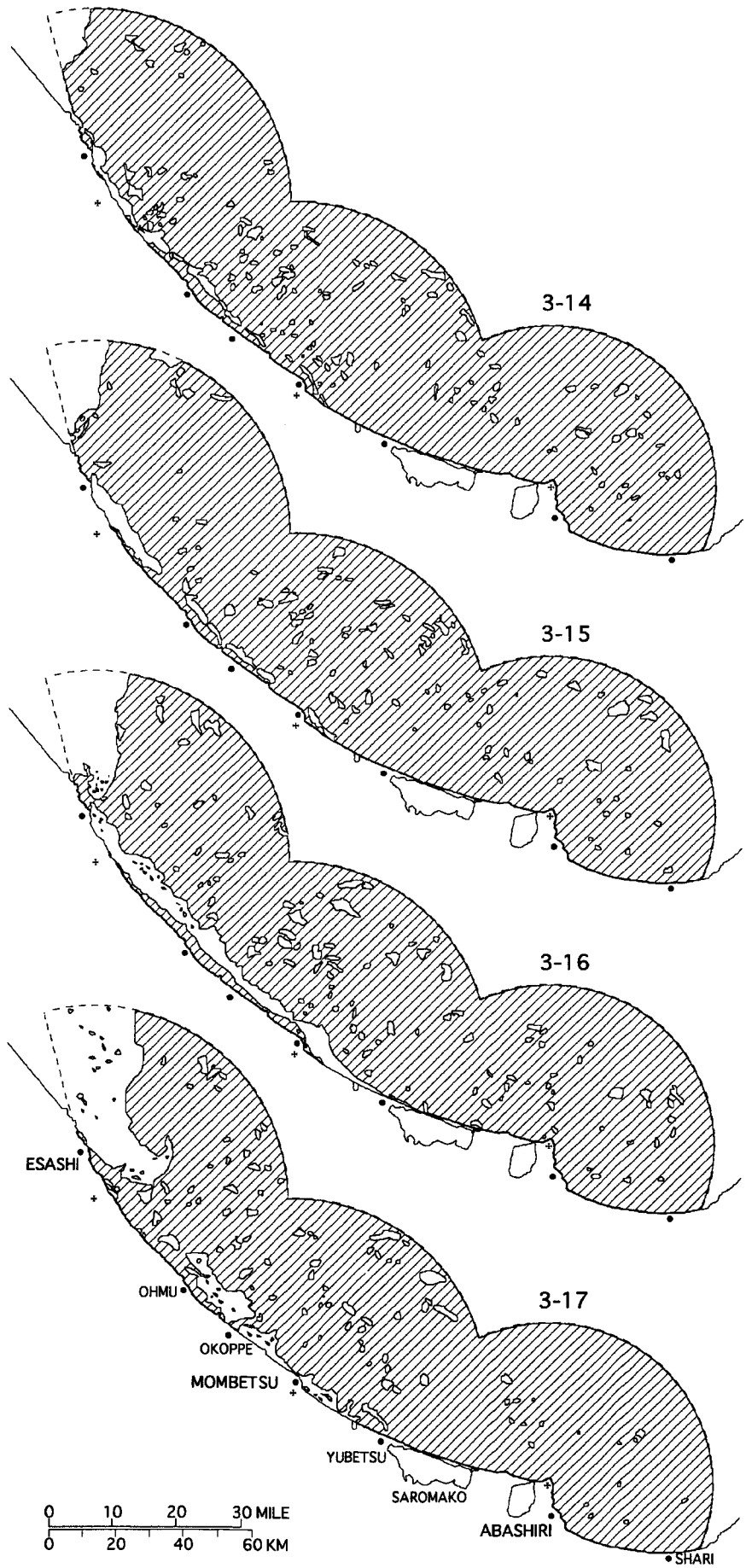
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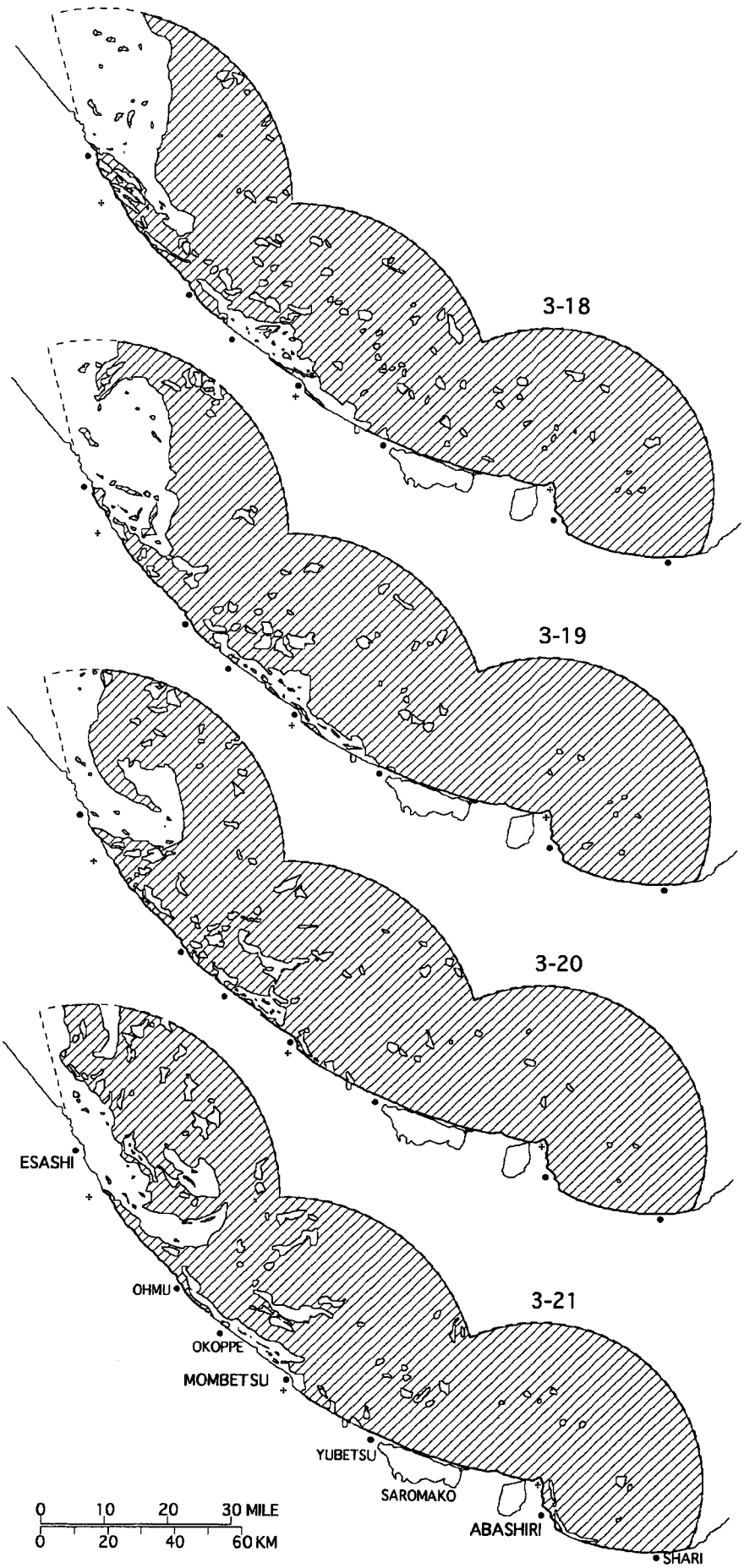
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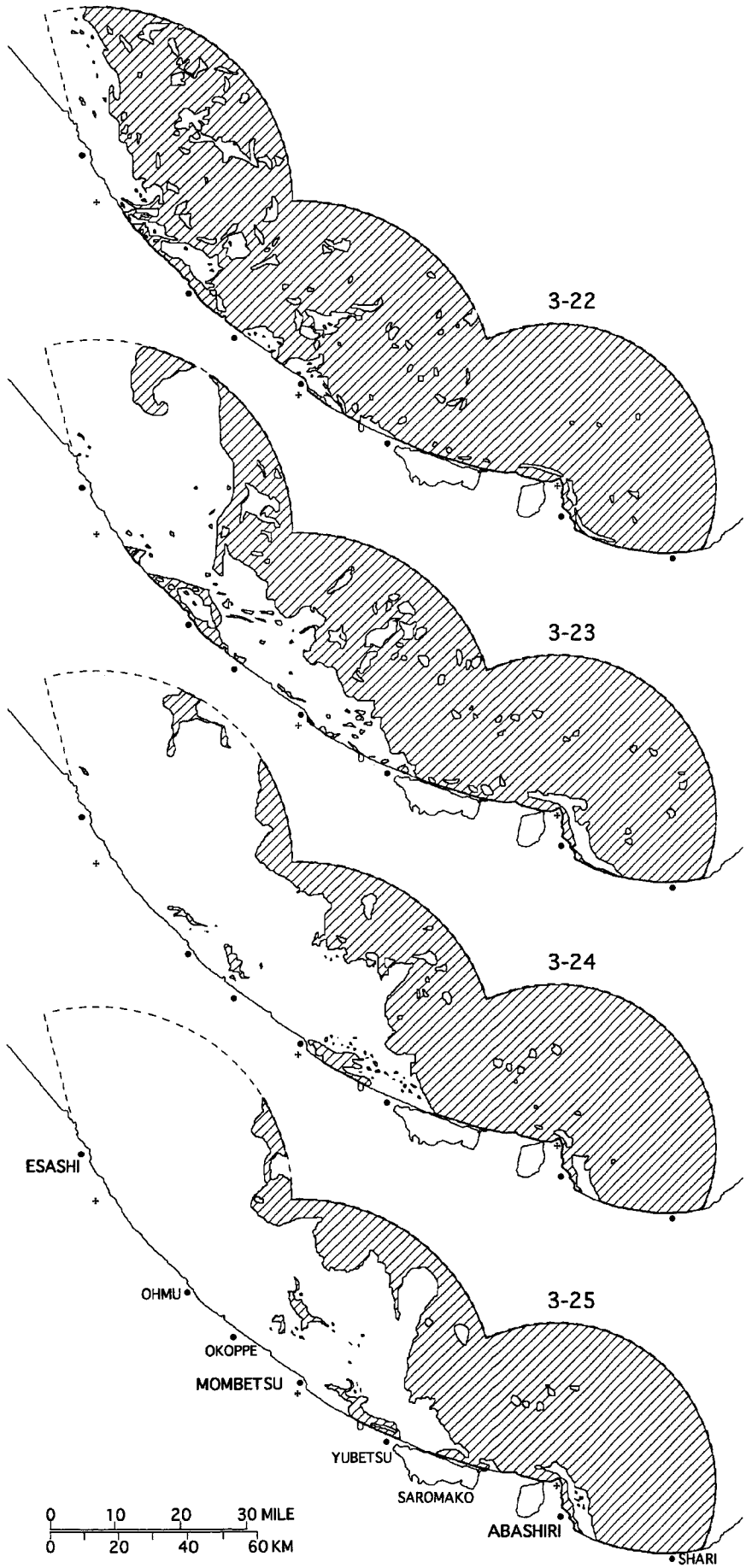
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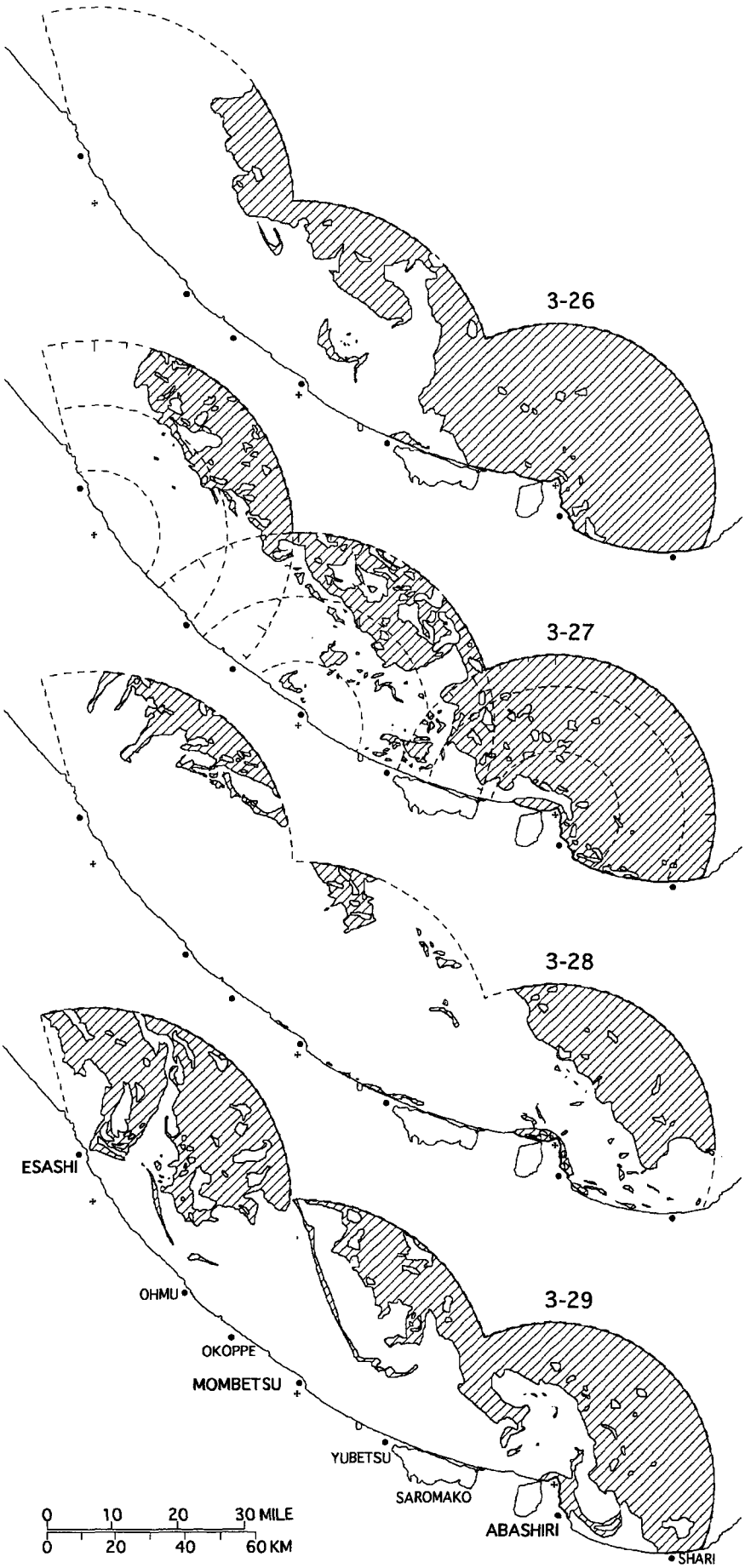
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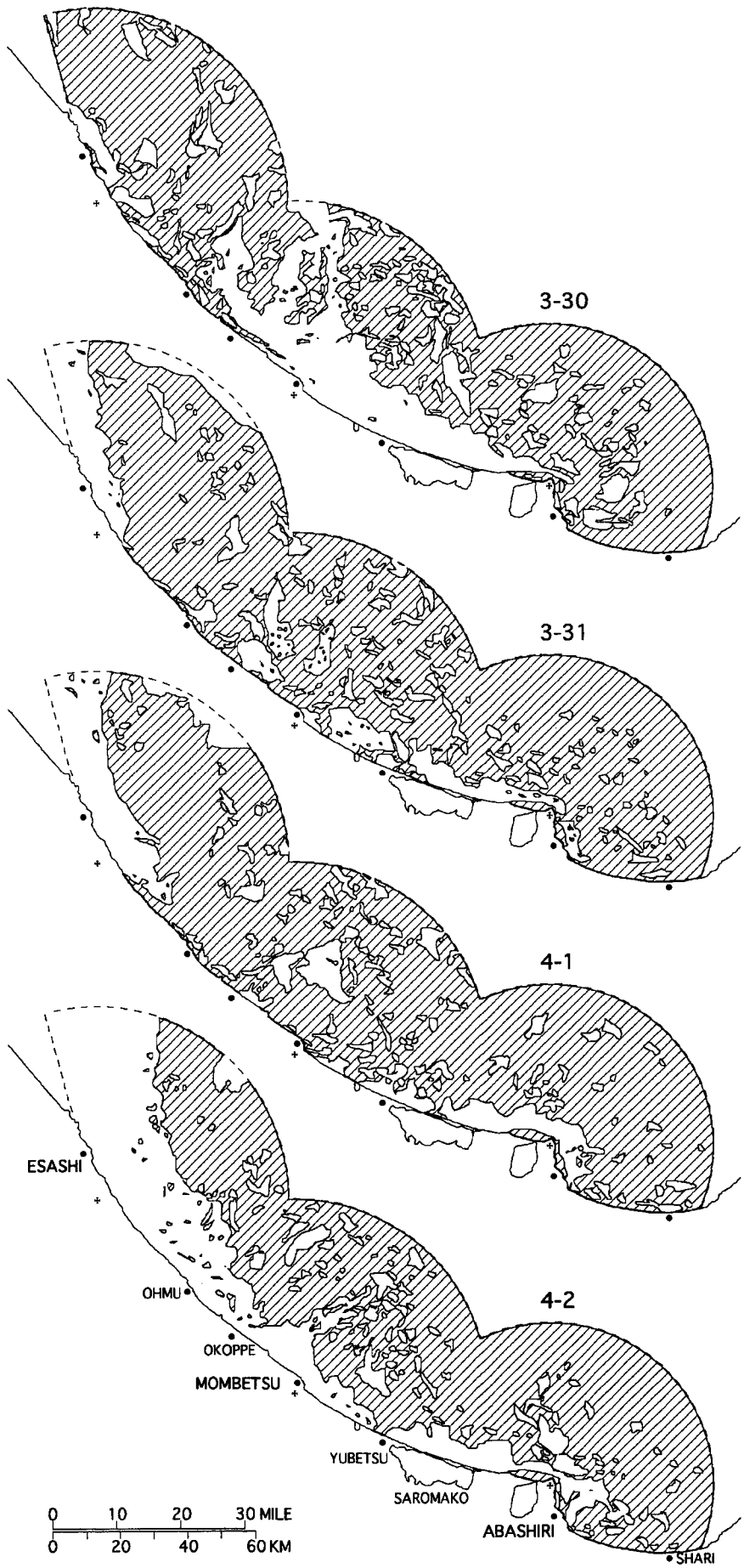
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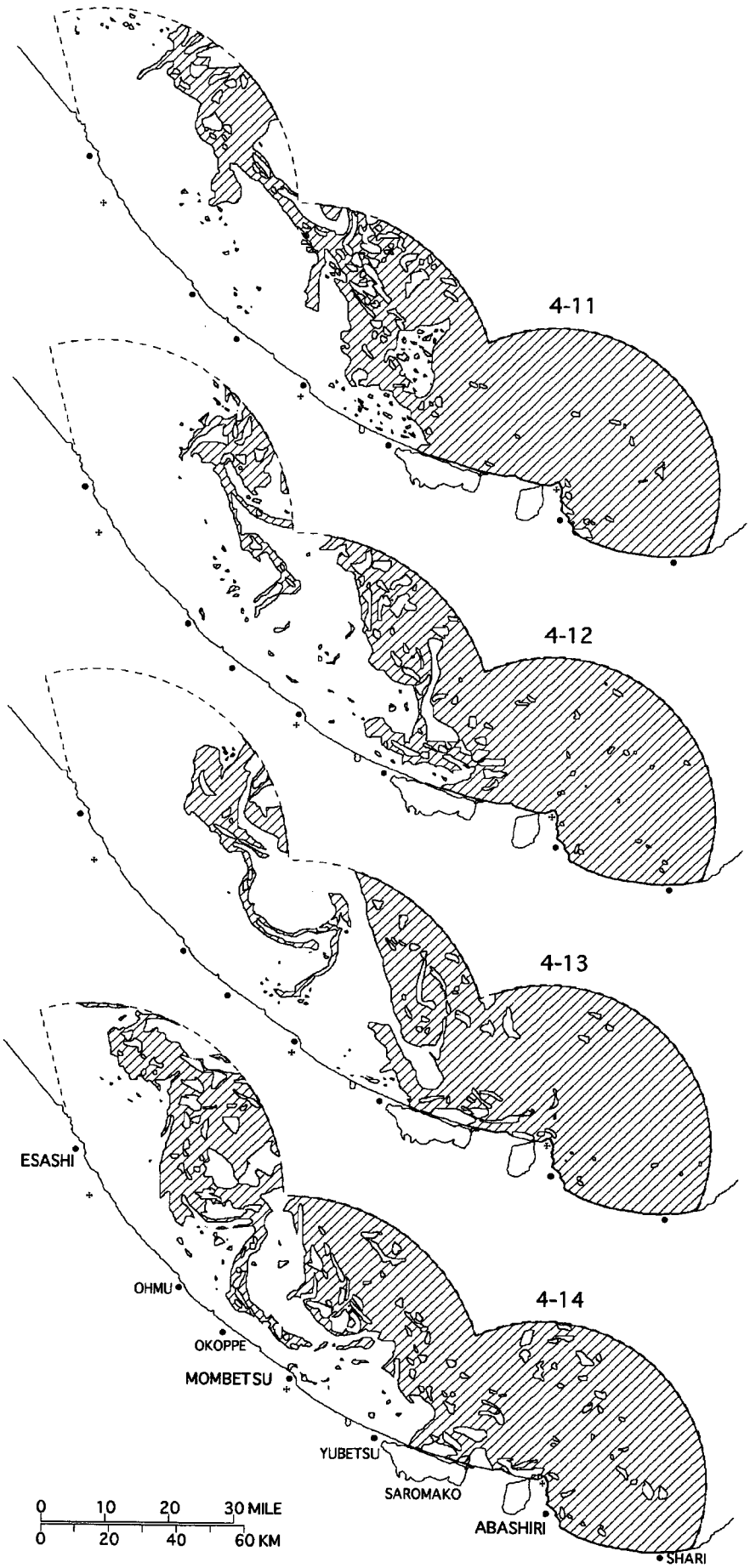
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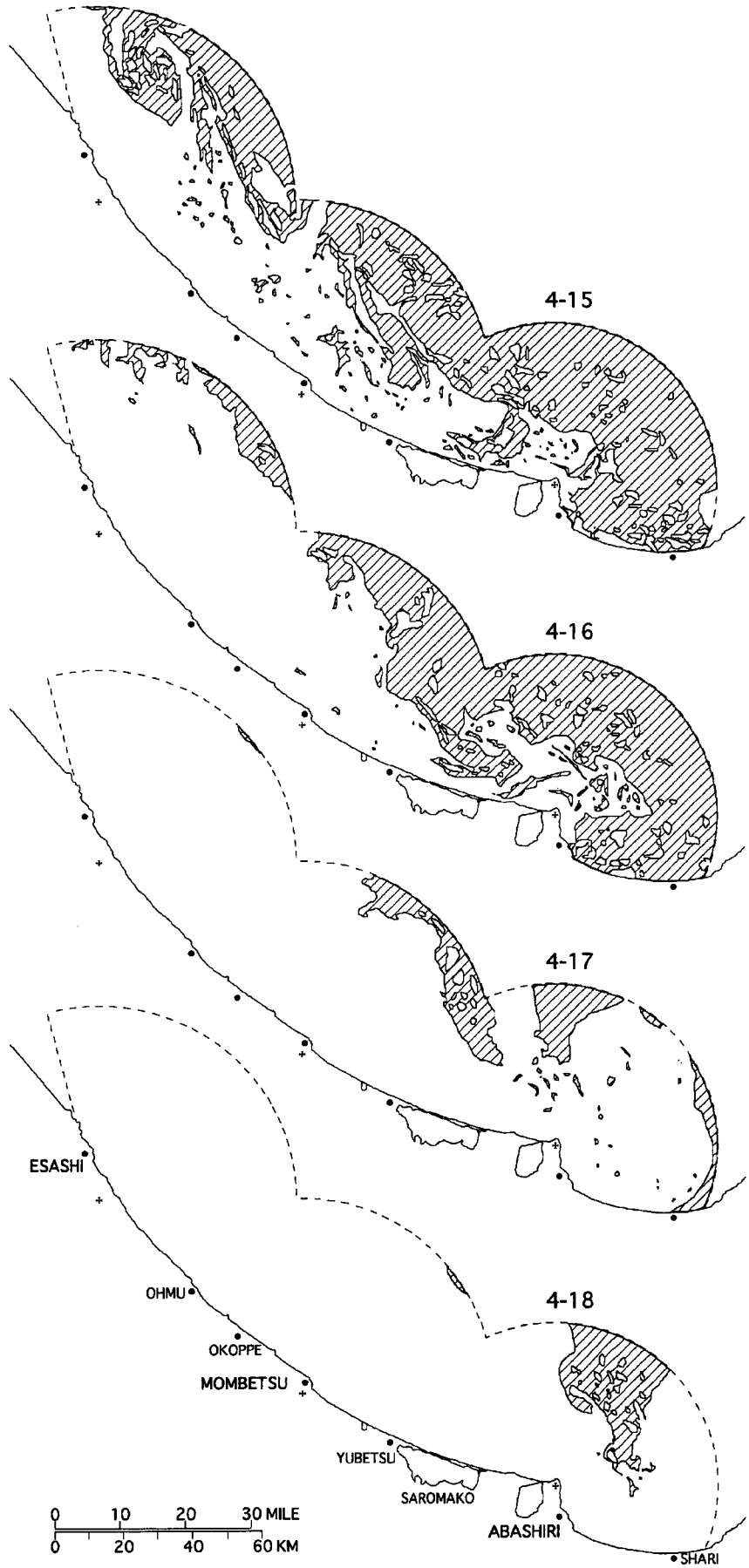
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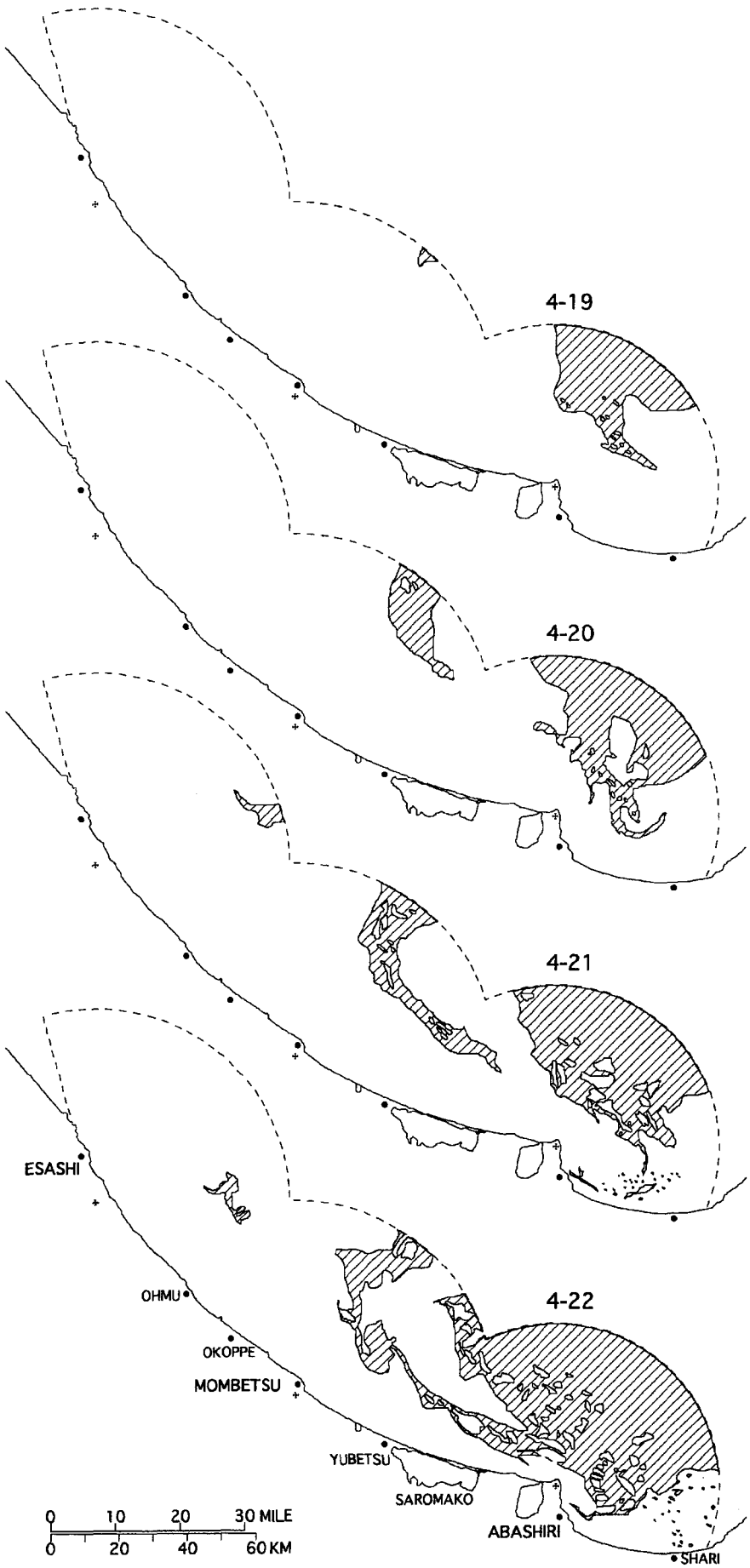
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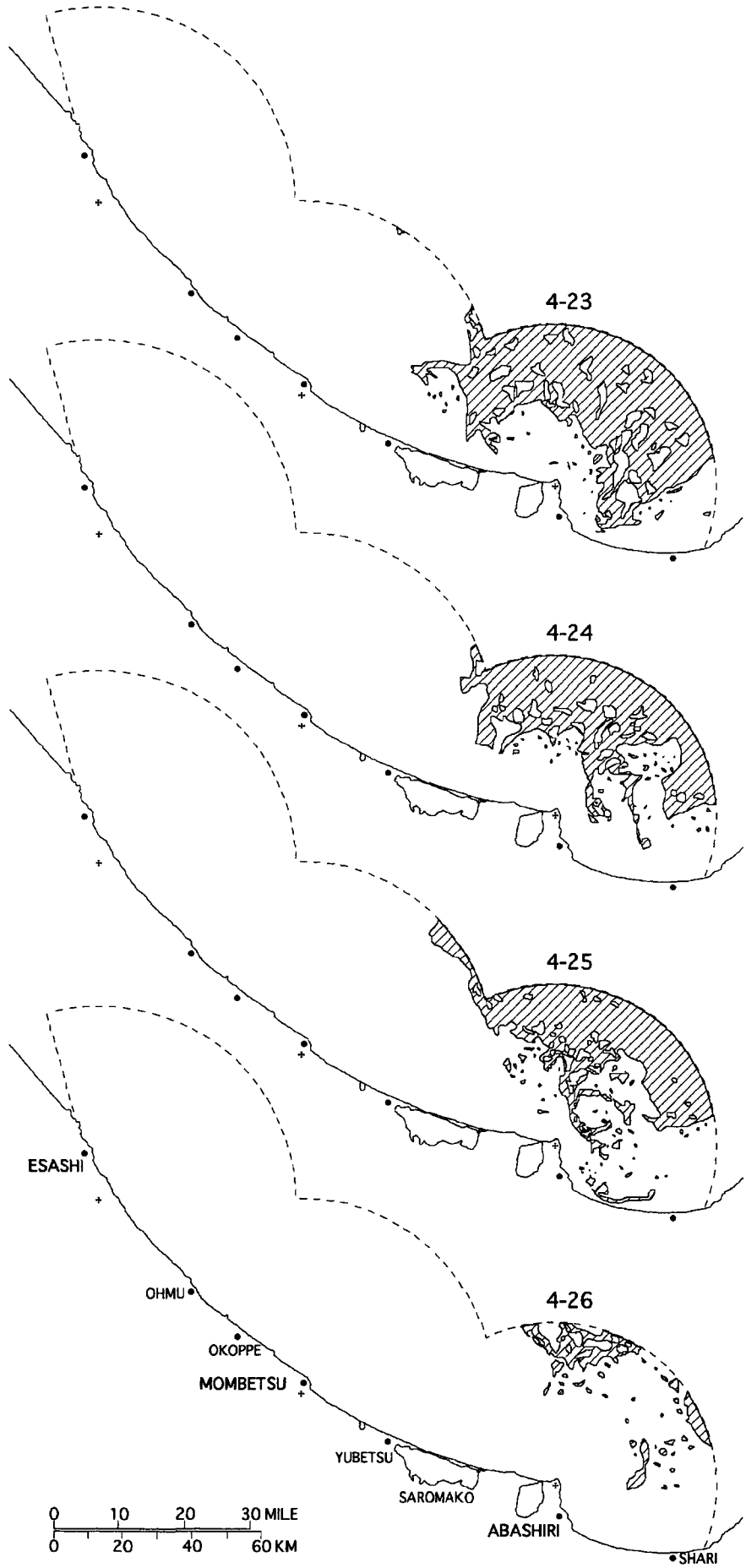
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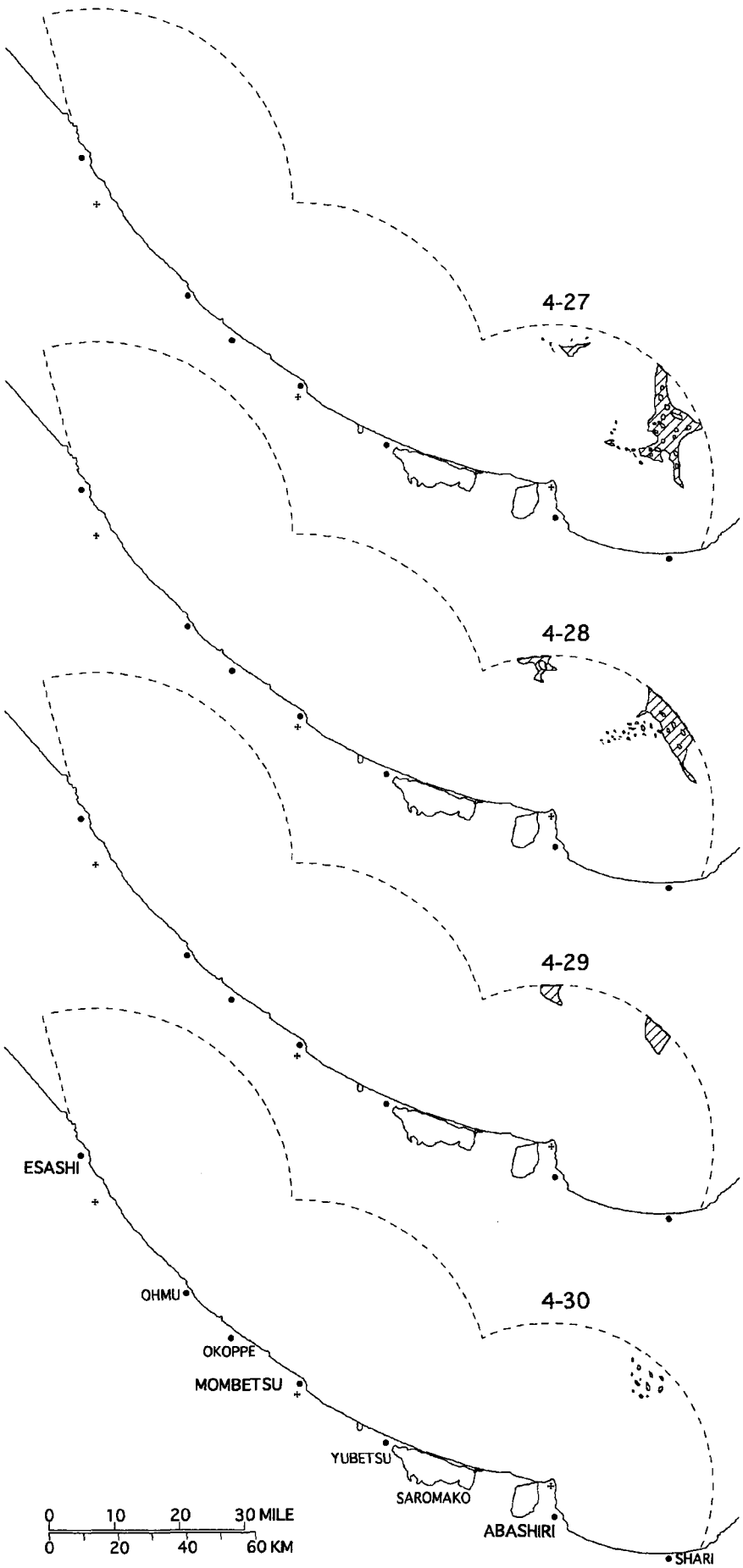
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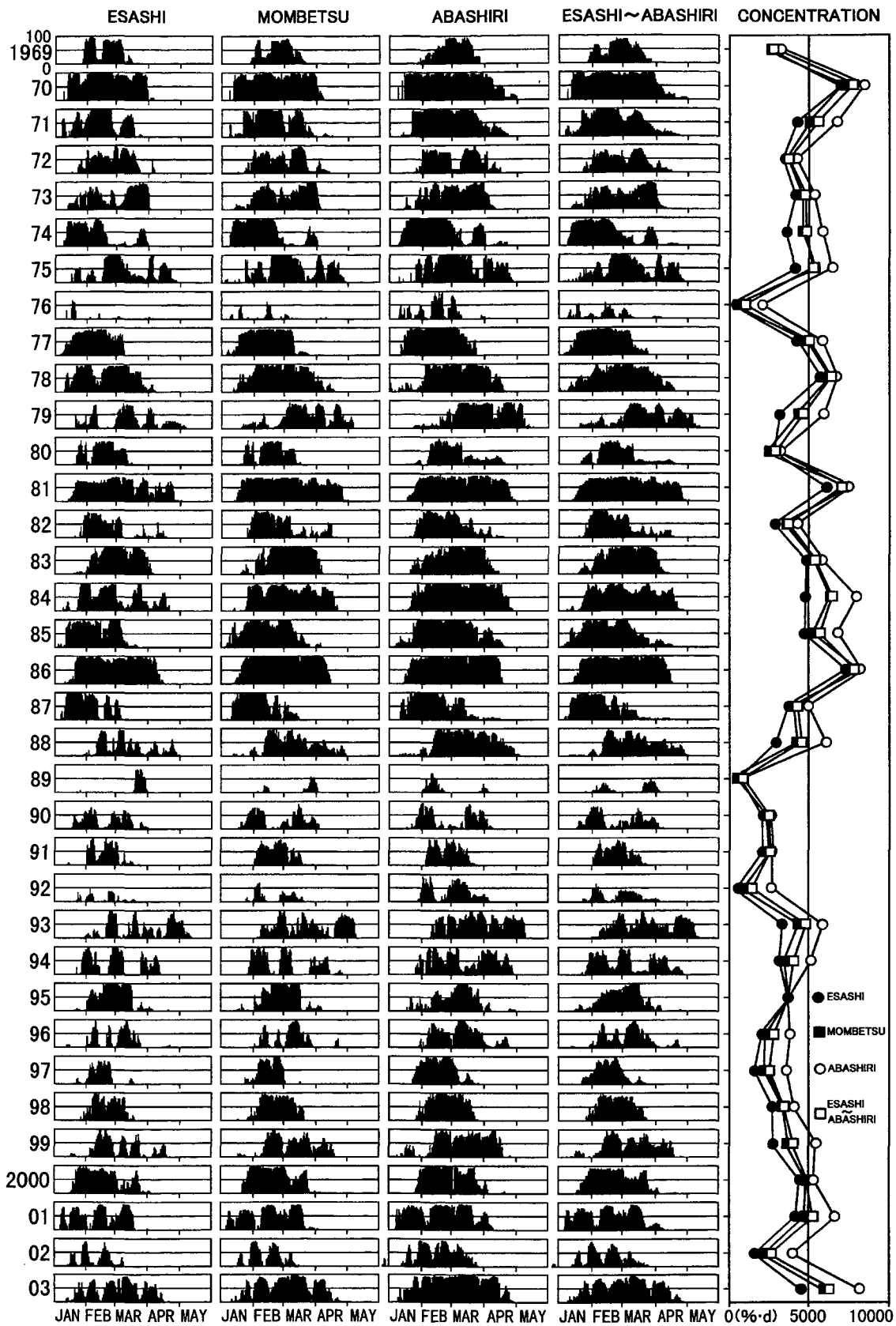

Fig. 2 Daily ice concentrations within about 50-km radar coverage from the coastline during the period from 1969 through 2003.